BOOMS, BUBBLES AND BUSTS IN US STOCK MARKETS

DAVID L. WESTERN

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Booms, Bubbles and Busts in US Stock Markets

Why did US stock markets experience such a huge bubble in the 1990s? Why did Greenspan 'allow' the bubble to occur? Why did investors appear to act irrationally and indulge in such vehement speculation? Why the euphoria?

This book examines the American stock market during one of its most intriguing periods. By turning his critical eye upon the rise of the stock market bubble during the 1990s boom years and its inevitable crash some years later, **David L.Western** has written a scholarly yet readable book. Providing historical background as well as solid statistical research, the book helps to explain the mysteries of the stock market in an authoritative manner.

Advanced undergraduate and postgraduate students will find this to be an enlightening read, while readers with an interest in how the biggest economy in the world got things badly wrong will find this to be a book that remains useful as a reference for many years to come.

David L.Western is Senior Lecturer at Curtin Business School, Australia.

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Routledge
Taylor & Francis Group

LONDON AND NEW YORK

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First published 2004
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Simultaneously published in the USA and Canada
by Routledge
29 West 35th Street, New York, NY 10001

Routledge is an imprint of the Taylor & Francis Group

This edition published in the Taylor & Francis e-Library, 2005.

"To purchase your own copy of this or any of Taylor & Francis or Routledge's collection of thousands of eBooks please go to www.eBookstore.tandf.co.uk."

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British Library Cataloguing in Publication Data
A catalogue record for this book is available
from the British Library

Library of Congress Cataloging in Publication Data
A catalog record for this book has been requested

ISBN 0-203-64309-7 Master e-book ISBN

ISBN 0-203-68237-8 (Adobe eReader Format)
ISBN 0-415-36968-1 (hbk)
ISBN 0-415-36969-X (pbk)

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Foreword

The primary focus of this highly readable and often provocative book is the American stock market during the 1990s and the first few years of this century. It deals with the factors surrounding the remarkable investment bubble and subsequent crash some years later. Although it is essentially a case study, the book makes a broader contribution by addressing more general aspects of stock market behaviour, investment strategy and government policy.

Dr Western provides graphic and, it must be said, chilling insights into the antirational aspects of stock market behaviour. For the general reader, and especially those contemplating retirement, the sections dealing with conflicts of interest and the psychology of investment will be extremely unsettling. In the foreseeable future very few people can expect financial security and peace-of-mind after leaving the paid work force. The concept of a guaranteed nest-egg is a thing of the past. As daunting as it may seem to the average citizen, who has grown accustomed to relying upon expert advice and rising markets, there is no alternative but to play a much more active and informed role in the management of their own financial affairs.

The starting point in becoming more financially literate is being aware of the biases in the system. Here Dr Western is especially useful, with special reference to the 1990s he demonstrates the distorting influence of securities analysts, stockbrokers and financial planners and the structural predisposition towards optimism and blind faith. In Dr Western's words, the combination of fear and self-interest 'created a bias toward buy and hold strategies even when the cold truth required sell advice'. However, for most of us, the biggest challenge will be to achieve a higher level of insight into the darker reaches of personal and social psychology. Once again Dr Western offers excellent guidance. His treatment of herd behaviour, the pervasive fear of missing out and the theory of the 'bigger fool' will cause embarrassment and even shame for many of us: 'everyone knows that stocks are vastly overvalued but still play the game on the basis that there are bigger fools in the world'.

The extent to which the stock market relies on reputation and trust is effectively explored and explained. Dr Western describes 'a whole host of unsavoury collapses in corporate governance standards', which undermined investor confidence in the American Stock Market. The resulting bust appears to

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have had a salutary effect. Dr Western believes that the resulting requirement for greater transparency and tighter audit standards, combined with the trail of ruined careers and high profile convictions, will go some distance in restoring public faith in America's corporate governance. The danger, however, is that the reforms will overshoot to the point where CEO's will become so nervous and risk averse that their companies will stagnate and lose their creative dynamism. Achieving a judicious balance between motivation and regulation is a challenge confronting policy-makers and regulators everywhere.

A major strength of this book is its treatment of the role and influence of Dr Alan Greenspan as Chairman of America's Federal Reserve. Dr Western highlights Greenspan's remarkable impact and stabilizing influence over a seventeen-year period upon governments, traders and investors, not only within America but around the world. He points to Greenspan's ability to 'jawbone' the market down during periods of 'irrational exuberance', and argues that, despite his critics, because 'recessionary fears were real then Greenspan's emphatic reliance on monetary liquidity is well founded'. Indeed, by slashing interest rates to only 1% after the stock market bubble burst, the Fed deserves much of the credit for saving the American economy from deep recession.

Looking ahead and taking a global perspective, Dr Western finds cause for cautious optimism as a result of sustained government policy impetus, a weaker dollar and signs of Japan's overdue revival. He conducts a careful and searching analysis of initiatives by the Bush administration to stimulate economic recovery. However, it quickly becomes apparent that the New Economy presents problems and challenges which are unique and elusive. Despite increased business investment and higher productivity, America continues to experience a 'jobless recovery'. Bush's tax cuts have been significant but they have not been enough to trigger a new generation of business entrepreneurs or to offset the export of jobs to China and India. Clearly, the American economy is delicately poised and while economists may focus on traditional levers such as tax and interest rates, the sentiment of the wider business environment is heavily influenced by the threat of international terrorism and the Bush Administration's open-ended commitment to defeating it.

This book will have a wide appeal. Like the Political Economists of the Nineteenth Century, Dr Western has the increasingly rare gift of applying economic theory to contemporary events *and* of proposing realistic policy prescriptions. In the same tradition he writes in a free-flowing, distinctive style with none of the dry opaque jargon that characterizes the work of so many of his peers. While never timid in expressing his own opinions, he is nevertheless careful to draw on a wide range of sources, explore the evidence systematically and acknowledge alternative viewpoints. Because it is both scholarly and vivid, this book will attract a variety of readers including academic peers, advanced

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university students and ever ever-expanding pool of general readers with an interest in stock market behaviour.

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Acknowledgements

The brain child of this book is pure curiosity. From teaching classes in the School of Economics and Finance (at the Curtin Business School) I became fascinated with the booms and busts in asset markets. It is with regularity that stock markets both over-shoot and undershoot levels determined by raw economic fundamentals. It is the financial side of economics and markets that drives much of the wild swings in market prices and not just real factors and technological progress. People, and so investors, often over-react to vibrations that shake their precious nest egg and so their retirement life style.

It is my intention to encompass the whole gamut of issues as to why US stock prices went through a euphoric bubble. While living in the United States, it was Professor Ray Canterbery (Florida State University) who spurred my interest in Wall Street, the Federal Reserve and bubbles. The late Professor James Gapinski kept my flame for economics alive and I remain in his debt—he was a good mate of mine. Professor Milton Marquis presented challenging macro and money classes and to Professor James Cobbe for his encouragement as Head of the Economics Department at FSU. Professor Ed Renshaw (University of NY at Albany) offered support and some good ideas for this manuscript.

Back home on the glorious shores of Down Under it was critical that I obtained leave from teaching assignments to complete this book. I wish to thank Dean Michael Wood and Professor Ian Kerr for such grace. With this leave, I worked in a Curtin University research unit—the Institute for Research into International Competitiveness (IRIC). In this institute many of the refinements of this book were forged. Debate was common and many of my colleagues tested my arguments and overview. I would like to thank Professor Peter Kenyon for the provision of resources and support. A special word of thanks to Paul Koshy (IRIC) who greatly assisted with technical figures and tables throughout this manuscript. He was a pillar of support and offered timely advice. Others from IRIC offered comment and criticism, such as Nick Wills-Johnson, Dr Helen Cabulu, Diane Jameson, Professor Guy Callender and Dr Lifen Wu. Tracey Wilson (the secretary) was also very helpful.

Colleagues from the Curtin Business School were also helpful over a long time period, such as Professor Gary Madden (who passed critical comment on Chapter 5 concerning the IT revolution) and Dr Max Kummerow (who

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generously reminded me of the views of those on the left of politics). My mate, Dr Gary Macdonald, passed critical comment on some of the chapters and assisted with some data presentation.

Professor John Milton-Smith was especially helpful in over-viewing this book and writing a very succinct foreword. He has elegantly shed light on the big picture.

The editors at Routledge, such as Terry Clague, were very helpful and patient, I might add. Vincent Antony and his colleagues cast a careful eye over the manuscript and proved invaluable in cleaning the manuscript and so making it more coherent. Linda Morgan from the Curtin Business School also assisted with the manuscript through its various stages. And of course my mother (Yvonne) and father (Thomas) have been bastions of support over the years.

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Introduction

Why the stock bubble?

Real fundamentals could not explain the explosion in US stock prices in the 1990s. Stock prices rose sixfold in this decade while labour productivity only doubled. This large *escalation gap* can be partially explained by investor behaviour in response to biased economic incentives—although some of this behaviour possessed no real base but was indeed pure speculation. There was rational investor response based on tax incentives, generous stock option packages for CEOs, corporate manipulation of profit results, low interest rates, low inflation rates and higher *expected* productivity growth.

However, financial forces have not been emphasized enough and these include the sizable capital flows into US stock and bond markets, the 'dollar bubble', geopolitical forces *pushing* funds into US markets, high levels of corporate financial leverage, margin lending for investors and the rapid growth in the money supply and credit. Much of the escalation gap has its origins in monetary liquidity.

A respectable author such as Schiller (2000) points to this *escalation gap* as being due to exuberance and behavioural forces that include speculation and greed. As in all bubbles these forces are plausible reasons but the fuel that ignites and allows the speculative fire to rage is that of excessive monetary liquidity and credit growth. Another respectable author such as Siegal (2000) points to changing and biased economic incentives such as the lower taxation of capital, lower risk premiums, lower transaction costs and a lower dividend payout ratio for holding stocks—so much so that stocks are a 'one-way street'. Western (2004) emphasizes the significance of financial and foreign capital flow factors that caused much of the explosion in stock prices—above and beyond that can be explained by rational or behavioural forces.

From one bubble to another?

Sound financial theory and asset allocation models argue that rational investors should switch their funds between various asset categories and alter their

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allocation percentages according to perceived risk-return trade-offs. As the risk of holding stocks increased dramatically so did global and domestic investors flood into the bond market between 2000 and early 2003. Bond yields hit forty-two-year lows and so bond prices forty-two-year highs. The fear of deflation in the United States and the lack of pricing power of US companies pushed investors into bonds and out of stocks. Just as the stampede into stocks lacked rationality so too did this stampede into bonds—the *third* bubble. The question remains whether the rush into US real estate is overdone and prices are at unsustainable highs. This may be the *fourth* bubble that the Fed has to attend to.

What also needs to be noted is the roar of the US dollar (the *second* bubble) in the 1990s (partly as a result of European and Japanese weakness) that further accentuated the roar in US stocks. Foreign investors enjoyed the double gain of US stocks and the US currency.

It therefore follows that a weaker US dollar will generate caution among foreign investors into 2004–5 as will the prospect of higher interest rates at the long end of the yield curve. Conversely, global investors may prefer potentially stronger currencies and so European and Far Eastern stock markets more favourably.

A unique set of circumstances?

There is no doubt that the United States enjoyed a fortuitous set of circumstances in the 1990s or commonly called 'luck'. Japan's economy and stock market collapsed beyond belief and Europe endured high unemployment rates, re-unification problems and sluggish growth. There was also the continued support of Chinese and Japanese investors for US bonds—funding American consumption and indirectly their own exports. Global investors sought the 'safe haven' of the US dollar and US stock and bond markets. Such investors received more justification for placing funds in the United States—as inflation remained docile, productivity growth was accelerating and the risk premium for holding stocks was closing. Moreover, the Fed appeared content to let the growth phase roll and so leave interest rates at low levels. The Fed was also 'accommodating' when Asian stock markets crashed in 1998 and many foreign investors again sought the safety of US denominated assets. In short, there were significant external push factors into US markets and even some attractive pull factors as well—such as low inflation and rising productivity. Foreign capital fed into the US productivity boom by providing the necessary finance (saving) for US companies to innovate.

The question remains, however, as to how US markets will perform when the world economic recovery gains momentum, rhythm and re-synchronization and so the global investor gains greater portfolio choice through rising foreign markets. A weaker US dollar continues to push such global investors into stronger currencies and gold. For US markets to perform solidly under this scenario then US-based investors must take up the slack left by foreign sellers.

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This also implies a shift out of money market accounts and the bond market and into stocks. A switch that will be based on expected earnings per share being greater than the ten-year bond yield.

How absurd were valuations?

Even the eternal optimist will concede that price-earnings ratio were excessive in the late 1990s. Valuations for some of the high flying tech stocks were between 50 and 100 and could never be justified. Indeed, no US stock has ever justified a *P/E* ratio of 50 let alone a 100. Some of the nifty fifty stocks that sold for *P/E* ratios in the low forties in the early 1970s did justify themselves eventually—twenty-five years later! Nevertheless, investors can and did overpay for stocks during the bubble era as EPS could never reach the heights anticipated and particularly when the ten-year bond yield justified a switch. The eventual killer was profit disappointment—disguised by corporate fraud for a time.

We know from Siegal (2000) that the long-run returns from stocks is around 7. 5 per cent and the average *P/E* ratio around 14.5—so why did investors push *P/E* ratios into the thirties for the S&P and far higher for the NASDAQ? Did they not believe that stock returns revert to their long-run mean—eventually? Or even close to the more recent average of twenty? Did they express no fear that mean reversion would imply a correction in stock prices of 30 per cent for the S&P and double that for the NASDAQ? In reality, the correction for the NASDAQ from its peak was as much as 80 per cent. The collapse in the Great Depression was around 89 per cent.

There were warning signals flashing for the investor. As stated, *P/E* ratios in the 1990s were at least 100 per cent above their long-run trend line. The *Q* ratio was around 1.6—far above its long-run trend of 0.7—again implying that stocks were vastly overvalued. A third warning signal was from the Fed model—as EPS fell below that of the ten-year bond. Why not accept the risk-free rate and avoid the inherent risks in stocks? The answer rests in the investor's view that further capital appreciation will accrue to stocks—along with tax benefits. Despite the fact that stock valuations were 'absurd' there was still a euphoria in the investor community that the boom was ongoing and possessed a life of its own. There was money to be made based on the 'greater fool theory'—sell to the next and more gullible investor than the last— or even yourself.

So how did investors and stockbrokers manipulate the business calculus to justify *P/E* ratios of 35 or more? In reference to the NASDAQ the arguments employed included—'this is the new economy and we have reached a permanently high growth plateau'. The rise, and continued rise in productivity, will justify currently 'high' valuations in the future. Buy now and wait! This time it is different and not play is to miss out! After all, why watch your neighbour grow rich? Greed and jealousy pushed many up the stairs and down the elevator. Collective euphoria and exuberance lured many investors into 'growth' stocks and away from boring 'Value' stocks.

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Why did investors ignore warning signals?

Another key pitfall of stock valuation comes into play here. It is known as the accelerator or extrapolation principle. The *level* of EPS will justify the *level* of a stock price— for a given yield on the ten-year bond. The *growth rate* of EPS will determine the *growth rate* of the stock price. More precisely, in a runaway boom market it is the *expected growth rate* in EPS that will determine the rise in the stock price. Hence, if a growth stock declares EPS growth in 1997 of 10 per cent, 1998 of 20 per cent then investors may be lured into extrapolating an EPS growth rate of 40 per cent for 1999. This acceleration in EPS can gain a momentum of its own as optimistic investors price into the current stock price a further acceleration of EPS—albeit unrealized. This is the stuff that the 1990s bubble was made of. It was the market's belief in not just rising EPS growth but steep acceleration that generated the rationale for 'high' *P/E* ratios—that were soon to be justified by roaring productivity and the pillars of the new economy. Unfortunately, the pillars collapsed. It was this extrapolation and acceleration principle that clouded investor judgment—perhaps because it was a clever justification for greed?

Why did the stock bubble burst?

As with most bubbles there is no single prick that causes stock prices to shrink and deflation to follow. Just as several major forces drove the US stock market upward so too were there several forces causing it to deflate. The realization that *P/E* ratios were excessive and that bond yields were attractive caused some investors to switch 'early' in the stock cycle downturn. Profit disappointment combined with poor economic visibility and the corporate governance debacle caused many investors to 'sit it out' in the bond market. NASDAQ stocks suffered even more and grossly deflated because of over- and mis-investment in the late 1990s. Such poor investments did not produce profits and even worse caused major write-offs of capital. The September 11 attack and later on the Iraqi War created even greater uncertainty concerning the length and depth of the recession and so corporate profitability. These geopolitical events only added to an already sick and sluggish US economy—that was technically in recession before September 11. In summary, poor investment in IT and corporate profitability that failed to *accelerate* ignited a major revision in risk perception and a quite sudden sell-off in stocks in order to justify lower EPS levels.

Why did Greenspan ignore 'irrational exuberance?

Chairman Greenspan's stewardship at the Fed has been of a high quality. He oversaw the 1987 stock market crash, the 1991 recession, the Asian crisis of 1998 and collapse of the stock bubble in 2000 and yet he led the US economy through a high growth and low inflation era for most of his seventeen years at the

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helm. His detailed knowledge of the US economy is exemplary as is his knowledge of economics. And yet there are lingering criticisms of his stewardship from some quarters. For example, why did he seek to slay the inflationary devil in 1994 when it was nowhere to be seen? Why strike at the imaginary Phantom when it is not a 'clear and present danger'? His defense for this strike is that it was pre-emptive in nature—it was good insurance to cool off the economy in the expectation of inflation raising its head.

A more serious accusation is that he allowed a stock market bubble to inflate in the mid-1990s and inflate again after 1998 pushing stock prices to absurd levels that could not be justified over the medium term. The cost of this explosion and then deflation was mainly borne by investors but spillovers into the real economy were inevitable. Job creation collapsed and the unemployment rate rose substantially. Investment collapsed and so a large slice of domestic demand. The real damage to the economy comes through this channel of depressed investment spending—as US companies wait and write off stale investment that has failed to perform. The excesses of the 1990s may take a long while to work off. Although the real economy received a major dent between 2000 and 2003 the real cost of the collapsed bubble rest with both small and large investors that lost anywhere up to 80 per cent of their capital. Those with highly leveraged positions were the hardest hit. Foreign investors weren't impressed either by lower stock prices as the US dollar fell along with US stock markets. There was plenty of pain to be shared by the whole investment community.

So why did Greenspan ignore the stock bubble? First, because 'millions of investors get it right'. It is their choice and their money and so if they get it wrong it is their loss. Second, Greenspan is wary of pitting his judgment against these millions not to say the many 'professionals' that are qualified to trade a market. Besides, if he has superior and/or fresh knowledge concerning stock valuations then why would he not release that information? Third, the cost of a stock market collapse should be shared by those investors involved in the market and not US taxpayers or the real economy at large. So long as falling stock prices do not suffocate the real economy there is little justification for intervention by the Fed. It is only when the real economy is under real threat from capacity constraints, labour shortages or inflationary fires originating in the stock market should the Fed intervene. Greenspan obviously did not believe that serious intervention was warranted. However, he did jawbone on several occasions—particularly his 'irrational exuberance' statement in 1996.

His critics point out that the aftermath of the bubble era has not yet washed through the economic system. The excesses of the 1990s are still to be worn off. There has been a dissipation of wealth that has damaged balance sheets across the board. Investment is lumpy and subject to ever changing product cycles—and so obscelence. Large capital write-offs take time for companies to absorb. The flip-side of the same coin is that the consumer cannot single-handedly do the heavy lifting for economic recovery. Just as Greenspan respected the influence

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of 'wealth effects' assisting consumer spending so he must acknowledge that losses on stocks in 2000–2 have dampened consumer confidence.

The jury is still out on the costs of the US stock bubble. Perhaps they are overrated and the massive policy push of 2002–3 will more than compensate for the temporary losses on stocks in that era. There are signs in early 2004 that investment is picking up in response to a prolonged period of low real interest rates and monetary liquidity. It is here that Greenspan may have his finest hour.

Greenspan and the markets

As Greenspan's credibility as a policy maker increased in the early 1990s so did fear spread throughout the professional investor community about what he could say that could significantly shift asset values—and within minutes. Professional investors would listen carefully to any hint that the *direction* of interest rates would change sometime soon. They also knew that interest rate hikes and falls tended to be in clusters or a series. Which one would be the last in the series—signalling a 'permanent' change in the direction of monetary policy—for the medium term at least. Professional traders were alert to signals of 'turning points' or major policy reversals that would provide a green or red light for investing. The Fed would signal a 'bias' in future monetary policy—or state that it is currently 'neutral'. Investors would often wait for Greenspan's testimonies and not take large positions in the market for fear of a clear shift in the future direction of monetary policy. Or they would wait in the hope that Greenspan would say nothing and so remove the shadow overhanging traders in the finance markets.

A degree of caution is required when interpreting Greenspan-speak as 'bad news' maybe good news for the market and 'good news' may in fact turn out to be bad news. This resembles the Goldilocks economy—'not too hot and not too cold'. Bond traders want bad news concerning the economy to translate into lower inflationary heat and so lower interest rates. Hence, capital gains on bonds would rise. And stock prices would normally rise with a lag—as the future level of interest rates—remain low. Therefore, the inexperienced investor needs to be careful when assessing the impact of Greenspan's words on the markets. Too much good news concerning growth, capacity utilization, retail sales, consumer spending on durable goods, etc.— may provoke a rise in interest rates and so scare off bond investors. Equity buyers must then decide on whether to ignore rumblings in the bond market and so buy stocks. The perversity of this goldilocks economy is that real bad, recessionary news or past data gloom may imply lower interest rates in the near term and so a surge on Wall Street via a calm bond market. After all, Wall Street is more concerned with the future not the past.

Some examples of hints or signals that would influence traders are references made by Greenspan to current or future inflationary heat, demand persistently outstripping supply, wage pressures, labour market tightness, job creation, the

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unemployment rate, growth being to rapid, gross imbalances or the onset of deflationary forces. Any hint that inflation is subsiding would spell a prospect for interest rates to fall and so a signal to buy stocks. However, such hints could be seen in a negative light— that of imbalances being unsustainable and excess demand pressuring limited resources. Hence, there is the risk that long-term interest rates would rise. Of course, the famous phrase that investors jumped on was that of 'irrational exuberance' uttered by Greenspan. While some signals are clear others are not, perhaps for the reason that Greenspan speaks in the hypothetical and in the abstract. It is therefore very easy for the investor to misinterpret.

What are some examples of Greenspan's words moving the market? First, we shall examine those periods when, somewhat coincidently, the Dow was at or near all time highs. The chairman had a habit of moving against investor enthusiasm in 1994, 1996 and 1997—all record highs in US stocks—by raising interest rates or jawboning the market down.

How costly was corporate governance failure?

One should not ignore the importance of economic incentives in stimulating economic agents to perform. Such was the case for many of America's CEOs who enjoyed generous remuneration packages with stock options being the cornerstone. The ultimate objective of aligning the effort of the agent with the will of the principal meant that CEOs were granted multi-million dollar stock option packages if the company's stock price reached certain high levels. The CEO then would accrue an *exponential* gain through options while the stockholder would accrue an *arithmetic* gain through holding main stock. Such powerful incentives were effective in raising stock values as the self-interest of the CEOs came to the fore. However, the means by which stock prices were raised remain highly questionable—such as manipulating the accounts, threatening the auditors, silencing the Board and borrowing heavily for company share buybacks. The cost of such stock price manipulation was high. The credibility of Corporate America sunk like stone. The year of 2002 was particularly bad for corporate scandals and the media coverage of them. Investors were reluctant to hold stocks while recent earnings reports could not be trusted and the dust had not yet settled. Bonds experienced good support while Corporate America sorted out its accounting and auditing standards. As of 2004 the memory of poor governance standards has somewhat faded as investors rode the stock rally after the Iraqi war. Perhaps Corporate America was overdue for a jolt to higher professional managerial and accounting standards?

The Fed's enemy: inflation or deflation?

There is one clear message from macroeconomics and that is inflation is not to be tolerated. It is a great parasitic evil that destroys civilizations. Unfortunately,

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this message is one-dimensional and over-preached. Our objective should be modest price stability and so neither inflation nor deflation. The irony in America's recent financial history is that goods price inflation been very low while asset price inflation exceptionally high. The Fed's mandate is focused more on goods price inflation—of the text book type. This type of inflation has been benign and so the Fed has been able to maintain interest rates at a low level —and more so post September 11. The Fed's monetary policy has been based on 'interest rate targeting'—in the belief that the cost of money can influence spending and stock prices. However, the by-product of low interest rates is a progressive build-up in monetary liquidity and such liquidity contributed in no small way to the escalation of stock prices in the 1990s. It also follows that seeking to reign in runaway asset price inflation is most difficult when employing interest rate rises alone. It may well be that the Fed could not restrain the stock bubble by the use of interest rates—as the required rate hike—would have been far above what the real economy could withstand without plummeting into recession. A more restraining influence throughout the bubble would have been slower growth in monetary aggregates. Conversely, given that the bubble did collapse and that recessionary fears were real then Greenspan's emphatic reliance on monetary liquidity is well founded. After all, the steep fall in interest rates must be at an end—and the monetary pump is the next weapon in line. Greenspan is also correct in stating that America's immediate fear is that of deflation and so there is a dire need to reflate even if it means mild inflation in the short run. He does not want to see Japan's deflationary disease spread to the United States.

What are the lessons from the 1929 bubble?

Markets normally function well and on most occasions there is a degree of rationality. However, the 1929 crash revealed several weaknesses in the financial and regulatory systems of the United States. We have learnt that the conduct and timing of monetary policy is crucial to the economic well being of a nation. If the Federal Reserve in 1928 had raised interest rates faster, and tightened the availability of credit more quickly, the crash of 1929 may have been more akin to a soft landing. If the response of the Fed after the stock market crash had been more accommodating in terms of liquidity there would have been less of a credit squeeze, less pressure on call rates to rise and so less selling pressure on stocks. Thus, the bubble may have shrunk more slowly and deflated without major implications for the real sector of the economy. Allegations of policy mistakes abound as the Fed went the 'wrong-way' and did not pump the real money supply enough—much to the detriment of asset prices and aggregate demand. From this policy debacle came the realization that the economic system needs a 'lender of last resort'. The Fed learnt this lesson and has sought to reassure markets in timely ways that additional liquidity would be provided to asset markets in distress when there was a real risk of spillovers into the real economy.

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The crash of 1987 was a prime example, and even the Asian crisis of 1997, whereby monetary policy was deliberately loosened in order to reassure investors.

Alas, the control that the Fed had over the credit creation process was incomplete and so lacked the firepower to subdue the flames of speculation. Greater regulatory control by the Fed over the US financial system has been an indirect result of the 1929 crash. Critical deficiencies in stock exchange regulations were also exposed. Overgenerous lending margins by brokers were seen as a major fuel of the crisis and such margins were raised to 50 per cent in the 1930s. Even so, the desire of investors to speculate and employ high gearing ratios was not confined to the 1920s. High leverage and a lack of appreciation of risk have been perennial biases in stock markets throughout recorded history. Just as investment trusts of the 1920s wielded price-making power so did mutual funds achieve similar power in the 1960s. The dangers of margin lending, privately and on mass, have not been learnt well. Instability in the credit creation process has plagued, and will plague, economic systems for a long time to come.

Japan's mess and deflation: what can the United States learn?

Much of Japan's economic misery in the 1990s, and failure to recover, can be traced back to the asset price bubble of the 1980s and to the macroeconomic mismanagement that followed. There were two dark economic clouds that dwelt over Japan for much of the 1990s—an asset price hangover and a debt hangover. Collapsed asset prices spelt massive deflation and damaged corporate-sector balance sheets that in turn translated into economic stagnation in the real sector. Although the origins of Japan's excess liquidity were somewhat different from those of America, the consequences of excess liquidity were, and are, basically the same: asset prices boomed and eventually burst, causing major reverberations in all sectors of the economy. Of key interest to the United States is how Japan's financial sector reacted to prolonged asset price deflation in terms of managing non-performing loans and extending further credit in a high risk corporate environment. Second, how the Japanese government sought to assist the bewildered financial sector suffering damaged balance sheets and a loss of confidence. Third, how effective Japan's traditional policy strikes were in reviving spending flows against a backdrop of spiralling deflation. The United States can learn 'what not to do' from Japan's financial nightmare. Thus far, the huge suffocation effects of deflation have not been felt in the United States—as Greenspan pumped the money supply early in the post-bubble era. Both asset price and goods price deflation have not taken hold in the United States—not yet.

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The massive policy push: powerful enough to create sustainable growth?

The Fed has long embarked on an expansionary monetary policy in order to create a cheap credit environment and so stimulate economy activity. As discussed earlier, the Fed funds rate has reached historic lows and yet private sector investment has revived slowly. Sales of interest-sensitive consumer durables did pick up but that was very much a function of aggressive marketing strategies and motor vehicle manufacturers seeking to clear existing stock immediately after September 11. Households took advantage of low and declining mortgage interest rates to re-finance their homes. Extra liquidity could be easily tapped in a rising market and used to purchase home-related items and/or general consumption goods. There are also other channels through which lower interest rates have been effective—by reducing net interest payments made by US corporations to banks and by reducing the spread between corporate bond and government bond yields. Before Greenspan's aggressive interest rate cuts corporate bond yields were dangerously high—partly because investors demanded a higher premium for risk and were also worried about unfunded superannuation liabilities of several big US corporations. Hence, the cost of raising capital was excessively high in 2000–1. No wonder US corporations were unwilling to undertake major investments. Not only were expected rates of return poor and not 'Visible' but the cost of raising funds in the post-bubble era was also prohibitive.

Although the earlier-mentioned effects of lower interest rates were quite significant for consumption, the response of private sector investment was muted. Growth theory highlights the importance of modern, fresh vintage capital and high capital-labour ratio that drives medium term growth. The longer additions to the capital stock are delayed the less potent that stock becomes. Technological progress drives long-run growth but even that is often embodied in capital goods in some way. Analysts often point to past economic recoveries and to the central role played by a revival in capital goods spending—for the multiplier effects and chain reaction sent throughout the economy. Why should this recovery be any different? In fact, a subdued pick-up in private sector investment is the Achilles heal of any potential economic recovery in the United States. The immediate future does not look bright as excess capacity remains high in manufacturing and job destruction is rampant. Why should corporations invest in new capacity when existing capacity is plentiful and quite capable of quenching any sizable rise in final good demand?

Moreover, the supply side excesses of the 1990s included both over-investment and mis-investment—in that too much money was placed in so called investment areas that were never going to yield rates of return in line with expectations—if at all. Large portions of investment—particularly during the technology and telecommunications craze—were nothing short of wasted. Ambitions were over zealous and/or obscelence set in quickly. Projects soon

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became lemons. How does such mis-investment affect US corporations today? It has shaken their confidence, their balance sheet, their angry shareholders and their ability to borrow from banks. Chief Finance Officers (CFOs) of major companies have become tight fisted as a result of the bubble era. Not only will the excesses of past take time to work off but also finding new, profitable investment opportunities in a depressed economic environment become more difficult. There is the added cumulative constraint of major companies waiting for other major companies to flag intent to outlay more on investment—a game of 'wait and see' before becoming more aggressive on the capital outlay front. Such pessimism and delay was mainly confined to the 2000–2 era but as corporate government bond yields have narrowed and stock prices risen, so too have US corporations become less hesitant concerning future commitments in 2004.

On the fiscal front, the US administration passed an aggressive lower tax and prospending bill through Congress. The main features of this Economic Growth and Tax Reform Reconciliation Act are as follows:

- Lower marginal income tax rates
- Child tax credit
- Married joint return relief
- Accelerated depreciation
- Increased expensing for small business
- Capital gain rate reduction for individuals
- Lower taxes on dividends.

The major objective of this 'Economic Growth' package is to reduce taxes and increase the potential to spend. It is both pro-consumer and pro-business. For example, lower marginal tax brackets fell from 15, 28, 31, 36 and 39.6 per cent to 10, 15, 25 and 33 per cent. Those eligible for the 10 per cent threshold have been given additional leeway with increased limits. Those with families were given higher allowances under the child credit scheme and the money was paid to them swiftly. Married people filing joint returns were granted higher thresholds and other benefits. For investors, the reduction in capital gains tax rates from the existing 20 and 10 per cent to 15 and 5 per cent respectively will encourage the buying and selling of more stocks. Likewise, the abolition of the double taxation of dividends is long overdue and will encourage a 'buy and hold' strategy towards stocks. However, some eligibility rules apply to holding periods. Not only are these initiatives valid now but most extend for much of the remaining decade and so can be considered semi 'permanent'. The business community gained relief through accelerated depreciation allowances mainly aimed at 2003–5 period—reducing inventory levels now in order that new durable goods orders would rise. The size of this stimulus must not be underestimated—it is huge by any modern day standard. However, as stated many times in this book—taking monetary and fiscal action to remedy income and spending *flows* may not be

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enough to offset serious damage to asset price *levels*. Moreover, *over- and mis-investment* can take many years to wear off before new investment springs to life—as past *over-capacity* still hangs over the reviving economy. Hence, economic revival may take longer than normal after a crash of an asset price bubble than a common excess inventory and demand flow slump.

How fragile is the US recovery?

There are several reasons for caution when attempting to assess the strength and duration of the US recovery. The following list of 'weaknesses' is not exhaustive as to why the US economy could be slow to recover but nevertheless provides a fairly broad summary of where the risks may originate.

- Pricing power of US companies
- Capacity utilization
- Sluggish labour market
- Structural weakness—manufacturing
- Growing current account deficits
- Growing budget deficits
- Long end of yield curve
- Deflationary aftermath
- Earnings acceleration—limited?

Where from here?

There are reasons for optimism as a more broad-based world recovery will stimulate US exports. A lower US dollar will place downward pressure on imports. Hence, the US current account deficit may shrink from here. The size of policy impetus is as great as in the Vietnam War years of the 1960s.

- World recovery—synchronization
- Japan's revival?
- A weaker dollar
- Real estate boom
- Lower world interest rates
- Fiscal expansions
- China's explosion.

A bull or bear market rally?

From the above summary—the opposing forces of recovery and recession—and the bulls and the bears—are evenly balanced. It appears that the bulls will win—albeit with doubt—as Greenspan remains determined—for failure is not an option for him or the country. Nevertheless, the structural imbalances in the US

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economy are cause for concern and American hunger for debt disconcerting. Saturation points may have been reached and a long consolidation period may defer investment plans and cause stock prices to plateau into 2005–6.

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1
The bubble era in US stocks

Introduction

When Gordon Gecko pronounced that ‘greed is good’ in the movie ‘Wall Street’ he was probably half-right—but what he forgot to mention was that ‘fear is bad’. American investors not only listened to, but also believed, what Gordon Gecko (1988) stated

> Greed, for the lack of a better word, is good. Greed is right. Greed works. Greed clarifies, cuts through and captures the essence of the evolutionary spirit. Greed in all its forms, greed for life, for money, for love, knowledge has marked the surge of mankind and greed, you mark my words, will not only save Teldar Paper but that other malfunctioning corporation called the USA.

There were primal motives at work in driving the explosion of US stock prices throughout the 1990s—whereby greed overwhelmed fear. If there was such a thing as investor fear it was of the wrong kind—the fear of missing out. Such an extended boom has not been matched anywhere in US financial history. Booms in stock prices have occurred before, particularly the golden years of the 1960s and not to mention the euphoric episode of 1928–9, but none quite like the extended run of the late 1990s. However, the stock boom of the 1990s was more than a boom—it resembled a bubble or a euphoria that caused a vast overvaluation of stock prices—that eventually had to burst. Moreover, the bubble was triple headed—as the US bond market and US dollar joined in the euphoria. Unfortunately, there have always been serious, if not devastating, collapses in real activity and job growth in the aftermath of a deflating bubble. Policy-makers and Greenspan in particular, were somewhat dubious of the run-up in US stock prices in the late 1990s as there was an inherent fear that a sudden collapse would cause much disruption to economic activity, human welfare and the retirement plans of ordinary US citizens. Just as the lives of ordinary people were damaged in the 1929 crash, so would a routing of US stock prices cause widespread damage across middle-class America. These fears were partially

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realized in 2000, as US stocks fell and then collapsed into a three-year bear market. The bursting of the US stock bubble, together with an out-of-favour US dollar, raised fear that a major protracted economic slowdown would follow. There are lessons from Japan's burst bubble as Japan's real economy languished for many years after the bubble deflated. We can go back further—just as in the Bible story—when Joseph proclaimed to Egypt that there would be seven fat years followed by seven lean years and so there is an apprehension that America's euphoric bubble will have to be 'paid for' with several lean years—consecutive or not.

This chapter is somewhat backward-looking in that it examines the major origins of the stock bubble. Brokerage houses pushed the historical fact that stocks have been a superior investment over most, if not all, other classes of assets over a long period of time. This is known as the equity premium puzzle. Hence, brokers pushed a 'buy and hold strategy' or more precisely a 'buy and buy' strategy. Wall Street was depicted as a one-way street and timing was not really that important—just buy and wait—according to the stock pushers. Or 'buy on dips' was another strong investment strategy. Another financial concept is also covered, namely Tobin's *Q* ratio. When the value of the stock market soars, relative to corporate net worth there is an incentive for companies to invest in relatively cheap physical capital. This substitution effect eventually calls for lower stock prices and the Q ratio to mean revert. This 'predictive tool' pointed to a very high *Q* ratio in the bubble era that served as a warning signal for stock valuations to fall quite significantly. In essence, stocks trade within a corridor—albeit a wide corridor—and eventually self-correct. So we have two competing investment strategies: the buy and hold strategy (a one-way street) and the contrarian strategy (a two-way street) in Wall Street philosophy.

We now know that US stock markets came off their highs in 2000. We also know that such markets have been extremely volatile since 11 September 2001. What we do not know is how well the real economy will recover and whether corporate profits will improve significantly enough to lead a sustainable rally on Wall Street in 2005–6. Much depends on the ability of the real economy to self-correct—pulling stock prices along—or whether stock prices and stock returns mean revert to some kind of long-run average—that is well lower than the peaks of 1999.

By examining the super performance of US stocks this chapter lays the foundations for major analytical themes examined throughout this book.

Origins of the bubble

Just as Great Britain enjoyed a hundred and fifty years of world domination through technological and commercial superiority so has America achieved the same kind of hegemony over the last century. It is the vast accumulation of US wealth that has the latent power to destabilize financial markets and so the real economy, complicating the task of conducting an appropriate stabilization policy. Moreover, economic growth does not infer economic stability. Quite to

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the contrary, the trade-off between economic growth and macroeconomic stability is still alive and well, despite the high economic cruise speed of the United States in the 1990s. The US Federal Reserve has a mandate to fight inflation and maintain economic stability in an economic system that is prone to fluctuation or in layman's terms—booms and busts. Why such booms and busts eventuate is still somewhat of a mystery, but the Federal Reserve has to make a value judgment as to whether it should smooth or minimize the effects of the 'business cycle'. The irony of America's massive wealth creation of the twentieth century has been associated with instability not only of output and employment but also of asset markets—and stock markets in particular. Speculation in asset markets, have their origins in some kind of monetary liquidity. That is, not just with expansions in the money supply, easy credit policies or margin lending but also with accumulated or stored wealth. It was America's fat savings pool and vast amounts of capital searching for a home that caused much of its stock market bubble in the 1990s.

Just as Japan experienced a mammoth asset price bubble in the late 1980s due to its massive reserves of accumulated wealth (much of it from exports), so the United States witnessed an asset price bubble of a similar magnitude. The causes are complex, but the vast amount of funds stored in America by both nationals and foreigners is a major perpetrator of the recent asset price bubble. Below are a summary of forces.

Financial forces

- Rapid money supply growth/credit growth
- Foreign capital inflows
- Geopolitical forces
- Margin lending/financial leverage
- Low long-term interest rates
- Low inflation rates
- Lower risk premiums.

Behavioural forces

- Biased capital gain tax laws
- A preference for debt over equity
- Weak corporate governance
- Stock options
- Day trading
- Ponzi games.

Real forces

- Rapid productivity growth

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- Expectations of productivity growth
- Expected earnings per share growth.

We shall examine the above causes of the bubble in some detail in Chapter 4. As outlined in this section there are three major driving forces to explain—liquidity, behavioural and real. There is a strong case for arguing that liquidity and behavioural forces dominated the rapid escalation of the stock prices far beyond that can be justified by real forces. The magnitude of this departure from real fundamentals is what a bubble is made of—superficial froth or euphoria—a substance that cannot support airborne stock prices over the long run.

Why the stock bubble?

Real fundamentals could not explain the explosion in US stock prices in the 1990s. Stock prices rose sixfold in this decade while labour productivity only doubled. This large *escalation gap* can be partially explained by investor behaviour in response to biased economic incentives—although some of this behaviour possessed no base but was indeed pure speculation. What remained as rational investor response was based on tax incentives, generous stock option packages for CEOs, corporate manipulation of profit results, low interest rates, low inflation rates and higher *expected* productivity growth.

However, financial forces have not been emphasized enough and these include the sizable capital flows into US stock and bond markets, the 'dollar bubble', geopolitical forces *pushing* funds into US markets, high levels of corporate financial leverage, margin lending for investors and the rapid growth in the money supply and credit.

A well-known author such as Schiller (2000) points to this *escalation gap* as being due to exuberance and behavioural forces that include speculation and greed. As in all bubbles these forces are plausible reasons but the *fuel* that ignites and allows the speculative fire to rage is that of excessive monetary liquidity and credit growth. Another respectable author such a Siegal (2000) points to changing and biased economic incentives such as the lower taxation of capital, lower risk premiums, a lower dividend payout ratio for holding stocks and lower transaction costs—so much so that stocks are a 'one-way street'. This book emphasizes the significance of financial forces and foreign capital flows that caused much of the explosion in stock prices— above and beyond that can be explained by raw fundamentals. The remainder of the escalation in stock prices may be attributed to psychological and behavioural forces. It was abundant liquidity that fuelled the speculative fire.

Stocks versus bonds

Hindsight is God's gift to the economist and so the world. I have just made Mark Haynes of CNBC Squawk Box so very happy! Over a long period of time, stocks

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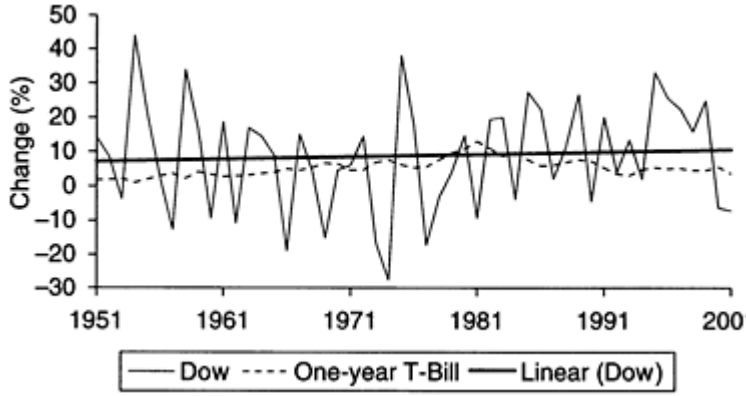

Figure 1.1 Comparing yearly percentage change in Dow and one-year T-Bill rates.

Source: Board of Governors of the Federal Reserve System.

have outperformed fixed interest investments. That is, despite wild fluctuations in stock prices and despite uncertainty associated with dividend payments, the rate of return from US stocks has been far higher than those from US fixed interest securities. Acceptance of higher risk derived higher returns from stocks than bonds. However, this superior performance is based on capital gains as well as dividends.

As can be seen from Figure 1.1, the trend line Dow performance (the dark line) has always rested above the nominal interest rate on the one-year treasury bill (T-Bill)— except for a brief period in 1981. Hence, a 'buy and hold investor' could effectively borrow funds and hold the Dow portfolio knowing that capital gains would be greater than the one-year T-Bill rate. Moreover, dividend payouts would accrue to such a conservative investor making the overall returns even greater. As will be discussed later, the risk-free alternative to investing in stocks —namely the thirty-year bond—is a major determinant of stock price fortunes. The ten-year bond is also a benchmark alternative.

The performance of the Standard and Poors (S&P) index is no less impressive, as can be seen from Figure 1.2. In raw terms the S&P rose from around 40 points in 1960 to around 1,500 points in 2000. These were staggering capital gains even after allowing for inflation. For most years the S&P tracked the Dow and capital gains were similar. We can also see that the S&P collapsed to the very low 800s in early 2003 only to stage an impressive rally by year's end.

Was the equity premium significant? It was for most part of the last century. Over longer time periods the superior performance of equity returns over bond yields holds true. From Figure 1.3 it can be seen in the period 1949–99 that stock yields were 8.8 per cent while bonds were only 1.5 per cent—a significant premium. Likewise, in the 1899–1949 period stock yields were 5.1 per cent while bond yields were again far lower at 1.8 per cent. Even in the 1800s a lower but still a significant premium existed. According to Siegal (2002) the rate of

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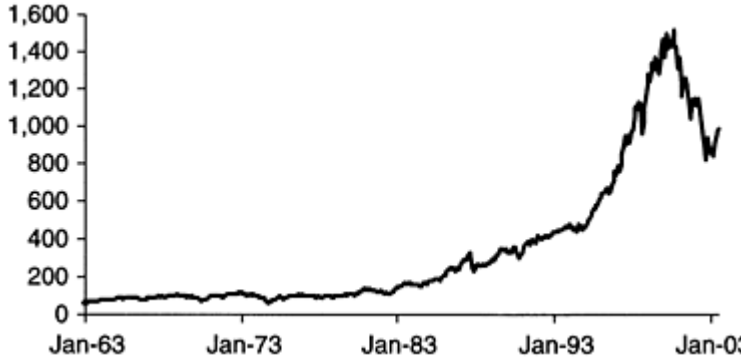

Figure 1.2 Level of S&P 500 (January 1963-July 2003).

Source: NYSE.

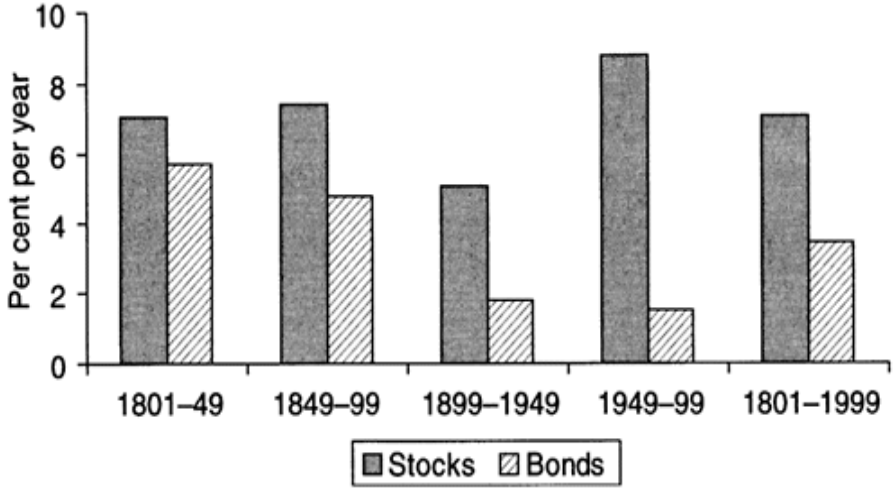

Figure 1.3 Real stock and bond returns.

Source: Siegal (2002) University of Pennsylvania.

return from stocks has been around 7.1 per cent since Second World War while real returns from T-Bills and bonds has been around 1 per cent—yielding a premium of more than 6 per cent. This historical fact is a major reason why stockbrokers pushed investors into stocks in the 1990s as they claimed it was a *one-way street*. Based on Siegal's research the stocks did out-perform bonds over the long run but not so much in the short run—as bond returns would beat stocks on average two years out of five. So there are times when the risk fearing investor should switch out of stocks and into bonds—even though timing is both difficult and critical.

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So why did stocks outperform bonds for such a long period of time? This 'paradox' is known as the equity premium puzzle. Perhaps investors were risk-averse, there was a large degree of unwarranted pessimism by cautious investors, in part driven by the residual fear of the Great Depression. Hence, the fact that needs to be explained is not high returns to stocks but why returns to fixed interest securities were so low. Why did investors underpay for stocks and overpay for bonds? The type of people that invested in stocks (risk-tolerant) are vastly different than those that invested in bonds (risk-averse) and so heterogeneity of investor types might explain why the premium was so high.

So why then has this equity premium shrunk from around 6 per cent in the twentieth century to around 3 per cent or even less in the 1990s? For example, even though the dividend-price ratio for most of the twentieth century was approximately 4.7 per cent, the estimate for the S&P 500 at its 1999 peak was only 1.5 per cent or less. Siegal (2002) claims that the historical 7.5 per cent rate of return included transaction costs, and so when technological advance lowered such costs, the real return required was more like 5 per cent. A different explanation of this puzzle is provided by Hall (2000). He claims that investment in intangible capital has been strong, as US companies positioned in the new global economy have ample funds to expand with, control marketing networks, are backed by the powerful copyright lobby groups and enjoy technological superiority over many international rivals. Forward-looking investors appreciate the strategic plays of US multinationals and are willing to pay a premium to buy into this future globally driven dividend stream. This argument of Hall is both powerful and insightful—it is a far-sighted, big picture view.

This equity premium puzzle became less of a 'puzzle' in the late 1990s when the premium disappeared completely. Investors were holding stocks in preference to bonds even when there was no obvious existing premium—as bond yields were higher than dividend yields by anywhere up to 3 per cent. On this basis, the 'premium' appeared to be a discount in the late 1990s. Perhaps investors were over-optimistic concerning capital gains? The crash in stocks was inevitable given that bond yields were higher than stock yields for a considerable number of months. After 2000 the risk premium expanded once again.

Absurd valuations

From Table 1.1 it can be seen that *P/E* ratios (S&P index/EPS $) for the S and P were overstretched at their upward peaks in 1997 (22.2), 1998 (27.7) and 1999 (28.4) in a rising market. In fact, *P/E* ratios were in their low thirties during some months and even higher for the Dow and NASDAQ. But such ratios retreated slowly in a falling market—such as in 2000 (23.5) but rose again in 2001 (29.5) only to collapse in 2002 (19–1). Earnings from stocks (E%—column 7) remained below the risk free rate on the 10 year bond (Y%—column 8) for most of these years—revealing investor optimism concerning capital gains. However, it should be noted is that the acceleration stock prices cannot persistently run ahead of the

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growth in earnings per share and Table 1.1 illustrates that. Although stock prices rose by an annual average of 25.7 per cent (column 3) during the boom of 1997–9 the rise in EPS was only an annual average of 8.5 per cent (column 5). Stocks could not and did not justify themselves with this meager rise in the EPS growth. Stock prices had to fall and they did. The market collapsed by an average of—15. 4 per cent between 2000–2 (column 3) while EPS 'growth' was a negative—1.23 per cent (column 5). We can say that stocks retreated in these three years in response to the unjustified run-up of the three earlier years when stock values rose three times faster the EPS growth. The market pulled back as a result of ordinary non-performance of an EPS annual growth rate of 3.6 per cent over the six years. Stocks rose only 5.1 per cent annually over this time—not

Table 1.1 Comparative returns

	S&P	*%*	*EPS $*	*%*	*P/E*	*E (%)*	*Y (%)*
2002	879	−23.2	46.0	18.5	19.1	5.41	4.61
2001	1,148	−13.0	38.8	−30.8	29.5	3.39	5.02
2000	1,320	−10.1	56.1	8.6	23.5	4.26	6.03
1999	1,469	19.5	51.6	16.7	28.4	3.52	5.65
1998	1,229	26.6	44.2	1.2	27.7	3.61	5.26
1997	970	31.0	43.7	7.6	22.2	4.50	6.35
1996	740	—	40.6	—	18.2	5.49	6.44
Average		5.1		3.6	24.1	4.31	5.62

Source: Board of Governors of the Federal Reserve System and NYSE.

too far above the 3.6 per cent EPS growth rate—reflecting a ratio of 1.42 and not 3 as during the boom. Hence, the S&P self-corrected after it became obvious that rapid growth in EPS was not forthcoming. We should remember that ultimately it is the growth in EPS that will dictate momentum in stock values.

We should also not forget the anchor of stock valuations—namely the risk-free rate on the ten-year bond. If the risk-free rate is 4 per cent then risk-neutral stock investors could pay *P/E* ratios of up to 25. Or if the risk-free rate is 5 per cent then *P/E* ratios for stocks of 20 could be justified. Hence we have an array of a *P/E* possibilities frontier based on whether the risk-free rate is more towards 7 per cent (*P/E* of 14.4) or more towards 3 per cent (*P/E* ratio of 33.3). We know that a risk-free rate of 3 per cent is not likely in 2004–5 and so we should not look towards high stock valuations and *P/E* ratios of 3 3. Except of course there is a sound expectation that this year's EPS will accelerate and so justify higher *P/E* ratios at the margin. As of mid 2004 the risk free rate on the 10 year bond is around 4.6 per cent and so *P/E* ratios of around 22 may be justified—and in fact the *P/E* is currently trading around this range. From Table 1.1 we can see that the seven-year *P/E* ratio was 24.1—whereas valuations in mid 2004 appear below that average. We should also note that the earnings yield (E%—column 7)—from

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stocks—rests well below the ten-year bond yield (Y%—column 8) for most years between 1996 and 2002—with the recessionary year of 2002 being the exception. In this year, investors finally sought the safe haven of the bond market—after capital gains in the stock market proved illusory.

The bubble: geopolitical forces at work?

Several international forces were at work in the 1990s that created an extraordinary growth environment for US stock markets. Japan experienced a huge asset price bubble in the mid-1980s that defied the forces of gravity. It burst by 1990, sending reverberations throughout Japan's financial sector and eventually the whole financial intermediation process in Japan ground to a halt. Both the demand for and supply of credit seized up. Slower lending flows and fear concerning job security dampened consumer and investor spending. In short, Japan's real economy suffered at the hand of a weak and fragile financial system under extreme stress. Asset prices suffocated for many years. And so Japan's stock market collapsed from its high of 39,000 points in the late 1980s to a low of around 7,800 points in 2003. Funds flowed from Japan and into more healthy and prospective US stocks *and* bonds for much of the 1990s.

Fortunes in Europe were not much better in the early 1990s as West Germany was finally united with East Germany. Although there was much rejoicing for humanity, not so for bond and stockholders as interest rates soared to attract foreign capital so necessary for the reunification. Europe recovered very slowly from the 1991 recession, unemployment remained stubbornly high and consumer confidence strengthened at a snail's pace. In short, European stock markets were under pressure in the early 1990s as rates of return in the real economy remained depressed. Therefore, there were strong international *push factors* at work in supporting US stock prices.

A worldwide flight to quality, partly as a result of a series of financial crises, pushed even more funds into US assets and into the 'safe haven' of the US dollar. There were crises in Russia, Mexico, Argentina and Asia that reminded all investors of holding a sizable percentage of their investment portfolio in US dollar assets. As Baker (2000) points out, there was a *double bubble* in the United States as an inflated US dollar underpinned inflated US stock prices. Foreigners sought a double-layered capital gain. Therefore, when policy-makers become concerned about the growing size of US current account deficit—to around 5 per cent of GDP (Table 1.1)—they have to appreciate that large capital inflows have generated this ballooning deficit. Why? Mainly because the US investment-savings gap widened and foreigners were willing to finance this shortfall.

It would be comforting to believe that foreigners were lured by high rates of return and that US corporations used these funds productively. Judging by corporate profit announcements since September 11 and the bankruptcies of World Com and Enron the answer would be 'no'. Stiglitz (2002) is particularly

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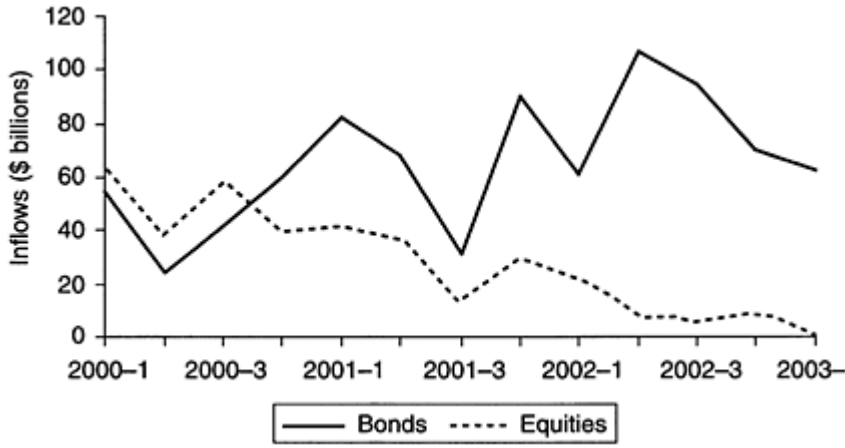

Figure 1.4 Private foreign purchases of US securities.

Source: Federal Reserve.

critical of America's mis-investment era—'Money that could have gone into basic research, to improve the country's long-term growth prospects; money that could have been spent to improve the deteriorating infrastructure; money that could have invested in improving both dilapidated innercity schools and rich suburban ones, instead went into useless software, mindless dot.coms and unused fiber optic lines.' Excess capacity often lingers after a recession, squeezing pricing power and profits. The overhangs of the tech bubble will take a long time to wear off.

Did foreign capital flows contribute to the US stock bubble? Greenspan (2000) comments on the size of this capital inflow in the 1990s, 'The latest data published by the Department of Commerce indicate that the annual pace of direct plus portfolio investment by foreigners in the US economy during the first quarter (of 2000) was more than two and a half times its rate in 1995.' This surge in foreign capital inflow coincides with the giant leap in stock prices between 1994 and 1999—in line with a liquidity driven market. As can be seen from Figure 1.4, the opposite is true post 2000—private foreign purchases of US equities contracted. However, foreigners still persisted with the purchase of US bonds. The ability of the United States to attract foreign funds has implications for the current account deficit. It hovers around 5 per cent of GDP (Figure 1.5) and must be financed somehow or close in response to a lower dollar and lower capital inflows.

Even though US financial markets appeared attractive in their own right, the United States nevertheless enjoyed a safe haven status—by default. Rates of return from real capital formation may not be as high as what foreign investors anticipate and such profit disappointment actually caused a massive exit from US stocks in 2000. This exit of funds was based partly on the *expectation* of a

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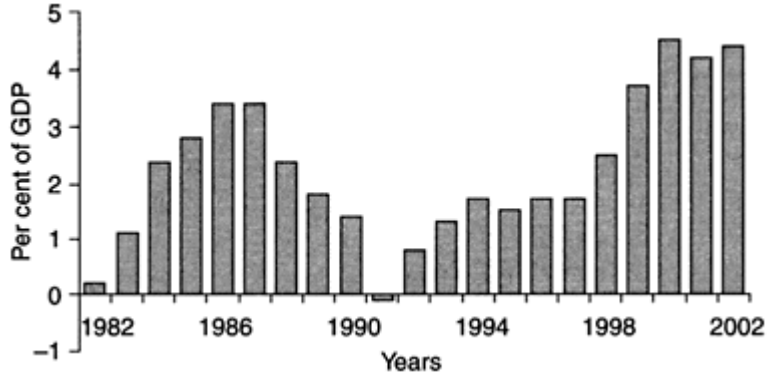

Figure 1.5 US current account.

Source: OECD Economic Outlook (2003).

collapse in the US dollar, poorer profit results or a sell-off in stocks. In other words, not only did actual profit disappointment set in but also a change in risk perception that further accentuated capital outflows. Therefore, in searching for a trigger that pricked the US stock market boom one has to look no further than the foreign exchange market. A falling US dollar and a three-year bear stock market coincided—each fuelling the other's downward spiral. Global investors wanted to get out of US dollar assets after 2000.

On the other hand, there is also no doubt that other domestic *pull factors* such as low inflation and higher productivity growth assisted in creating a stable macroeconomic climate in which to invest. Low real interest rates were a by-product of the low inflation era and a calm bond market underwrote an escalation in US stock prices. While real factors and sound economic fundamentals played an important part in pushing stock prices to historic levels their contribution was relatively minor in comparison to those of financial and behavioural forces.

The bubble: underwritten by a stable bond market?

The relationships between the US dollar, the bond market and the stock market involves very complex interactions. As history dictates, the stock market and the US dollar normally take direction from the bond market. It is the yield and stability of US bonds from which all economic life on earth flows—as investors formulate their vision of future asset prices compared to the risk-free rate. Forward-looking investors also assess the prudence of government policy strategies and form a view of inflation many periods out and so incorporate such views into the thirty-year bond yield. Hence, the bond futures market plays an important part in daily trading strategies. Falling bond yields before the start of stock trading or early in the day send a buy signal to stock traders. This inverted

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relationship between bond yields and stock prices are revealed in recent US financial history—with a high degree of regularity.

There are exceptions however. For example, during the Asian crisis, when there was a flight to quality, the flood of funds into US bonds was a liquidity effect not a signal to stock traders to buy stocks. Smart professionals were not fooled by this signal. Unfortunately, they were fooled in early 1987 when bond yields rose but the stock market took no heed—it rose despite higher interest rates. Between 2001 and 2003 is another occasion whereby investors were gripped with fear, as they pushed or switched into the bond market driving down yields to forty-year lows. Such investors dumped stocks and switched into bonds—displaying their gross intolerance for risk. Hence, there are times when the traditional bond market signal is false or is the *result* of investor fear of risk. Talk of deflation, as was the case in the United States in early 2003, caused a bond bubble and historically low yields.

As discussed earlier, there are times when the interaction of the trinity runs a little haywire. For example, what is not well appreciated during the bubble era was that both the US bond and stock markets received underpinning support from the US dollar. Up until late 2000, the US dollar slaughtered all currencies in its sight. Foreign investors flooded into US financial markets lured not just by rates of return but also by expected dollar strength. The foreign investment flood of 1997–2000 basically enjoyed very lucrative foreign exchange gains. In short, this financial trinity contains a mutually reinforcing momentum. Perhaps it was not a double but a triple bubble?

This virtuous circle soon turned into a vicious circle between 2000 and 2003 as forward-looking traders sold the US dollar in favour of the Euro and the Yen. Why hold US assets when they are falling in value? Why hold the US dollar when it falls in value? Both US and foreign investors 'switched' into Euro and Yen denominated assets in this era as US bond yields *and* US stock returns collapsed.

Debt, savings and switching

Credit markets were not always as well organized and sophisticated as what they are today. Many people from the older generation that had experienced the Great Depression frowned upon the use of credit and preferred saving for big-ticket purchases via down payments. But such attitudes were formed during low inflation times when the opportunity cost of waiting was low. However, during the 1960s, inflation began to escalate and so the threat of higher prices in the future pushed consumers towards current consumption and a bias towards debt. Tax laws interacted with this debt bias creating a massive impetus for both corporations and households to incur additional debt, as interest payments were tax deductions. Homeowners could gain income tax advantages from being highly geared, as could corporations seeking rapid business expansion during inflationary times. In short, it paid to be in debt. The 1990s era also displayed a

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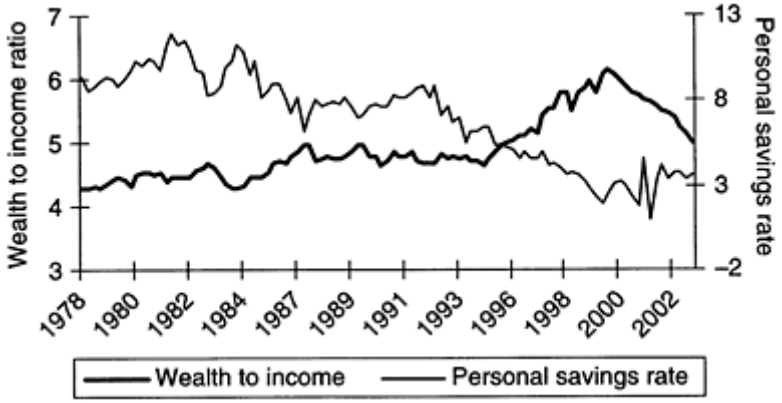

Figure 1.6 Wealth and savings.

Source: Board of Governors of the Federal Reserve.

willingness of investors and consumers to borrow more in a free and open credit market and to 'under-save' by OECD standards. Some stock market investors tapped their credit cards and refinanced their houses in order to partake in the stock boom.

Switching behaviour was also evident—out of money market accounts and into stocks—in the bubble era. From Figure 1.6, it can be seen that America's personal saving rate has steadily declined from around 10 per cent in the late 1970s to 8.5 per cent in the 1980s to less than 1 per cent by the year 2000. It did rebound somewhat—out of fear by 2003—displaying an inverse relationship to stock prices. Why such a low and declining saving rate? Households directly (via mutual funds) and indirectly (via pension funds) placed more of their funds into the stock market. Hence, their savings rate is higher than what Figure 1.6 portrays as their funds still remain stored but in a less liquid and more risky form.

More importantly, the wealth to income ratio rose sharply from around 4.5 in the 1980s to over 6.0 by the year 2000. More households have chosen to store their wealth in assets—stocks, bonds and houses—and so this 'switch' partly explains the choice of households to save less in ultra-liquid form. Perceptions of risk had changed—as investing the 'one-way' stock market street would have them. Such a trend is revealed in Figure 1.7, households stored more than 30 per cent of their total wealth in stock markets in the 1990s compared to 15 per cent just before the 1987 crash. Although real estate slightly faded in percentage terms there was a clear switch out of stocks and back into real estate from 1999–2003. This switch was partly by choice and partly by the unexpected collapse in stock values.

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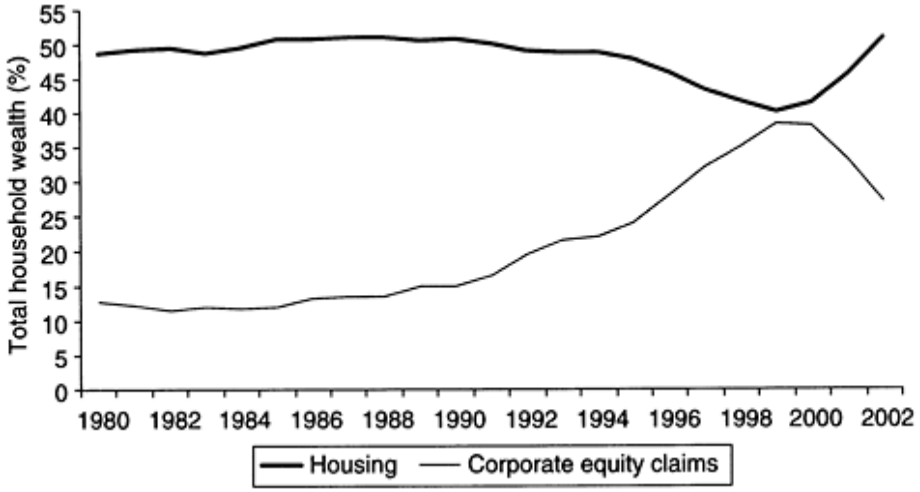

Figure 1.7 Contribution to household wealth: housing and corporate equity claims.

Source: Kopczuk and Saez (2004).

Warning signals: why not switch?

There were several warning lights flashing in the 1990s that stocks were indeed overvalued. So why did the majority of investors not switch out of stocks and into bonds, money market mutual funds, gold, real estate or other hard assets? This question has already been partially answered—that stockbrokers pushed the line that investing in stocks was a 'one-way street'—and pointed to Siegal's research that stocks persistently beat bonds. So why would the individual investor stray from age-old wisdom?

What were those warning signals? The conventional ones included exceptionally high *P/E* ratios, low dividend-price ratios, stock yields lying beneath the ten-year treasury yield (Fed model) and an exorbitantly high *Q* ratio. Not only were stocks overvalued according to these benchmarks but they were *wildly* overvalued. Why were these signals ignored? Perhaps investors believed that these benchmarks were elastic and not fixed? This time was different—so the argument went. Investors were far-sighted and were displaying signs of extreme patience by waiting future, and some would say, distant dividends. In effect, this represented a lowering of the risk premium—caused in part by tame inflation, low long-term interest rates and a surge in productivity growth. One should remember that in 1958 that stock yields fell below bond yields (the great reversal) and the stock market did not collapse but in fact experienced a three-year bull market thereafter.

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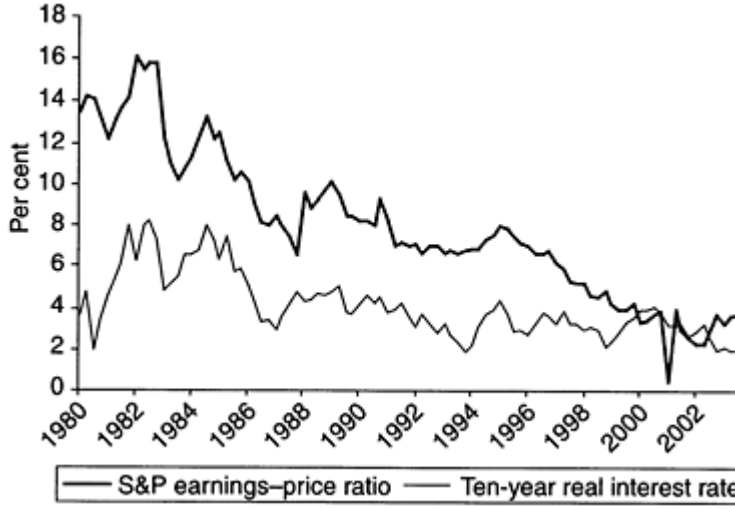

Figure 1.8 Earnings-price ratio and real interest rate.

Source: Board of Governors of the Federal Reserve.

What of corporate earnings?

As the 1990s progressed so did investors grow more patient in holding stocks at higher-than-normal *P/E* ratios in full expectation that corporate profits would maintain a healthy year-on-year rise. In some years they were vindicated.

What of corporate profits? We know from Table 1.1 that recent EPS (1997–2002) has been around 4.31 per cent and the *growth* in EPS of around 3.6 per cent—whereas for the 1990s it was 4.6 per cent. There would have to be a rapid acceleration of EPS growth to return to the 9 per cent yield of the late 1980s. This is what investors are hoping for—a doubling of EPS yields that will justify a doubling of stock values. Far-fetched perhaps but even a 25 per cent rise in EPS yields over three years would justify substantially higher stock values.

We know that price-earnings ratio escalated in the 1990s and so earnings-price ratio fell—but how far—and why did investors not take heed? From Figure 1.8, it can be seen that the earnings-price ratio were around 14 per cent in 1980–2, fell to around 9 per cent by the late 1980s and kept falling to 4 per cent by the year 2000. Real interest rates displayed a similar trend but maintained a healthy 8 per cent gap with the earnings-price ratio in early 1980s with still a 5 per cent gap by the early 1990s. However, the gap closed to 2 per cent by the late 1990s and to an amazing zero by 2000! Was there no risk in holding stocks over bonds? Would there be no mean reversion? That is, why wouldn't *P/E* ratios fall back into some long-term average? Investors believed that this era 'was different' and therefore ratios could be justified at their extremities. But minds changed and

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pessimism set in by 2001–2 with investors herding back into bonds and forsaking stocks because of governance issues, poor reporting standards and the Iraqi war.

Under normal circumstances this trend would constitute a dangerous signal to investors. Why did the risk premium fall so far and why did investors not switch into safe securities and so embrace the risk-free rate? Did they have no fear? Or were they just over confident? Several reasons for this phenomenon will be examined in later chapters but the fact that stock returns were similar to risk-free returns suggests that investors, on average, were confident that capital gains would accrue to stocks—more so than bonds. In other words, the potential for achieving capital gains from holding bonds was less than that from holding stocks —or at least that was the common perception. What is known as the Fed model is relevant here—it states that if the yield on the S&P rests above the ten-year bond rate then stocks are undervalued and if below the ten-year bond rate then stocks are overvalued. This is exactly the point of the earlier discussion—the risk-free rate was attractive in the late 1990s and many investors still shunned it. Perhaps they believed Siegal's work—that stocks out-perform bonds over the long run—just sit back and relax!

However, it would only take a mild economic or financial disturbance or an abrupt change in investor sentiment to detonate an explosion out of stocks and into bonds. Such a switch occurred after 2000.

Perhaps the most damning evidence of all comes from an inflated *Q* ratio. This ratio reflects the incentive transmitted to investors as to whether to invest in financial or physical assets. If the ratio is greater than one then the investor should invest in physical assets as they are relatively cheap compared to buying such assets via listed stock market companies. So a stock market boom can push an investment boom via this relativity and substitution effect. Conversely, if stock prices are low, there is an incentive for the investor to purchase stocks (and implicitly the physical assets they hold) instead of purchasing physical assets directly. Of relevance to America is the surge in stock prices that caused investment to surge as well—and not surprisingly a productivity surge that piggy backed on both. Such buoyancy sounds all very positive but was driven to the extreme—the *Q* ratio had to return to a more historically normal level—namely a theoretical figure of one or its long run average.

As can be seen from Figure 1.9, the *Q* ratio (the stock markets total value compared to the fair value of all corporate wealth) escalated since 1990 from around 0.6 to around 1.6 late in the decade. This is cause for alarm as pointed out by Smithers and Wright (2000)—who claim that the *Q* ratio is 2.5 times its long run average and is likely to rediscover that average in the medium term. These authors state, 'We looked at what has happened when *Q* has gotten to this sort of level in the US. In every previous instance—1906, 1929, 1937, 1968—a bubble has been followed by a crash and a severe recession.' Under this scenario there is a strong prospect for US stock markets to fall by 50 per cent from its height in 1998. Indeed, a fall of this magnitude would be required in order to raise stock yields to a level commensurate with the risk-free rate. This is a pertinent piece of

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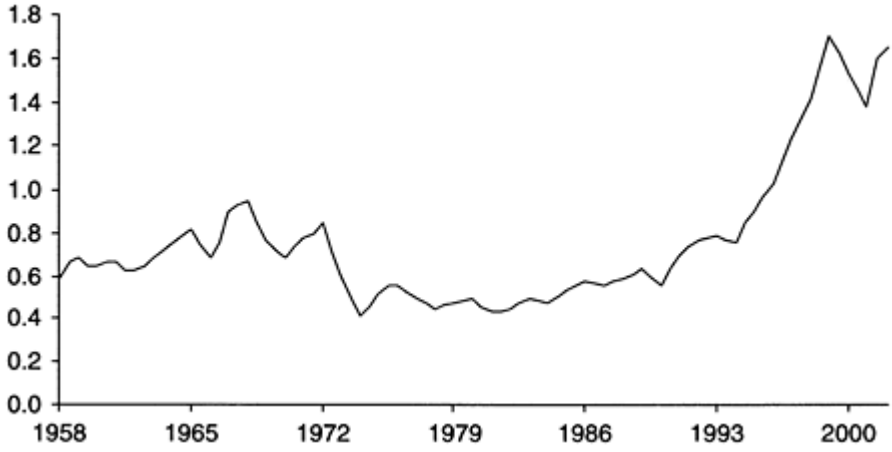

Figure 1.9 Tobin's *Q* ratio.

Source: Board of Governors of the Federal Reserve Board.

theoretical analysis. Extrapolating the past produces a dire prediction of a major, if not horrific, correction. We do know that stocks retreated very significantly from their highs in 1999 and this so far has been a major correction of around 35 per cent as of mid-2004. Although Smithers and Wright call for a Dow of around 5,500 points (their 50 per cent correction from the recent high) but a more realistic projection is around a 25 per cent correction— or the Dow at 8,625 points. This 'prophesy' was partially fulfilled during the Iraqi War when the Dow fell to around 7,300 points. What is different from the crashes mentioned earlier is that the United States is not in a severe recession as of 2004 and the Fed has strongly stood by with monetary liquidity. Hence, stock prices have rebounded as the Dow rose above 10,300 points by mid-2004.

There is no doubt that a high *Q* ratio makes it easy for businesses to acquire fresh capital—as the IPO flurry of the 1990s illustrates. But acquiring new capital presumes that it will eventually be channeled into real assets—and these assets will have to yield real rates of return. Just a 'promise to pay' is not enough. Therefore, the kind of 'illusory wealth' stored in US stock markets is a function of substantial 'promises to pay'. If massive amounts of financial capital cannot be translated into tangible, but not necessarily physical capital then the bubble will burst and massive capital losses will inflict investors on a broad scale—just as in 2002–3.

Similarities with 1929

It is often stated that every business cycle is unique and so every boom. Therefore, searching for the same build-up of forces during each boom may be

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just as elusive as searching for an honest politician. Nevertheless, there may be some commonalities between booms that relate to man's greed, ambition and quest for rapid wealth accumulation. Indeed, there are several parallels between the stock market boom of the 1990s and the crash of 1929- First, the excessive use of financial leverage to purchase stocks and the resultant exposure to greater risk via margin calls is one common feature. Any shock that triggers a sudden fall in stock prices generates a domino effect amidst marginal investors with a modest capital base and an even more modest access to quick liquidity. Second, faith in the 'new economy', the 'new paradigm' and the eternal wellspring of technological progress in driving stock prices are not peculiar to the 1990s, these same beliefs were evident in the 1920s. Indeed there were highflying stocks in this era that were at the frontier of technological development and some produced long-term sustainable growth while others wilted like summer flowers —never to be heard of again. Third, many of these 'new economy' stocks did not pay dividends nor was there any immediate hope that they would. Nevertheless, speculators ignored the lack of dividend flow in the short run and even the record high price-earnings ratio for the period. Asset backing and capital gain were more important than any trivial cash or dividend flow. Fourth, a speculative fever was evident in both eras whereby marginal, and arguably unsophisticated investors, flooded into the stock market lured by quick-fire capital gains. Economic fundamentals were important up to a point but trading on 'news' and second guessing the fellow investor's move became more important in this game of 'musical chairs'. Fifth, the argument that fund managers view the stock market as a one-way street *over the long run* and so keep pushing funds into the market accordingly can be compared to the 1920s era. A more detailed analysis of the great asset price bubble of 1929 is discussed in Chapter 10.

Where from here?

From theory and long-run historical data we know what should happen to US stock prices over the medium term. That is, they should self-correct or mean revert. When we employ Tobin's *Q* ratio we know that the numerator can change *quickly* as it is driven mainly by financial forces whereas the denominator changes *slowly* as it is driven mainly by real factors. Hence, for mean reversion to occur it is more likely to occur through the numerator—a lowering of stock prices in a short time frame than a rapid rise in the denominator lead by GDP and productivity growth.

A similar analysis flows from the *P/E* ratio. What happens to stock returns after an era of high *P/E* ratios? The answer depends upon whether higher stock prices drove the ratio higher or whether lower earnings drove it higher. As Siegal (2000) points out—annual stock returns were 9.7 per cent for the five years after the *P/E* ratio peaks and recessions of 1991, 1938, 1921 and 1894 whereas annual stock returns were only 1.1 per cent five years after the *P/E* ratio peaks and

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'recessions' of 1987, 1961, 1946, 1933 and 1929. Hence, it matters *why* the *P/E* ratio spiked? Depressed earnings may rebound from a recession quickly and so justify a rebound in *P/E* ratios whereas exuberant buying (based on liquidity) may never justify those same prices again—and so *P/E* ratios face downward pressure in the bubble aftermath. This analysis is of the same type for the *Q* ratio —it is numerator that must adjust and can adjust quickly. This is just another piece of evidence against many stocks regaining former glory and former *P/E* ratios. The Dow and the S&P will have to make do with a modest recovery not a complete retracing to the peaks of 1999.

There are three key macroeconomic variables that will strongly impinge upon the US stock market performance over the next two years—2005–6. They are the strength of the US dollar, the size of the current account deficit and foreign capital inflows. Foreigners require a degree of certainty when investing in US dollar assets and will be reluctant to fund the large US current account deficits—unless at higher interest rates. These three variables are highly interrelated. US investors do not want higher interest rates at the long end of the yield curve and so are somewhat dependent on strong capital inflows and a stable US dollar to support stock prices.

Conclusion

At the beginning of the decade the Dow stood at 2,634 points; by the end of the decade it had soared to its all-time high of 11,497 points—a stellar performance by any standard. Real returns from holding stocks in the 1990s were more than double the returns from holding thirty-year bonds. This decade was like no other in history, as the rise in stock prices surpassed the long stretch set in the 1960s. However, reality soon paid a visit to paper-rich investors. Paper profits are just that, they are not secure unless they are *realized*—a lesson that many investors learnt in 2000. Just as in 1987, investors stampeded to the exit gate causing stock values to plummet, which in turn generated further panic selling. A dash for liquidity and a safe haven bond market by investors sent shock waves through an already disorderly market. Paper profits turned into concrete losses as investor's simultaneously exited assets and into cash. Therefore, the claim of exceptionally high capital gains in the 1990s is only true to the extent that such gains were realized. Investors with large positions that remained in the market were exposed to sudden shifts in market sentiment and so remained exposed to possible capital losses in the event of a rapid exit to cash or offshore opportunities. Hence, capital gains in the period 1997–2003 were far lower than what nominal index numbers reveal and in some portfolios quite negative. The bubble was well and truly over and Cash once again reigned as King by 2000.

What should also be noted is the *unique* set of circumstances in US history that generated this stock price bubble. There was an abundance of foreign investors pushing and jockeying for position in the richest, deepest and safest market in the world. Not only were foreigners chasing 'blue chip' assets they

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also wanted to be in the US dollar. This double desire resulted in a double bubble. A plethora of forces were brewing excess liquidity. Besides abundant liquidity, there was a high degree of 'switching' going on—that is, changing attitudes towards credit, leverage and risk— that transferred funds out of low risk savings vehicles and into potentially high risk, high capital gain stocks. Further analysis of the driving forces of the bubble are examined in Chapter 4.

We have witnessed a cooling off in US stock prices in early 2003—even a collapse— but a rally by year's end—towards 10,400 points on the Dow and 1, 085 on the S&P. However, we have also witnessed a tentative revival in both the real economy and stock prices by mid-2004. There are signs of strength in the financial sector and the forward-looking stock market is anticipating a robust revival in the real sector and so economic activity. Have US stock prices returned to a level reflecting basic fundamentals? Is the financial storm over? Can the US dollar reverse its slide? Can US stock prices rally on the back of improved corporate profits and accountability? These questions deserve responses but first we shall examine the historical record of the 1990s in order to familiarize ourselves with the characteristics of the stock bubble and the Fed's response to both escalating stock values and the economy's heat.

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2
The great bull run of the 1990s

Introduction

In many ways the effects of the 1987 stock market crash became visible in the real sector years later. The Fed intervened in 1987 with abundant liquidity and stood firm as lender of last resort, saving the real economy from a hard-landing. Stocks took a beating for a while but recovered by 1989. However, there were ill-side effects of the Fed's rescue mission. The economy was awash with funds, and there were spillovers into real estate, creating an asset price boom of some magnitude. Asset price inflation spurred goods price inflation and inflationary expectations were on the rise. The twin overhangs of debt and inflated asset prices cursed the US economy in the early 1990s, posing a macroeconomic management problem for the Fed. Even though the US economy made a sluggish start to the decade, including the 1991 recession, it roared from 1995 onwards.

As surveyed in Chapter 5, given the significant rise in US productivity and efficiency there is a temptation to argue that there is a 'new economy' and a 'new paradigm' for the Fed to respect. However, a fortuitous set of circumstances—indeed unique—for the US economy, abundant liquidity and speculative fever, tempers the view that fundamentals alone were responsible for the US stock market boom of the 1990s. Financial, and not economic factors were the prime drivers of escalating asset prices. Unfortunately, it was a matter of up the staircase and down the elevator for some investors by 2000.

There is no doubt that the United States enjoyed a fortuitous set of circumstances in the 1990s or commonly called 'luck'. Japan's economy and stock collapsed beyond belief and Europe endured high unemployment rates, reunification problems and sluggish growth. There was also the continued support of Chinese and Japanese investors for US bonds—funding American consumption and indirectly their own exports. Global investors sought the 'safe haven' of the US dollar and US stock and bond markets. Such investors received more justification for placing funds in the United States—as inflation remained docile, productivity growth was accelerating and the risk premium for holding stocks was closing. Moreover, the Fed appeared prepared to let the growth phase roll and so leave interest rates at low levels. The Fed was also 'accommodating'

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when Asian stock markets crashed in 1998 and many foreign investors again sought the safety of US denominated assets. In short, there were significant external push factors into US markets and even some attractive pull factors as well—such as low inflation and rising productivity. Foreign capital fed into the US productivity boom by providing the necessary finance (saving) for US companies to innovate.

This chapter surveys the escalation of stock prices in the 1990s.

Macroeconomic background

When ex-president George Bush sought policy advice concerning the sluggish US economy in 1990–1 he was counseled to 'wait for the self-correcting forces of the market to work'. Indeed, he accepted such advice and waited in the hope that the economy would respond before the November voting date—it did not. Perhaps it was more a matter of Bush losing the election than Clinton winning it. But now it was President Clinton's turn to listen to policy advice—sound or otherwise. For the Clinton administration to be successful, it had to either have Chairman Greenspan 'onside' or at least have Greenspan not work against or thwart the administration's policy strategy. What would be the deal? Obviously Clinton desired growth and prosperity but Greenspan desired growth *with* stability. There needed to be a clear understanding between these two power brokers as to what was and what was not negotiable. Greenspan would not tolerate inflation and he believed that growth could only be achieved if the government got its own 'house in order'. That is, by lowering budget deficits and the national debt, pressure could be taken off long-term interest rates. As can be seen from Figure 2.1, the budget deficit was around 3 per cent of GDP in the early 1990s, diminished in the mid-1990s and turned into a surplus by 1997. The financial markets cheered the Clinton administration's fiscal austerity by lowering bond yields and buying stocks. The path to lower yields at the long end of the yield curve was to reduce the threat of inflation and reduce the crowding out effect of government borrowing.

It was also necessary to assure the finance markets that stop-go policies would not be used to engineer artificial spurts of growth and so raise interest rates in the meantime. Credible long-term policies were required to produce long-term *sustainable* growth. If the Clinton administration had in mind reckless expansion there was always the reminder from Greenspan that the Fed would raise short-term interest rates in response to poor economic management. Moreover, bond-holders would censure Clinton's performance by selling long bonds and so raising long-term interest rates. In short, the administration could not afford to provoke either Greenspan or the bond-holding class (Canterbery 2000a).

President Clinton knew there were costs in abiding by Greenspan's blueprint for economic recovery. For example, Clinton had campaigned on spending more on rebuilding America's public infrastructure and education but was constrained in the early 1990s by the quest for deficit reduction. Keynesian demand-side

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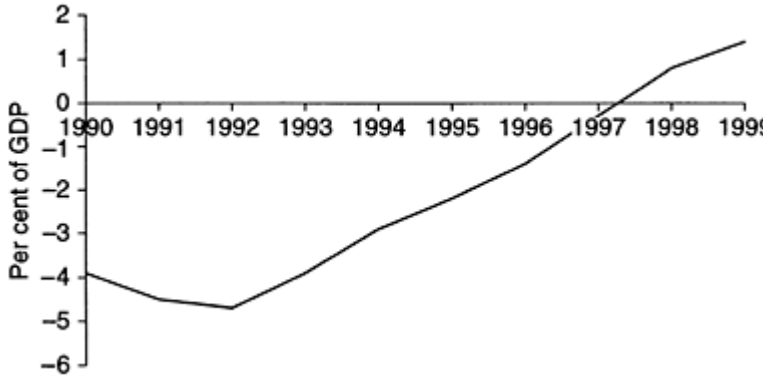

Figure 2.1 Budget deficit.

Source: Board of Governors of the Federal Reserve System.

management was frowned upon by America's business community and so any sizable fiscal policy initiatives were likely to meet with stiff opposition. There was also the threat that the owners of capital would 'censure' Clinton policies via the bond market and the US dollar. In order for Clinton to undertake his social reforms he sacrificed a degree of autonomy over economic management, a trade-off that he reluctantly accepted. But there were benefits from agreeing to a low inflation-low interest rate environment whereby private sector investment could flourish. Improving the quantity and quality of the nation's capital stock would raise long-term productive potential via rises in productivity and full employment. More jobs, higher real wages and more prosperity could only increase Clinton's political capital and chances of re-election. In reality, real GDP boomed in this decade to levels not seen since the 1960s. From Figure 2.2, economic growth registered an average of 3.5 per cent. However, the real bonus for the Clinton administration was the collapse in the inflation rate as revealed in Figure 2.3. Despite the recovery in output in 1992 and capacity utilization rates approaching 84 per cent (Figure 2.4), inflation remained subdued amidst eight years of economic boom.

Another outstanding feature of America's economic landscape, besides deficit reduction, was the low level of real interest rates throughout the 1990s. The recession years of 1991–2 witnessed a real interest rate below 1 per cent but still remained less than 3 per cent for the more robust years after 1994 (Figure 2.5). Such a stable, low interest rate environment stimulated an investment boom. During this decade, the unemployment rate fell to a thirty-year low of 4.2 per cent. From Figure 2.6 it can be seen that unemployment continued its downward slide from 7.4 per cent in 1992. Ironically, both unemployment and inflation were on recent historical lows *together*. So how did the US economy manage to post rapid growth rates and high employment and yet not experience rampant inflation as a by-product of such 'heat'? As examined in Chapter 5, the US

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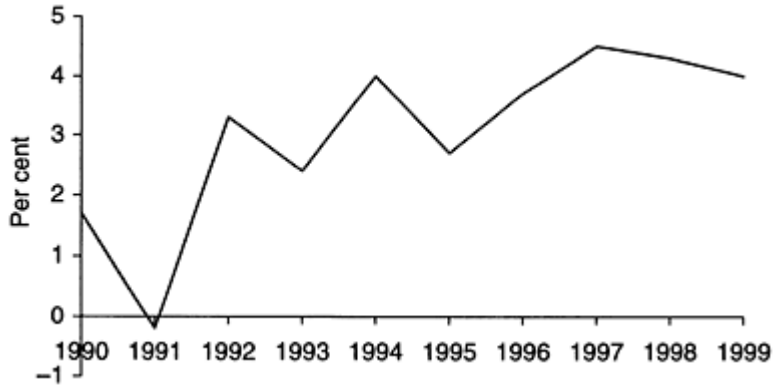

Figure 2.2 GDP growth rate.

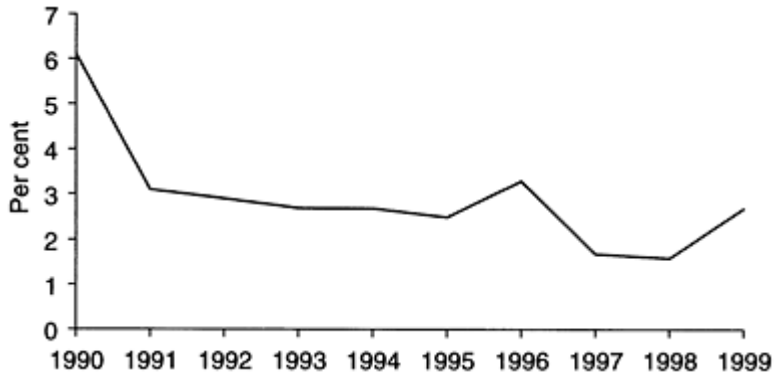

Figure 2.3 Inflation rate (CPI).

Source: Board of Governors of the Federal Reserve System.

economy pressed up against the Non-Accelerating Inflationary Rate of Unemployment (NAIRU) but did not succumb to excessive inflationary heat. As a result of a robust economy, stock prices, and asset prices in general, soared from 1992 onwards. Rosy expectations beyond the year 2000 also played a part in maintaining high stock prices and sustaining low price-earnings ratio all the way until 1999. We know from hindsight that such ratios were not justified as EPS growth collapsed.

Business profits boomed in the mid-1990s after recovering with a lag from the 1991 recession. Figure 2.7 reveals that business profits (as a per cent of GDP) on average were above 16 per cent after 1995 and well above profit levels of the 1980s. As discussed earlier, real interest rates were low—reflecting low levels of inflation and the Fed's accomodating monetary policy. With the cost of capital lower and consumer credit cheaper, US firms were able to expand sales without

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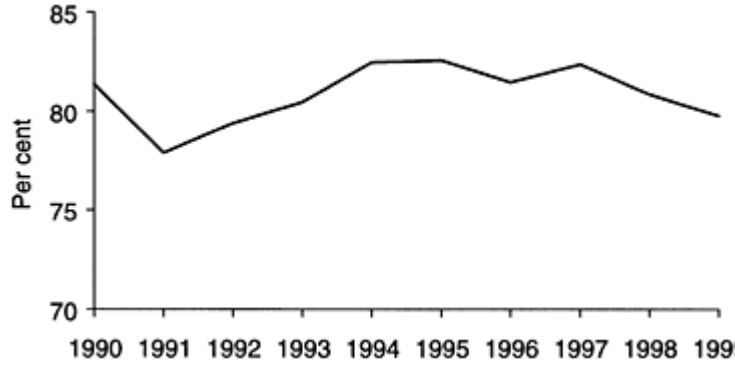

Figure 2.4 Capacity utilization.

Source: Board of Governors of the Federal Reserve System.

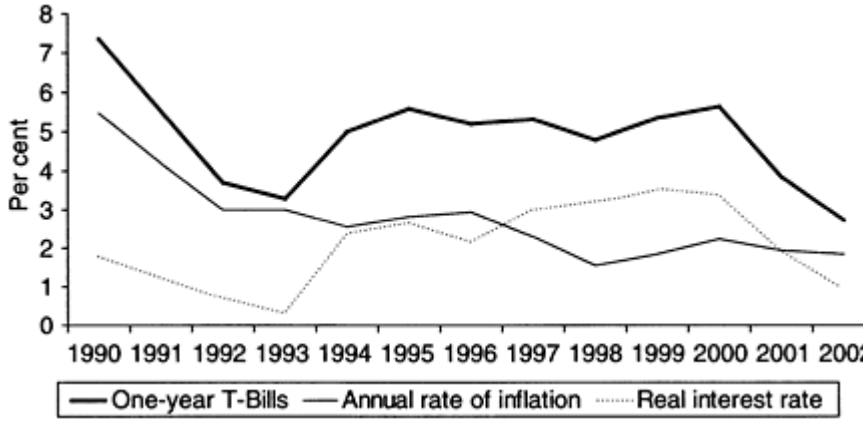

Figure 2.5 Nominal and real interest rates (1990–2000).

Source: Board of Governors of the Federal Reserve System.

crushing profit margins. Subdued wage growth and suppressed unit costs were also major contributors to profitability.

What were the signs that easy credit and a rise in monetary aggregates contributed to a rise in business profits and stock prices? From Figure 2.8 it can be seen that the growth in the M2 monetary aggregate did *accelerate* from 1994, rising from a 0.5 per cent growth rate in 1994 to more than a 7 per cent growth rate in the late 1990s. Rapidly expanding liquidity (and not just rapidly rising productivity growth) fuelled the boom in stock prices. Household debt continued to expand (Figure 2.9). The boom in housing construction can be seen from Figure 2.10. A rebound from a low of less than 800,000 units in 1992 to more than 1.3 million units in most years after 1997—and maintained such levels into

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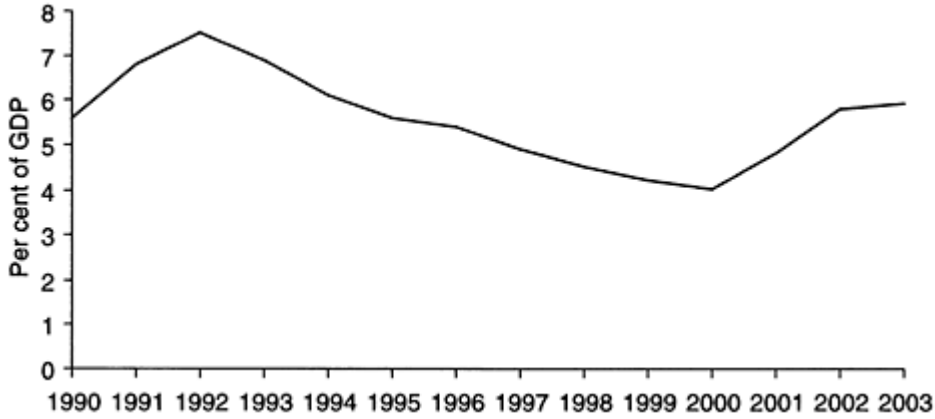

Figure 2.6 Unemployment rate.

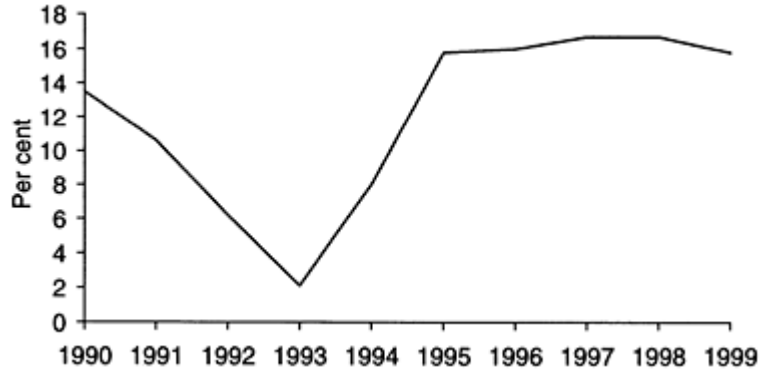

Figure 2.7 Profits.

Source: Board of Governors of the Federal Reserve System.

2003. House values increased along with this construction boom and provided valuable support for stock prices—via re-financing at lower interest rates.

The policy paradigm

Although the Fed charter includes several economic objectives, the interpretation of this charter by Greenspan (2000c) is that long-term sustainable growth is best delivered *via* a low stable inflation rate. He states 'A central bank can best contribute to economic growth and rising living standards by fostering a financial environment that promotes overall economic balance in the economy and price stability. Maintaining an environment of effective price stability is essential, because the experience in the United States and abroad has underscored that low and stable inflation is a prerequisite for healthy, balanced,

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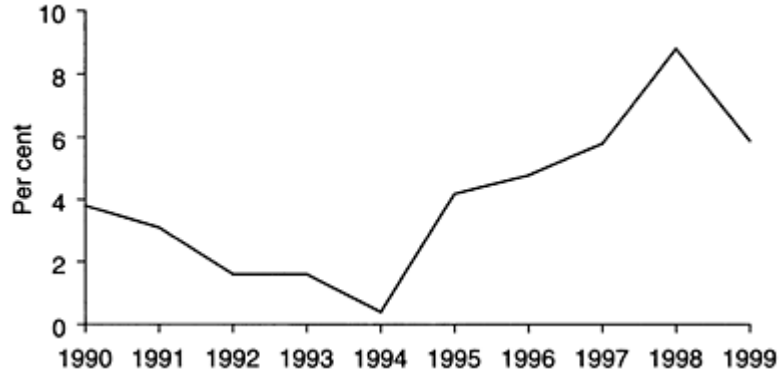

Figure 2.8 Money supply (M2).

Source: Board of Governors of the Federal Reserve System.

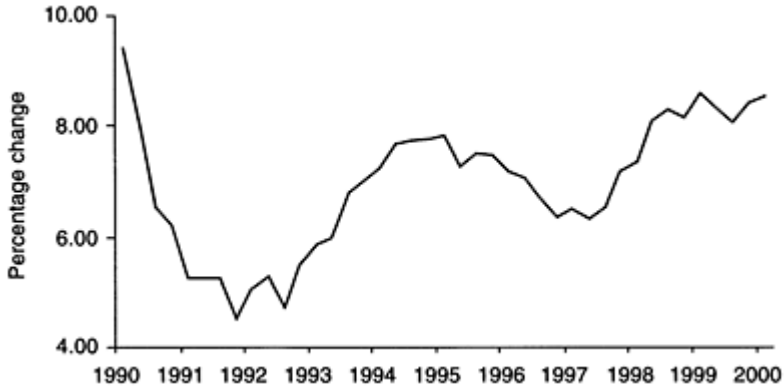

Figure 2.9 Annual change in household debt levels.

Source: Board of Governors of the Federal Reserve System.

economic expansion'. By not distorting relative prices and economic incentives, the private sector can invest and innovate and so raise the long-term potential of the economy to deliver higher living standards. In short, low inflation is *the* prerequisite or passport for sustainable growth. Moreover, Greenspan is on public record as stating that history teaches us that monetary policy has been most effective when it has been pre-emptive. That is, strike against emerging inflationary forces before a stubborn critical mass is formed.

Greenspan's logic is also rooted in theoretical monetarism, whereby there are long and variable lags in conducting a monetary policy and so 'waiting' for inflation to mature creates greater risks down the track. Given there are sizable impact lags, and even short-run recognition lags, the restraining effects of tight money and/or higher interest rates effects may be delayed and so the evils of inflation are more prolonged. This is a powerful justification for being vigilant

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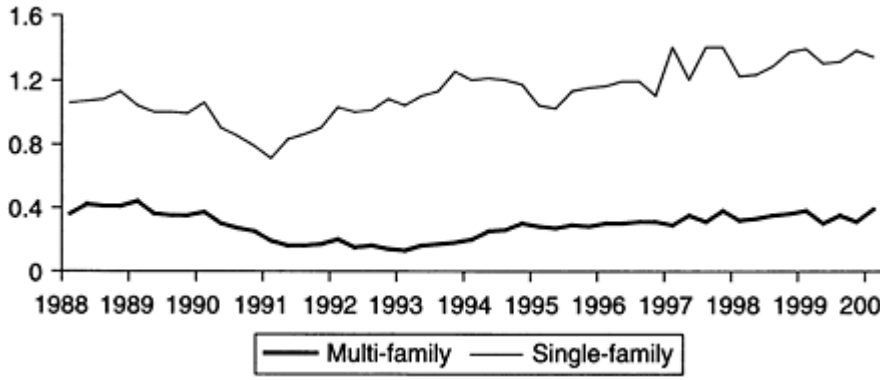

Figure 2.10 Private housing starts (million of units—annual rate).

Source: Board of Governors of the Federal Reserve System.

and striking inflation first—as a precautionary measure—so as to not undermine any future expansion. However, there are two basic flaws to this justification. First, the fine-tuning skills required to successfully undertake a pre-emptive strike, or any monetary policy strike for that matter, are enormous—even within calm periods of history. Second, there is strong evidence that old empirical relationships have broken down or become extinct. Monetary aggregates and income velocities, for example, became unstable in the 1990s. The NAIRU also shifted—far lower it seems by the mid-1990s—a shifting target— confusing the policy maker as regards the appropriate economic cruise speed of the economy. A key driving force of this 'shift' was most likely waves of technological improvement causing productivity growth to accelerate by the mid-1990s. Hence, the productive potential of the economy increased faster than what most economists thought possible and was pushing against recognized, but old speed limits—such as capacity utilization constraints, a low unemployment rate and low inventory levels. But perhaps the NAIRU is like a movable wall—it only has to be pushed? Challenges in formulating monetary policy are mounting, as old empirical relationships appeared to have broken down.

Dip and recovery: 1990–1

From Figure 2.11 it can be seen that the 1990s started with a stumble. The collapse of the Dow in July 1990 reflected the short, sharp recession that hit the US economy and the pessimism that prevailed for a time. Despite the mid-year collapse, the Dow only finished down 0.6 per cent for the year. However, a rebound took place quickly and the Dow recovered by 22.4 per cent in 1991. The growth of GDP fell to 1.7 per cent in 1990 and continued to fall in 1991 to record −0.2 per cent. Unemployment rose in both years to 5.6 per cent and 6.8 per cent

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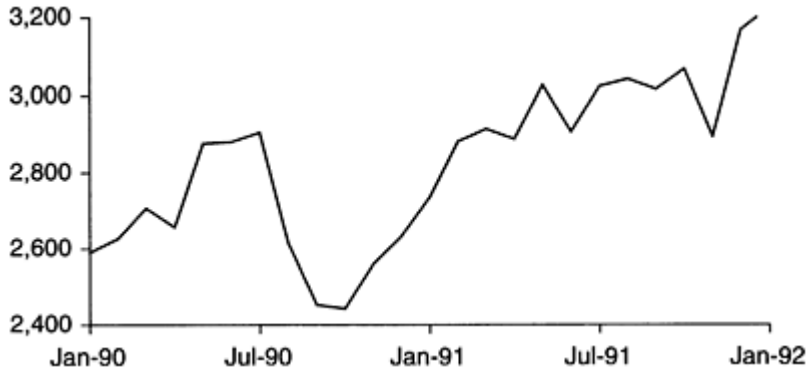

Figure 2.11 Level of Dow (1990–1).

Source: NYSE.

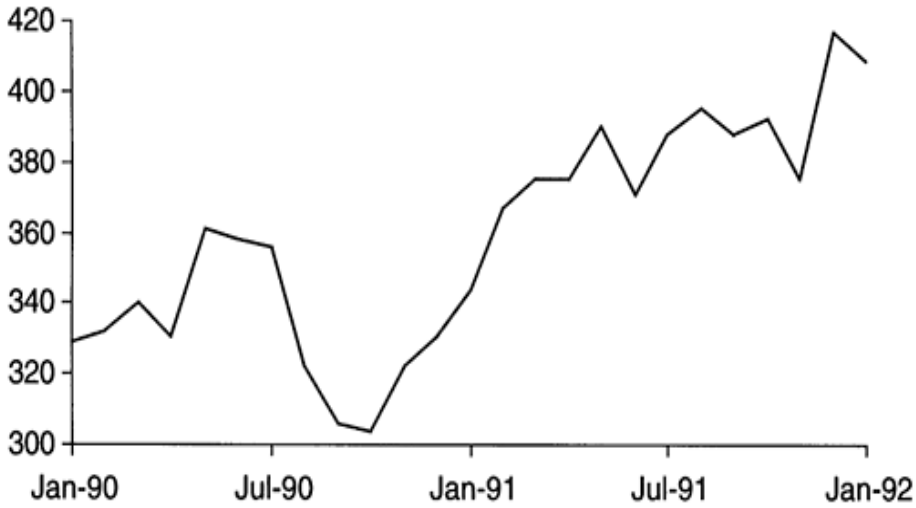

Figure 2.12 Level of S&P (1990–1).

Source: NYSE.

respectively. In other words, the real economy suffered in the 1990–1 recession but the *forward-looking* Dow actually rose amidst this gloom. Investors predicted a short sharp recession and were basically rewarded for being correct. From Figures 2.12 and 2.13, the S&P posted an average annual gain of 13 per cent whereas the NASDAQ posted a very impressive annual gain of 24 per cent. This was only the beginning of the boom in tech stocks.

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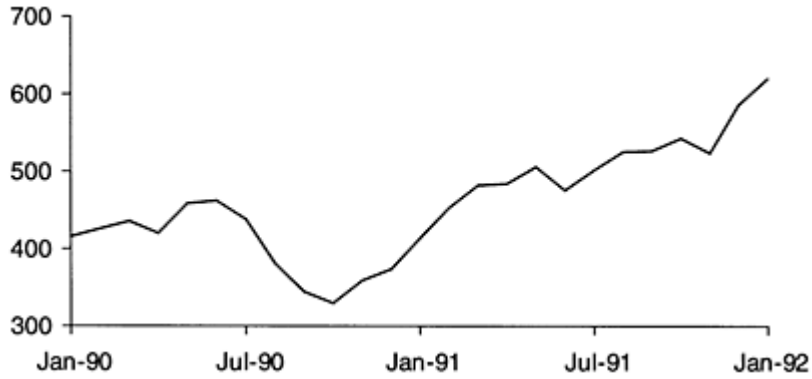

Figure 2.13 Level of NASDAQ (1990–1).

Source: NYSE.

The roaring Dow: 1992–3

With the real economy still sluggish, the outlook for stock prices remained dim with the Dow only posting a 4.4 per cent gain in 1992 but a more solid 13.5 per cent rise in 1993 (Figure 2.14). The S&P performed as well as the Dow (Figure 2.15) but the NASDAQ roared from its low of 460 points in 1992 to 800 points by the beginning of 1994 (Figure 2.16). Unemployment continued to rise in 1992 (6.9 per cent) but fell slightly to 6.1 per cent in 1993. However, GDP growth picked substantially to 3.3 per cent in 1992 and 2.4 per cent in 1993. The economic recovery was underway and stock prices remained quite firm. It is here that we should remind ourselves that EPS growth is tied to long-run GDP growth and that stock prices are ultimately tied to both. Even so we should forget the risk-free rate on the ten-year bond—the bad news came in 1994 as interest rates rose quickly and suffocated stock prices almost immediately—but GDP growth slowed with a lag of a year.

The policy-induced correction: 1994–5

The year 1994 was a poor one for the Dow as the Fed raised interest rates. Optimistic investors were given a beating and the Big Bear visited the bond market. A major rebound occurred in the Dow in 1995 when it posted an impressive gain of 33.4 per cent (Figure 2.17). As for the S&P, it rose by an average annual rate of 16 per cent and the NASDAQ 14 per cent (Figures 2.18 and 2.19). GDP growth was solid in 1994 at 4 per cent but faded somewhat to 2.7 per cent in 1995—as higher interest rates cooled economic activity with a lag. Unemployment continued to fall, down to 6.1 per cent in 1994 and 5.6 per cent in 1995. In fact, this downward trend would continue for the rest of the decade.

There was a growing anxiety within the Fed that inflation was about to raise its ugly head and the Clinton administration was warned about the Fed's desire to

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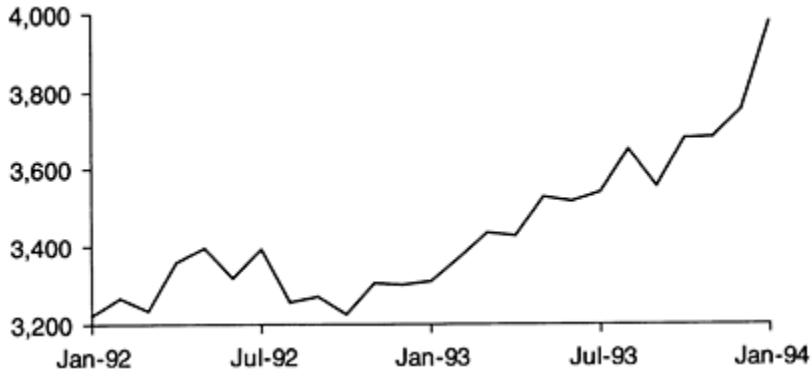

Figure 2.14 Level of Dow (1992–3).

Source: NYSE.

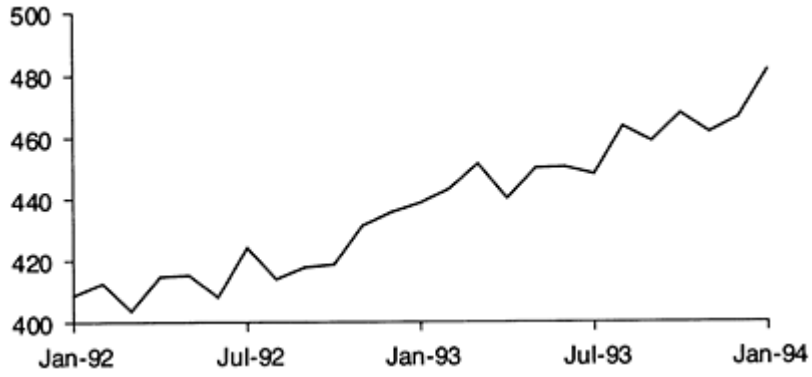

Figure 2.15 Level of S&P (1992–3).

Source: NYSE.

raise interest rates early in 1994. But the signs of inflationary pressure were mixed. It is true that the Employment Cost Index (ECI) rose mildly from 3.5 per cent in 1992 to 3.6 per cent in 1993. The ECI for services rose from 3.2 to 3.6 per cent in the same period. More importantly unit labour costs did post a substantial rise from 1.2 per cent in 1992 to 2.1 per cent in 1993. However, this index fell to 0.8 per cent in 1994, as did the ECI to 3.1 per cent. Other signs of overheating came from the stock market— the Dow rose from 3,100 points in early 1993 to nearly 4,000 points by the end of the year. I was watching CNBC in Tallahassee when the Dow broke through the 4,000 point barrier and knew that Greenspan was not far away with his dampener against 'excessive optimism'. I did not have to wait long as he acted swiftly.

Between January and April of 1994, the Fed raised the federal funds rate several times to an average of 5.8 per cent for the year—up from a 4.2 per cent average in 1993. The yield on the long bond moved higher to average 7.3 per

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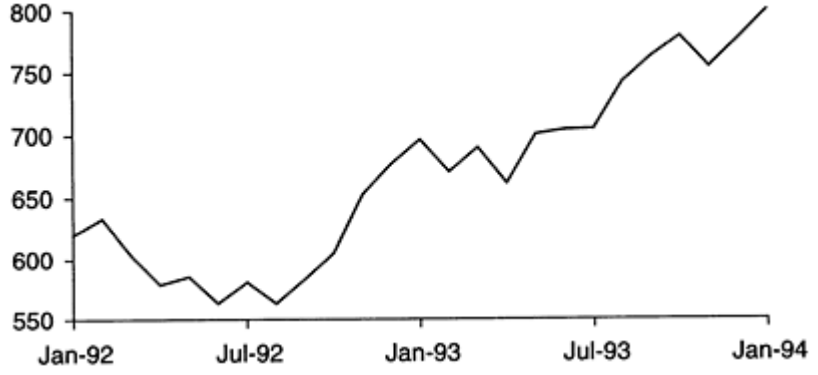

Figure 2.16 Level of NASDAQ (1992–3).

Source: NYSE.

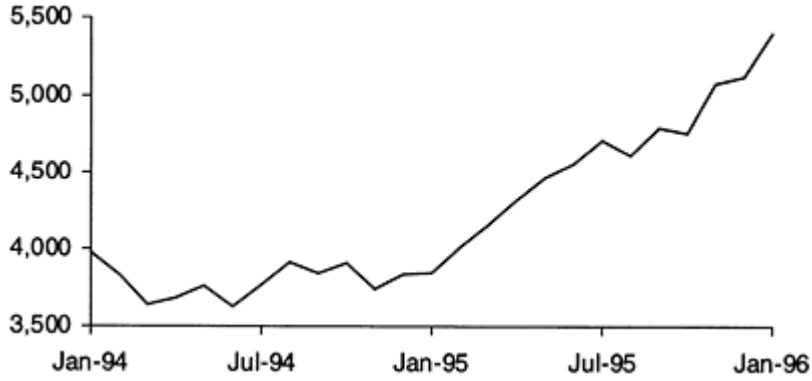

Figure 2.17 Level of Dow (1994–5).

Source: NYSE.

cent for the year but rose above 7.6 per cent on some occasions. As interest rates began to fall in 1995 so did stock prices rise and by the end of 1995 made a respectable recovery.

Greenspan's rationale for his pre-emptive strike against inflation was premised on two concepts: inflationary expectations would be wrung out of the system and long-term interest rates would fall as investors witnessed the Fed's resolve to raise them at the short end of the yield curve. The former was to some extent achieved but the latter was not—at least in the short-term. However, the yield on the long bond did fall, albeit with a lag, to 6.88 per cent in 1995. Greenspan's gamble paid off in some ways but there was always a lingering doubt that there was a degree of overkill embedded in this strategy. There were costs in terms of capital losses on stocks and bonds as well as output foregone. Was it the recession that we had to have? Was the inflationary dragon kept chained—

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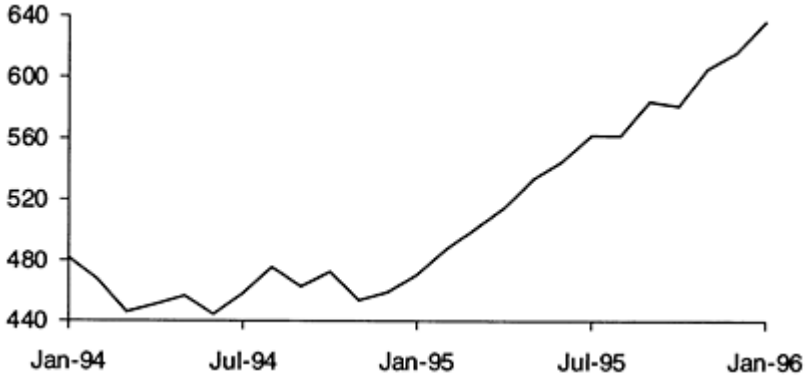

Figure 2.18 Level of S&P (1994–5).

Source: NYSE.

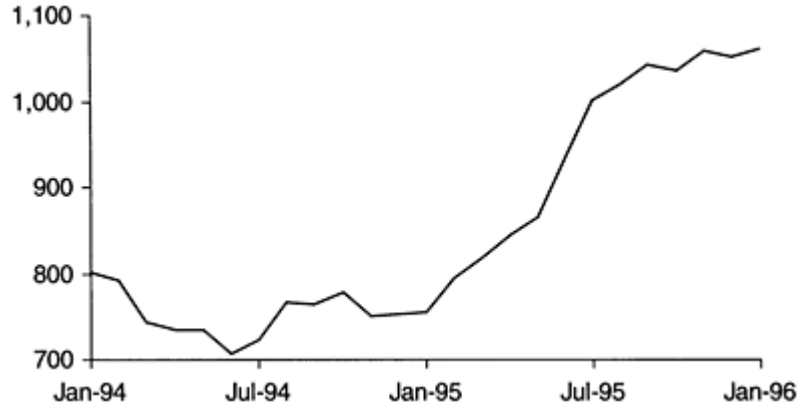

Figure 2.19 Level of NASDAQ (1994–5).

Source: NYSE.

unable to wreak its normal havoc? Or was Greenspan's strategy based on an old paradigm and old signposts of capacity constraints that were increasingly becoming less relevant? There has been a suspicion to this day that the Fed overreacted in 1994 to 'imaginary threats' that did not represent 'clear and present' dangers. In reaction to such criticisms Greenspan (1997e) commented 'I find it ironic that our actions in 1994–5 were criticized by some because inflation did not turn upward. That outcome, of course, was the intent of the tightening, and I am satisfied that our actions then were both necessary and effective, and helped to foster the continued economic expansion'. Given this criticism it appears that Chairman Greenspan has been a little reticent about imposing his view over

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that of many millions of investors forming a market view and so has refrained from pricking the asset price boom based on his own personal opinion.

After the dust of 1994 had settled, investors returned in earnest to the stock market in 1995. The inflationary threat had subsided and the there was clear evidence that the US federal budget deficit was receding further—from −3.9 per cent of GDP in 1993 to −2.9 per cent in 1994 and to a twenty-year low of −1.4 per cent in 1995. Such deficit reductions were mainly driven by buoyant economic activity increasing tax revenues and not so much from public spending reductions. The trend was reassuring to investors that anticipated further falls in yields on thirty-year bonds as a partial result of this fiscal performance and perhaps less threatening tax liabilities in the future. In fact, the Clinton administration passed legislation lowering inheritance and capital gains taxes, which further stimulated the rich of America to invest. Hence, the investment climate was ripe for an assault on the Dow.

Up, up and away: 1996–7

The year 1996 produced a real growth rate of more than 3.7 per cent and continued to rise to 4.5 per cent in 1997. Unemployment fell to 5.4 per cent in 1996 and to 4.9 per cent in 1997. Chairman Greenspan attributed much of this heightened economic activity to low interest rates, ample credit availability in a reasonably 'soft economy', a concerted effort to reduce the budget deficit and the easing of Fed policy throughout 1995. In other words, 'sound policies' had provided a stable economic environment in which the private sector could prosper. In fact, the Fed lowered the federal funds rate in December 1995 and in January 1996 to 5.25 per cent. However, in response to heightened economic activity, intermediate and long-term interest rates rose a full point by the middle of 1996. There was a fear that increased economic activity would provoke an inflationary resurgence—in the near future. Hence, the bias in Fed policy was towards restraint by the end of 1996 as both stock prices and interest moved up together.

In reality, inflation remained somewhat subdued in 1996 with a core rate of 2. 5 per cent compared to 3 per cent in 1995. There was an acceleration of food and energy prices—oil prices rose by more than 30 per cent in 1996. But there was a deceleration in some consumer and capital goods prices, in fact the CPI (excluding food and energy) was only 1 per cent—a extremely low number compared to previous years. According to Chairman Greenspan low inflation was both a symptom and a cause of a robust economy. Long-term investment in people and capital had been the welcome by-product of low inflation. Such a lack of inflationary heat is surprising in that resource utilization rates were high by historical benchmarks. Indeed, the Fed puzzled over why 'normal relationships' did not hold. Temporary factors were at work to suppress inflationary pressure such as the rising US dollar and weak foreign economies passing on low import prices. However, other forces were also acting as safety

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valves. The labour market was tight but did not produce wage outcomes associated with such tightness. Perhaps job insecurity caused workers to be less demanding in an environment of rapid technological adoption? With the advent of more sophisticated computer software and the communications revolution, the viability of a wide range of businesses is a month-to-month proposition. The fortunes of labour are tied with this sea of advance. Other reasons cited were domestic deregulation, greater exposure to international competition, greater economies of scale and lower health care costs. However, all of these influences are subject to diminishing returns and so are more like *one-shot* drivers of subdued wage growth.

Despite the fact that wage growth grew a little faster in 1996 than in 1995 there was no spillover into the core CPI. The ECI rose by 3.1 per cent compared to 2.6 per cent in 1995 (Figure 2.20). In other words, despite tightness in the labour market there was no discernable impact on core inflation. How long can this suppressed wage cost growth continue for? Chairman Greenspan expressed concern over this abnormal relationship that departs from previous known relationships between labour market tightness and wage growth and between wage rises and inflation. His response was that respectable rises in productivity had contained unit labour costs even though wage inflation was positive. US companies had apparently lost some pricing power as a rising US dollar kept the lid on import prices, companies desired to maintain market share because of more intensive global competition. In short, the US economy enjoyed wage and price stability much to the surprise of the Fed. Where were the old relationships and more specifically where was the old foe—inflation?

Looking at finance markets, even though there were rises in market interest rates, banks were keen to secure business and so relaxed lending standards. There was also a narrowing of yields between risk-less government securities and corporate bonds. Thus, lending on the prospect of an upswing in the business cycle was vibrant. Home lending was particularly strong and finance companies joined the party. The Fed made the point that the growth rate of mortgage debt increased at a rate of 7.5 per cent—the fastest since 1990. Consumer debt grew at around 8.25 per cent but well below the clip of the previous year. Overall, household sector debt increased at 7.5 per cent but lower than the 8.25 per cent recorded in 1995. The level of the household sector debt burden (as a percentage of personal income) approached 17.1 per cent. Banks were obviously wary of credit worthiness and facilitated this shift away from consumer credit towards home equity loans—probably motivated by a quest for collateral. As discussed in Chapter 7, the banks were able to securitize much of their household debt portfolio and so create ‘room’ on their balance sheets for aggressive business lending. Even though banks were surprised by the deterioration of consumer loan portfolios they were somewhat encouraged by the build-up of health in household balance sheets. More than two-thirds of this increase was attributable to surging stock market prices.

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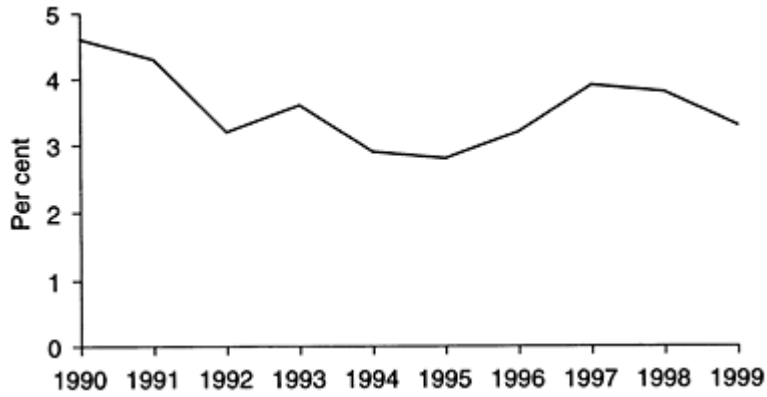

Figure 2.20 Employment cost index.

Source: Board of Governors of the Federal Reserve System.

Economic strength continued into 1997 and there were signs that consumers had reached limits of capacity and debt burdens were indirectly causing more bankruptcies and delinquencies. Credit cards and auto loans were of particular concern but perhaps to be expected on the upswing of the cycle. Credit standards were tightened on consumer loans but relaxed more on home loans. Corporate profits rose a strong 14 per cent during the year but not enough to quench the appetite for external financing for the investment boom. Business loans were easily accessible and yields between investment grade bonds and US treasuries was very narrow—in part due to the capital flight from Asia. Issuing corporate bonds in this favourable climate stimulated investment.

In the first half of 1997 there was a rise in intermediate and long-term interest rates in response to excess demand above the economy's current output potential as witnessed by the strongest surge in imports in many years. Sales of houses also surged, with sales of single-family housing construction topping one million units for the sixth consecutive year. Multi-family units recorded an increase for the fourth consecutive year. As a result of such heat, the Fed funds rate was raised from 5.25 to 5.5 per cent in March. In fact, the FOMC (Federal Open Market Committee) adopted and declared directives that were biased towards tightening. However, the economy began to slow mid-year and inflation was subdued. As the fallout of the Asian crisis became evident in terms of lower export growth and the flood of funds into US securities so did treasury yields fall late in 1997. As a result of this flight to quality, uncertainty surrounding the Asian crisis and the more pessimistic outlook for growth in the United States, the Fed reverted to a 'symmetrical' stance on monetary policy.

In 1995, the gains in stock prices occurred against a backdrop of declining bond rates. In 1996 stock prices continued to strengthen despite the rise in bond rates. The rise in the Dow in 1996 was 26 per cent and 22.5 per cent in 1997

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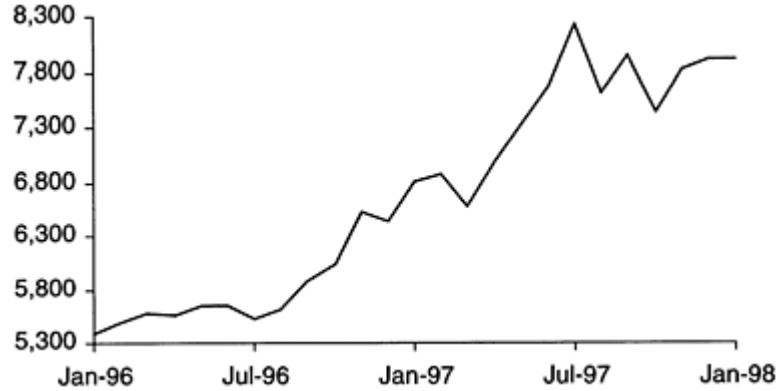

Figure 2.21 Level of Dow (1996–7).

Source: NYSE.

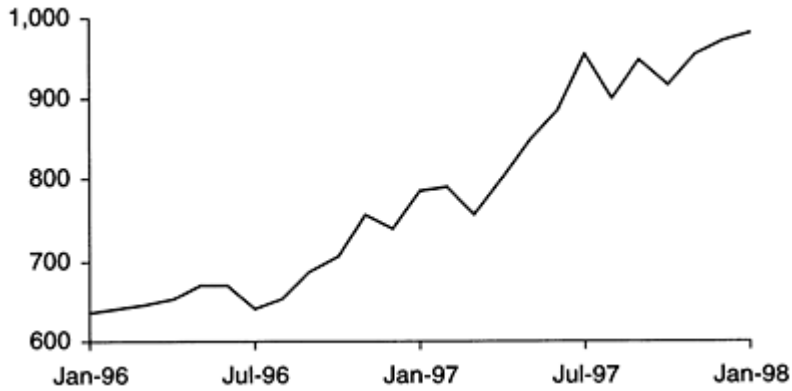

Figure 2.22 Level of S&P (1996–7).

Source: NYSE.

(Figure 2.21). Annual gains for the S&P and the NASDAQ were around 27 per cent (Figures 2.22 and 2.23). This situation was 'classical' in that on the expected upswing of the business cycle both corporate profits and interest rates rose together. Earnings-price ratio fell to exceptionally low levels. The dividend-price ratio for the S&P fell from 2.19 per cent in 1995 to 1.77 per cent in 1996.

Forward-looking investors saw economic calm ahead and so a lower possibility of disruption to balanced growth. Hence, risk premiums fell and there was an air of expectation that corporate profitability would rise next year and so a pre-emptive strike into stocks was appropriate. In fact, stock analysts were persistent in forecasting an up-beat market.

In spite of all this calm Chairman Greenspan issued a 'heightened alert' in his Humphrey Hawkins testimony in early 1997. He remained 'Vigilant' for signs of

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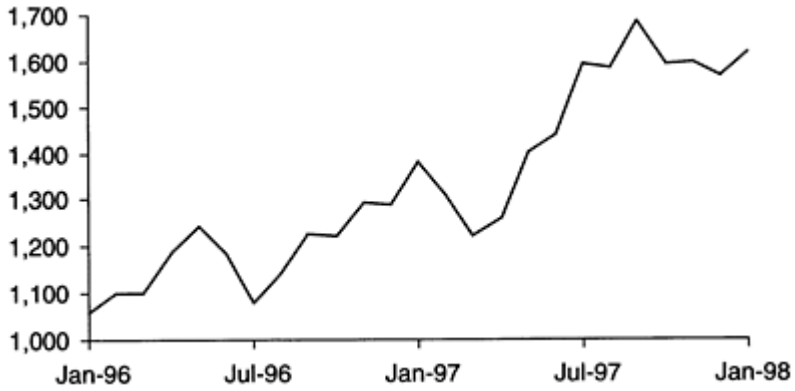

Figure 2.23 Level of NASDAQ (1996–7).

Source: NYSE.

inflationary imbalances that might 'undermine' the economic expansion in place. There may be a need for a pre-emptive action against inflation similar to that of 1994 as the risk of waiting to act may be greater than the risk of waiting for further economic data and clarity of the economic picture. However, Greenspan made it known that the forces of an inflationary build-up are different from cycle to cycle and so a great degree of caution is required before making judgment. Some of his concerns about the potential build-up were old ones. For example, the high rate of capacity utilization, wage earners trading off lower wage increases for job security and the unsustainable acceleration of spending. Rising stock prices bestowed wealth effects on consumers and this combined with 'full employment' and wage growth increased consumer spending. Consumers were optimistic about the future and so released purse strings. Consumer debt levels reached historical highs and credit card delinquencies escalated since 1995. These are reasons why Greenspan questioned the imbalance between spending and capacity as being very dangerous.

On the matter of financial market health Greenspan (1996) offered words of caution as 'participants in financial markets seem to believe that in the current benign environment the FOMC will succeed indefinitely'. Overconfidence is the very reason that financial market participants will not foresee a sharp downturn—and so endure painful capital losses for such misperception. Waves of optimism and financial excesses feed upon themselves causing asset price bubbles and in turn generate complacency. Such economic tranquility is partly driven by historically low-risk premiums for business borrowers. External credit was easily accessible and contributed to the expansion of investment. Greenspan's view of stock valuations in 1996 was 'high' but probably justified on expectations of stronger future earnings. Nevertheless, the low interest rate environment may have created a false sense of security with regard to risk assessment. Stock

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valuations appeared to be 'fine-tuned' and so very sensitive to changes in expectations. The Fed had some right in expressing concern over widespread low-risk premiums and the markets possible overestimation of returns. However, the Fed did not 'pass judgment' on stock valuations but Greenspan did remind the senate committee in February 1996 of his view by his statement of 'irrational exuberance'.

The plausibility of the US economy reaching a 'new era' or a 'new paradigm' is unlikely in the Fed's view—as history is littered with claims of new eras. In Greenspan's view, the Fed should be ever watchful for even *slow* build-ups in imbalances with the economy, after all that is the central banker's occupational responsibility.

The Fed anticipated that real GDP growth be in 2 to 2.5 per cent range and inflation rest between 2.25 and 2.5 per cent in 1998. However, the Fed continued to *underestimate* the pace of the economic expansion as real GDP actually grew by 4 per cent.

Correction and a major recovery: 1998–2000

Growth continued in the United States at around 4 per cent in 1998 and unemployment fell slightly to 4.25 per cent, its lowest level in twenty-nine years. Despite such a rapid economic cruise speed, the inflation rate remained low, driven in part by soft commodity prices, a decrease in the price of oil and relatively weaker import prices. Businesses continued to invest heavily in innovative and cutting-edge technologies, providing a strong stimulus to labour productivity growth. No doubt global competition and accelerating technological advance were driving waves of innovative investment. Perhaps Schumpeter's creative destruction was a real force of the boom of the 1990s. Even though the Fed expressed concern over labour market tightness, the restraining influence of productivity growth on inflation was acknowledged. Unit labour costs rose by 2. 4 per cent but the ECI remained steady at around a 3.5 per cent increase. However, overseas threats, as witnessed by the spillover shocks from the Asian crisis of late 1997 dampened the demand for US exports. There was a great deal of uncertainty over the damage done by the Asian crisis—to their own economies and to US export potential. Greenspan was in a bind as domestic pressures called for a monetary tightening and yet the world in general desired lower interest rates to maintain economic momentum. Higher interest rates and a higher US dollar would hurt Asia even more as they grappled with debt repayment in US dollars.

The Fed anticipated that real GDP would rise between 3 per cent and 3.25 per cent in 1999 and inflation to stay in the 2 to 2.5 per cent range. However, the Fed continued to underestimate the pick-up in growth as a 4 per cent growth rate was achieved.

The growth juggernaut continued into 1999 as the real GDP rose by 4 per cent. Unemployment sat on thirty-year lows of 4 per cent. The crucial wedge in

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promoting growth without inflation has been accelerating productivity growth causing unit labour costs to actually fall in the second half of this year. Both the general ECI and the ECI for services fell from 3.5 per cent and 3.8 per cent in 1998 to 3.2 per cent and 3.3 per cent in 1999. In response to cost containment and price stability, security analysts continued to revise their forecasts of company earnings upward (a proxy for productivity growth) and so a rationale for further support for stock prices. Wealth effects from buoyant stock prices continued to support consumer spending. The Fed estimates that 3–4 cents in every additional dollar of stock market wealth found its way into additional consumer purchases. Moreover, the boom in capital spending indirectly contributed to an extra 1 per cent growth in domestic purchases since 1995. Given the boom in consumer and investment spending and the growing imbalance between supply and demand, how then did this tightness and pressure on capacity not spillover into inflation? The above productivity wedge explanation remains but also by 'new hires', the net inflow of foreign workers and reliance on foreign imports. These were the safety valves of a booming US economy but not permanent 'solutions' to high speeds of economic growth.

As can be seen from Figure 2.24, the Dow collapsed under the weight of the Asian crisis, falling from 9,000 to a low of around 7,500 points in August 1998. It then recovered in grand style in 1999 to reach a high of 11,497 points. However, the rebound in the NASDAQ was staggering—from a low of 1,500 to a high of around 4,650 points (Figure 2.25). In 2000, the NASDAQ rose above 5,000 points.

A real bubble?

Greenspan issues several words of warning concerning the *dynamics* of the 1990s boom. Accelerating productivity creates greater increases in aggregate demand than in aggregate supply—in the short term. A prolonged imbalance of demand over supply is not sustainable. Such an increase in competitive excellence generates an increase in the expectations of future productivity improvements, which further stimulates investment and excites further rises in equity prices—much to the benefit of household wealth. Greater spending power is the result in the short term and so tests current capacity. This dynamic-expectation-fuelled boom possesses a life of its own. It represents consumption brought forward based on *future* income growth. The opposite argument is that of Say's Law—supply creates its own demand. Hence, rising productivity increases the current supply of goods and is matched by increasing demand. The caveat of this standard view is that the optimism launched by *accelerating* productivity may cause worker-consumer complacency by increasing debt levels now and pay out of future, but uncertain, income growth. The challenge for the Fed is to dampen expectations of future productivity growth on the basis that this current boom in productivity is maybe transient. On the other hand, if rapid productivity growth is *believed* to be permanent then investors may over-

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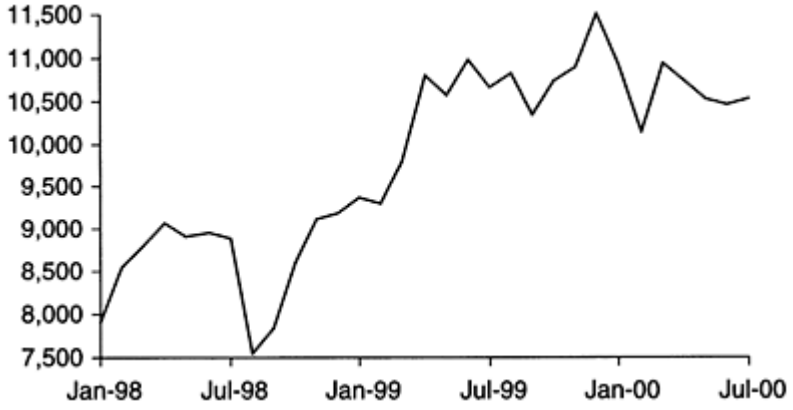

Figure 2.24 Level of Dow (1998-July 2000).

Source: NYSE.

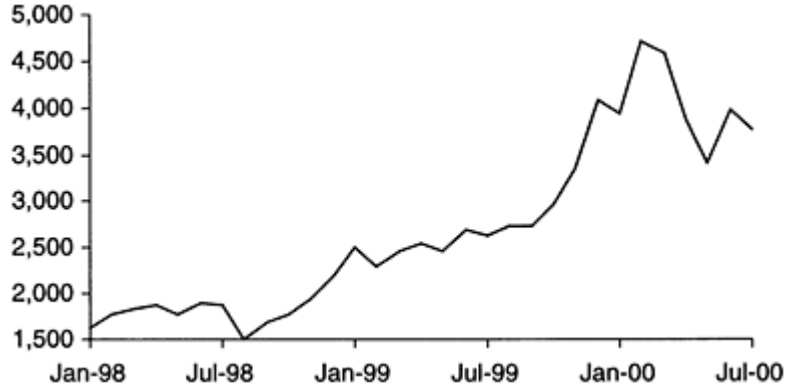

Figure 2.25 Level of NASDAQ (1998-July 2000).

Source: NYSE.

anticipate and over-extrapolate the expansion of EPS and become exuberant. This happened in the late 1990s as investors expected a continued rapid acceleration in productivity growth would transform into rapid accelerating EPS growth. The transformation was far more modest than what investors anticipated.

Appreciating this *'forward-looking productivity paradigm'* is crucial to understanding why aggregate demand outstripped aggregate supply in the United States. It is also crucial to understand why the formulation of an appropriate monetary policy has become more complex. There is the double-headed dragon (twin inflations) to face. Conventional weaponry is not potent enough when seeking to slay this type of dragon. Moreover, the origin of wealth effects may

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not lie in a productivity surge but in a profitability and a speculative capital gain surge that has caused households to 'bring consumption forward'. What may appear to be a 'Virtuous circle' now may be shunted into reverse and renamed a 'Vicious circle' at a later date. The Fed should be more concerned with unanticipated asset price deflation that sends shock waves through goods and labour markets. That is, if these wealth effects are more liquidity than productivity driven.

Financial perspectives

To the extent that labour and product markets were tight there should be signs in the finance market of increasing demand for funds. Indeed there was. Such an increase in demand for funds caused corporate bond rates to move up but not enough to offset the *expected* rise in corporate profitability. This gap between the Marginal Productivity of Capital (MPK) and the cost of capital further stimulated stock prices— or known as the Marginal Efficiency of Investment (MEI). While stock prices rise faster than household incomes there is an ongoing potency for increased wealth to spur consumer spending and exacerbate the imbalance between spending and productive capacity. According to the Fed, spending cannot continue to outstrip income growth. Even though interest rates were on the rise in the previous two years, interest-rate-sensitive expenditures did not decline, indicating that real interest rates had not yet reached high enough levels to restore the demand-supply imbalance.

There are additional threats to inflationary pressure in the United States besides tight labour markets and wealth effects. For much of the 1990s, foreign economies remained weak and the US dollar strong but in 2000–3 the opposite transpired and so inflationary pressure may eventuate from this external source. Higher commodity prices in 2003 will add to US domestic costs of production.

As the year 2000 unfolded, the Fed observed the slowdown in consumer spending and sought to explain such a phenomenon in several ways. First, the massive hike in the price of oil was beginning to place some fear in the minds of consumers and entrepreneurs as being more of a lasting than a transient nature. Second, equity prices displayed volatility, as the NASDAQ experienced an early year plunge and then a rebound. Households received less impetus and confidence from this source of wealth. Third, debt burdens were on the rise partly as a result of rising interest rates and partly as a result of surging sales of new homes. Accumulating debt is far easier than the 'acid test' of repayment. Fourth, the stocks of consumer durables have risen since 1997. Perhaps more importantly, such stocks within households have risen sharply—approaching saturation levels. Upside resistance must be reached at some point, as household needs for such goods are temporarily satiated. After all, the US car makers attracted customers with 'no interest' deals and other sweeteners. Hence, the excess demand pressure on productive capacity—in the late 1990s—was showing signs of abating as the economy cooled off naturally.

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Conclusion

The 1990s are full of anomalies and paradoxes. When evaluating the conduct and effectiveness of monetary policy over the last decade the Fed would receive a favourable report. That is, the Fed has responded to most shocks of the economic system in a capable and timely manner with the possible exception of its 'pre-emptive strike' against inflation in 1994. The inflation rate of goods and services was far below that of previous decades and the Fed must take some of the credit for this achievement. Paradoxes abound in the 1990s. For example, despite labour market tightness, inflation did not rise as a consequence and the normal pattern of a 'mature recovery' also did not reveal itself. The Fed repeatedly *underestimated* the strength of the real economy and the high economic cruise speed it achieved without igniting inflation—a phenomena at loggerheads with past relationships. There is no doubt that subdued rises in unit costs, driven by a trend rise in productivity growth, has underpinned a major expansion of the real economy. By-products result, as Greenspan points out, there is a lethal by-product in that expected productivity rises feed into consumption *now* via wealth effects.

However, as will be discussed in Chapter 7, economists such as Canterbery, Galbraith, Krugman and Thurow are critical of the Fed's lack of finesse in generating more output growth when inflation is so benign. Unemployment could have been pressured lower without inflationary cost and so the Fed caused America to forego billions of dollars of lost output—and workers lost wages. These economists argue that the Fed has clung to old paradigms that are no longer as useful in policy formulation.

There is another serious criticism, that is, the escalation of asset price inflation. This has been a thorn in the flesh of the Fed as such inflation roared beyond expectation and divorced itself from the normal rate of goods price inflation. The problem is that forces driving the real economy are somewhat *divorced* from those driving the financial economy and this has posed a dilemma for the conduct of monetary policy. We examine further in Chapter 5 the reasons why US stock prices have been driven by rises in productivity and expectations of further rises in productivity—however, this is only a partial explanation of the explosion. This chapter revealed traces of evidence that monetary liquidity, abundant credit and speculation fuelled the asset price bubble of the 1990s.

In the meantime, we digress into a survey of valuation techniques and strategies? Why? Because we wish to explain why stock valuations departed from fundamentals, why 'market efficiency' failed and why 'rational investors' did not appear rational. This is the task of Chapter 3.

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3
Valuation methods and investment strategies

Introduction

In Chapter 1 we examined the big picture of the performance of US stocks over the long run. We concentrated on the 1990s bull run in Chapter 2. In this chapter, we examine 'how' and 'why' investors choose to invest in stocks over other types of assets—in essence, a critique of portfolio choice. As we noted in the previous chapter, safely storing wealth over a long time frame poses a whole array of hazards to the investor—inflation, tax regimes, interest rate changes and of course the ebb and sway of the business cycle. The desire for persistent higher rates of return involves higher than normal levels of risk—unavoidable risk. This chapter distinguishes between systematic risk (due to the business cycle) and unsystematic risk (due to insufficient diversification within the basket). It is the former type that wreaks havoc with valuations and rate of return performance. In the boom era perhaps some US investors believed that business cycles were no longer a threat or even had been repealed? Perceptions of systematic risk had definitely tilted towards unbounded optimism. At face value, traditional valuation techniques were thrown out the window. Warnings signals of overvaluation were ignored. This chapter outlines some fairly standard methods of valuing stocks and seeks to explain why there was a wayward departure from economic fundamentals and even the prime fundamental driving stock values—the expected rate of return or expected earnings per share.

Market efficiency would dictate that the market always gets it right. All current knowledge is embodied in stock prices and investors, by and large, fully value stocks correctly. But they did not get it right, as is evidenced by the crash of 2000–3. There are persistent warnings throughout this chapter that no amount of 'scientific method' will ensure success in reaching 'correct' stock valuations. After all, *estimates* of corporate profits are bound to fluctuate and so cause a revaluation of current stock prices. The stock market is also prone to 'news' and unforeseen shocks that knock it about, not to mention frenzied sell-offs triggered by rumour and fear. As discussed in Chapter 1, investor behaviour had changed albeit in response to changing incentives. As Schiller (2000) rightly claims—fundamentals alone cannot explain the wild volatility in US stock prices in the

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1990s. As this book emphasizes—it was not just behavioural forces alone that could explain the excessive explosion in stock prices but abundant liquidity and rational investors responding to biased incentives. These 'other' forces—beyond real fundamentals—will be examined in Chapter 4.

Portfolio choice

Before we embark on what criteria to employ when evaluating stocks there is a need to appreciate the whole gambit of portfolio choice. Why not invest in gold, oil, land, housing, bonds, money market funds or even cash or some mix thereof ? The answer rests in one's propensity to take on risk and whether the general nature of the portfolio strategy is to be offensive or defensive in nature. It is a generally accepted investment principle that diversification diminishes risk and so the investor should hold a mixture of all or most of the above choices—including stocks. The investor should also consider her age—as less risky assets should be held for each passing year.

There is some evidence to suggest that investor protection and safety stems from the fact that not all of these asset classes move in the same direction—or more precisely are not *perfectly* correlated. For example, gold tends to rise during times of crisis or war. It also benefits from US dollar weakness together with general disillusionment from holding other currencies. There is also a tendency for gold to rise when stocks fall. Given that there is an inverse relationship between stocks and gold there exists an opportunity to be exploited by cautious/defensive investors. Hence, gold can be used as a hedge not just against inflation but also against volatility in stock prices and a weak US dollar.

The price of oil also surges during times of uncertainty and crisis and tends to be relatively low during peaceful times or recession. Economic activity in the OECD is the major demand-side factor driving oil prices—periods of high-income growth and activity supports higher oil prices. Obviously, OPEC seeks to control the supply-side of the equation via quotas and so indirectly maintains a floor on oil prices. Hence, oil prices are to some degree pro-cyclical but still contain a major wildcard element of insurance against uncertainty—and so stock market volatility. Gold and oil prices were highly correlated up until 1980 when higher oil prices spelt higher inflation and more uncertainty. After 1980, the correlation weakened somewhat—possibly because inflation subsided and corporations readjusted their energy input mix.

Most times in US financial history bond prices move in tandem with stock prices. In 'normal' times, bond prices move up and down with stock prices because they are seen as *complementary* assets—as low bond yields (or high bond prices) provide a *green light* for investors to purchase stocks. Lower interest rates stimulate stocks through a variety of channels. This complementary relationship is normally held when *inflation* is persistent. Stocks provide a hedge against inflation over the long run and so there is a pull effect out of the bond market—as corporate profits and GDP growth rise—with interest rates following soon

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thereafter. Bond prices then come under pressure and so there is more potential for capital gain in the stock market—on the upswing of the business cycle—as expected profit growth overshadows interest rate rises.

However, there have been times when bonds and stocks have not been complementary assets—but rather *substitutes*. Higher bond prices have been a reflection of investors fleeing out of stocks and into the safety of the bond market—driving down bond yields in the process. In this case, the green light flashes the other way—bonds are attractive because stocks lose their gloss in the short run—for fear of capital losses. Thus bonds and stocks are seen as substitutes, as investor fear of capital losses causes this 'switching behaviour' into the safer asset. Such switching often occurs during periods of *deflation*—or the fear of it. The expectation is that *real* interest rates will rise with falling prices. Therefore, investors can exploit this inverse relationship to their advantage—providing they know which way the green light flashes. The key reason why there is some danger in 'switching', however, is that investing in bonds is not always 'safe' as both capital gains and losses can occur—just as in stocks. If the motive for the switch is based on the well-founded expectation that interest rates will fall then there is almost a self-fulfilling prophesy that capital gains will result from the holding of bonds. It is precisely for this reason that investors carefully listen to Fed policy speeches for any hint of a change in the stance or bias of monetary policy. This is why deflationary fears can spur a bond rally as there is ample room for real interest rates to fall and so for capital gains on bonds to be quite stellar.

Investing in real estate has not always been boring—there have been times when capital appreciation from real estate has been very impressive indeed. Although capital appreciation from stocks has often occurred swiftly throughout the twentieth century—the returns from real estate, albeit accumulating more slowly—have not been far behind. In fact, two recent periods of significant capital appreciation stand out—the post 1987 stock market crash 1988–91 and 2000–3. Real estate is both a complement and a substitute for stocks—as are bonds. These two eras just mentioned were periods when real estate was seen as a *substitute* for stocks. Investors fearing a capital loss bailed out of the stock market and into housing, extensions and rental properties in the hope of achieving a capital gain—or at least avoiding a capital loss from holding stocks. However, the 1996–9 era was one of a *complementary* nature— real estate and stocks prices rose together—although not in perfect unison.

Last but not least is cash. The old saying of 'Cash is King' holds credibility in the post-bubble era. Deposits in US banks attract positive interest rates and often provide a safe haven while stocks are crashing due to uncertainty, poor earnings reports or governance standards. Cash, attracting an interest rate, offers a quality that all other classes of assets do not possess—there is no risk of capital loss. Well, almost none. There is always a risk that a US bank may go bankrupt and the deposit insurance may not cover all of the capital loss. In recent US financial history, holding funds in money market accounts has been a safe but inglorious investment. There was a sound rationale for doing so—the fear of a capital loss as

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stocks sunk in value, the Iraqi war, September 11 and woeful governance standards that caused investors to value what they had—and so preserve their capital. Perhaps the fear of deflation pushed investors into money market accounts?

Professional fund managers employ asset allocation models when deciding how much to invest in stocks, bonds, fixed interest securities and cash. The composition of this mix depends on how much risk they are prepared to undertake. Traditional models place 50–60 per cent in stocks, 20–30 per cent in government securities and the rest in cash. This is not to say that fund managers will not allocate towards gold or oil—that can be done by selecting specific stocks. Even real estate can be held via Real Estate Investment Trusts (REITS)—funds that a wide portfolio of real estate— across states and types. There is the growingly popular investment strategy of buying the S&P index—complete diversification—and so minimize 'avoidable risk'. However, the buying and buying of index funds (including REITS) can be overdone and so self-defeating because every fund manager's manual instructs him to do so. What appears to be a 'pattern' to be exploited can soon be exhausted and capital losses occur on mass.

The *timing* of asset re-allocation is crucial and large institutional funds make much of their returns from switching and not so much from selecting individual stocks or even classes of stocks. That is, it has been crucial to know when to be in stocks and when to exit. On average, the US stock market falls one year in three—there are times to drastically reduce stock holdings. For example, when there is a clear risk and a belief that stocks will fall—as in March 2002—these professional managers re-weighted their portfolios towards bonds, fixed interest securities and cash. Confident fund managers seized the opportunity to short-sell the stock indices which they did in March—July 2002 and were correct in their prediction.

Diversification and risk

A centerpiece of portfolio theory is that of the Capital Asset Pricing Model (CAPM) which delineates two types of risk. **One** type of risk, namely unsystematic risk can be diversified away—at least in theory. It is not wise to select one stock or a small few that are highly correlated or buy stocks in a similar industry that may fall on hard times together. Rather than place 'all eggs in one basket' it pays to diversify across a variety of stocks and industries and so minimize this kind of risk. The degree of unsystematic risk declines as the number of stocks in the portfolio rises—to a point. In fact, holding a sample of twenty stocks has been shown to be a reasonable level of diversification. The extreme example is to hold all stocks in the S&P—or just the index. This 'defensive' principle in finance is based on the premise that some stocks in the portfolio are negatively correlated to others—or at least are not *perfectly* correlated. If this were not the case, and all stocks were positively correlated,

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then this defensive principle of diversification would not be effective. Financial experts refer to the variance (volatility) of stock returns as being good indicators of risk. Highly volatile stock returns reveal the stocks that are the most risky to hold. Financial analysts measure betas to establish which stocks swing further than the market and which stocks swing less. A stock with a beta of 1.5 will rise 15 per cent when the market rises by 10 per cent. Likewise, a stock with a beta of 0.5 will fall by 5 per cent when the market falls by 10 per cent. Hence, if the investor is risk-averse, then a portfolio of stocks with a significant percentage of low beta stocks would be warranted. Conversely, the risk-loving investor believing that a general market rise is imminent may prefer to hold the vast majority of high beta stocks in her portfolio. The investor can diversify away a significant portion of unsystematic risk if she so chooses. Nevertheless, we are confronted with the inescapable 'law' that risk and reward are correlated. Those investors that seek high rewards remain under threat that a high degree of risk accompanies such a quest.

Conversely, there is systematic risk that cannot be diversified away and so is unavoidable. Stock prices and corporate profits tend to reflect the health in the real economy and vice versa. The rise and fall of the business cycle creates risks for the stock investor as most stocks rise and fall together. Forces beyond the control of the

Table 3.1 The risk-return trade-off

Asset class	*Compound annual return*	*Simple average annual return*	*Std. dev. of return*
Small cap stocks	12.5	17.3	33.2
Large cap stocks	10.7	12.7	20.2
Corporate bonds	5.8	6.1	8.6
US treasury bonds	5.3	5.7	9.4
US T-Bills	3.8	3.9	3.2

Source: Ibbotson and Sinquefield (2002).

investor can wreak havoc with an investor's portfolio even if it is neatly diversified. There are times when investors should bail out of stocks completely and push into alternative assets—such as money market accounts, bonds, real estate, gold and oil. As examined in section titled 'Portfolio choice' the returns from these assets are not highly correlated and so there are gains (and safety) from diversification. It is the fact that they are negatively correlated that provides the rationale for diversification across a broad range of assets. This was particularly wise between 2000 and 2002 as gold, oil, bonds and real estate were significant substitutes for stocks.

A recent study by Ibbotson and Sinquefield (2002) highlights the *risk-return trade-off* amongst a few traditional asset classes from 1925–2001. These assets were a sample of small cap stocks, 500 large cap stocks, twenty-year corporate

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bonds, twenty-year government bonds and three-month US T-Bills. We would expect that government bills and bonds be the safest with the lowest return. Conversely we would expect stocks to yield higher returns but with higher risk (standard deviation). This is what Table 3.1 reveals. Small cap stock had higher returns than large cap stocks, than did corporate bonds, than did twenty-year government bonds, than did three-month T-Bills but risk levels also followed in the same order. Hence, the potency of the theoretical risk-return trade-off is validated by this evidence.

How well do fund managers switch from asset class to asset class in practice? Profit maximization and optimization principles are fine in theory but do the professionals win persistently? Switching involves market timing and so represents a formidable challenge to any investor. Malkiel (1999) provides some very damning evidence against the skill of fund managers to move in and out of cash at the right time. In fact, he claims they have basically done the opposite—they beefed up their cash positions (as a per cent of total portfolio) on stock market lows and held light cash positions on market highs. He states

> Peaks in mutual funds positions coincided with market troughs during 1970, 1974, 1982 and the end of 1987 after the great stock market crash. Another peak in cash positions occurred in late 1990, just before the market rallied in 1991, and in 1994, just before the greatest three year rise in stock prices in market history. Conversely, the allocation to cash of mutual fund managers was almost invariably at a low during peak periods in the market. For example, the cash position in early July 1998, just before the market declined. Clearly, the ability of mutual fund managers to time the market has been egregiously poor.

Hence, we have sound theory that instructs us to switch between asset classes and so be defensive at various times and yet the track record—by the professionals—to implement such theory has been lamentable. Why? Because, in the real world, anticipating turning points in stock markets involves a high degree of luck and not just skill. Placing heavy bets against the flow of the market involves courage—and disgrace if one gets it wrong. Although no one possesses a crystal ball concerning future trends the professional fund managers should respect the laws of probability—and so mean reversion!

News: economic or financial?

There are times when even healthy macroeconomic variables are not enough to lift stock prices. In other words, the reporting of robust GDP growth, high productivity growth, a low inflation rate, a fall in jobless claims, a contracting current account deficit or a fall in the unemployment rate may fail to stimulate stock prices in the short run. One reason for the non-response is that the real economy takes time to accumulate momentum and so investors await a series of

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good news before they believe in a sustained rally. After all, one sunny day does not constitute a summer. There is also the view that the data is 'old' and stale in that it represents past movements in the real economy. We are only looking in the rear vision mirror. Perhaps more importantly, the 'good news' is overshadowed by a whole host of uncertainties in the corporate sector. In essence, the experience of the US corporate sector in 2002–3 may be seen as a 'profitless', 'jobless' and even a 'jobloss' recovery. Hence, signs of an economic pick-up may not translate into rising corporate profits in the near term. Investors seek tangible evidence of a pick-up in financial and not just economic fundamentals before they re-allocate a greater a percentage of their portfolio towards stocks. Good news on the economy may give heart to investors for a time but it is quarterly profit reporting seasons that justify stocks values or otherwise. Financial variables are closely monitored— such as debt levels, financial leverage, profit margins, cost-cutting efficiency, sales volumes, price discounting and expected profit growth—to name a few. Healthy current profits, and even better, sustained future profits far outweigh any general good macroeconomic news. Corporate profits are the bottom line for determining stock prices and not general GDP growth as such.

Market efficiency

Information is the lifeblood of any market. The stock market is no exception—provide investors with information and they will arrive at a market or equilibrium price. The market efficiency hypothesis claims that the stock market is fully valued by investors based on all current, known information. Given that many millions of people buy and sell stocks, the price outcomes in this competitive market environment should closely reflect equilibrium values—at all times. Rational investors are quick to seek out opportunities—that is to buy stocks that are undervalued and sell stocks that are overvalued—the end result being a fully valued market. It is the 'fact' that investors are rational and 'fully aware' that drives the prediction of the market efficiency hypothesis—that price and value are but the same. Therefore, there can be no mis-pricing or deviations from known fundamentals. Past stock prices contain no predictive power over future stock prices as all that is to be known is already known. The only force that changes stock values is that of 'news'—new information will cause investors to revise their expectations of a company's net worth and profit prospects. And because news is not predictable there can be no way of predicting future stock prices.

A derivation of the market efficiency hypothesis is the notion that the stock market follows a random walk. The market only responds to news that itself is random. Therefore, the market will gyrate around breaking news, absorb it and fully value stocks once again—almost simultaneously. Given that news is random, it then follows that predicting future stock prices is well nigh impossible according to this model and so it is not rational (or profitable) for an investor to

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select stocks or attempt to pick winners. Many books have been written explaining why the 'buy and hold' strategy is more effective than other strategies and the foundation of this strategy rests on these doctrines of market efficiency and random walk. However, the weakness of this theory is that investors are 'all-knowing' or the market behaves 'as if' they do—via professionals that monitor markets more closely than the amateurs. But more importantly 'all that is to be known' right now is no where enough when dealing with the vagaries of the future and the plethora of shocks that hit individual stocks and the market in general. Investors can all be 'wrong' together based on their complete but finite current knowledge and so price can deviate from true value. Perhaps mass psychology kicks in to cause further deviation during times of gross uncertainty.

So then how do we explain excess volatility of stock prices in the 1990s? The answer is that we cannot if we are relying on the theory of market efficiency alone. If the market is always 'right' in valuing stocks then why did the Dow fall by 509 points in one day in October 1987 or by 512 points in late August 1998? In both precipitous falls there was an absence of clear 'news'. Sentiment and risk perception obviously changed but not in response to one item of news. If markets were that 'efficient' then why do we witness such dramatic collapses from time to time? The very thrust of this book attends to this question of beyond fundamentals or 'real factors'—that there are important behavioural considerations and shifting psychologies that cause the bulky mass of investors to panic. Crowds move in an irrational manner once spooked and fear becomes the dominating driving force.

Investing over the life cycle

Even though the justifications for a 'buy and hold' strategy are strong, there is one problem that confronts all human beings—it is called death. When the good Lord calls we have to go; whether our bags are packed or not. Most of us have a view to retirement, to enjoy to the full our last days on earth in a degree of comfort, free from financial worry and to indulge in a few luxuries like travel (to that glorious land Down Under) from time to time. Therefore, we save (invest) during our working lives and dis-save in retirement. In early years, we may employ aggressive investment portfolios that contain high growth stocks (with high betas) while in later years favour a more defensive portfolio that contains 'old economy' stocks (with low betas). There should also be greater bias in the portfolio towards bonds and money market positions. The reason is obvious—we can afford to take on more risk when we are young, knowing that volatile stocks will one day rebound and that the stock market rises on average two years out of every three. However, the closer we come to retirement age, the more conservative our investment strategy should become. Even so, for those investors that hold stocks for many years in the belief that they can liquidate at 'high prices' around their retirement year are taking a risk. Recessions tend to last between one and three years and so the value of one's portfolio could be 20–30

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per cent down from its recent highs causing retirement plans to be modified or deferred. The moral of the story here is that retirement funds stored in the stock market are not 'on tap' and so should not be viewed as being defacto bank deposits. Values of our stock holdings are no small factor in determining what our retirement year will be.

The fundamentals approach

There is no simple method for valuing stocks. Given that stock prices incorporate 'the future' into current valuations and given that there is a diversity of opinion as to such values then it follows that there are trading ranges for stocks—not point estimates. Nevertheless, a popular valuation method for old economy stocks is that of discounting the expected future dividend stream of a company's earnings. However, most investors accept that companies require capital to expand and so accept that not all earnings are paid out in dividends—and so investors would rather monitor price-earnings ratio. High price-earnings ratio reflect either high stock prices or low earnings per share or both. Earnings growth must pick up eventually in order to justify the faith of eager investors pushing up stock prices to historic highs. A solid discounted earnings flow is a signal to buy stocks and so bid up price-earnings ratio. Conversely, a low discounted earnings flow sends a sell signal to investors. Hence, stock valuations are positively related to estimated, discounted future earnings flows. In this world, the key fundamental—rate of return—drives the stock price. Investors can then compare such an expected rate of return—the EPS—with the known ten-year bond yield. As discussed earlier, investors may pay a premium for holdings stocks over bonds but this gap should be 1 or 2 per cent and not 6 per cent as for much of the last century. Hence, the growth rate in the EPS will be the main driving force of changes in stock prices— over the long run—with interest rates a close second.

So what *P/E* ratios are regarded as being excessive? At the market peak in 2000 the high was 44. Nowhere in the twentieth century did *P/E* ratios attain this height. For example, *P/E* ratios reached 25 in 1901, 32 in 1929 and 24 in 1966—all previous market highs. Siegal (2002) points to a long-term historical average of around 14.5 but concedes that the economic environment has changed (low inflation, low interest rates, lower taxes etc.) that justifies higher *P/E* ratios in the low twenties. If one looks at the inverse of *P/E* ratios—the rate of return from stocks—the long-term average is 7.4 per cent. Given that stock returns were 13.4 per cent annually from 1982–99—almost double the long-term average, we would expect both *P/E* ratios and stock returns to revert to their long-term averages—eventually—unless a 'new' trend line for the modern era can be justified.

Another valuation method is that of book value, whereby the value of all tangible assets are totaled up against the value of all stocks outstanding. A price-book ratio *(P/B)* of one is often considered to be cheap. A rather old but valuable

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study by Fama and French (1992) reveals that buying stocks with relatively book values—a high book equity/market equity ratio *(BE/ME)*—yield higher returns soon after than those stocks with low *BE/ME* ratios. This study also revealed that stocks with high *P/E* ratios were destined to underperform in the near term while low *P/E* ratio stocks outperformed the rest. In essence, this strategy is based on buying undervalued stocks and selling overvalued stocks. Although this study did not differentiate between 'growth' and 'Value' stocks there is the inherent recommendation to buy well-recognized stocks that have been beaten up by the market. Another corollary also follows—that big 'oversized' companies cannot maintain a rapid growth in EPS forever or even the medium term. Big companies with rapid earnings growth for several years eventually fall back to the pack and so the wise investor should stay clear of the market heavyweights at their peak. Besides, fund managers jump on the success bandwagon and overpay for large cap companies—through market weighting and buying indices as well.

So what are fair values to pay for stocks? Much depends on the level of the benchmark risk-free rate. A risk-free rate of 3.5 per cent could justify *P/E* ratios up to 28.6 or a risk-free rate of 5 per cent could suppress *P/E* ratios down to 20—these are reasonable corridors to expect for 2004–5. Another constraint on valuations is the growth rate of GDP—the long-run growth rate of EPS is roughly constrained by the growth rate of the economy. It is not reasonable to expect EPS to grow at 10 per cent indefinitely if GDP growth is only 3.5 per cent over a long period of a time. If so, corporate profits as a percentage of GDP would explode indefinitely and reduce the labour share of GDP to zero. Hence, long-run EPS growth is constrained by long-run GDP growth— at around 3.5 per cent. However, GDP growth in 1990s was often above 4 per cent and capital did displace some of labour's share and so EPS growth of 4.6 per cent in the 1990s can be understood in this light. As discussed earlier, lower capital gains, corporate and income taxes also bias upward the profit share of national income.

A more specific driver of EPS growth is productivity growth and the suppression of unit costs—any surge from here can push valuations higher. Hence, the low interest rate structure in place now—of 4.25 per cent on the ten-year bond—supports a *P/E* ratio of around 23.5. Any expected acceleration in EPS growth will only push valuations above the 23.5 mark. The US stock markets probably will not receive any further interest rate support from here—as interest rates will most likely rise in 2004. What the market will be looking for is an *acceleration* in EPS growth and not just constant growth—in order to justify valuations in the high twenties. If the United States is indeed on the upswing of the business cycle then the expectation of an acceleration in future profit growth is warranted—into 2004–5. Thereafter, the acceleration in EPS growth will be a formidable task especially in a rising interest rate environment.

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The contrarian strategy

Most investors believe, at least to some degree, that the stock market is somewhat predictable and future direction can be anticipated with enough information and technical skill. If this overconfident self-belief did not exist then investors would all be in cash, bonds or just the S&P index. The very fact that they try and pick winners, even within a moderate number of stocks in their basket, illustrates their belief that they can beat the market. Such investors point to the rise and fall of the business cycle and stock prices that roughly move in tandem. If GDP growth collapses then so will EPS and so the wise investor seeks to minimize stock holdings (defensive plays) and maximize bond holdings—particularly as the Fed enters the next easing phase of the interest rate cycle. Hence, bond prices roar and attract capital away from stocks. Although timing the cycle is possible it is not as easy as it looks. The professional investor must be capable of absorbing and interpreting many economic indicators. Some investors boasted of being out of stocks before the 1987 crash but failed to re-enter before it roared once again. The same with the 1998 correction (The Asian Crisis)—some investors timed the exit well but lacked the courage to buy again on the upswing. Alas, there is the recent stock collapse before the Iraqi war where investors shunned stocks only to be left out in the cold as the market rallied from around 7,400 points on the Dow in early 2003 to above 10,200 points by the end of 2003. It is here that a contrarian strategy can be half effective—getting out of a falling market is easy whereas getting back into a rising market is far more difficult— from a psychological point of view. Buying on lows and selling on highs is a great theoretical strategy but very difficult to implement in practice because no two business cycles are the same—or interest rate or stock cycles. If such patterns were stationary, or possessed an anchor, then corridor trading would be easy—alas, the corridors are broken and deviations from trend can be drastic and terrifying especially for those that trade calls and puts.

Nevertheless, the profits from perfect timing are enormous based on the volatility of stocks during any one year.

It is the technical analysts or chartists that claim to have a box of tools that enables them to predict the near term course of stock prices. Their investment strategy is based on the notion that future stock price movements are some functions of past price movements. In other words, there is some cumulative movement, pattern or trend that can be picked up by their analysis and so exploited. Some of their technical jargon includes triple tops and bottoms, heads and shoulders, wedges and the like. Not only is their objective to exploit trends (i.e. the trend is your friend) but also predict major shifts in market direction or turning points. For chartists to be successful, patterns have to persist and be transferable throughout time. That is, past stock price patterns can predict future price patterns and so can be profitably exploited.

As discussed earlier, there is a substantial degree of evidence that a contrarian strategy of buying in gloom (when either *P/E* or *P/B* values are low) has been

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effective in US financial history. Likewise, buying stocks with low *P/E* ratios and high-dividend yields—again amidst gloom and when they are out of favour on the street—has been more successful than not. This strategy is akin to the 'dogs of the Dow' theory—buy the dogs when they are down and out. They eventually rebound—given time. So why do professional investors, in the main, not employ such a contrarian strategy? The probable reason is that it takes a heap of courage for a professional money manager to buy floundering stocks that other investors do not respect. If such stocks do not recover and other fund managers have not been 'contrarians' then the risk-loving 'odd man out' looks both silly and incompetent. The other reason is that sinking funds into 'sleeping stocks' contains an opportunity cost in the short term. Timing is therefore optimal as a long wait imposes costs.

An interesting article by Barsky and De Long (1990) sheds some light on the rise of price-earnings ratio over time. 'Old timers' often claimed that a multiple of ten was the appropriate benchmark whereas Graham in the 1960s claimed that such ratios should around 15 to 16. Making an assumption that soaring stock prices would always be mean reverting was a courageous assumption—particularly in the 1960s and 1990s. Barsky and Delong (1990) make the observation that the volatility of earnings growth has diminished over the twentieth century and so laid the foundation for higher price-earnings ratio. In their view, major turning points in stock price history have been driven by a change in the investor's estimation of the discounted future dividend stream. That is, investors have readjusted their perception of risk related to the key fundamental driving stocks—the rate of return. Greenspan has expressed some sympathy to this view—that risk perception diminished in the calm waters of price stability in the 1990s.

Much has been said of the old economy versus the new economy stocks and of value versus growth stocks. Such dichotomies can explain why growth stocks with high *expected* earnings have generated exceptionally high *P/E* ratios while value stocks with solid *existing* earnings have generated low *P/E* ratios. What is ironical about this dichotomy is that the new economy stocks have low or non-existent current dividends while the old economy stocks actually do pay dividends. Investors paid absurd *P/E* ratios for the 'high-flyers' because they either believed that future discounted stream of EPS was on a high elevated plateau and sustainable well into the future or that the company's EPS growth would accelerate in the coming years or both. The key here is 'well into the future'—a growth in the EPS well above the market average. We know from hindsight that steep, optimistic projections of EPS were grossly unfounded and the stock prices responded far too sensitively to wild forecasts. True, a tripling of expected EPS growth could triple a stock price and so send it from $33 to $100 but this additional $67 of 'Value' is based only on a projection—and often an extrapolation of a brief past trend. No wonder it was a matter of up the staircase and down the elevator for many investors. Historically, no US company has been worthy of a *P/E* ratio of 50 over a long time period let alone a 100!

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We know that US stock prices have fluctuated wildly over the years and the opportunity of buying on lows and selling on highs appears both real and rewarding. There have been times when stock price fluctuations have remained within reasonable corridors or bands. Heavy trading and the wise use of options can be effective providing such corridors 'hold' or are not broken. Alas, historical corridors or deviations are broken and it is here that contrarian investors get severely burnt. In essence, the investor can be fooled by 'false opportunities'.

For example, high *P/E* ratios can, at times, beguile the unsuspecting investor. In 1932 *P/E* ratios appeared quite high and so were not transmitting clear buy signals. The irony of this particular year, was that from hindsight, it was a great year to buy stocks. Any investor with a 20–30 year retirement horizon would have enjoyed great returns from this base year even though *P/E* ratios did not appear attractive. The signal was 'false' because earnings fell even faster than stock prices. Blindly following *P/E* ratios alone can be deceptive—perhaps the absolute price of stocks—relative to their recent peaks would have provided a more reliable buy signal in 1932? Another example is in 1958 when EPS dropped below the ten-year bond yield and yet a three bear market ensued. And more recently there were wild excesses in stock prices in 1987, 1997, 1999 and again in 2003. Investors were excessively fearful in 1987 and 2003 and over exuberant in 1997 and 1999—the old historic corridors were well and truly broken. With enough patience and enough capital, investors can wait out in the wings and exploit wild fluctuations in stock prices. However, there are penalties from mistiming and not being patient enough—not being in eight straight day rallies can be soul-destroying. Moreover, there is a severe penalty of seeking to time the market—not so much a matter of 'when' to get out but 'when' to get back in. Contrarians often lack courage in rejoining the market flow. Perhaps satisfying behaviour is the key here—to sell on near-highs and be content in leaving 5 per cent for someone else. What is also a lesson from history is that waiting for a 10 per cent correction in stock prices may not be rewarding enough but waiting for a 25 per cent correction has great probability of success. That is, make your trading corridor a wide one!

Serial correlation and mean reversion

If we are to take sides in the debate between the buy and hold strategy (one-way street) and the contrarian strategy (two-way street) we must peruse some of the evidence. The acid test of whether past stock prices can predict future stock prices rests with empirical evidence relating to serial correlation. If today's stock prices are positively related to yesterday's stock prices then a buy and hold strategy or a chartist's strategy of 'follow that trend' maybe warranted. Historical data suggests that there is case to be made for individual stock prices to move in a series—moving up consistently for a few weeks and conversely down for a few weeks. In other words, there are persistent runs or cycles that

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support the existence of positive serial correlation in the very short run. For example, Lo and MacKinlay (1988) found that stock returns over short time periods revealed positive serial correlation up until the 1980s. Other researchers such as Fama and French (1988) claimed that serial correlation was positive in the short run (less than two years) but negatively correlated in the long run (more than two years). Hence, investors could buy low and sell high—using a contrarian strategy given such negative serial correlation and stock return reversals in the long run. In the short run, however, the strategy of buy and hitch a ride is supported by positive serial correlation and of the visible rallies that last weeks if not months. Both of these strategies coincide with the fact that US stocks rise—on average—two years out of every three and so it pays to be invested in the 'short run'.

Some argue that *P/E* ratios contain predictive power over future stock prices and returns. Schiller (2000) provides some evidence that high *P/E* ratios 'now' predict poorer returns in the future. Returns are often far lower, if not negative—in the next five-year period. The opposite is also true—companies that endure low *P/E* ratios 'now' are more likely to rally and generate higher returns in the future. Poterba and Summers (1988) also find evidence that stocks—winners or high flyers—for say a five-year period often do poorly in the next five-year period. Stocks that are current 'losers' often outperform in the next five-year period.

What this section highlights is the *rationale for contrarianism*—past evidence reveals the highs and lows of *P/E* and *P/B* ratios—that reflect some kind of corridor or limit boundaries that can be exploited by traders. There are grounds for buying puts on the historical highs and buying calls on historical lows. However, historical boundaries or signposts are sometimes broken—as in the late 1990s. A contrarian strategy was not effective—just ask those hedge funds that got it wrong. We can be reasonably confident that stock indices, *P/E* ratios and *P/B* ratios do mean revert—to their long-run average—eventually. But we cannot be sure when—even within a five-year time frame. From hindsight we know that trend chasers and a 'buy and hold' strategy were effective in the boom era—highly leveraged 'hold' positions paid off.

A central issue raised in this book is whether US stock returns will revert to the old long-run trend line (the old mean) of 14.5 or whether they will revert to some new trend line of around 22. The justification of such a new trend line and a 'new era' is based on the *biases* outlined in Chapter 1. Lower taxes have raised after tax EPS and inflation still remains low—keeping the risk-free interest rate down around 4.25 per cent. Massive monetary liquidity injections by the Fed have also raised expectations that EPS growth can expand at a rapid clip. Hence, *P/E* ratios may be justified around the low twenties and therefore will not have to mean revert back to 14.5. First, because the 'new era' of high productivity growth with low inflation can be sustained for a considerable amount of time. Second, the biases are also likely to remain for the medium term—especially the 'low' taxation on capital accumulation. Third, the *floor* for *P/E* ratios relates to

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the historically low ten-year bond rate whereas the *ceiling* depends on how much EPS can grow year by year. Hence, *P/E* ratios well above 22 may be justified providing EPS growth is positive and preferably accelerating. However, limits to EPS growth are constrained by both productivity and GDP growth. There are no free lunches in the long run.

Investment strategies

As was conveyed to the reader in Chapter 1 the strategy of 'buy and hold' was successful for much of the last century. Riding the bad times and waiting for the booms proved to be a great method to accumulate wealth over a fairly long time period, say 10–25 years. No matter how badly stocks got beaten up since 1945 there was always a strong rebound and to higher levels that resulted in a substantial portfolio gain. To the extent that 'timing the market' is well nigh impossible and that higher productivity growth underpins the long-term upward trend in stock prices it follows to sit in stocks and go for the ride. Just hold the S&P index and wait.

However, most investors are not willing to sit and wait as they witness wild fluctuations in their asset portfolios and so feel pressured to be proactive. As discussed earlier there are historical benchmarks that are useful signposts to switch between stocks and/or switch between asset classes. If there are signposts of predictability, then what kind of investment strategies would the technical analyst recommend? For example, the resistance and support theory that basically rests on the regularity of the Dow exhibiting a cyclical movement within medium term boundaries. There is a kind of trading range that may persist for weeks or even months. Technicians look for resistance near recent highs and support around areas of recent lows. The advice of 'sell high and buy low' appears obvious. Profits can be made from trading within the range. However, if these floors and ceilings are broken the chartist may see a permanent breakout and pursue the visible trend. This requires a substantial courage of course—to forsake the old trading range that is more inline with existing, known fundamentals.

There is an old saying—'where there is smoke there is fire' and so it is with the stock market in that *volumes* provide a hint of what excess demand exists for a particular stock. Rising prices supported by higher than normal volumes provides confidence that prices will continue to rise in the near term. However, buying a smokey stock is indeed an act of faith—relying on the interest of others and bandwagon effects to draw more investors into the stock. This is really a hot-stock strategy that attracts speculators to take on abnormal risk on the hunch that there is imminent news that will justify a rapid run-up in price. The wise investor (speculator) should then sell on such good news and perhaps move onto the next hot stock craze.

Another strategy from the charts is to buy stocks that are rising and sell those that are falling or non-performing. In other words, don't leave your money in

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tight range stocks sitting in the doldrums, get out of them and employ your capital in stocks that are in 'favour'. Again, this strategy is dependent on the extension of an existing trend and the notion that optimistic sentiment or investor perception will change only slowly. Stocks that are 'in favour' are often those backed up by a theme or situation, such as oil and gold stocks during the Iraqi crisis.

Some analysts watch closely a 200-day moving average of a stock and buy it when it rises above that average and sell it when it drops below that average. This strategy is based on the notion of revealed buyer support and intensity. A wait and see approach turns into action when the bands are broken. The inherent problem of acting on a 200-day moving average is that the great faith placed in *past prices* and the unwillingness to anticipate future prices changes. That is, why wait until a large price movement has already taken place?

The put-to-call ratio is often used as an indicator of future direction. A heavily biased ratio towards puts indicates that the market is most likely currently oversold and will have to be purchased back in the near term when such puts are due to expire. Watching the markets move oscillate 3 or 4 days before options expire is testimony enough to the highly leveraged options market pushing the primary market around quite wildly at times. Triple witching Friday in the United States is notorious for its breathtaking turnarounds within the same session. The puts may be squeezed due to favourable news or other professional traders seeking to exploit put holders that have left it late to square up the books. Hence, the unwary investor can be caught napping late in the month when markets are volatile in no short measure due to options expiry. The experienced investors wait for the bargains that are temporarily out of line with fundamentals.

The overall health of the stock market is often gauged by the advance-decline line. That is, the number of advancers over decliners in recent sessions. A false impression of stock market performance is when say the Dow rises by 60 points in one session, yielding only 7 advancers but 23 decliners. This is an absence of market breadth and conveys the impression some situation stocks performed exceptionally well while the broader market actually declined. A more bullish indicator is when there are broad market rises—a strong advance-decline line—preferably on heavy volume. Traders prefer the confidence of a broad market rally backed by heavy volumes—a sign of conviction that the market is in a sustained rally and not just temporarily knocked up by superficial news.

The above discussion seeks to canvass a whole range of signposts or trading patterns that can be profitably exploited. We examined signals such as recent floors and ceilings, volumes, advance-decline lines, put-to-call ratios, 200-day moving averages and popular themes. There are some other 'patterns' that are worth mentioning. For example, Friday is normally a 'sell day' as investors are reluctant to hold stocks over the weekend. Some major disaster may occur similar to September 11 and so Monday would bring forth a mad scramble to get out of stocks. This pattern has been evident for much of the period since September 11.

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This phenomenon is particularly relevant to European stock markets—investors should get out of stocks on late Thursday.

Another pattern that is often discussed on CNBC is the January effect. In recent years there has been a significant January rally in US stock prices. Some analysts point to the end of year tax effects as investors dump poor performing stocks in the last few days of December in order to claim capital losses. After the dumping is over investors reinvest in the market and buy what they consider to be bargains. Perhaps this is herd behaviour at its best and is self-fulfilling as all investors are aware of and seek to exploit the 'January effect'?

What is important to note with any observable 'pattern' is that it will eventually defeat itself. Smart investors will exploit it to the limit and profit from it for a while until there is no more opportunity left. It is here that the powerful can destroy the 'pattern' by preying on the unsuspecting amateur or follower. For example, May is normally a bad month for stocks but not in 2003! Likewise, October is also meant to be a 'sell month' but not in 2003!

Financial fragility

As flagged earlier, the fundamental basis of valuing stocks may not be as scientific or precise as many stockbrokers would lead you to believe. Even if information is plentiful and the company is open and transparent there is no clear or certain way of evaluating *future* income streams as these streams only *estimates*. Furthermore, if information and detail is not plentiful, but rather opaque and shrouded in caveats, then the valuation task becomes much more difficult. The estimated value of an individual stock boils down to a wide range guess.

It was Keynes who coined the term 'animal spirits' in relation to investors being spooked by uncertainty and fear of the unknown. In his view they were prone to large and sudden shifts in sentiment and risk perception. Fear is also cumulative in that what may start out as a few investors panicking and selling off in the face of sharp price falls only snowballed other investors into panicking and accentuating the frenzied sell-off. Such a panic and evaporation of company market capitalization may not have been triggered by any material change in the company's financial fortune but rather by rumour and fear of further capital losses.

Expectations, trading and timing

The sheer volume of trade in stocks, commodities and foreign exchange cannot be justified by investors seeking long-run rates of return but rather traders that turnover large parcels of stock in order to acquire a capital gain.

Trading for short-term profit is about as hard as any profession gets. It involves timing the market, that is, choosing the best part of the fluctuating cycle to purchase in and best part to sell into. True profit maximization requires buying

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on the low and selling on the high—whether it be daily, monthly or yearly This art requires a huge amount of knowledge concerning the company or industry or even better—luck. Yes, the rewards are high for getting it right but so too are the losses for getting it wrong! This is why a diversified portfolio is a good insurance policy—even buying the S&P index—to a point.

The importance of expectations is crucial in understanding why stock prices move around so wildly. Anyone watching the markets on TV channels like CNBC or Bloomberg will witness the wild oscillations in stock prices. No one believes that economic and sometimes not even financial fundamentals, can explain such fluctuations within such a short time frame—hours or just a couple of days. The media often report drastic collapses in the market capitalization of a blue chip company prompting ordinary shareholders to ask where has this wealth gone? The answer is that it has left their designated storage vault and evaporated like mist throughout the economy.

What is crucial to note here is that the stock market is forward-looking and 'Values' the future as though companies and dividend flows will last forever. They do not. Some fail permanently, others fail to deliver results that meet expectation and so those stocks are normally ravaged for not meeting preset standards of expectation. Investors will often sit in wait of profit announcements by selling off the stock before the announcement date—effectively 'factoring in' any potential bad news. If the news turns out to be bad, then their insurance policy strategy has paid off as they got out well before others on the day. If the news turns out to be neutral or moderately bad then these same investors will most likely buy the stock as a large amount of uncertainty has been eliminated. Such an upward movement in price on such news only bothers the amateur not the professional investor as the absolute worst was factored into the stock. If the news is good then investors will roar back into the stock knowing that their worst fears did not materialize.

What can go haywire with this technique of anticipating future EPS over a long time frame, say ten years, is the fact that the current stock price is very sensitive to the variability of future EPS growth rates. Rumour and over-optimism can cause the existing stock price to double based on a wide range and unsubstantiated guess of discounted future profit flows. This extreme sensitivity generates wild swings in capital gains and losses.

The same principle of 'factoring in' applies to a stock that is likely to produce good news, as investors will drive up the price to the valuation limit in the hope of selling into a large volume of buy orders on the day of the announcement. In essence, this strategy is one of buying on rumour and selling on fact. The upshot of all this is that an unwary investor not listen to the stockbroker's line 'yes, but the fundamentals are right'. Buying and selling on expectations 'news' is not for the faint-hearted as it requires both cunning and intimate knowledge of the stock concerned. The other reason for caution is that full-time professional investors pit themselves against the part-time amateurs and normally win of course with their superior experience and depth of purse.

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Why is timing the purchase and sale of stocks so difficult in practice? There are two very important reasons. First, the long-run trend line of productivity growth is upward sloping. It also follows that corporate profit growth is underpinned by such productivity surges. In essence, improved prosperity and ever-accumulating wealth places upward pressure on stock prices as investors seek to store their money and acquire a capital gain or at least a dividend payout. An investor that attempts to 'time the market' faces an uphill battle against a formidable positive bias of rising stock indices over time. This partly explains why the strategy of 'buy on dips' has been advocated by Wall Street for so long. Second, it is also true that US markets rise, on average, two years out of every three. Such rises may not be solely attributable to productivity growth but sheer wealth accumulation achieved through world domination, a favourable tax environment and low inflation. There is also the safe haven status of holding US assets as the world believes in the longevity of the United States as a nation and the reliability of payment. By storing funds in the US bond market the United States enjoys the luxury of consumption and being the world's finest innovator. The claim here is that being in stocks contains the advantage of the profits in bull years far outweighing losses from the bear years.

There are risks in trying to pick the peaks and troughs of the business cycle—that of selling too early and buying too late. Sizable profits can be foregone from mistiming. There are often seven- to ten-day spurts in stock indices that dictate levels for the rest of the year. Hence, the big action can take place without notice and with lightning speed—and so *the* big profit opportunity is long gone. This is why those that proclaim the 'buy and hold' strategy as being optimal as you will be in stocks when the lift-off occurs—not to be there is to miss out.

Conclusion

Perhaps this chapter is a little disappointing for the would-be-millionaire investor. The small investor not only has to beat fellow investors but also more knowledgeable CEOs, company staff, professional traders and stockbrokers not to mention random events such as war or a September 11 attack. There is also the threat of recession and slow reactions from the Fed in terms of interest rate reductions. Even then, if the investor makes a profit there is the Inland Revenue Service to be greeted. To find and exploit a trading/investing strategy that works persistently throughout time is very difficult indeed. Any discrepancies in market value to price will soon be exploited or arbitraged away. Any 'known' trading pattern can also be exploited for a time until all opportunity is extinguished by fellow investors.

There is ample evidence of the potential for a market timer to exploit the wild swings in stock prices and so profit enormously. However, to achieve even a minor slice of these potential gains is very difficult in practice. There maybe times when abject fear pushes wise investors out of the stock market before it crashes but there are also many times when exits were false alarms and the

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investor foregoes substantial profit. Hence, the 'buy and hold strategy' has proved effective over time as unrealized losses do not hurt as much whereas realized profits after years of patience are sweet. Perhaps the compromise is to sell on twelve-month highs and to buy on dips? But note what was stated earlier —waiting for a 10 per cent deviation or 'correction' may not be enough—as market volatility over the last decade has been greater than this.

We have surveyed several traditional valuation techniques and trading strategies that have revealed how investors 'got it wrong' during the bubble era. Such staggering valuations were not the outcome of employing techniques based on any realistic assessment of future earnings. Moreover, bond yields were attractive and investors did not switch until 2000 and even later. Despite the fact that chartists displayed ceilings that were being broken and new territory being reached investors were content on following the trend. We may conclude that scientific and traditional valuation techniques could not explain much of the bubble explosion. There were obviously biases at work within the macroeconomy, law and Corporate America that overstretched valuations. Human psychology also played a role. More importantly, financial and monetary factors interacted with crowd psychology to ignite the stock explosion. The next chapter continues the search for driving forces 'beyond the fundamentals' for explanations of the 1990s bubble.

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4
The bubble era
How rational?

Introduction

This chapter seeks to explain why deviations from 'traditional' valuation methods and investment strategies employed in the 1990s generated an unsustainable rise in US stock prices—above and beyond justified by pure fundamentals. As discussed in Chapter 1, there were broad macroeconomic and geopolitical forces at work. At the corporate level, there were several biases that overstretched valuations. Stock markets are notoriously 'noisy' and prone to wild fluctuations, as they concern themselves with *future* asset prices and income flows. Given such uncertainty about the future, there is much room for oscillation between investor optimism and pessimism. Even though asset prices are driven by economic and financial fundamentals in the long run, they do deviate from such equilibrium values in the short run. History teaches us that what often starts out as being a 'real boom' transforms itself into a 'financial bubble'. Overtrading, speculation, trend chasing, changes in risk perception, crowd psychology and an over-dependence on borrowed money generate volatility in stock prices. Given the bias of many investors for short-run capital gain, rather dividend flow, there is a high degree of sensitivity to 'news' and more importantly the interpretation of that news. Hence, US stock prices moved in line with changes in investor sentiment and perceptions of risk—a crowd psychology—that not to play was to miss out. Besides, there was money to be made irrespective of whether stock prices reflected fundamentals or not. This chapter examines the rationality debate—why it was rational for the *individual* to speculate in the short run but not *collectively* rational in the long run. It is also important to examine behavioural biases along with changing incentive structures.

Biases in the one-way street

We know that economic fundamentals cannot explain the majority of the US stock bubble. After all, real earnings per share doubled while real stock prices rose fivefold in the 1990s. We need to look further into behavioural,

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psychological and incentive forces in order to understand why valuations ballooned beyond historical trend lines. The following forces require examination:

- Mutual/pension funds
- Day trading/margin lending
- Tax biases
- Buy-backs/stock options
- Initial Public Offerings (IPOs)
- Buy/sell advice
- Risk perception
- Rebound ability
- Financial fragility/feedback loops
- Corporate profit massaging.

There is no doubt that the sheer growth, if not explosion, in the number of mutual funds in the United States has encouraged greater participation in the stock market. Advertising and TV finance channels have accentuated the push into stocks. Investors can monitor the performance of their portfolio by the minute as all the way around the nation the stock market averages appear on TVs with monotonous regularity. There is also the thrust, or should I say trust, factor that individuals place with their fund manager. A professional, who 'knows' the market and 'proper' valuations, is managing one's portfolio in a safe and yet aggressive manner. It appears that individuals want it both ways—a high rate of return by employing aggressive tactics— and yet rapid defense if things turn sour. Such individuals want active rather than passive managers that can outperform the market. There was a period in the mid-1990s when active managers favouring *growth* over *value* stocks did outperform the market and so received accolades from their clients. The timely purchase of small cap rather than large cap stocks often proved fruitful as well.

There is also no doubt that the popularity of mutual funds increased dramatically as people placed part of their 401k plans in such funds. As confidence and trust developed with fund managers so were future retirees more willing to place their non-401k funds with them as well. In fact, both mutual and pension fund managers gained from 401k legislation as they were seen as being key retirement vehicles. As defined benefit plans gave way for defined contribution plans so a whole new investment game unfolded. Government regulation pushed risk away from companies and towards employees. Workers were encouraged to allocate their tax-deferred nest eggs between stocks, bonds and money market accounts. They were pushed into being active with their retirement portfolios and not just passive—as in the defined benefit plan. Given the strategy bias towards active management and so risk—the new found choice really favours stocks, that may enjoy a huge run-up in value, versus bonds that most believe are more likely to be passive achievers. Such a choice and emotion is

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more akin to participating in lotto—take a chance on hitting the big time—even though there is disproportionate risk. So what happened to real estate? It seems odd that a portion of such a large pool of funds could not easily be diverted into real estate funds or indices. However, it should be noted that REITs did grow in popularity by the late 1990s.

As investors became more familiar with how the stock market worked, and how it boomed, so did overconfidence set in. Day trading flourished as investors decided to 'beat the market' via online trading. The objective of such investors was to get in and out of 'positions' in the same day. They wanted volatility in stock prices as profits could be seized by wild swings—even within minutes. Much faith was placed in charts and technical plays as predictable patterns were touted to exist. Alas, many of these investors were really speculators and amateurs at that. Authorities became concerned that the novice trader was not aware of the risks involved and so the NYSE raised the limits for the opening of a margin account from $2,000 to $25,000. This legislative change was aimed at reducing the dependency on borrowed money for such speculative trading.

Unfortunately, borrowing on the 'margin' is like a drug—it knows no bounds. This kind of leverage—even 50 per cent—is a powerful money-making tool on the way up. However, the sword of leverage cuts both ways—investors with a limited capital base can soon get caught in a down draught—and the dreaded margin calls begin. During the boom years, margin debt at online brokers surged. As would be expected with the growth of online trading—the percentage of margin debt to total consumer debt rose significantly throughout the 1990s. The lethal combination of day trading and margin lending caused many speculators to come to grief after market collapse of 2000. Outstanding margin lending peaked in 2000 and shrunk during the market collapse.

Investor behaviour appears quite rational in the light of America's tax incentive structure. For example, the bias of an incentive structure towards capital gains has been long embedded in the tax system. The capital gains tax was cut from 28 to 20 per cent in 1997 and 18 per cent in 2001 for assets held more than five years. Brokers were keen to advise their clients not to sell profitable stocks two and three years before this 1997 legislation was passed. Why not wait and take advantage of the tax cut? Moreover, other sellers were in a similar position and so buyers knew of this deferment strategy. What also needs to be remembered is that capital gains taxes are lower than income taxes anyway—particularly for the middle classes. Thus, there was a preference or a bias for gains to be locked into stock price rises than in dividend payouts. There also existed a bias to hold stocks in a rising market for a longer period than it otherwise would be and so time the payment of taxes. Corporations responded to this tax bias by favouring the retention of profits in order to strengthen future earnings flows and so stock prices. The by-product of this bias was a decline in the dividend-price ratio in the 1990s to around 1.5 per cent and collapse of the dividend-earnings ratio to an all time low of 32 per cent. However, this behaviour of investors to prefer unrealized capital gains—and so defer selling—further contributed to an

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escalation of stock prices. Any sudden fear could trigger a stampede to the exit gate—and into bonds. This occurred in 2001–2.

The above bias away from dividend payouts and towards capital appreciation was not only driven by tax considerations but by other forces as well. As stock options became a common inducement and reward for corporate executives so did buy-back schemes rise in response. Not only were accumulated profits used by US corporations to buy back their own stock—borrowing to fund buy-backs was also employed by some companies. Such a strategy delighted stockholders but delighted even more company executives that were privileged enough to hold stock options. Rising stock prices impacted disproportionately on stock options and many executives acquired 'windfall gains' of millions of dollars in remuneration. Corporate America had found a temporary money-making machine that possessed enormous power to push over-valued stocks even higher.

In the author's view, corporate sector self-interest had reached its limits, as the most singular goal of Corporate America was to maximize its own stock price—regardless of the cost. In fact, US corporations were net buyers of stock in the late 1990s—their own stock at that. Not only did corporations use accumulated profits to indulge in stock buy-back programs but they also borrowed—often at interest rates above their own profit rates—to meet this singular goal. Such a strategy produced dire long-term consequences. It was not a sustainable ploy to highly gear a balance sheet in order to artificially support a stock price. Buy-backs are somewhat legitimate and clever if prices paid are below fair value but a terrible waste of company funds if buy-back prices are above fair value. There are SEC rules that attempt to protect existing stockholders 'artificial' attempts by management to prop up its own stock price. For example, a corporation could not buy more than 25 per cent of average trading volume in its own stock compared to the previous month. It should be noted that buy-back rules were relaxed post September 11 as the SEC wanted to encourage the buying of stocks during this time of gross uncertainty. The message here is that the explosion in stock buy-backs is too highly correlated with the explosion in stock options to be passed off as a coincidence. In essence, there has been a transfer of stock-holder wealth to corporate executives of some magnitude. The SEC and other authorities have expressed concern over the 'expensing' of stock options—as the ordinary investor is not fully aware of impact on bottom line profit figures and/or is aggrieved by the magnitude of the hidden expense.

As the popularity of holding stocks rose in the 1990s so did Corporate America seek to exploit this trend by the issuance of IPOs. Underwriters played a big role in pushing new issues together with molding a marketing strategy that would appeal to the public. It was important to price IPOs at a value that would cause it to be well bid if not oversubscribed. After all, the underwriter did not want to be left carrying the bulk of the stock. Public hunger was not only for new stocks but also for new *themes* that may turn out to be money-making machines. There was also a public perception that IPOs were underpriced and undervalued

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because of the underwriter's fear of clearing the issue. Historical evidence tells us that IPOs are great short-run winners and terrible long-run losers. On the first day of listing it is common for IPOs to trade 5–10 per cent above their official offering price. During the bubble, there were staggering early gains of anywhere up to 400 per cent in just a few days. No wonder investors indulged in a mad scramble to acquire these stocks! However, despite very quick gains, the evidence of performance over the long haul is very poor— most IPOs over the last twenty years have significantly underperformed equities by as much as 35 per cent (Cunningham 2002). This looks just like the manifestation of the greater fool theory—investors know they have to get off the roundabout sooner rather than later—and before others do.

Security analysts displayed their bias in an industry that basically wants the market to go up—most advice was 'buy' advice, if not 'hold' advice during the bubble. Security industry health, remuneration and commission based on 'performance' were all biased towards a rising market. Sell advice was few and far between, perhaps because CEOs did not take kindly to their company being isolated as a floundering company that investors were encouraged to dump. Security companies and their analysts would be deprived of news and information relating to a whole host of issues if they insisted on clinging to a sell recommendation. Fear created a bias towards buy or hold strategies even when the cold truth required sell advice. Another obvious conflict arose when securities firms sought to appease existing clients (some with outstanding loans) by painting a rosy picture of a company's business prospects in order to support their stock price. Research standards were compromised by the 'closeness' of sales and research divisions. The end result of such buy advice was to encourage investors to buy stocks—whether the fundamentals justified such a strategy or not.

Besides the biases mentioned earlier towards buying stocks was the notion that there was a game to be played and fortunes to be won. Small investors in particular play the game because they want to win big with modest funds and realize their dream of ultimate prosperity. Large institutional investors want to win big as well but for different reasons—they want to maximize their prestige as money handlers and money makers. Success begets more pension funds and more discretionary investment money. However, both groups can be spooked easily. There is a large literature on financial fragility and its emphasis on the herd behaviour of investors. Could it be that US investors indulged in a type of pyramid or chain letter game? That is, everyone knows that stocks are vastly overvalued but still play the game on the basis that there are bigger fools in the world. The early *insiders* benefit from first-mover advantage and sell to *outsiders* and they in turn sell to a new wave of outsiders. Profits accrue to the insiders so long as the new base of the pyramid gets larger (and more stupid) than the previous layer. What is the rationale for playing this game when there is a suspicion in the hearts of many investors that underlying fundamental values are 'soft'. Cost-benefit analysis applies here, in that the many years of

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speculative capital gains from turning over stocks may outweigh the sharp loss incurred in the end period. Or even better, the smart investor realizes capital gains and exits before the rest of the investor herd. This is the prime strategy of the professional speculator— true 'hit and run'. Alas, such strategies have much theoretical sex appeal but are more akin to the lights being out. Daylight can bring forth much horror, as speculators realize that an orderly exit is not possible without accepting large capital losses. Abrupt changes in investor sentiment or shock news cause panic to set in. Hence, the pyramid collapses in a heap when it becomes *known* that stock values are not justified by fundamentals. This lack of value is not a total shock to investors but the *timing* of the news may catch the professional speculator by surprise. Even in this pyramid game there is a degree of rationality—not to play is to miss out. That is exactly what happened in the 1990s—many investors were gripped by the greater fear of missing out than they did of standing by and watching their next door neighbour grow rich. New waves of investors joined the capital gain feast out of sheer envy. Judging by past stock market records, the lower layers of the pyramid have enjoyed success and have not been backward in coming forward when informing their neighbours of recent stock market conquests.

There is also the belief that bubbles feed on themselves and so gain a cumulative momentum. Schiller calls these 'feedback loops' whereby each *layer or wave* of stock price rise creates the impression in the minds of investors that there is an upward trend feeding upon itself. Human beings are creatures of habit and the past—they form expectations adaptively based on the recent past. Hence, recent trends can be willingly extrapolated and amplified to produce further price rises. There is also a well-known gambling technique that comes to the fore—that of playing with house money. A series of wins (profits) can cause investor arrogance and dare—excess risk-taking and doubling up—in the belief that it is 'house money' and not 'earned'. Human beings do tend to spend money willingly or reluctantly depending on its source—a gift, money from a will, lotto winnings or rapid stock market gains can be spent more freely from a psychological point of view.

This leads to a whole array of psychological factors that impinge on how an investor forms a strategy—or acts and reacts to waves of information. Cunningham (2002) points to many human biases and mental accounts that distort the investor's decision-making ability. There is an *availability bias* as employees use most of their 401k plans to buy their employer's stock in preference to other stocks. People use 'target' prices and 'reference points' for stock price levels and hang on doggedly to meet them. Conversely, realizing capital losses becomes an obstacle in the mind— hang on until the market recovers—despite what fundamentals say. This is a *commitment bias*—I have made a decision to buy Enron and I am right! I will see it through until stock price recovers to where I entered the market. Investors also indulge in *pattern seeking* when perhaps all that is visible is a series of unrelated random events. This is the old *'oasis in the desert bias'* whereby investors see what they want to see! There is also the

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comfort of *social proof* as investors feel convinced that the market is right and that following the herd is indeed wise—there is safety in numbers. Last but not least is the inability of investors to calculate or even recognize probabilities—this is why people buy lotto tickets even when they know that they will not win. They will pay a higher price for the chance of winning big and this is probably why small investors are willing to speculate in the stock market.

The rebound ability of US stocks is well canvassed by Siegal (2002). He points to the following 'stylized facts' for supporting the buy and hold strategy.

- Stock returns fell short of the risk-free real rate of return on the ten-year bond (3.5 per cent)—only 25 per cent of the time.
- Stocks broke the long-run trading corridor of one standard deviation from the mean—only 25 per cent of the time.
- Stocks have risen on average two years out of three in the last 100 years.
- The longest it has ever taken since 1945 to recover an original investment in stocks has been 3.5 years (1973–6).
- The 'buy on dips' strategy has been effective in main since 1946 and especially since 1982.

What the information stated earlier tells us is that investors favour stocks over most classes of assets for their proven rebound ability. The trend for stock values has been upward for over 150 years and buying on dips makes sense—ex post. Siegal (2002) also points to the high valuations of the nifty fifty stocks in 1972—with *P/E* ratios of 41.9— and 'proves' that even buying this basket at their peak would have yielded about the same return as the S&P index. Moreover, he mentions that some of this basket such as Pepsico, Coca Cola, Gillette, Anheuser-Busch, Pfizer, Eli Lilly, Merck and so on—performed better than the S&P index—even buying them at their 1972! How much more then from buying on dips in 1973–6 stock plunge? Even mistiming the buying of stocks was effective enough. Many US investors believed that buying stocks in the 1990s was 'correct'—given enough patience. Dollar cost averaging was a technique often touted as a complement to a buy on the dip strategy.

The corporate massaging of company profit statements was also beguiling to investors. There were a whole host of unsavoury collapses in corporate governance standards that came home to roost on Corporate America the 1990s. Not only did corporate greed manifest itself with the issue of IPOs and stock options but also with very poor accounting and disclosure standards. Corporate profits were bloated for many reasons and by many devices. It became a common trend for US companies to report higher pro forma earnings than GAAP (Generally Agreed Accounting Principles) earnings by leaving out certain expenses or claiming they were 'one-off' disturbances. It therefore followed that true EPS were a lot lower than what most companies had portrayed years earlier. Poor governance is the major focus of Chapter 6.

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As previously stated, economic fundamentals alone could not explain the huge escalation in US stock prices in the 1990s. The growth in real EPS was only 4.6 per cent for this era—not far from real GDP growth of 4.4 per cent. We know that the EPS growth rate cannot exceed the real GDP growth rate for any length of time. So why did stock prices rise sixfold? These biases outlined above go a long way to explain why stock prices deviated so far from their long-run trend—excess exuberance, biased incentives, lower transaction costs and monetary liquidity.

Where were the arbitragers?

Economists argue that all markets possess self-correcting properties and the stock market is no exception. Just as flexibility in prices and wages restore equilibrium in goods and labour markets, so does arbitrage smooth deviations from fundamentals in stock markets. Significant deviations from economic fundamentals cause arbitragers to step in and sell-off 'overvalued' stocks and buy 'undervalued' stocks. Hence, the market is stabilized by profit-seeking arbitragers or 'rational speculators'. These arbitragers base their analysis on fundamentals. On the other side of the market there are trend chasers or liquidity traders. These traders are perhaps unkindly called 'irrational speculators' that ride and follow the market. Their style of analysis is based on the sentiment of their fellow investor and herd behaviour. They seek to anticipate how the market will react to *breaking news* not so much how it will react to fundamentals. This in effect is a game of second-guessing as to how one's fellow investor will react to news. After all, the major thrust of speculation is to make capital gains from other 'players' and this strategy is akin to Keynes perception as to how best to judge the winner of a beauty contest. That is, watch the reactions of *other judges* as the contestants come out on stage—and subjugate your own views as a judge.

It appears that the 1990s witnessed a plethora of traders that chased if not created the upward trend. This is known as momentum trading. Rising stock prices signal further rises to follow and so brokers warn—don't fight the tape. Even so, when warning signals flashed they were rationalized away by stockbrokers and fund managers. This time it is different! They claimed—we know that *P/E* ratios are high by historical standards but we are buying forward in anticipation of next year's dividends and maybe the year after as well! Buying 'growth' has its perils. Besides, the new economy had arrived and one didn't worry too much about *P/E* ratios anyway—it is the richness of the big picture that counted—so the story went. In this era, there was a great temptation for many 'investors' to become speculators—including the institutions. Perhaps they placed too much faith in the greater fool theory?

So how much of a problem are speculators for stock markets? If you believe Friedman (1953), there can be no destabilizing speculation. To the extent that speculators buy when prices are high and sell when they are low—they make losses and exit the market. This is the rationale discussed in Chapter 3 of selling

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overvalued stocks and buying undervalued stocks. Johnson (1976) also supports this view by stating that for every destabilizing speculator there is a stabilizing one and vice versa. In this classical world, speculators stabilize the market. However, as discussed more fully in the section 'Old benchmarks and turning points', there is a great temptation for potential arbitragers to wait, and even follow the market, until the outside limits of price fluctuation have been tested. Then they move. There is not enough evidence to suggest that stabilizing speculation was a major feature of US stock market history in the 1990s. Quite to the contrary, speculators were all too willing to ride on the bandwagon and not bet against a roaring market. Not to play was to miss out. Quite clearly then, the US stock bubble of the 1990s was a direct function of excessive speculation? Why? Because there were too many biases in the system—favouring stocks over bonds.

Old benchmarks and turning points

In Chapter 1 the topic of mean reversion was raised. Why did investors not believe in old benchmarks? That is, why did they not fear that *P/E* ratios would revert to their long-run trend of 14.5? Conversely, why did they not believe that total stock returns would mean revert to 7.4 per cent? After all, we know that *P/E* ratios were well above 30 for much of the 1990s? We also know that real stocks returns averaged 13.4 per cent p.a. from the market lows of 1982 to the 1999 highs. These figures were grossly above long-run trend values and yet investors ignored them. The magnitude of overvaluation was quite staggering. Even using the long average *P/E* benchmark of say 14.5—and a boom in *P/E* ratio of 35—US stock markets were 'overvalued' by a factor of 2.5.

It is the *Q* ratio that has strong historical qualities of mean reversion and estimates of *Q* during the boom years were as much as 2.5 that of its theoretical norm. Another benchmark employed to gauge the extent of stock market overvaluation is the Fed model. There were times when the yield on the ten-year bond was about twice that of the average EPS of the S&P. This reaffirms the view that US stock markets were grossly overvalued according to historical benchmarks. However, the magnitude of the overvaluation is debatable. It is more likely that incentive biases have pushed justifiable *P/E* ratios into the mid-twenties and so a stock price correction of 20 per cent is more plausible than one of 60 per cent.

Nevertheless, we can only surmise why it took so long for the US markets to self-correct. The near 40 per cent correction in the Dow from its 1999 peak to its 2003 low appears an overreaction—even from a theoretical perspective. Most of the explanations for excessive exuberance—overshooting on the way up—were explained in the earlier part of this chapter. The excessive pessimism—overshooting on the way down—can easily be explained by September 11, the Iraqi War and poor governance standards. Perhaps investors hold the middle ground between greed and fear in 2003?

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Was it a speculative bubble?

The rise, rise and then fall of the NASDAQ can easily be labelled as a bubble. *P/E* ratios were never going to be sustained from their 1999 levels. The Dow and S&P indices were, from hindsight, for all intents and purposes a 'bubble' as *P/E* ratios had to return close to some long-run average. The stock market resembled a casino whereby there was ultra-fast money to be made in the pursuit of capital gain. Although there was underlying strength in the real economy (productivity growth) it nowhere near matched the escalation of stock prices. The financial economy had diverged from the real economy as it had done in 1929.

If investors buy stocks with the motive of receiving a dividend flow from a long-term held stock and so value that stock according to expected rates of return —then the stock market has a high probability of working efficiently. Asset prices are driven by a prime fundamental—the rate of return. However, another kind of efficiency is at work here— an efficient capital market allocates capital towards companies undertaking real capital formation and innovation. In this virtuous circle—a more efficient economy reinforces a more efficient stock market. However, stock values have to 'justify themselves'—after all, patient investor/consumers are forgoing current consumption in order to consume more later. Compensation is needed for that sacrifice. Just as importantly, there is the implicit belief that US companies are seeking out productive investment opportunities not recycling funds into high-risk casino-type ventures. Hence, patient investors seeking out *long-term* capital gains in a capital market are not likely to create a bubble in asset prices. Likewise, US companies delivering real returns in line with expectations reduce the possibility of a bubble developing. This is what did not happen. US companies did waste funds through mis-investment and over-investment and did not meet investor expectations of returns. However, US companies did not just fail to generate above normal returns they were the cause of their own failure by being net buyers of their own stock—pushing valuations to unsustainable levels.

However, if investors are obsessed with acquiring *short-term* capital gains with little regard for 'peanut' dividends (apologies to Jimmy Carter), the stock market will resemble a casino. Canterbery (2000b) holds no punches when referring to the casino mentality of US investors in the 1990s. If the investment horizon is long in the minds of US investors, then we would witness far lower turnover rates for both stocks and bonds. In other words, the 'buy and hold' strategy would prevail. However, high turnover rates in forex, bond, stock and derivative markets—above and beyond that justified by news of changing fundamentals—provides more than a subtle hint that a speculative philosophy pervaded US financial markets in the 1990s.

Although any strict definition of a speculative bubble is not easy to come by, there is the common bond of all bubbles—that of purchasing an asset for the express purpose of resale for a capital gain. The NASDAQ bubble was just that as speculators displayed little concern that their stocks did not pay dividends and

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knowingly would not for some years. Much of the justification for paying excessively wild *P/E* ratios rest in the belief that the profits of technology companies would grow exponentially, would accelerate or just reach such a high plateau that they would last indefinitely. Hence, the rosy future discount flow of earnings was factored back into today's current valuation. But the *P/E* ratios were nevertheless absurd. No US company can generate a 10 per cent growth rate in EPS indefinitely—high flyers always fall back to the norm of around 4.5 per cent (the GDP growth rate)—as the euphoria subsides.

Another telltale sign of a bubble is the opportunity value of the asset held. For example, during the Dutch tulip bubble, one tulip bulb bought three homes in Amsterdam in the 1620s (Thurow 1996b). Could anyone believe that these relative values made any sense whatsoever? On the issue of whether a bubble is in play or not, Greenspan (1997f) makes the comment 'But identifying a bubble in the process of inflating may be among the most formidable challenges confronting a central bank, pitting its own assessment of fundamentals against the combined judgment of millions of investors.' Hence, in his mind at least, there was an identification problem. Millions of investors could not be wrong—could they? Perhaps there is not safety in numbers, not even on the road to hell.

If Greenspan was alive and well in Holland in the 1620s, could he at some point, make an assessment that three houses per tulip, two houses per tulip or one house per tulip etc. …would constitute a bubble? Or would he sit on the fence, making the same arguments that millions of rational investors have got it right and so why not let asset prices subside in the fullness of time? Of prime concern is the Fed's ability and courage (or lack thereof) to call a bubble a bubble. Of secondary concern is what action, if any, could have been taken to deflate that bubble. We shall discuss such issues more fully in Chapters 7 and 8.

The 'New' new economy

If US investors could take back the 1990s and start afresh they would not be hijacked by the propaganda concept that the new economy had arrived and the old economy was in the throws of senility. The prospects of new economy stocks roaring, capturing new ground in market share, generating super-profits and generally setting new highs in *P/E* ratios was the ethos of the day It was argued by the stock-broking fraternity that a watershed period of new innovation had begun and the real growth stocks were in the new economy and just as importantly would most likely suffocate or dampen the growth prospects of old economy stocks. According to this paradigm, prudent investors should switch or at least heavily bias their portfolios towards new growth stocks that would disproportionately soak up the discretionary spending dollar. Thus the old debate of whether to invest in growth or value stocks was re-ignited. From hindsight, a bias towards growth stocks won the day between 1996 and 1999 and value stocks enjoyed a revival from 2000 onwards. Although it should be noted that high beta stocks performed better than low beta stocks in this bracket, in reality,

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the new economy never arrived or blossomed in the way stockbrokers had envisioned. Investor expectations were too high to begin with, were beguiled by the investment community along the way and were cursed by their own greed and gullibility when the 'growth party' ended. Perhaps Greenspan's faith in the depth of markets—'millions of investors get it right'—was misplaced. In reality, millions of investors got it wrong as they believed too much in the power of the 'new economy' to deliver long-run super-normal profits. All companies can't be above average in the growth stakes.

The 1990s: a deviation from fundamentals

There are a combination of reasons why US stock prices did not reflect market fundamentals in the 1990s. Many of these reasons were canvassed in explanation of the bubble experience. The basic underlay of the 1990s escalation in stock prices rest with the new-found tranquility of low inflation and so low long-term real interest rates. Investor perception of risk subsided in response to such bond market tranquility— driven by the inflationary tiger falling into a coma and foreign investors from Japan and China feeling content to hold US bonds.

It is here that gullibility and expectations played an important role in arriving at a commercial view of what future rates of return would evolve. Sensitivity to 'news' is a direct function of the expected discounted future dividend stream flowing from the stock held. Such a dividend flow is not known with certainty but is surely shaken when breaking news alters perceptions of risk. In this world of uncertainty, changing expectations may affect asset prices as much as changes in fundamentals themselves. It would be false to assume that risk can be accurately assessed or even abolished by diversification. There is some degree of unavoidable risk in the real world that cannot be eradicated by portfolio diversification.

There is also a problem in relying on 'technical analysis' and sophisticated econometric models that rely heavily on past relationships and do little more than extrapolate the past (Barsky and De Long 1990). Historical trends are just that; historical and only may shed a dim light on current trends. To the extent that stock analysts are captive to past empirical regularities their ability to predict major turning points in stock prices is severely limited.

On a more human level, there is an optimism bias of investors towards rising stock prices and boom conditions than a belief in sharp losses and gloom. Most, but not all market participants, are biased towards good news, an upward spiraling market and profits. Fear of devastating losses is offset by the security of moving with the market and so millions of other investors. There is a feeling of safety in numbers, as the market 'must be right.'

It is not only trend chasing or moving with the market, the domain of individual investors but institutions as well. Chartists often look for ceilings and floors, if such barriers are broken then trigger responses are activated. Clearly then, such trading activity is *pro-cyclical* and adds to market volatility. Trading strategies of mutual funds, and index funds in particular, seek to profit from

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following the market trend— irrespective of what fundamentals may dictate. Such a repetitive, high turnover, hit and run strategy can be extremely profitable with the right touch and timing. Short-run volatility may be based on knee-jerk reaction to news or herd behaviour caused by panic. If large trading institutions employ the same econometric models and forecasting techniques then there is self-fulfilling institutional trading behaviour that generates greater volatility in stock prices. Why should fund managers take a risk by not following the market —it is their reputation and job security on the line? Why be a contrarian investor that departs from the pack and suffer the humiliation of devastating losses when other professional investors have succeeded in unison? Fear and shame account for part of the herd-like behaviour that is observable in stock markets.

When do arbitragers not really act like arbitragers? They may wait until the outside boundaries of volatility are truly tested before they respond. In the meantime volatility continues. Even worse, arbitragers may join risk investors as they *move with* a volatile market and so accentuate 'the trend', as it is more wise and more profitable than attempting to fight a runaway market (Shleifer and Summers 1990). It matters not about the irrationality of a collapsing or soaring market but what does matter is to anticipate the mood and mind of such a market. Cumulative movement and a market frenzy feeding on itself should be treated with caution. It is the large trading institutions that have the power to move stock prices but often abide the rule—'the trend is your friend'. Market professionals in periods of high volatility assess fellow investor sentiment as a priority rather than focus on fundamentals that may be obscured for a time. Such an approach to investing is akin to a game of second guessing one's fellow investor's next move, her strategy and her portfolio mix. Failure to ride a popular trend is to forgo profits amidst a market runaway.

It should also be noted that market professionals *desire* volatility in financial markets, as any movement in stock or bond prices spell potential profitability. If stock prices remained dead constant until the release of actual dividend results this so-called 'market' would be a very low volume, boring place that would attract nowhere the attention that it currently receives. It is the quest for short-run capital gains that dominates market play. However, arbitragers eventually perform their arbitrage function after the 'dust has settled', that is after wild swings have exhausted themselves, and profits now rest in taking stock prices back towards some equilibrium value— according to accepted market sentiment and medium term fundamentals.

If stock markets were rational, they would only respond to news concerning fundamentals and rates of return in particular. However, we observe significant changes in stock prices on days when there is no news concerning stocks in particular or the market in general. There is also discussion of the impact of weekend effects on stock prices. Hence, the trading paradigm that professional investors move on the basis of what other investors might do is relevant here.

Obviously changes in expectations of future dividends and stock prices, or investor sentiment, affects stocks prices now even if now new information

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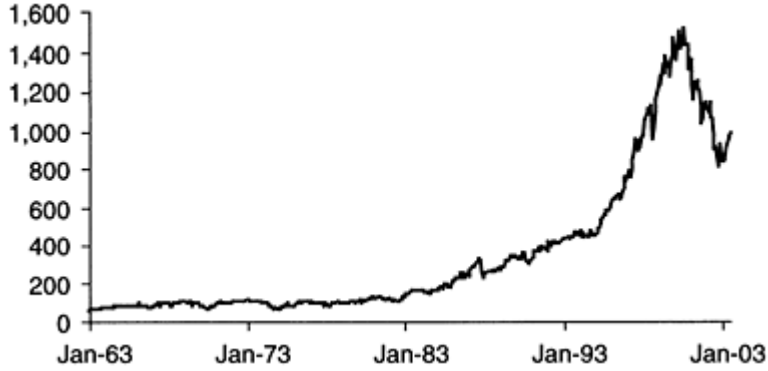

Figure 4.1 Level of S&P 500 (January 1963-July 2003).

Source: NYSE.

becomes available. Hence, changes in risk perception are crucial for stock prices. It is likely that investors overreact to news in the short term and some investors revise their expectations after their 'mistake'.

At face value, *P/E* ratios of US stocks reached historic highs in the late 1990s. For example, the *P/E* ratio for the S&P reached a massive 44 in January 2000 (Figure 4.1). This surpassed the previous historic high reached in the 1929 bubble. Even the golden years of the 1960s only breached a multiple of 20. As mentioned earlier, research by Schiller (2000) reveals that the price-earnings ratio is good predictor of future (ten year) returns. He claims that years with low price-earnings ratio have been followed by high returns whereas years with high price-earnings ratio have been followed by low or negative returns. We know that *P/E* ratios and returns fell in the 2000–2 era—a partial correction from great heights. Even recent dividends are just over 1 per cent and so rest far below the historical average of 4.7 per cent.

Wealth storage and far-sightedness

Experienced investors know that the current valuations of stocks have little to do with current earnings or the current economic environment, but rather with *future* earnings and the *future* health of the economy. Hence, the recent US stock boom is very much a function of far-sighted investors looking farther than at any time in recent financial history. It appears that risk premiums fell dramatically as far-sighted investors saw distant horizons far more clearly than ever before. In the 1970s, investors were uncertain, anxious and near-sighted as US finance markets were under an inflationary cloud—caused in part by the oil crisis and fear. In other words, investors feared opaque storm clouds on the horizon and required a higher risk premium as compensation for news that might adversely affect

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earnings and therefore stock prices. High *P/E* ratios for high-tech stocks are but a reflection of investor optimism and far-sightedness. However, from hindsight such vision was not correct and stock valuations could not be justified—and so the shrinkage of the risk premium was also unfounded.

Such far-sightedness (or lack of fear) is based on several pertinent trends that have become evident since the 1980s. From an economic perspective—the inflation rate became *less volatile* and trended downward. As Taylor (1998) claims—*both* output and inflation in the United States became less volatile since the early 1980s. As a result, interest rates also trended downward. From a financial perspective, corporate earnings and dividends displayed less volatility. Hence, price-earnings ratios rose accordingly. Therefore, a whole host of reduced volatilities made the business or rate of return calculus that much easier. Such far-sightedness appears rational as it is built on a more mature, stable economy. Hall (2000) cites several reasons as to why the US economy is more stable—such as a larger service sector, greater Federal budget stability, better control of inventories, less external shocks and above all, a more sophisticated and reactive monetary policy. All of this adds up to a finer business calculus and explains why investors were content to ignore risk that they previously feared.

The bubble and its subsequent collapse proved the point that funds stored by investors were not safe and definitely not 'on call'. Some individual investors have already been caught losing their life savings as they were 'misled' into thinking that investing in stocks was just the same as investing in bonds or placing funds in a bank. Wild fluctuations and/or poorly selected individual stocks caused personal disaster in many cases. It should be of great concern to Greenspan that US fund managers, and individual investors alike, have treated the US stock markets like on-tap storage facilities—*or a giant financial warehouse*. Yes, there were tranquil times and the US financial markets had few natural predators as of 1999 and so an 'orderly exit' scenario from the markets was believed by most. From hindsight, this was only a half-truth. We can learn from the Asian crisis as it came like a thief in the night. An orderly exit is not a God-given guarantee, as Greenspan (1999c) often refers to abrupt changes or events that may spook the markets into a frenzied sell-off.

Greenspan's defense of the NASDAQ bubble

With some of the high-tech NASDAQ stocks displaying 'wild' *P/E* ratio of between 50 and 100 there is no wonder that some investors question the wisdom and sustainability of such ratios. Even though estimating future earnings streams for select high-tech stocks is fraught with danger—a 'shotgun strategy' may prove effective. That is, buy a sample bunch and hope that a few reach profitable maturity.

Therefore, there is a degree of investor rationality in holding a portfolio of high-tech stocks on the basis that even if only a few grow in maturity and realize super-profit expectations. However, from hindsight this strategy proved

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ineffective—ex post—as all NASDAQ stocks collapsed together with very few exceptions. Rationality is in the heart of the beholder *at the time*.

There is a very clever acknowledgment of this portfolio and lottery approach expounded by Greenspan (1997c).

> You would not get this kind of hype working if there weren't something fundamentally sound under it. The issue really gets to increasing evidence that a significant part of the distribution of goods and services in the country is going to move from conventional channels into some form of Internet system, whether it is real goods and services or a variety of other things. The size of the potential market is so huge that you have these pie in the sky types of potentials for a lot of different vehicles. And undoubtedly some of these small companies whose stock prices are going through the roof will succeed. They may well justify even higher prices. The vast majority, however, are almost certain to fail. That is the way the markets tend to work in this regard.

In other words he concedes that portfolio managers are justified in holding a wide range of high stocks in the hope that the profits from the winners offset the losses from the losers. Moreover, he stresses the fundamental transformation of the way business does business—substantially lowering unit costs in its path. Therefore, beneath 'the hype' there are sound fundamentals—at least for some companies.

Greenspan (1997c) goes on to reiterate this lottery principle.

> There is something else going on here though which is a fascinating thing to watch. It is, for want of a better term, the 'lottery principle.' What the lottery fund managers have known for centuries is that you can get somebody to pay for a one-in-a million shot more than the value of that chance. In other words, people pay more for a claim on some big payoff and that is where the profits from lotteries have always come from. And what that means is that when you are dealing with stocks, the possibilities of which are either going to be valued at zero or some huge number, you get a premium in stock prices, which is exactly the sort of price evaluation process that goes on in a lottery. So the more volatile the potential outlook —and indeed in most of these types of issues, that is precisely what is happening—you get a lottery premium in the stock.

It is not only professional portfolio fund managers that want to hit the big time but also individual investors that are lured by the possibility of large capital gains and are prepared to accept higher (known) risk in order to participate this game to glory.

Given that Warren Buffet has been an extremely successful investor it may be wise to listen to him on investors or players of the stock market game that wish

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to 'hit and run' knowing that losses must someday visit someone. Buffet and Cunningham (1997) states

> The line separating investment and speculation, which is never bright and clear, becomes blurred still further when most market participants have recently enjoyed triumphs. Nothing sedates rationality like large doses of effortless money. After a heady experience of that kind, normally sensible people drift into behavior akin to that of Cinderella at the ball. They know that overstaying the festivities—that is, continuing to speculate in companies that have gigantic valuations relative to cash they are likely to generate in the future—will eventually bring on pumpkins and mice. But they nevertheless hate to miss a single minute of what is one helluva party. Therefore, the giddy participants all plan to leave just seconds before midnight. There's a problem, though: They are dancing in a room in which the clocks have no hands.

Although Greenspan's interpretation of the tech-stock craze appears wise and worthy justification—we know from recent history that the shotgun strategy failed—as most high-tech flyers fell precipitously from grace *together*. This is not to say that after the dust settles and the new economy stocks mature, that dividend streams may reward faithful investors for many years to come. However, the speculative element of this tech craze was high and many big name stocks fell by more than half in value, some of which will never obtain former glory. We must all pay for our sins here on earth and write off that which we have realistically lost.

Domestic origins of the boom

Given the exponential explosion in stock prices in the 1990s it is logical to ask what forces drove this upswing? From Chapter 1, we know that both households and corporations have become increasingly reliant on storing wealth in stock markets. Official savings rates have declined accordingly. This switching behaviour is based on the belief that stock indices always go up—given enough time. Besides the greater faith placed in stocks for the long haul, the use of leverage is another means by which the market pumped itself to greater heights. The popularity of margin lending raises its head as stockbrokers have in the main been generous with margin-lending requirements. Eager brokerage houses reduced margin-lending requirements in order to push hot stocks and attract business. The margin-lending rate stands at 50 per cent, compared to 10 per cent in the 1920s, but even this rate created a strong upward bias in stock values. At face value, it appears that many day traders drew upon credit cards and household mortgages and so used such funds as deposits for leveraged trading.

Other forms of liquidity drove the market higher. Drawing on liquidity from mortgage refinancing and substantial rises in home equity had its risks. It appears

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that such additional funds, at least up until 2000, were used partly for consumption and partly for re-deployment into stocks. Thurow (1996b) criticized this practice of dipping into home equity—'From a savings perspective the tax laws permitting home equity loans will probably prove to be one of America's biggest economic mistakes.' In effect, Americans have transferred part of their wealth out of their low-risk home investment into higher-risk stock investments. Perhaps the change in the Tax Reform Act in 1986 that phased out the deductability of the non-mortgage debt pushed householders into greater financial leverage over the family home. Much of this increased borrowing flowed into the stock market and so US house prices are indirectly tied to the fortunes of US stock prices. A major unexpected fall in US stock prices has the potential to devastate house prices, as bank loan repayments still have to be met. If investors collectively believe that a stock market fall is *permanent* then a scramble for liquidity is likely via home selling and downsizing. This linkage is not different to that experienced by Japan in the late 1980s—as discussed in Chapter 11.

Should we claim that margin lending is dangerously fuelling high stock valuations and therefore should be raised? There is a degree of validity with this concern but the broader issue of financial leverage also deserves attention. Financial markets provide a vast array of highly leveraged products such as stock options and futures that have overshadowed the importance of margin lending. In short, US financial markets are deregulated and open—and so if investors demand high degrees of leverage they can obtain it. In short, anyone has the right to hang themselves with their own rope if they so choose. To the extent that negative externalities arise from a stock market crash, the Fed has the power to demand higher credit and margin-lending standards but greater regulation of derivatives trading is another more difficult matter.

As discussed in Chapter 1, another key reason for pumped up liquidity in the US financial system is the foreign money that poured into the US financial system for much of the 1990s. Such a surge of additional liquidity superimposed itself on an already vibrant financial market creating the fuel for a stock market bubble. If this view is symmetrical then a reduction in foreign capital flows and the consequent widening of the current account deficit should have adverse effects on liquidity (the Fed not with-standing) and so deflate stock prices. We have witnessed such a trend in 2000 and 2002 as the stock market endured two straight bear years. However, after the Iraqi war in April 2003 US stock markets rallied—up some 30 per cent from their pre-war lows— and so avoided the shame of a three-year straight fall. These markets continued to rally in early 2004 along with the US dollar and a stabilization of capital inflows.

Conclusion

The US stock market overinflated in the late 1990s to the point of being labelled an asset price bubble. History teaches us that the aftermath of an asset price bubble

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is particularly deadly as the financial sector is suffocated into stagnation—creating financial sector disintermediation. A hesitant financial sector can transmit ongoing suffocation that in turn chokes the real economy for years after the original financial breakdown. This chapter explored the hypothesis that traditional valuation techniques failed or were ignored by investors. Deeper and perhaps less tangible explanations of bubble were examined—herd behaviour, greed for capital gain, biased tax incentives, poor corporate governance, stock options, IPOs, margin lending and the growth in the power of giant institutions. The investment environment was biased towards trading in stocks and bonds—pushed along by government rules and investor behaviour. Further fuels of the speculative bubble were abundant domestic liquidity and geopolitical forces that pushed foreign funds into US assets.

There is an alternative view—that of a 'real bubble'. This view that the US economy underwent a surge in real productivity growth that enlivened the real economy and so stimulated corporate profit growth remains somewhat indefensible. In this view—held by Greenspan—stock valuations were underpinned by strident gains in productivity growth and the expectation of further growth. The author finds this latter view somewhat porous as the magnitude of the surge in stock prices went far beyond the rate of increase in productivity gains. As will be discussed in Chapter 5, there is case for strong productivity growth and some kind of technological renaissance pushing up stock prices but the notion that economic factors drive stock market fluctuations has never been an accepted financial investment pillar of wisdom.

On the issue of rationality, the speculative bubble in US stocks may have been a 'rational bubble': that is, what was rational for the individual was not rational for the collective investment body. There was a degree of *individual* rationality in this stock market boom—if moving with the investor herd yields lucrative profits—as it did in the 1990s, then investors were justified in hitching a ride, that is, irrespective of movements in economic or financial fundamentals. What happens to overcommitted investors when the game of musical chairs comes to an end? This is the Cinderella story all over again. The answer is huge capital losses but not for those that traded and then exited before the music stopped. Given the extended rise of US stock prices and low yielding alternatives it is not difficult to understand why investors and institutions went for the ride.

What was the Fed doing amidst all this hype in stock markets? Did the Fed turn a blind eye to asset price inflation? In Chapters 7 and 8 we examine the role of the Fed in influencing economic activity, inflation and stock prices together with the challenges that it faces in the twenty-first century. But first we examine US productivity and 'new economy' story in Chapter 5.

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5
The new economy
Has it arrived?

Introduction

There have been many inventions throughout history that have transformed ‘old’ slow-moving economies into ‘new’ dynamic ones—and so changed forever the way ordinary people live and conduct business. The railroads of the 1800s, the motor vehicle, the airplane, containerization, TV, computers and the internet are examples of the vehicles of transformation. Vast improvements in welfare have resulted, as great strides in efficiency released resources for better uses. We now enjoy more music, theatre, movies, art, sport and CNN as direct result of technological inventions that have freed mankind from arduous, back-breaking, mundane tasks.

Given that waves of technological shocks have hit and reshaped the US economy, and that living standards have risen dramatically, it begs the question of why such progress is not revealed in the productivity statistics? Why does it appear that there is such a gross underestimation of economic well-being? One reason cited is that the *quality* of products has improved exponentially and is not accurately captured in the statistics. Second, with superior machines and capital stock, the burden and boredom of work has slumped dramatically. It is the quality of the capital stock that has eased the pain of work, caused output to explode and generated an explosion in the great variety of goods. However, despite major waves of innovation in the United States—it is premature to claim that the ‘new economy’ has arrived. After all, the collapse of the stock bubble is testimony to that. Technological progress and innovation has *incrementally* raised economic prosperity in the United States but the repeal of the business cycle has not occurred. There is no doubt that massive structural adjustments are visibly underway in the US economy but it is more than a giant leap of faith to claim that this ‘new economy’ is repealing the old laws of economics and that economic prosperity is more permanent. In essence, this is an admission that the stock bubble of the 1990s was not well based on the arrival of the new economy. It never arrived. This chapter examines some of the explanations for the roller-coaster ride of productivity growth over the last forty years. It also provides reasons for caution against the proclamation of a new and permanent plateau in

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productivity growth for the twenty-first century. There is always the danger of pushing stock prices higher on the basis of higher—but not yet permanent—productivity levels.

Productivity growth and the stock market

Throughout this book the power of monetary liquidity, margin lending, foreign capital flows, tax laws, behavioural factors and speculation have been emphasized as the key driving forces of the 1990s stock bubble. Productivity growth was important in providing a real floor for rising stock values but could not explain the escalation in the late 1990s. Unless of course, the Greenspan view of *expected productivity growth*—explained in pp. 49–50—is plausible. The rise in US labour productivity growth almost doubled (2.1 per cent) between 1999 and 2000 compared with (1.3 per cent) in the 1973–94 era. However, the S&P rose sixfold during the 1990s. From Figure 5.1 it can be seen that labour productivity continued to surge well into 2003—at an average of above 4 per cent since 2000. It is true that productivity growth in the IT sector was far higher at around 7.35 per cent between 1990 and 1995 and 9.31 per cent between 1995 and 2000 (Jorgenson *et al.* 2003). Not even these productivity growth rates could justify the extent of the NASDAQ bubble of a tenfold increase in the 1990s.

Perhaps the *acceleration* in productivity growth was expected to translate into the *acceleration* of earnings per share growth? This is a corollary of Greenspan's *expected productivity growth* story—investors purchased stocks in the belief that *accelerating* productivity growth would generate a sustainable corporate earnings boom—a new plateau. We know that this did not happen. Although the prospects of rising corporate profits appeared real at the time—the magnitude of the productivity bubble was nowhere enough to justify the magnitude of the stock bubble. From hindsight, investor expectations of profit growth were unrealistic.

There were good reasons why the power of the productivity surge was insufficient to support the surge in stock prices. The flagship of the investment boom was the IT sector. And yet, the relationship between IT and productivity is 'murky' according to the McKinsey quarterly. More information and knowledge flow is useful but not necessarily paramount in generating economic growth or corporate profits. As Feldstein (2003) points out the size of the IT sector is still relatively small compared to the overall GDP and therefore does possess enough pulling power—yet. Most economists agree that the basic origin of rapid productivity growth comes from and will continue to come from the IT sector. Although we may look forward to a higher level of productivity growth in the future it does follow that GDP growth will maintain a high speed. However, the jury is still out as to the power of transmission from productivity to corporate profits and from the acceleration of productivity growth to the acceleration of corporate profit growth. Other financial and monetary forces are powerful drivers of corporate profits in the short run.

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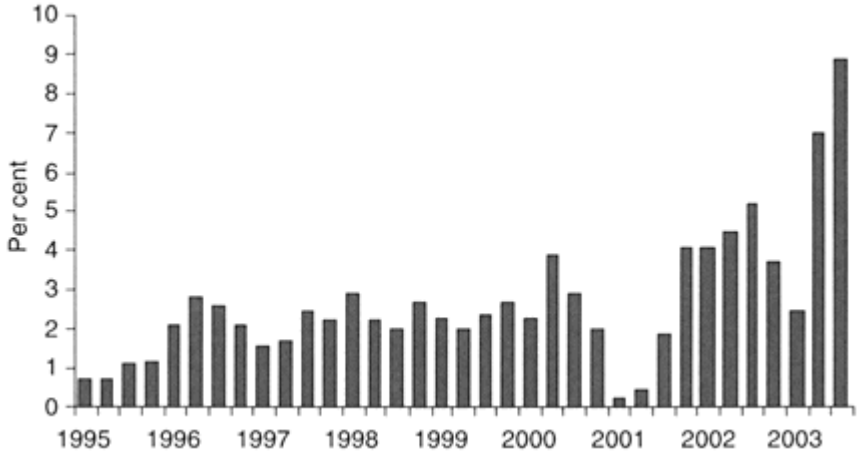

Figure 5.1 Productivity growth (year-year, per cent change by quarter).

Source: US Bureau of Labour Statistics.

We need to address two structural breaks in the time series data in the 1990s. Do we have *new and steeper* trend lines in both stock prices and productivity growth that reflect higher long-run averages for the future? We need to appreciate the following points before reading the rest of the chapter.

- The huge escalation in stocks prices from 1991–2000.
- The significant leap in productivity growth in the same era.
- The build-up of incentive biases.
- The link between productivity growth and EPS growth.

A rational bubble?

Despite the appearance of the IT and dot.com boom being a 'bubble' some economists argue in favour of rationality. Indeed, in their view, the label of irrational exuberance is an unfair one. For example, Cooper and Madden (2004) state

> Given the link between stock market behaviour and the ICT sector with the birth and subsequent bust of the dot.com bubble, it is perhaps understandable that irrational exuberance is now being offered as a reason for the telecommunications crisis. However, this idea is potentially misleading since it characterizes as illogical what may be complex but logical reactions to uncertainty. Acquisition access, the payment of license fees that are too high viewed ex post, and unrealistic business models have all been proffered as examples of irrational exuberance (OECD 2003).

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> However, such firm behaviors, even when ex post misguided, need not be irrational.

These authors go on to claim 'The possibility of rational bubbles arising from the interaction of component rational responses in the presence of asymmetric price adjustment suggest different implications for policy. In this circumstance irrational exuberance is an irrational explanation.'

Hence, there is a school of thought that claims the dot.com bubble possessed a significant degree of rationality, that is, economic agents acted rationally in response to the information set that confronted them *at the time*. This position is different from claiming that the boom years were rational—ex post.

Old questions and old answers

Amidst the huge wealth creation era of the 1960s came the debate among businessmen, investors, policy-makers and economists that the 'business cycle was now obsolete and a thing of the past'. In other words, the wild swings in income and real activity had all but died, leaving in its wake the tranquility of a stable, high growth economy that had acquired a 'natural' high economic cruise speed. Poverty was a problem of those that did not choose to join the 'investment club' or did not choose to work. Such people were often referred to as the hippies and flower-power people of the 1960s. Other respectable middle-class people, so the story goes, could enjoy the new promised land of prosperity—as poverty had been outlawed by the 'new' growth forces of organization and technology. The problem with this view of permanent prosperity is that America's *financial* wealth was partly a function of speculation and greed—inflated stocks values and so potential capital gains—were not bonafide rates of return unless they were *realized*. They were often not—as in any stock market boom, holders of assets could not exit simultaneously without causing asset prices to collapse and financial wealth to evaporate. The lesson here is that the law of the business cycle has not been repealed and that capital losses and corporate bankruptcies are an ongoing fact of life.

Associated with this 'new plateau of prosperity' debate was the arrival of the 'new economy' reflected in the high flying stocks of Ampex, Brunswick, Polaroid, Sperry-Rand and Xerox—in the 1920s. The old economy stocks still remained profitable but offered both lower growth results and so lower capital appreciation potential. Do these arguments ring a bell for those stock market investors of the twenty-first century? They most certainly should! Such debates can be found on the internet in recent times. Given what we know about the 1960s onwards, the new economy soon became the old economy and new waves of technology did not abolish the wild fluctuations of the business cycle. Investment in IT industries was heralded as the catalyst of the new economy and the engine of a new plateau of prosperity. Such investment failed to deliver and so was a false dawn of new-found prosperity.

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The productivity slow down debate

We know that labour productivity growth faded considerably in the 1970s (1.1 per cent) and 1980s (1.3 per cent)—far below the rate set in the boom years of the 1950s (3.0 per cent) and 1960s (2.6 per cent) (Roubini 2000). Perhaps the poorer performance was just a function of the exceptional and the earlier mentioned trend in productivity growth of the postwar years. In other words, a pace that could not be sustained over a thirty-year period. So what were the likely causes of the productivity slow down? The oil crises in 1974 and again in 1978, standout as being prime movers of inflation as the real energy prices to final consumers rose by 23 per cent between 1973 and 1975 and by 34 per cent between 1987 and 1980 (Jorgenson 1988). To that extent energy and capital are complements, the higher price of oil caused investment to slow—at least in key industries. As relative prices were disturbed, there was a stimulus to switch out of energy-intensive and now obsolete, capital equipment into more energy-friendly investment. Not only did rising oil prices create greater obsolescence in the existing capital stock but also generated much under-capacity. Unit costs were pressured accordingly. There is also a 'time to build' and 'time to adapt' issue whereby new fuel-efficient technologies were introduced gradually over the course of the 1970s. However, if this high price of energy story is to explain the productivity slow down of the 1970s then why did a boom not take place in the mid-1980s when the price of oil fell substantially in real terms? There should be symmetry in explanation—but there is not. Some economists claim that energy costs were not a large portion of GDP in the 1970s and therefore could not explain the productivity slow down.

However, such oil price shocks may have 'shocked' lobby and interest groups into serious defensive action. According to Olson (1988) collective action is important in explaining this productivity slow down as lobby groups clamoured for protection against higher *expected* inflation by raising price and wage claims in anticipation. The roller-coaster ride of inflationary expectations possessed a life of its own and so raised unit costs. Coalitions in older industries could block innovation that threatened their own short-term welfare and so protect themselves by rent-seeking activities. Fights over the profit-wage share of the national cake and wage-wage inflation typified the conflict over the distribution of income.

During such inflationary times there was an adverse affect on savings and investment, as there were greater incentives for households to hold assets and not cash. Large budget deficits contributed to inflation and 'bracket creep' pushed many Americans into higher tax brackets skewing economic incentives away from work and thrift. This inflation-tax interaction adversely affected productivity growth.

Could the productivity slow down be explained by a slowing of technological progress or a slowing in the adoption of new ideas? Keeping up with the technological developments of the war era was always going to be a tough task.

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Perhaps the observed decline in R&D in the 1960s operated with a lag or the number of patents issued in the 1970s declined thereby adversely affecting technological progress. What is more likely is that the *adoption* of new knowledge was slower in an environment of uncertainty and businesses waited for a clearer economic picture to emerge (Griliches 1988).

Despite the plausibility of the reasons mentioned earlier, it does not appear that these channels were large enough to cause a collapse in productivity growth in the 1970s. Perhaps productivity growth is pro-cyclical? It tends to rise in booms and fall in recessions? Thus, some productivity growth is permanent and durable whereas the remainder is temporary and fleeting. Moreover, productivity fluctuations may be more related to the profit cycle? That is, lower profitability is picked up in the statistics as lower productivity. Or perhaps there have been large improvements in welfare that are not picked by measured productivity statistics, such as vast improvements in quality?

Even though there was a productivity slow down in 1974–94 (1.3 per cent) the US stock markets still performed well over the latter part of this time period—that is, from 1982 onwards. This paradox should be appreciated as the health of the real economy is not always the prime driver of stock values over the medium term. It is the switching of wealth from one asset category to another and/or just sheer wealth that enters the stock market that explains why stock prices rise faster than that dictated by productivity growth. Besides, it is profitability of the US corporate sector, and not GDP growth in general, that drives stock prices in the medium term. Perhaps US companies enjoyed the lower price of oil in the 1980s as well as lower unit costs?

Sources of productivity growth

From a theoretical perspective, the accumulation of capital and labour can only produce a spurt of transitional 'growth' for a time. Even raising the capital-labour ratio only produces temporary short-run growth as diminishing returns eventually set in. Given that the US economy has reached a stage of maturity, there is only minor impetus to labour productivity from the sources mentioned earlier. However, the 1990s may be a mild exception as the vibrant US economy experienced a rise in the labour force participation rate, drew more heavily on migrant labour and added modern, cutting-edge capital to labour at a rapid pace. Hence, the US economy appears to be in a transition phase—moving from one steady state to the next. As once stated, 'necessity is the mother of invention' and so it is with US firms facing squeezes on profit margins. Given that many US businesses lack pricing power, there is a distinct lack of ability to pass on price increases in highly competitive markets. Therefore, firms have sought to lower unit costs, not just by wage suppression but by operating more 'lean' and so raising productivity growth. New-found surges in efficiency have stemmed in part from more investment in capital stock; plant and equipment—thus raising both the quality and quantity of capital per worker.

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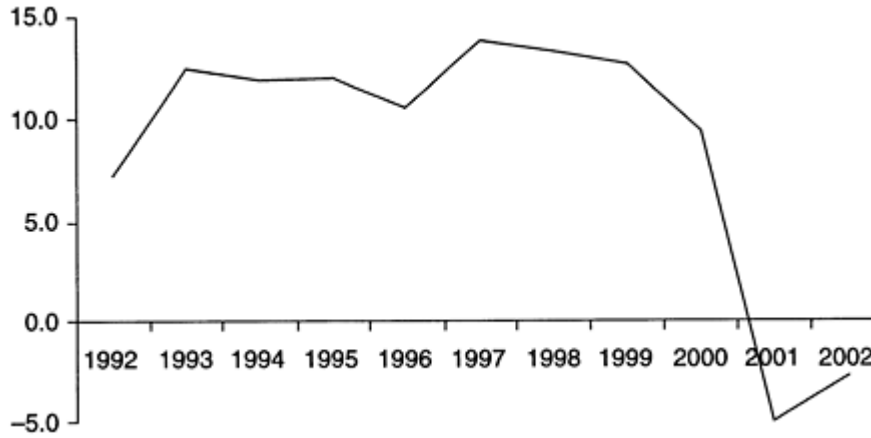

Figure 5.2 US equipment and software investment (1992–2002).

Source: Board of Governors of the Federal Reserve System.

There is also a case for arguing that the investment surge in the United States has been stimulated by external factors—greater openness, globalization, increased competitiveness, weak foreign currencies and weak foreign economies. It has been the threat of entry and the *threat* of foreign competition that has *forced* many pockets of US industry to raise efficiency and competitiveness. For example, when the international price of taconite fell in the 1980s—the Minnesota steel and iron ore industries responded by doubling labour productivity (Miller and Schmitz 1996). The deregulation of the US telecommunications industry forced a wave of technological improvement that pushed labour productivity higher. As Greenspan (1997g) states, 'Increased deregulation of telecommunications, motor and rail transport, utilities, and finance doubtless has been a factor restraining prices, as perhaps has the reduced power of labour unions,' It was the US policy commitment to openness, in the face of stiff foreign competition that forced US businesses to find ways of lowering costs— notably via modern capital injections. On the demand side, US businesses had good reason to innovate and raise the capital—labour ratio by quantity and quality. However, there was good news on the supply side of the fence—foreign capital flooded into an already liquid US market, making it easy for US companies to tap financial markets—with corporate bonds or borrowing through commercial banks. Foreign competition alongside foreign money revitalized US businesses—at the cost of US manufacturing jobs. The surge in equipment investment can be seen from Figure 5.2, averaging 12 per cent p.a. from 1993 onwards. s

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The IT and communications revolution

Even though the US economy has been dominated by services for several decades, the explosion in the use of personal computers, the internet and the rapid proliferation of the virtual firm has revealed the advent of the true 'knowledge-based' economy. Innovation and adoption have been the trademarks of US prosperity as US businesses have seized opportunities to smash unit costs. Several examples are often cited. New technology allowed the steel industry to build mini-mills; small-scale plants capable of producing rolled sheet steel for the automobile industry. The pharmaceutical industry has enjoyed advances in biomedicine to the point that it can design drugs for specific illnesses from the molecules up. This industry employs the internet to gain data on individual medical histories (from volunteers) to continually up-date its knowledge base. In manufacturing, there have been rapid advances in the power of computer microprocessors (semi-conductors) causing the price of information processing to plummet (Greenspan 1997b). A simple, but an excellent example, of vast gains in efficiency in the service sector is the electronic scanner. The pricing of goods is less labour-intensive and movements in sales and inventories can be monitored far more efficiently than ever before. In banking, the ATM has increased bank efficiency and customer convenience. In education, web-based learning is growing in appeal, as universities seek to tap large volume offshore markets and so gain market share.

Major improvements in information technology have revolutionized the telecommunications industry. Giant networks have been developed in a relatively short time frame with the internet being the King of the networks. As a result, the 'new industry' of e-commerce has sprung up. Companies worldwide have jumped on this global network to advertise their existence and wares. There is even a competition between companies for the most glamorous and enticing home page. Such glamour and variety encourages individuals and businesses to surf the net, building commercial knowledge and awareness in its wake. US businesses can now be truly global enterprises without incurring any massive expense.

Not only has the internet been a major network carrying both public and private, and commercial and non-commercial information but other networks have flourished targeting private, commercial users. Cable TV and mobile phones come to mind. As the size of the network grows there is a positive externality or greater value bestowed on existing users. There is a positive feedback cycle that encourages more people to 'join the club' and so the cycle continues. Network providers play upon this feedback cycle and club by advertising its size and expansion and by warning potential customers against joining other networks that will only diminish in size in the future. In essence, the potential customer is warned about switching costs to other networks or if they do 'defect' they run the risk of not being connected, as the dominant company controls the dominant network. Differing network standards and

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switching costs only complicates the consumer's decision. In the meantime, a dominant company like Bell can secure above normal profits.

Given that the rate of GDP growth is a *flow* concept, any improvement in the *flow of information* is bound to have a positive impact on economic growth and productivity. As the cost of transmitting information has fallen so have businesses seized opportunities for cost reduction via more efficient information technology. Managing inventories is a good example. An efficient distribution system results from the little need to 'physically carry' a wide range of goods as they can be ordered quickly 'online' from suppliers. Moreover, specific customer design orders can be negotiated over the internet—with modifications made easily—and so the manufacturer does not have to bare the risk of customer rejects or changes of heart. As Greenspan (1997g) comments

> Increased flexibility is particularly evident in the computer, telecommunications, and related industries, a segment of our economy that seems far less subject to physical capacity constraints than many older line establishments, and one that is assuming greater importance in our overall economy. But the shortening of lags has been pervasive even in more mature industries, owing in part to the application of advanced technologies to production methods.

This lower inventory to sales ratios is revealed in the national statistics—seen in Figure 5.3. From above 1.52 in 1990 to 1.39 in 1998 reveals just how much smarter business is working with regard to holding costs and managing unwanted inventory levels. New distribution channels have changed the structure and shape of a firm. The virtual firm has eliminated the role of many middlemen and has increased the speed and flexibility with which an electronic firm can meet customer demand. Established distribution networks, along with all associated privileges, is under some threat as virtual firms transcend and circumvent traditional physical networks. For example, more than 400 new internet surfers join every hour and around 64 million people use the internet each month (Bell 2000). The profile of net users is one of being educated, young and/or affluent. More than 40 per cent of households in the United States have access to the net and rising (Bell 2000).

There is no doubt that e-commerce has gained in popularity as it possesses several advantages for both the customer and the seller. There is a wide selection of products to choose from those that are visually displayed, search costs are low, convenience high and service delivery is normally prompt. For the business, storage costs are reduced as a multitude of individual suppliers are notified when orders have been placed. This decentralized sales system saves on transport costs to the 'old centre'. Another strength of e-commerce is that it broadens and deepens the market—reaching distant customers out-of-state and worldwide. A reduced sales force is also a benefit as the 'store' is visual not physical—akin to a self-service supermarket. However, some electronic retailers have acquired

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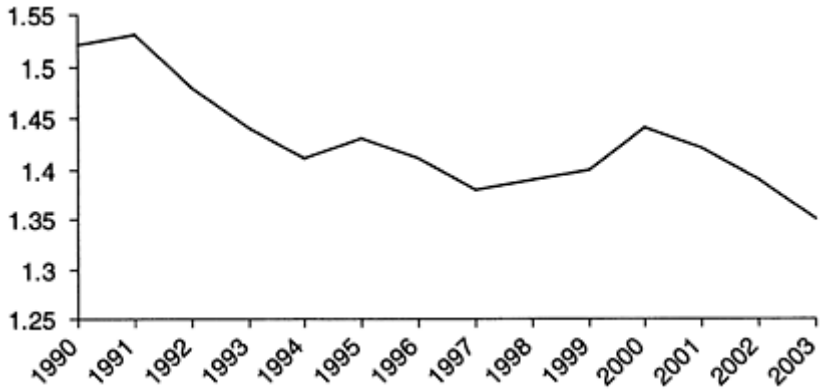

Figure 5.3 Inventory to sales ratio.

Source: Board of Governors of the Federal Reserve System.

their own warehouse distribution centres in an effort to provide complementarity to their existing visual networks. This provides at least a hint that electronic firms are not substitutes for traditional firms and conventional physical buying but *reinforce* sales in such mediums. E-tailers are beginning to realize that a hybrid company that incorporates both brick and mortar with cyber-space is not just a compromise but a commercial reality. Customer surveys often highlight a high degree of customer dissatisfaction with a lack of personal service and the inability to make direct contact. Jungle-like web pages often cause customers to get lost several layers down. Returning goods is also high with e-tailers. What has become evident is that the internet is a great *communications* medium but a far weaker *distribution* medium. In other words, it facilitates a vastly greater flow of information and allows decentralized markets to link together well but does not guarantee an explosion in sales.

Where e-commerce appears to offer greater potential is via business-to-business links. New websites enable buyers and sellers to find each other and strike deals far more easily. Searching for suppliers and gaining quotes and particular specifications is also less tedious. Competition is enhanced among suppliers as potential buyers have a greater appreciation of market prices, qualities and delivery times. Firms can hold auctions and so test the market. Hence, procurement costs and the traditional relationships between the firm and its suppliers have been altered. For suppliers to gain market share is one matter but to keep it in a wide, well-informed market is another matter. The threat of entry or 'buyer switching' keeps suppliers on their toes.

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IT and communications: drivers of productivity growth?

No one denies that rapidly declining information processing and the proliferation of communications networks has stimulated innovation and lifted productivity growth. But by how much is the question. Opinion on the potency of this 'revolution' is divided. Research conducted by Roach (1987) is critical of low office productivity in the service sector, even those sectors with high-tech capital —output per information worker decreased by 6.6 per cent between 1970 and 1986 while output per production worker rose by 16.9 per cent. Research by Gordon (1998) has remained skeptical of IT driving the pick-up in labour productivity—cyclical factors are more important. Returns to IT capital are modest and much of the push has come from the *production* of computers not their use. Research by Berndt and Morrison (1995) find that IT is not correlated with productivity in most manufacturing industries. The marginal productivity of IT capital is not much different from other types of capital and so impact on the economy in general is somewhat dubious.

The alternate view that IT has contributed to productivity growth is supported by Siegal (1997). He is critical of measurement problems and claims that computer investment is strongly related to multi-factor productivity. Striking results were found by Brynjolfsonn and Hitt (1994) for the service sector, they claimed that gross marginal product averaged over 60 per cent per year while gross marginal product of non-computer capital ranges from 4.14 per cent to 6.86 per cent. They also claimed that IT contributed as much to output in the service sector as compared to the manufacturing sector. Jorgenson and Stiroh (1995) claim that computers have contributed between 0.38 per cent and 0.52 per cent to output growth between 1972 and 1992. Such results are similar to those of Oliner and Sichel (1994) of 0.4 per cent for the US economy. These researchers also claimed that two-thirds of the 1 per cent step up in productivity growth in the mid-1990s was attributable to IT—if the *use* and *production* of computers are included (Oliner and Sichel 2000). Hence, the contribution of IT to output and productivity appears robust.

Some commentators refer to a 'productivity paradox', that is high expectations that the IT revolution would act as a giant engine of productivity growth but failed to deliver. As Krugman (1996) points out, the desk top computer may be fifty times more powerful but that does not mean it is fifty times more useful! More information is better than less, but there are absorption constraints by mere mortals. In fact, it is likely that US businesses are suffering under an 'information overload', a plethora of data unmatched by an increase in analytical skills. If you ask a stock analyst which way will the Dow go today…she will not know with any certainty, even though she has more statistics, charts and historical evidence at her finger tips. Therefore, one view is that expectations were too high and unrealistic—as computers represent only 2 per cent of the nation's capital stock, compared to the railroads 12 per cent in the 1800s. As discussed earlier, the marginal product of capital for IT may be high, but

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operates off a small base or percentage of GDP and so cannot 'deliver' large productivity gains—at least not yet. This is a crucial argument—how broad and widespread is the use of IT in lowering unit costs—across all industries.

Another view is that IT increases consumer and worker *convenience* by leaps and bounds. For example, when a bank installs more ATMs it raises productivity by reducing the numbers of bank telling staff. But if those displaced workers are retrained as loan officers, the overall number of workers by the bank will not change. If output is unchanged along with employment, then any significant leap forward in productivity will not reveal itself. Despite the fact that less work effort is required and despite the fact that customers have a convenient 24 hour service and despite the fact that the level of human welfare has risen—the productivity growth rate remains unchanged or in disguise. Hence, economic welfare has increased via more IT but measured productivity has not—in this example.

Yet another view is that productivity gains from new technologies trace a nonlinear path. There is a J-curve effect. Initially, a technology surge reduces average productivity while teething problems are sorted out, as complementary technologies develop and as diffusion filters throughout the economy. Diffusion may be slow but picks up as new synergies are realized. Bluestone and Harrison (1997) claim that 'we have been wandering in the information technology desert for close to three decades'.

US government and productivity growth

An influential paper on economic growth by Paul Romer (1991) has shed more light on the importance of government support for research and development via patents and subsidies. The major reason being that researchers (and commercial enterprises that employ them) require monopoly profits for a time, to compensate them for large fixed or sunk costs. Patents provide researchers with the incentive and security to invent and create new knowledge in the first place. If property rights were non-existent and barriers to imitation were few, then the amount of resources devoted to research would diminish. It is because positive spillovers for the community at large exists that the US government does provide legal support for new inventions. The current US administration acknowledges the necessity of maintaining and increasing the flow of innovative ideas to the economy by stating 'government support for basic research is critical in a knowledge-based economy, where growth ultimately depends upon the flow of new ideas'. Why basic research? Because there were inventions in the past that were not explicitly intended for commercial use and/or were employed more fully when other complementary inventions were exploited. In other words, General Purpose Technology (GPT) has an important role to play in society because of the potential spillovers and even commercial value realized at a later date. The original inventors may not have the resources to upgrade the technology or improve its applicability to the commercial world. Nevertheless,

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the US government has a responsibility to expand the stock of knowledge despite low levels of commercial relevance. In fact, the internet itself is an example of a GPT, as it was originally an exercise in connecting several government databases in different locations but grew over time to include a plethora of sites and users.

However, for the United States to promote research and innovation is easier said than done. Basically for the reason that Romer and others have pointed out—there is a fine policy line between protecting monopoly profits and thus stimulating invention, and promoting competition and thus lowering prices. Various US administrations have displayed concern over mergers and monopoly power and have been ever vigilant with a competition policy and the enforcing of anti-trust legislation. For example, the Telecommunications Act of 1996 removed barriers to entry in telecommunications markets by forcing regional Bell companies to allow other competitors into the local telephone market. The obvious example is that of Microsoft, whereby an 'industry standard' is set and other competitors are tied to the chariot wheel of Microsoft's products and network of users. Competitors and product developers are prevented from building a critical mass sizable enough to challenge the incumbent. There are always dangers of size, as consumers may be exploited and the 'too big to fail' threat hung above the community's head. However, inventions normally require large amounts of upfront investment, with the associated risk of failure, and these sunk costs need to be written off against large sales volumes in the future. Perhaps, the relevant question for the US administration is how long should patents be valid? When should competition be stimulated in some of the new economy industries? For example, what kinds of laws, including tax laws, should be imposed on electronic commerce? The economist s answer is that of self-regulation and eventual competition that will substitute for government legislation.

Has the US government made a contribution to rise in productivity growth? The answer is 'yes' but in an indirect way, by upholding intellectual property rights in a flourishing knowledge-based economy and by acknowledging the need for corporate inventors to acquire monopoly profits for a time. There are other channels through which productivity has been given a boost. As US budget deficits have declined and even turned into surplus so has additional 'room' been created for private sector investment. As discussed in Chapter 3, lower taxes are always welcome by the investing class. Macroeconomic stability, and in particular low, stable inflation rates underpinned the investment boom of the 1990s. In these ways, the US administration has indirectly supported the surge in US productivity.

Productivity growth: how permanent?

As with all upswings of the business cycle, there is a cyclical element embedded in the growth rate of productivity. In other words, productivity growth appears to be pro-cyclical, rising in booms and falling in busts. Therefore, the degree of

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structural improvement in productivity growth, the part that is more enduring, can be somewhat camouflaged in a strong economic recovery. Greenspan (2000e) refers to data that portrays the acceleration in productivity growth since 1996 but warns of the possibility of 'overstatement'. And yet in July 2000 he claims 'So far there is little evidence to undermine the notion that most of the productivity increase of recent years has been structural and that structural productivity may still be accelerating. New orders for capital equipment continue to be strong—so strong that the rise in unfilled orders has actually steepened in recent months'. The gains in productivity stem from several sources mentioned earlier. The boom in capital spending in recent years has significantly increased the quality of capital per worker, as such investment is heavily knowledge laden. Just as important as the cutting-edge quality of capital investment is the fact that prices of such capital goods have fallen dramatically and so assisted the proliferation of use of such goods economy-wide.

What have been the temporary or one-shot driving forces of productivity growth? The answer rests in monetary and financial factors and the vast inflow of foreign capital in the boom era. Easy access to external finance pushed many CFOs headlong into the investment craze. Just as importantly was the shrinkage in risk perception—fund managers were willing to discount future profit flows more heavily—as inflation and real interest rates fell. Less risk spelt less fear and so more investment. As the reader is well aware—take these transient forces away and transient or superficial productivity growth should also disappear.

Why has productivity been slow in revealing itself in the statistics? One answer comes from Professor David (1990)—who point out that it takes time for *synergies* to develop between different forms of capital and technologies. He cites the example of the dynamo, invented in the mid-1800s, but required the complementary technology of the electric motor before such technology was adopted in any widespread fashion in 1920s. The complementarity of technologies and their powerful interactions take time to fuse and explode. The application of the laser did not really blossom until the extensive use of fiber optics. So, we may be in the midst of a major productivity upswing as recent IT breakthroughs are filtering through the economic system.

Productivity and the stock bubble

It is most unlikely that the surge in US productivity growth was strong or widespread enough to cause the massive surge in stock prices post 1995. After all, productivity growth was still alive and well in 2000–2 and yet stock prices plummeted for more than two-and-a-half years. The incentive biases (financial and behavioural) canvassed in Chapter 1 were more than likely overwhelming forces that caused a structural break in the time series data during this era, that is, investors responded to low inflation, low interest rates, tax breaks and abundant liquidity while CEOs responded with stock options, buy-backs, book-cooking and IPOs. Financial biases heavily favoured buying and holding stocks given the

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calm financial sea and low levels of risk perception. To the extent that some of these forces are not transient there may be a new and higher trend line in stock prices and *P/E* ratios—that supercedes the old trend line *P/E* ratio of 14.5. If so, this is good news for the stock market in 2004 through 2006.

However, there may also be a new trend line—or new plateau—for productivity growth at 2.5 per cent—and way above the old trend line of 1.4 per cent. Thus, stock prices can receive support from this source as well—provided that it is permanent and not temporary. Given that we may have two new and higher trend lines than the past then we can argue that *P/E* ratios of around 22 can be justified—a mid-point between the euphoric *P/E* ratios of 33 in the boom era and the 'old' long-run trend line of 14.5.

Conclusion

The view that the US economy is riding on a giant wave of productivity growth has a sound theoretical base. Real business cycle theorists remind us of the potency of real factors in driving economic growth—especially that of technologically driven productivity growth. The preferences of worker-consumers also matter as they respond to wage and interest rates and the set of economic incentives before them. US workers have revealed a propensity to work more but not save more during the current boom—not quite fitting the typical response of real business cycle theory. If worker-consumers believed that this productivity boom was *permanent* then they should offer less labour, as their permanent incomes have been raised forever. However, a declining saving rate provides some evidence that ordinary Americans believe that this current technology boom is going to raise their living standards well into the future.

The opposite view is that the current productivity boom is *temporary* or just an aberration. Hence, low savings rates may represent the belief that considerable capital gains can be extracted from a runaway stock market—enough to feather a comfortable retirement nest. In this view, the expectation of a current technological wave coming to an end causes many speculators to ride the wave of capital appreciation while the wave is still rolling—and then cash in. Some did in 2000. There is also the flood of capital inflows that in many ways propagated the tech bubble and financed the investment expansion of the 1990s.

The IT and communications revolution have made a contribution to US productivity growth but there is considerable conjecture as to the size of that contribution. Evidence from this chapter suggests that the impact of IT in driving the technological boom is somewhat overstated. Perhaps there are long lags involved or perhaps the still small share of the IT industry in the total economy accounts for the low impact. More information is probably worth more than less —but at the end of the day you can't eat information—there are probably thresholds of manageability. The even larger question as to whether a large technological wave drove the 1990s boom in the US economy and stocks is also uncertain. Just because a burst of new technology related investment is observed

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—it does not follow that future returns will justify current investment surges. Such surges may also be liquidity driven, merger driven, IPO driven and even high *Q* ratio driven as US companies can access funds on easy terms and so 'invest'. The jury is still out on whether the US economy is experiencing a full-fledged technological overhaul. The true test of the durability of the US productivity boom will be whether it is knowledge-based and whether unit costs across the economy decline substantially. If this be the case, then stock values will enjoy strong support for the rest of the decade. This is just another way of stating that permanent productivity growth that impacts on broad economic activity will be far more conducive to rising stock prices than transient productivity growth that is highly localized—in just high-tech areas.

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6
Governance issues
Old and new

Introduction

Just as American's placed much faith in their banking system for the safe storage of their money—so too have they trusted the US stock market in a similar fashion. Alas, some of this trust has been misplaced as an array of corporate scandals and bankruptcies have shaken investor confidence in the ethical standards and business practices of Corporate America. Not only have many stocks fallen in value, but more disastrously, some companies 'lost all' and went into receivership. As discussed earlier in this book, investors learnt the hard way that their funds were not safely 'on call' in US stocks. America's CEOs have been placed under the spotlight as too many big name US corporations reported 'false' earnings figures and/or were 'loose' in forecasting future earnings growth. Accounting standards were too low for investor security and accounting trickery defrauded investors of billions of dollars. This chapter examines why both government and self-regulatory frameworks failed to provide creditors, shareholders and the investing public a high degree of protection. The new regulatory framework based on the Sarbanes-Oxley Act seeks to remedy many of the weaknesses in the old system and so will be examined. The major objectives of the new regulatory framework are to restore investor faith in the stock market, to raise the overall standard of corporate governance and to ensure a higher degree of investor security in the future. The means to achieve these objectives are wide ranging but include—improved accounting and auditing standards, a redefinition of directors' responsibilities and higher levels of board independence. This chapter examines the origins of corporate governance failure and the US administration's regulatory response.

Market versus government failure

Not only was there gross corporate failure in the United States but government failure also. A series of deregulation initiatives created strong incentives for corporate executives and the accounting profession to take on risks and be more 'flexible' with respect to business practices. For example, tearing down of the

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fire walls between investment and commercial banking. For nearly half a century the Glass-Steagall Act separated investment and commercial banking. The rationale was based on a conflict of interest that may have arisen from recommending that investors buy a stock that the investment bank has a close commercial relationship with. There is a temptation here to paint a rosy picture of a stock's future earnings potential while that same company is heavily indebted to the investment bank. In principle at least, there is a bias to disseminate favourable research reports for those companies that are sizable clients— on the commercial lending side of the bank's operation. This does not state that deregulation initiatives failed but that they possessed unwanted by-products—such as a moral hazard and loose attitudes towards risk.

In 1995, Robert Rubin of the Clinton Administration decided that this separation and compartmentalization of the banking industry should end. Banks should be allowed to become more integrated in function and hence larger. Conflicts of interest did arise and integrated banks did succumb to the temptation of allowing research and stock recommendations to be biased by close client banking relationships.

Brokerage houses faced similar conflicts of interest and several of these firms faced SEC (Securities and Exchange Commission) investigation. Again, the crucial issue was the 'biased' research reports for existing commercial loan clients that were too big and too important to 'lose' as clients. Hence, professional judgment concerning buy, sell or hold was clouded by CEO directives, biased research reports and the lust for profit.

This is not to say that deregulation did not deliver benefits in terms of greater competition within the financial sector and a greater variety of products and services for the customer. These are the major motivating forces for deregulation. However, costs can and did arise via moral hazard—corporate managers chased greater market share and were more 'flexible' towards customer needs. Greater openness in the financial sector brought with it associated costs but most professionals would argue that the benefits outweighed the costs of deregulation.

And yet, from hindsight, regulatory responses to obvious accounting shortcomings and non-disclosure of high-risk exposure appeared both slow and porous. How much regulation is enough—that is, how to find an *optimal balance* between all parties concerned? There is a trade-off between the government's desire for security, transparency and fairness and the private sector's desire for innovation, profit and risk. Given the recent array of corporate scandals, the power and resolve of the SEC is being tested in the post-bubble era to implement an optimal mix of regulation that provides protection to shareholders, potential investors and creditors and yet does not significantly stifle incentive or risk-taking—so essential for dynamic long-run economic growth. It therefore appears that earlier government deregulation waves did not achieve optimal balance—they created too much choice, moral laxity and an excessive tolerance for risk. Recent re-regulation efforts represent an effort by US authorities to restore such

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balance and so warn CEOs that fraud and wrongdoing will be punished. At the heart of these recent reforms lies the importance of honest profit reporting and disclosure.

It is here that an age-old debate comes to the fore—that of the costs and benefits of self-regulation. Corporate America has long seen itself as a guardian of its own destiny, preferring self-regulation and 'in-house' solutions to problems that arise. Professional bodies commonly have a code of ethics and business standards that are to be followed by all members. The NYSE and its members set listing standards and breaches invoke disciplinary action. The benefits for the body collective are uniform professional standards, the preservation of long-term reputation and so respect and recognition from the public—prerequisites for an efficient capital market. It therefore follows that any member violating professional standards and ethics should be punished—as the reputation of the whole association can be tarnished—if not permanently damaged. The same principle applies at the individual level—a professional that indulges in unethical behaviour and is caught—will suffer damage to his reputation. The loss of many years of future income should deter professionals from any illegal or unethical behaviour—as it may cost them their livelihood. This is the lifeblood of self-regulation—the fear of losing reputation. The Bush administration has publicly supported the concept of self-regulation with the caveat that more refinement and self-discipline is warranted. Moreover, the US corporate scandal debacle, according to President Bush, was caused by a 'few bad apples' and was not the fault of the self-regulatory framework itself.

So why then did so many corporate executives risk their reputation and future livelihood by unethical and illegal activities? First, because the probability of getting caught was not that high. Non-disclosure, delay, non-arm's length board members, the concentration of power and appointment of 'friendly' auditors meant that CEOs had much control over the timing and quality of information that was released. They had control and believed, at least for a time, that they would not be exposed. Second, the benefits from misusing power and cheating in terms of insider trading and unloading vast amounts of stock options without anyone knowing for a while— far outweighed the risk of being caught. Given that even one CEO could appropriate anywhere up to $120 million—and then leave the company—would most likely far outweigh the loss of reputation. The sheer size of the sums involved was too tempting for some executives, knowing that the sacrifice of a lifetime's income flow (at the age of say forty) was indeed small pennies to sacrifice. Brazil is a nice place I believe. Third, even if caught and convicted, the sheer size of the sums involved may still warrant a medium term holiday in prison. Besides, with memory loss being what it is these days and a plethora of clever lawyers to choose from, there still remains a high probability of only a minor penalty being incurred or even complete acquittal.

In essence, this is where self-regulation broke down in the United States—the incentives to cheat were so huge and the ex ante likelihood of being caught so low. It is very difficult, if not impossible, for government regulation to harness

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human nature completely—otherwise the whole management function would crumble and risk-taking would diminish to zero. *The driving forces of corporate corruption are greed and inflated egos.* Government's cannot abolish these inherent human characteristics and so government regulation may fail where self-regulation also failed. Perhaps those to the right of politics favour 'carrots' whereas those to the left of politics favour 'sticks'. It appears that while the principle of self-regulation has not been abandoned there has been a shift in political thinking towards a greater external regulatory framework. The bias is now towards government imposed penalties and not corporate designed incentive packages—in order to align the interests of the agent (CEO) with the principal (stockholder).

An expert on the regulatory response, including the Sarbanes-Oxley Act, is Professor Larry Ribstein (2002)—his assessment on the debate discussed earlier is as follows

> …despite all the appearances of market failure, the recent corporate frauds do not justify a new era of corporate regulation. Indeed, the fact that the frauds occurred after 70 years of securities regulation shows that more regulation is not the answer. Rather, with all their imperfections, contract and market-based approaches are more likely than regulation to reach efficient results. Increased post-Enron reforms, including Sarbanes-Oxley, rely on increased monitoring by independent directors, auditors, and regulators, who have both weak incentives and low-level access to information. This monitoring has not been, and cannot be, an effective way to deal with fraud by highly motivated insiders. Moreover, the laws are likely to have significant costs, including perverse incentives of managers, increasing distrust and bureaucracy in firms and impeding information flows. The only effective antidotes to fraud are active and vigilant markets and professionals with strong incentives to investigate corporate managers and dig up corporate information.

Incentives and trade-offs

Much of US corporate failure can be explained by greed and the biases explained in Chapter 4. Game theory has something to offer here, as there are many 'players' in the stock market game—not all sharing common interests. Each player seeks to gain a share of the corporate pie (stock values)—sometimes at the expense of other players. Greed and conflict of interest lead players to indulge in unethical and illegal behaviour in an effort to jockey for a better capital gain position. A comparison of a 'game of musical chairs' with the stock market 'casino' is a relevant one here. Sometimes the investment game boils down to winners (executives/managers) colluding against losers (shareholders/creditors).

For any regulatory framework to be successful, and so meet its objectives, it must incorporate and respect self-interest and so *align* the incentives of the

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principal with those of the agent. There are unavoidable agency costs. In this modern world dominated by large companies—the separation of ownership from control—presents a serious power dichotomy. It is often said that a potent vehicle of aligning manager and shareholder interests is that of granting stock options for the manager—triggered at a 'high' stock price level. This causes the manager to strive for higher and accelerating profits—partly out of self-interest and partly out of managerial responsibility. The short-term aim of shareholders is higher profit levels and so by sharing a greater portion of profits with managers there is greater harmony and zeal towards that common goal. Hence, the manager's remuneration is largely performance based and so shareholders should not complain if stock price and/or profit targets are met—and the CEO draws a huge bonus.

At least that's the way the story runs. Well, what's wrong with the story? First, the lengths to which creative and crooked accounting was undertaken by corporate managers is partly explained by their pot of gold (stock options) resting on a few consecutive years of rising profit growth. Why not cook the books, exercise the options and then leave? Second, the incentive structure is hugely biased in favour of the CEO as his gains are *exponential* while the shareholders gains are *arithmetic*. Both gains should be tied to some arithmetic formulae—the CEO be granted main socks and not options. Third, there is a real cost to paying managers with stock options as they have not been expensed in the past. Profits are eroded and there is less to pay the real residual stakeholders—the shareholders. It is not just the cost to the shareholder that caused a major uproar against the accounting profession but the fact that it is partially hidden. It is only recently that large companies have tried to put an estimate on this cost—possibly around 8 per cent of profits. However, this theory of alignment and self-interest is based on performance not failure. So why then have so many lucrative packages been cashed in when stock prices have fallen? In theory, a poor or 'negative' bonus should accompany a poor company performance.

So why then did America's CEOs perform so badly when their incentive structure was so lucrative? Perhaps the profit benchmarks were set too high and a kind of moral hazard set in? All managers tried to be better than average. Or perhaps it was just plain greed—the exponential incentives were too great—and managers yielded to temptation? Maybe the carrots were too sweet and the sticks too soft? There is the issue of real fundamentals here, the economy can only grow at around 3 per cent per year and so achieving 'above normal' corporate profits year in and year out is not possible. Even great growth companies can only deliver supernormal profits for a while. This belief in the supernormal is at the heart of corporate governance failure—CEOs thought themselves far superior to other CEOs—and in reality were beguiled by their own egos. Peer pressure did the rest—too much competition between CEOs (or should I say too much jealousy)—poured excessive fuel on ambition. At face value at least, theory can explain the corporate fraud debacle as the *financial* incentive structure was too lucrative and not constrained by the long-run real *economic* growth rate of the

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economy—as non-verifiable corporate profits were overstated in the short run. What is consistent with cost-benefit analysis is that the huge pot of gold was worth running off with—by the sheer laws of probability.

One should remember the stock broker Budd Fox in the movie 'Wall Street' who was trapped and blackmailed by Gordon Gecko the greed merchant. The young man was lured by ambition and fame and not just money. He wanted to emulate Gordon Gecko and be a raving success. He also believed the he would not get caught by government authorities and continued to live on the edge'. He crossed the line into illegality and did get caught. There were too many pressures from Wall Street that beguiled him to be above average.

What are the challenging issues?

There are many examples of corporate misbehaviour, if not fraud. In many ways, corporate executives, as well as the accounting and legal professions crossed a fine line between what was clinically legal and what was not. The drive to maximize profits and minimize taxation is not new but the audacity and arrogance with which Corporate America pursued these goals set new highs. We know of the downfall of Enron and Worldcom and the tarnished reputation of Arthur Anderson the auditor. The bloating of revenues and profits was not the sole domain of these two giants but many other respectable corporations got caught up with book-cooking as well—such as Merck and Xerox. Charges of insider trading were made against Sam Waksal (ImClone Systems) and Martha Stewart.

Other corporations such as Qwest, Global Crossing and Bristol Myers Squibb also face investigation by the SEC for allegedly violating accounting rules. The overall picture of corporate governance in America is a poor one. There is gross dissatisfaction and disillusionment with both professional and ethical standards. Intense media coverage has broadened the exposure of corporate misdeeds into the public arena. Not only have distraught smaller investors vented their anger over devastating losses but the public also displayed its outrage on moral grounds.

So what are the major issues of concern? What are the misdeeds of Corporate America that are so wrong? The olds sin is that of *insider trading*. Executives and employees of a company may take advantage of special knowledge of a company's prospects and so buy or sell that stock in order to profit—before anyone else can act. Even delaying the release of relevant information is both unfair and illegal.

Second, the inflating of revenues and deferring of costs—with the intent of *pumping up profits*—is seen as cooking the books. Such 'profits' are fake, false and misleading. The divergence between Pro-Forma and GAAP-based profit reports widened in the 1990s as CEOs indulged income smoothing and treating distant income flows as they were certain to arrive. This pulling of levers and strings is aimed at deceiving some investors, if not all. The size of this false

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reporting for the NASDAQ was staggering as Cunningham (2002) points out —'One way to gauge the costs of believing in the spurious accounting of the late 1990s examines the difference between the gains reported in that period with losses revealed later. For the four quarters ending in mid-2001, 4,200 Nasdaq companies reported combined lossess of $148.2 billion, compared with $145.3 in profit over the prior five years combined.' This is a massive reversal and face-about-turn as you will ever see. Massaging the accounts to present a rosy trading picture was aimed at protecting the managers of corporations from shame, firing, and of course their precious nest egg of stock options from diminishing in value. However, the downside of such massaging is the threat of law suits—albeit well after the event.

Third, the use of Special Purpose Vehicles (SPVs)—other companies that can be used to 'hide' debt and so keep off the balance sheet of the parent company. The principle here is that all accounting 'negatives' are placed in the SPV, well away from scrutiny and the main company 'picture'. There has always been great conjecture as to what should and what should not be disclosed in a company's balance sheet. Most investors would argue for more disclosure rather than less and for less information to be buried footnote form. The existence of large derivative-related liabilities being hidden as 'off-balance sheet' items caused much consternation in the investor community as witnessed by the Enron and Long-Term Capital Management debacles. This era was no doubt one of creative accounting and crony capitalism.

Fourth, the non-arm's-length relationships within the company framework that inhibits any independent criticism of company wrongdoing. For example, CEOs appointing key personnel to the company's board—in the belief that they will be 'loyal' and not make waves. Appointees are often part of the 'old boys club' or old friends from college days that can be 'trusted'. Such appointments restrict true scrutiny and criticism of company affairs—a suffocation of any independent watchdog role as it were.

Fifth, the conflict of interest that arises for an accounting firm when it undertakes both audit and non-audit work. This is the conflict that exists between auditing and investment banking. Accounting firms make far more money from investment advice than from auditing. The independence and quality of research is also compromised in order to keep the investment banking client content.

At the heart of the mangled corporate governance issue is the insider-outsider dichotomy. It is the insider that has the vast majority of power and knowledge, whereas the outsider is just that—possessing weak rights of reply, ill-informed and individually powerless. The incentives to exploit this lopsided power relationship have been irresistible for some executives in Corporate America.

Wall Street in the 1960s: fresh challenges

Recent failures of corporate and public governance are not new—there were similar stresses and strains in the 1960s when the 'new flood' of investors arrived

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—seeking large capital gains. Vast amounts of 'new-found' wealth were placed or stored in US stock markets—challenging partnership brokerage firms, market forecasters, government regulators and policy-makers alike. Something like seven times as many Americans held stocks by the end of the 1960s than during the height of the 1929 boom. Such a surge of investors into stock markets was driven by sheer speculation—as ordinary citizens increasingly dabbled in common stocks lured by tax-free capital gains.

The securities industry was seen in a certain light in the old days. Between 1930s and the early 1960s the US stock brokering fraternity portrayed the image of being the establishment and some kind of private club. Discrimination was at work as men were preferred over women, old over young, protestant over catholic and white over black. This industry was, and still is, 'well-connected' with Washington. Much political lobbying is undertaken so as to not diminish the privileged position of the 'club'.

There is one key ongoing trend that has challenged regulatory authorities for years— the rise of big institutional investors. The nature of the investor—speculator changed from the individual to the institution as mutual funds, and to a lesser extent, hedge funds made their appearance in the 1960s. By their sheer size, the mutual funds could affect stock prices in their day-to-day trading let alone in securing long-term strategic positions. In collusion, they could manipulate stock prices and so trap unsuspecting small investors who watched the market for clues of takeover or merger activity. Hence, profitability was a function of well-disguised deception. After the crash of 1962, the power of mutual funds was evident, as they bought in gloom and were also able to withstand margin calls in contrast to their small shareholder-speculator counterparts. No longer were individuals and small traders the lifeblood of stock markets in the United States but institutions with deep pockets. In fact, the portfolio managers of the 1960s were akin to the pool managers of the 1920s. As discussed earlier, the expansion of pension funds and 401k biases—from the 1980s onwards—have pushed a flood of money into the 'one-way street' of stocks.

Just as in the 1960s, new waves of both individual and institutional investors flooded into stocks in the 1990s. This time foreign investors played a major role in ballooning the market. What challenges US regulatory authorities is to protect new investors from themselves—those that are inexperienced and have never drowned in a recession. Moreover, such authorities seek to protect the outsiders from the insiders and new investors from the powerful.

Past pressure for regulation

Just as the Great Depression served as a catalyst for regulatory reform in the mid-1930s, so did the changing corporate face of America in the form of more 'conglomerates', the growth of mutual funds and the portfolio manager in the 1960s stimulate the SEC into more action. Such trends typified the growing problem of principal-agent whereby the small shareholder and creditor depended

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heavily on the judgment and honour of their broker. Given the amount of money being 'invested' in Wall Street and the privileged position held by stock-brokers, there were bound to be abuses of power and trust. Brokers used inside information to their own advantage, deliberately distorted stock prices and volumes in order to attract investor attention and traded on their accounts on the trading floor. Nevertheless, stockbrokers were not prosecuted under any insider trader provisions of any legislation. The US regulatory authorities became growingly uneasy by the increasing visibility of the insider-outsider dichotomy and its potential damage to the long-run reputation of Wall Street. In response to several scandals and alleged misdemeanours the SEC increased its surveillance of stock exchange members.

Corporate scandals were not the sole domain of the 1990s. Amidst the boom times of the 1950s were visible undercurrents that high-flying individuals and brokers themselves were not acting properly in accordance with existing legislation or a basic code of ethics. The American Stock Exchange (AMEX) was rocked by several scandals and investigations. Research by Brooks (1999) paints the following scenario of intrigue and reform. An investigation into the stock trading and conduct of Jerry and Gerard Re (a member firm) in the 1950s witnessed their expulsion from AMEX in 1961. Further investigations revealed that the current head of AMEX (McCormick) was implicated in these matters and was associated with the two Re's brothers. The new-found vigour of the SEC under Jackson pursued McCormick until he resigned as chairman of AMEX. Such conflict is a classic case of the regulator (SEC) versus the industry (AMEX) whereby the latter is accused of misusing privileged power against its own clients and the public in general. The SEC won this battle as the old executive guard of AMEX were forced to stand down and so enable some fairer trading laws to be put in place. It appears that self-regulation failed in a rapidly growing industry such as US stock markets much to the bitter dismay of both AMEX and the NYSE. Obviously some member brokers were clean, honourable and cherished their own reputation and so naturally felt victimized by their colleagues dishonesty and greed.

As a result of the crash of 1962, the head of the SEC (Cary) initiated a special study into AMEX. Several recommendations followed such as greater screening of character for aspiring stock brokers, the tightening of insider trading rules, higher disclosure standards for new issues, lower brokerage fees, the abolition of floor trading by specialist brokers on their own behalf or if not members be required to pass an examination before they became full-fledged floor traders and the abolition of front-end fees by mutual funds for putting together a large deal. In August of 1964, some of these recommendations became law but more importantly Wall Street had been given a wake-up call that the cowboy days of fraud and manipulation were not acceptable and the SEC would convict those brokers that still wanted to ignore 'the call'.

The corporate world produced individuals that were willing to bend rules to the limit in order to achieve the rapid accumulation of wealth. High leverage was

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a common feature of the downfall of several high-flying Gurus. For example, Lowell Birrell commanded several corporations and issued himself unauthorized stock to later sell these shares on the open market. Even though chased by the law in the late 1950s, he managed to secure a nice lifestyle in Brazil free from US prosecution. Eddie Gilbert was another high-flying, highly leveraged entrepreneurial corporate leader who exploited the weak regulatory environment of the early 1960s and ended up in the same place—Brazil. The crash of 1962 squeezed him badly on calls. Buying stocks on margin and exploiting high leverage ratios were the major reasons why both men fell from grace and stability.

There are lessons here for the modern day. The insider-outsider dichotomy has not disappeared over the years. Various types of manipulation can be undertaken by the insider to jack up the company's share price in the belief that he can sell to the duped outsider. The 'new waves' of investor clientele has made this task easier—as in the 1960s. Small investors and creditors are still being deliberately deceived by large institutions and corporate executives as in the past. Accounting trickery, especially in relation to merger activity, ballooned stock prices and expectations in the 1960s—as in the present. In summary, the key problems surrounding the principal-agent relationship has not disappeared in the twenty-first century. The timely flow of information is as critical as it has always been.

The case of Enron

The rise and fall of Enron provides some useful insights into how corporate managers pushed the spirit of deregulation and the law to its limits—and beyond. Enron transformed itself from a gas-pipeline company in the 1980s to a mega energy-trading company that bought and sold both gas and electricity in the 1990s. High financial leverage and massive volumes combined to boost the rise of Enron. It sought more and more growth often at the expense of profits. Although profit margins were thin, high volumes and turnover were enough to offset—at least for a while. With the transport of gas being highly regulated and the selling of gas being mainly unregulated, Enron pushed more into the financial field of futures and derivatives trading. The buying and selling of energy futures contracts offered more profit opportunity than the physical side of Enron's business. This suited clients that wanted to trade in contracts but not take delivery. After all, gas prices could move 40 per cent in one year and electricity prices were even more volatile than gas. Unfortunately for Enron, the level of risk-management skill required to successfully deal in derivatives was lacking. When year after year of rolling losses came to the fore, Enron's credit rating nosedived and eventually its line of credit dried up—choking it into submission. When this company fell from grace it became the biggest corporate bankruptcy in American history. As Fox (2003) points out, perhaps it was an overambitious pursuit of profit—namely a stated drive for 15 per cent a year that was the

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company's undoing? All companies cannot sustain an above-average profit performance for long— Enron was no exception.

On the accounting front, Enron employed several dubious accounting techniques. For example, it employed a mark-to-market accounting technique that treated revenue from long-term contracts as being current. Hence, profits were boosted as though the revenue was received—when in fact it was not. This was a deceitful and misleading practice at best. Massaging the accounts also included unexpected expenses being treated as one-off costs, as 'extraordinary items' or as 'non-recurring'— and so not related to the core activity of the business. This massaging was done in the hope that investors would ignore such costs—as they were portrayed as being random events.

Enron used SPVs or close partnerships with other companies to 'hide' parent company debt, its true financial leverage ratio and other negatives—that is to hold risk. These SPVs were supposed to have a minimum of 3 per cent of their stock held by an independent body—if not that SPV's financial affairs need to be consolidated in Enron's books. Indeed, it found ways of getting around this independence requirement and did hide massive amounts of debt in SPVs and away from its core financial statements.

The SEC did investigate Enron with a view to exposing the severity of related party transactions, that is, pushing and pulling revenues and costs between related parties with the intent of presenting an artificial picture of the company's financial health. The timing of the release of relevant information was also criticized. Why did it take Enron so long to issue profit re-statements or downgrades for the early 1990s?

As a matter of good corporate governance, the board of Enron was not independent but were friends of the executives. The independent watchdog role was therefore compromised and transgressions that should have been discovered (earlier) were not.

A dangerous incentive structure?

As discussed earlier, there is an ongoing heated debate over the importance and morality of corporate executives receiving stock options as a major part of their remuneration package. The rationale for this type of remuneration is that it is 'performance-based'—that is, the higher the company's stock price the more the executive stands to benefit. Normally, a high trigger price on the main stock has to be attained before stock options will accelerate in value—an incentive for company executives to pull levers in order to achieve that high price. Supposedly, there is a strong tie or link between executive strategies and company success. Thus, there are incentives for executives to be energetic and single-minded in pushing the company to greater heights. This is obviously not completely correct as the 'state of the economy' and random events knock the stock price about as well. How do we disentangle state of the economy forces from the success of the CEO? With great difficulty one would say! Perhaps stock option packages are

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designed to be rewarding when stock prices are on the way up but not penalizing on the way down. Why should CEOs not be made accountable for company failure as well as company success?

What has become evident in recent US corporate history is the dangerous bias for company executives to pump up their own stock price—almost at any cost. Graduates are taught at Ivey League universities that all efforts must be directed at creating shareholder value and an ever increasing stock price. Captains of the Ivey League eventually end up as CEOs in Corporate America and succumb to the temptation of artificially ballooning their own stock price—regardless of fundamentals or ethical standards. Share buy-backs are common in America as they marry the interests of the manager with the investor. Lower capital gains taxes benefit the investor— rather than pay taxes on dividends—and higher stock prices trigger lucrative stock options for the manager. No wonder share buy-backs were popular. However, to the extent that the stock price has been artificially pumped—such behaviour reflects the dark side of self-interest. So what if CEOs make $20 or $100 million from their stock options? Are such sums of money so crucial for company profitability or ordinary stock-holder dividend payouts? First, the fact that an increasing bias towards stock options as remuneration—not just for executives but also many other employees in the company—dilutes the value of stocks held by others. If the stock price roars so do option payouts soar as well—and they must be paid for out of profits. This means less profit for existing stockholders. Such a dilution in value was not well recognized— until recently. Second, to the extent that CEOs artificially raise their company's stock price so is there an inherent danger that it will collapse as true fundamentals eventually become known or as increased pressure for fairer disclosure standards are forced upon CEOs. Biases in the corporate and investor decision making process is what bubbles are made of.

From the discussion we are well aware of the origins of America's corporate governance debacle. The real challenge is how to reform corporate governance standards that are fair, realistic, defined and enforceable.

Regulatory reform and the Sarbanes-Oxley Act

We have discovered some of the major weaknesses and loopholes in America's corporate governance structure. It should not come as a surprise that the new regulatory reforms are aimed at rectifying these weaknesses. In particular, the Sarbanes-Oxley reforms are aimed at improving disclosure requirements, strengthening independent watchdogs, improving the flow of information to shareholders and increasing executive responsibility for the accuracy of the company's accounts and corporate governance in general.

The SEC has introduced tough new laws. For example, auditors are deterred from conducting non-audit work. This is aimed at reducing the conflict of interest between basic auditing and consulting. However, auditors can undertake non-audit work after stepping down as auditor. The definition of what constitutes

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'audit work' is a broad concept and so provides leeway and flexibility for the auditor to 'carry on as normal'. Hence, the new law has not totally solved the conflict of interest problem. The SEC has also required key partners in audit firms to be rotated every five years—for the sake of maintaining independence from particular clients.

There is a new watchdog—that of the Company Accounting Oversight Board—under the wing of the SEC that will dictate and oversee auditing standards. From the company's perspective the Board must include a financial expert to chair the audit committee and so the appointment and remuneration of the lead auditor. This person and the committee is to be comprised of non-executives and so their decisions are not to be impaired by company executives.

The Boards of listed companies are to have a major element—indeed a majority—of independent, non-executive directors and such people are to meet at regular intervals without executive directors being present. The non-executives are meant to be independent and not the friends and associates of the existing executive. Executive behaviour is to improve via greater disclosure of share sales—they must be declared quickly. Existing shareholders and the market have the right to know when executive stock options were exercised. Moreover, new laws prohibit executives selling shares when employees are banned from selling. On the issue of timing and speed, there are higher standards of financial disclosure as the accounts are submitted sooner to regulatory authorities. Of critical importance is the requirement of CEOs and CFOs to attest to the validity and accuracy of the accounts—they have to sign off. The use of pro forma accounting is to be curbed. Serious wrongdoing by executives is to be punished by a goal sentence—and regulatory authorities are keen to flag their intention of prosecuting and bringing to justice such wrongdoers.

Not only are auditors and accountants called to higher standards of responsibility but lawyers as well. There is the duty of informing the Board and senior staff of violations of security law—at least as perceived by the lawyers. A stronger version of the proposed law was that lawyers would be required to inform the SEC of security law violations—that is, blow the whistle on clients. They were naturally opposed to this kind of whistle-blowing.

Given that many of the reforms mentioned earlier are aimed at improving executive responsibility and disclosure, the NYSE has insisted on companies publishing corporate governance guidelines that outlines the ways and means by which corporate executives will be held accountable for their actions and so performance. This includes the performance of the Board.

Some commentators acclaim these new reforms as having bite and a vast improvement of the self-regulation framework of the past. However, the resources of the SEC and NYSE to pursue and prosecute are not abundant. It is more likely that only a few prosecutions could be realistically undertaken and won—but nevertheless have a significant signalling impact on other potential executive wrongdoers. Moreover, the investment community would applaud

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such legal action as a step in the right direction to more meaningful and accurate financial disclosure in the future.

All of this is not to say that self-regulation is dead, or has been abandoned, but rather professional bodies have been jolted into action. Such bodies have responded to America's corporate governance fiasco by tightening standards and requiring greater and more timely disclosure of information. They have also sought to address conflictof-interest issues. Infinite government regulation is not a substitute for quality self-regulation. Why? Because government resources are limited and have to be provided by someone—namely, the US taxpayer in the main. Regulation is costly as those that pay lawyer's fees will testify. Second, higher 'internal' professional standards are relatively cheaper to enforce—the self-interest of the member coincides with that of the governing body. Third, over-regulation instills fear and so kills initiative. There is balance required between sticks and carrots. The stick of long gaol terms for executive wrongdoers has forced professional bodies into cleaning up their own houses.

Conclusion

As in all post-bubble crashes there is always a lot of headhunting to be undertaken—as investors seek revenge for their lost capital. They seek to blame someone—CEOs, auditors, financial advisers, securities firms, biased media reports, margin lenders, banks, the SEC, the NYSE—to name a few. In the stock crash of 2001–3 there were plenty of culprits to blame—as the excesses of the 1990s were gross. Unfortunately, for the unsuspecting investor there was a combination of powerful forces of self-interest that stampeded the masses headlong into a bubble. It appears that the regulatory environment was weak and only mildly effective. Huge corporate bankruptcies probably could not have been foreseen as disclosure standards did not provide adequate visibility for the ordinary stockholder. An over-liquid financial sector caused investors to be over-optimistic and less cautious than normal.

There were, however, serious inherent biases affecting the decision-making process of Corporate America. The sheer size and sweetness of stock options for CEOs caused stock prices to be inflated and earnings growth to be overestimated. Share buy-backs using company, or even worse borrowed money, further added to the inflationary fuel of higher stock prices. Accounting magic and auditor blindness did the rest. Insider power proved too much of an overwhelming force in delivering short-term nonrefutable profit outcomes that stockholders wanted to believe anyway. As the Bible states—broad is the road to hell.

Could the SEC have avoided the expanding bubble and so reduced investor heartache after its collapse? The answer is most likely 'no'. Given the exuberance of investors and the self-fulfilling prophesy of rising stock prices as new waves of investors entered the market no amount of government regulation

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would have prevented the stock bubble. There were bound to be casualties along the way.

There is an agenda for reform going on in Corporate America—either drastically improve standards of self-regulation or face a litany of government laws aimed at improving the openness and transparency of corporate decision making and profit reporting. Governments must alter the 'incentive structure' that corporations face and make clear the 'rules of the game' in which corporations and investors can make decisions. The new era of regulation is not so much opposed to self-interest or self-regulation but has increased the fear and probability of corporate wrongdoers getting caught and punished.

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7
The Federal Reserve
In unchartered waters?

Introduction

As the US economy and stock markets broke new records in the 1990s, there was a curiosity—among policy-makers and economists—as to how to explain this boom within the confines of conventional wisdom. We have already canvassed some of the causes of the stock market bubble. We also examined the origins of the productivity surge in Chapter 5 and we now turn to the role of the Fed steering the economy through these unchartered waters. The irony or dichotomy to be explained is that the financial economy boomed with asset price inflation as its by-product, while the real economy surged and yet goods price inflation was not a by-product. Handling this twin rail dichotomous economy was not an easy task for the Fed.

Old debates in economics came to the fore, such as the disastrous era of the 1970s, whereby stagflation severely reduced economic prosperity and human welfare. Current debates refer to 'speed limits' or constraints on economic growth. Just as heat and light are associated so too are economic growth and inflation—at least in the short run. So why did the US economy grow at 3.6 per cent p.a. in the 1990s compared to 2.8 per cent in the 1980s—and still remain stable? Did it run ahead of potential output? Given the many cited evils of inflation, an overheated economy— running beyond potential output—eventually has to be cooled off. Other *theoretical* constraints on the US economy's economic cruise speed include high current account deficits, a weak currency, declining international competitiveness, high levels of capacity utilization, labour market tightness and the traditional proxy for inflationary heat—the unemployment rate. The Fed scrutinizes a long checklist, not only of the variables mentioned earlier, but also a myriad of other key economic indicators. It is Greenspan's responsibility to monitor any economic imbalances that may develop in the US economy and formulate a monetary policy to shrink such imbalances in line with long-run potential output.

However, the US economy sailed into unchartered waters in the early 1990s—as mentioned earlier the trend in GDP growth did not translate into excessive inflation— causing Greenspan to ponder over why 'old signposts' were fading in

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relevance. Indeed his 'own' economic paradigm was throwing out the wrong trigger signals to intervene. Indeed, the conduct of monetary policy entered unchartered waters in the 1990s.

Ultimate objectives and trade-offs

The prime mandate or charter of the Fed is to fight inflation. Stimulating output and employment remain important objectives but are overridden by the fear that inflation may wreak havoc with relative prices, distort economic incentives and generate a wasteful diversion of resources into non-productive use. By suppressing inflation and so providing macroeconomic stability, the Fed *indirectly* promotes economic growth and employment. Price stability is the critical prerequisite for long-term investment in human and physical capital and so economic growth. In the Fed's view, low inflation is the path to *sustainable* long-term growth. It is the way, the truth and the life to earthly prosperity. However, if some kind of Phillips curve is to be believed, then the Fed faces the possibility of exploiting an output-inflation trade-off—albeit in the short run. However, there is no evidence to date that Greenspan (2000d) has displayed any desire to tolerate inflation in the quest for any short-term output gain. In his world, real factors drive long-run growth and financial factors only affect growth temporarily.

There are times when the Fed must make choices in the light of known trade-offs. Fighting inflation remains a priority over all other objectives and so the economy may have to be cooled if economic imbalances persist. Deflating the economy via higher interest rates may create *desired* by-products in terms of lower imports, a narrower trade deficit and a stronger US dollar which in turn further suppresses inflation at home. There are also *undesired* by-products in terms of lower investment, bankruptcies, higher unemployment and so lower growth. The Fed often chooses tough measures in the short run in order to achieve maximum benefits for US citizens in the long run.

For the Fed to meet such *ultimate* objectives several policy tools maybe employed. However, such objectives cannot be achieved directly and so *intermediate* targets are employed, such as monetary aggregates or the federal funds rate. Hitting such intermediate targets is achieved by the use of the *policy tools* of legal reserve ratios, the discount rate and open market operations. However, these relationships are not tight. In other words, even hitting intermediate targets is not automatic and the transmission from the buying of bonds (open market operations), to the changing of interest rates, to the change in output or inflation is indirect, may only be weakly transmitted and impact with lags. Even the direct change of the discount rate has mainly an 'announcement effect' rather than a 'decree effect' for the market to follow blindly. Hence, it is more accurate to claim that the Fed has *influence* over the money supply and interest rates rather than complete *control* over such intermediate targets.

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The yield curve

A common feature of the yield curve is that it is upward sloping, that is, government securities of the same risk class, but of different maturity and liquidity type, display higher interest rates at the long end of the yield curve than at the short end. The pure expectation hypothesis of the term structure of interest rates claims that lenders require a liquidity premium and borrowers must decide how much of a premium they are prepared to pay. If the slope at the long end of the yield curve moves upward, it could be due to either a higher liquidity premium or expectations of higher short-term rates. Obviously, lenders require compensation for risk, uncertainty and liquidity and so long maturities command higher yields. However, an inverted yield curve— sloping downward—normally reflects a view that a recession approaches. That is, short-term rates are higher than long-term rates—so typical of a credit crunch.

It is obvious that expectations play an important role in determining interest rates— in the line with the famous Fischer effect. If the inflation rate is expected to be higher in the next period, so will interest rates rise to compensate—in order for the real rate to remain constant. Therefore, government policies in general must not raise inflation or inflationary expectations if the administration of the day wants to avoid an interest rate backlash. Although the Fed can *influence* interest rates at the short end of the yield curve, it cannot *control* rates at the long end. Greenspan employs a two-pronged traditional approach to suppressing interest rates at the long end—one, by keeping inflation in check now and second, by encouraging 'sound' government policies with regards to budget deficit reduction and private capital formation. Manipulating or cosmetically altering short-term interest rates is not a panacea for sustainable growth if the long end of the yield curve reacts violently to an inflationary resurgence. In Greenspan's mind there are no short cuts, no free lunches and no artificial expansions. For example, post-September 11 the US administration implemented various platforms of a growth package—including fiscal expansions—that will have longer term repercussions for real interest rates. Greenspan has registered his lack of enthusiasm for such a return to a series of budget deficits in the coming years. He has openly criticized the Bush administration's fiscal strategy and made himself unpopular in the process.

A degree of care is therefore required, the precept that the Fed is 'all powerful' is somewhat misplaced as it adheres to its inflation watchdog role—*it is a facilitator not a creator of growth*. Besides, a realignment of burden between fiscal and monetary policies is the outcome of a democratic process and not the sole discretion of the Fed.

The government environment

As in all markets, the forces of supply and demand determine stock prices. However, such prices are not solely determined by private sector decisions or

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even determined endogenously. Just as there are uncontrollable external influences impinging on stock prices (unavoidable risk), there is the power and influence of government to contend with. Government policies of all kinds affect relative prices. Although exchange rate, industrial and protection policies have been used in the past by US policy-makers, they are now less favoured than previously. Fiscal policy became popular under the prescription of Keynesian economics—spend and prosper—taken literally by several US administrations. Some economists claim that relative prices are disturbed and the allocation of resources 'distorted'. The issue of 'crowding out' whereby growing government budget deficits 'caused' interest rates to rise attracted serious attention. The threat of higher taxes in the future caused distress among many middle-class Americans. As successive higher budget deficits pushed the national debt towards $4 trillion, so did public pressure increase to dampen government deficit spending. A striking feature of policy-making in the 1990s is that there was less reliance on use of a fiscal policy and so a heavier burden placed on the use of monetary policy—at least up until September 11.

Any sign of an overheated economy could trigger the Fed to raise interest rates and so correct excessive imbalances. Conversely, a flagging economy would require lower interest rates. Hence, the Fed uses monetary levers to keep the economy at a comfortable cruise speed without igniting inflation or its cousin—inflationary expectations. However, the reduced use of policy levers—partly as a result of greater deregulation—has its cost in terms of less ability by government to steer the US economy. During fine weather the need for policy levers are remote, but during an unanticipated storm—the non-availability of potent policy levers leaves the US economy vulnerable. There is a fierce debate in America over the strategy to stimulate the economy further via tax breaks—the abolition of the double taxation of dividends, lower marginal income tax rates and capital gains taxes. Neo-liberals desire more government spending and tax cuts for low income earners and not tax cuts for the rich.

As this book makes clear, the reliance on a monetary policy, and an interest rate strategy in particular, may not be enough to avert or solve any current or future US financial crisis. Just as in Japan, zero real interest rates and lower taxes did not kick-start their economy and the Nikkei average tested new 'lows' right up until March 2003. Hence, the US economic recovery has been a very stop-start affair since 2001 even in the face of many interest rate cuts. As we will examine in the next chapter—a reliance on lowering interest rates to stimulate economic activity *and* stocks has its flaws.

America's economic cruise speed: what guideposts?

So what forces determine a comfortable economic cruise speed? The neoclassical and monetarist schools of thought argue that 'real factors' such as the size of the capital stock, the work force, preferences for saving and work drive growth. More importantly, it is technological progress and productivity

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that dictate long-run growth and so cruise speed. So what is left for US government to do? The answer is basically nothing, other than to provide a system of property rights, law and order and macroeconomic stability. Under these conditions the private sector will flourish. And so small government is preferred to big government as resources are released for private investment and market interest rates are left to find their own level. These schools of thought abhor any concept of 'fine-tuning' the economy in order to smooth the fluctuations of the business cycle. If the economy is basically stable and possesses self-healing properties, then the role of the policy-maker is secondary, as time will heal the wounds of a temporarily wayward economy. This view of small government and the ability of markets to allocate resources efficiently is an economic paradigm accepted by Greenspan (2000c).

So, are the fluctuations of a business cycle to be accepted? According to Real Business Cycle (RBC) theory such fluctuations are real and are to be left alone. It is doubtful whether Greenspan is an RBC disciple but he accepts that preferences of consumers, investors and workers are to be respected. High levels of spending may be a function of inter-temporal choice by these groups in response to changes in wages and interest rates. The Fed's track record of intervention under Greenspan's reign (1987) has been one of moderate intervention and certainly not one of fine-tuning. There have been fairly wide tolerances for GDP growth and very high tolerances for rising asset prices. This is a laissez-faire helmsman at work.

What evidence would spur Greenspan to respond to 'excessive swings' in the business cycle? High rates of inflation or even worse accelerating inflation are the prime movers. Where there is heat there is light and so it is with growth and inflation—at least according to a traditional Phillips curve relationship. If the US economy belts along at a rapid clip, the risk of inflation rising is high. If left unchecked, rampant inflation will destroy any civilization via distorted incentives and prices that in turn misallocate resources. Just ask those German people that recall such vivid and horrific memories of the 1920s. Any inflationary outburst, if checked by the Fed by raising interest rates, under normal conditions, will cause an economic contraction and a removal of excess heat. Even though there is a movement away from 'full employment' for a time. Lowering inflationary expectations is the key to returning to a lower interest rate regime in the medium term.

Another prime mover is that of imbalances and constraints in goods and labour markets raising their head. According to the neoclassical paradigm, such indicators as labour market tightness (Greenspan's favourite), mounting wage pressure, rising unit costs, high levels of capacity utilization, etc. may provoke the Fed into action— such as its pre-emptive strike against inflation in 1994. Old guideposts justified the move. Inflationary expectations also qualify as a key catalyst for Fed action, as the original forces of inflation may have subsided but economic agents adjust their expectations adaptively or sluggishly.

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Other threats to a comfortable economic cruise speed or a deviation from potential output include a ballooning current account deficit, a loss of international competitiveness, a weak US dollar and an exploding monetary aggregates. The Fed monitors trends in these variables, as well as inflation, in forming its policy strategy. Although current account deficits are not evil per se, they do reflect a degree of demand-side heat in the US economy as US incomes rise causing imports to be sucked in. Given that foreign capital flows or capital account surplus is but the opposite side of the same coin to a current account deficit—foreign goods are purchased with foreign money. It is possible that foreign capital inflows provided Americans with the wherewithal to indulge in 'over-consumption'. A weak US dollar generates inflationary heat via higher import prices and inputs in the production process. A lack of international competitiveness may result from higher wage growth and lower productivity growth than US trading partners. A rapidly growing money supply— beyond 'bands' set by the Fed—can also cause alarm as pent-up (but not yet visible) inflationary heat builds up in the economic system. Even so, the Fed 'watches' money supply growth figures but is wary of drawing any quick conclusions.

In summary, there are theoretical constraints to a rapid economic cruise speed —as imbalances accumulate, akin to uncontrollable vibration of a speeding motor vehicle, necessitates the economy to slow down. The paradox, however, is that the US economy was not plagued by the constraints on growth in the 1990s—or at least they were not binding. In fact, for much of this period the US dollar was strong, productivity growth robust and above its long-run trend, unit labour costs were subdued and inflation benign—generating a virtuous circle of rapid growth and a high cruise speed. Did this high growth-low inflation performance fit a standard macroeconomic model or the conventional paradigm employed by Greenspan? The answer is probably not and so the trigger signals for monetary policy intervention were most likely faulty—based on an old 'high inflation-low growth' paradigm.

Times changed however by 2000 and persisted through 2002. The US dollar was under attack, the Current Account Deficit (CAD) was widening, net capital inflows were shrinking and US stock prices had lost their gloss. Inflation remained low despite the US dollar falling significantly but GDP growth and economic activity collapsed in tandem. Hence, the Fed has been challenged by the threat of recession and deflationary fears since 2000 and has responded via monetary expansion in order to push the US economy closer to it natural cruise speed. This is a tough task considering that some of the 'constraints'—such as the CAD, capital flow shrinkage and a softer US dollar—have got worse since 2000 and not better.

Diagnosis of imbalances

How does the Fed gauge that the economy has deviated from potential output? The Fed monitors several imbalances in the economy that may undermine an

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economic expansion or detract from long-term sustainable growth. In other words, such imbalances signal that the current growth rate is not sustainable. History tells us that persistent imbalances will 'at some point' lead to inflationary acceleration.

The *first imbalance* comes from the labour market. Some economists point to a Natural Rate of Unemployment (NRU) that acts as a constraint or barrier to growth. It is like hitting a wall or hitting a cruise speed that cannot be 'artificially' improved upon. In the past, full employment meant just that—all those who wanted to work could find jobs. The 1 or 2 per cent of visible unemployment constituted just those that were frictional—just improving their lot in life by switching jobs. Cyclical unemployment may visit from time to time but was not a permanent influence. However, the Friedman-Phelps creation of the NAIRU claims that unemployment will not be 'zero' but a figure that includes structural as well as frictional unemployment. This figure or *estimate* for the United States was around 5.2 per cent in the 1960s, 7.0 per cent in the 1970s, 6.5 per cent in the 1980s and 6.3 per cent for much of the 1990s (Canterbery 2000c). However, in the late 1990s when the actual rate was pressing on 4 per cent so did economists revise their estimates of the NAIRU down to around 5 per cent or less.

If the actual unemployment rate fell below the NAIRU, then it was a warning of impending inflation—even if inflation was not currently visible it would soon appear! Conversely, if the actual rate of unemployment rested above the NAIRU, then it was a sign that inflationary pressures were subsiding. Alas, there is a problem— the NAIRU is an *estimate* and so we do not know with precision what the real figure might be. Perhaps we will never know. Economists such as Galbraith and Thurow question the validity of the whole concept—the NAIRU may not even exist at all! Nevertheless, the Fed considers the NAIRU a useful concept and repeatedly points to deviations from it as cause for concern. Greenspan (1999d) continually refers to high pressure in the labour market as a cause for policy concern and often comments with a degree of disbelief that the actual unemployment rate has sunk to around 4.3 per cent below any previous estimate of the NAIRU and yet inflation remains subdued. This is a paradox that Greenspan and others have not convincingly explained.

Perhaps Greenspan's (1997h) major concern is that of a tight labour market eventually generating higher wage claims and squeezing the profit share of the national income. For example, in October 1997 he states 'The performance of labour markets this year suggests that the economy has been on an unsustainable track. That the market rate of absorption of potential workers since 1994 has not induced a more dramatic increase in employee compensation per hour and price inflation has come as a major surprise to most analysts.' His explanation for worker patience with regard to pay claims is that they have traded low-wage increases for job security. He states 'Another explanation I have offered in the past is that acceleration in technology and capital equipment, in part engendering important changes in the types of facilities with which people work on a day-by-

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day basis, has also induced a discernable increase in fear of job skill obsolescence and, hence, an increasing willingness to seek job in lieu of wage gains…but the force of insecurity maybe fading' (Greenspan 1997h). Again, Greenspan is at a loss to explain why a tight labour has not eventually caused a wage explosion and so shaken profit growth in the corporate sector. A shrinking profit share of national income would in turn inhibit future capital formation. History did not repeat itself in the 1990s.

A *second imbalance* is that of demand exceeding supply or spending exceeding capacity. An old benchmark in policy-making is that an Okun-type output constraint exists whereby output growth equals the sum of productivity growth and labour force growth. In the late 1990s, labour force growth has been around 1 per cent and productivity growth around 2.5 per cent yielding a potential growth rate of 3.5 per cent. For many years, economists believed that the US cruise speed of output growth was 2.5 per cent—constrained mainly by lower productivity growth.

Hence, just as the NAIRU appears to have shifted *left*, so has the Okun rule shifted *up*. In other words, the speed limits of the US economy have been raised and so the Fed should not be trigger happy in responding to apparent signs of tightness in accordance with an old economic paradigm. But why the US enjoyed a higher non-inflationary cruise speed—than in recent history—is a critical question that needs answering. It may be that profitability and a huge surge in capital flows explain a higher than normal growth path—and the productivity miracle alone.

A *third imbalance* is that of imports exceeding exports or persistent deficits on current account. The United States can run such deficits for a long time—being the richest country in the world—but eventually finance markets will censure persistent imbalances. However, the willingness of foreigners to forgo consumption in order to finance US current account deficits is not a given. When unease grows within finance markets concerning the funding of this 'gap' the US dollar normally comes under pressure. Recently, Bergstein (2000) has expressed concern over the growing trade deficit 'The trade and current account deficits both hit an annual rate of 4 per cent of GDP in the last quarter. They are rising sharply. They are clearly into zones where in the past there has been a sharp reaction, including a reaction in the exchange market for the dollar.' While there is no doubting the power of a fall in the US dollar to force a rise in domestic interest rates it is not likely to emanate from a blow-out in the trade deficit. The surge in US imports is mostly a function of foreigners pushing huge amounts of money into the US economy causing a domestic spending spillover into foreign goods. After all, macroeconomic theory predicts that when domestic investment is greater than domestic saving then a trade deficit results. So long as rates of return remain solid in the United States, and so long as foreigners are willing to hold US assets, the financing of this imbalance will not be a problem. Greenspan will not be lured into a monetary tightening on the grounds of a trade deficit blow-out alone. Besides, the United States is doing the world a favour by

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remaining open to foreign exports at a time when many developing countries are struggling. The United States is expanding its trade deficit on terms favourable to itself and United States consumers are benefiting from low US dollar prices.

It is here that we have discovered the Achilles heel of the post-bubble era. Rates of return collapsed between 2000 and 2002, and not only have capital gains not been available, there have been downright massive capital losses in this era. Given the dramatic fall in US asset prices the desire of foreigners to hold US dollar denominated assets collapsed as well. Therefore, the concern over whether the US current account deficit can be financed without upward pressure on interest rates is well founded in the current era. We know that the US dollar has been under downward pressure for three years since 2000 and such a fall has placed upward pressure on US import prices. Whether any serious inflationary outbreak flows from a falling US dollar depends on whether there are other deflationary forces at work that is in the US economy—such as falling incomes or at least a reduction in the rate of GDP growth. Subdued stock prices and capital losses propagate adverse wealth effects and so dampen both spending and inflation. Greenspan counsels against any policy of scaring off foreign capital. 'Efforts to limit directly or to discourage the inflow of capital from abroad would aggravate the problem of budget deficits by raising real interest rates in the United States and lowering domestic investment towards levels consistent with already low domestic savings. Even limited measures affecting only certain capital flows, such as direct investment, would necessitate larger inflows through other channels, which could only be attracted at higher rates of return or with a weaker dollar' (Sicilia and Cruikshank 2000).

The *fourth imbalance* of usual concern is that of the budget deficit. If government spending exceeds its capacity to raise revenue then aggregate demand is boosted and in the meantime places upward pressure on interest rates. However, with US budgets in surplus for much of the 1990s, Greenspan's monetary management task was thwarted less by upward pressure in long bond yields, that is, the traditional by-product of 'crowding out' was not a pressing issue. With the tragedy of September 11 and the administration's desire for a fiscal package to assist economic recovery the fear of the 'dangers' of persistent budget deficits have re-emerged. There is a delicate trade-off here in the employment of a monetary fiscal policy mix. An 'over-reliance' on fiscal policy generating a rise in long-term bond yields eventually incites a tighter monetary policy response at the short end of the yield curve. The prospect of higher inflation can scare the bond market so profusely that much of the government-led policy stimulus dissipates over the medium term.

Do these imbalances provoke Greenspan into action? The answer is sometimes. They are certainly the excesses he peruses when evaluating a monetary response. He is also concerned about wealth effects from stock market gains generating an imbalance between aggregate demand and supply. Demand running ahead of capacity is his prime concern. Fear of labour market 'tightness' also bothers him as old relationships seem to have faded away. The Fed's model

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of inflationary dynamics is firmly set in the labour market. Wage growth and cost rises are well upfront of the queue in the Fed's mind. As examined earlier, Greenspan expresses concern over power of *expected* productivity growth to induce people to both buy stocks for capital gains and to consume out of those *unrealized gains*—now. Hence, additional demand pressure flows from the whirlwind bubble and creates supply-side bottlenecks. It follows that the money and asset markets are just as important as the labour market for the Fed to watch.

Hitting targets: what policy mix?

In the 'old economy' environment, the policy-maker would rely traditionally on fiscal and monetary policy to steer the economy, that is, manipulating interest rates, taxes and government spending in order maintain the economy close to potential output or the NAIRU. Given the ill side-effects of continual fine-tuning such as a higher level of interest rates, persistent budget deficits and a skyrocketing national debt in the 1960s and 1970s there was an economic and political backlash by the early 1980s. The Keynesianism policy paradigm was under challenge. Despite burgeoning welfare payments and a deep commitment to defense spending, there was growing unease in middle-class America concerning both their current and future tax liabilities. It was President Reagan who switched policy reliance from fiscal to monetary policy, producing the famous Reaganomics era. Such a policy mix was greeted with great enthusiasm by middle-class America as it promised lower taxes, lower interest rates and the cherished opportunity for capital gain. Other policy instruments, such as protection and exchange rate policies, faded in importance. America had become more open to trade and turned from being the world's leading creditor nation to the world's leading debtor nation by the mid-1980s. But such a commitment to free trade *is a policy* in the special case of the United States. Why? Mainly because the United States stands to gain the most from a more open global village in terms of capital and trade flows. It is the giant US corporations that have increased their exposure to offshore markets during the last fifteen years and this partly explains why the Dow and international NASDAQ stocks roared in the aftermath of the Cold War.

In the new economy environment, the US policy-makers have relied more on research, technology, trade and competition policies to stimulate growth and so cause the economy to move closer to its long-run potential. More openness in the global village spells more monopoly profits for US companies and in turn higher stock prices—at least until the bubble burst. Changes in risk perception and profit disappointment were mainly responsible for the major overall of estimated *P/E* ratios and so stock prices.

As we shall discover in the next chapter, Greenspan and the US economics profession in general, believe that minimal policy intervention is required for the purposes of stabilizing the business cycle and even less for the purposes of stimulating economic growth.

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What economic indicators?

Measuring the pulse or heartbeat of the economy is complicated by the fact that statistical data available to the Fed is both 'old' and subject to later revision. Formulating policy is something like looking in the rear-vision mirror, seeing where the economy has been rather than where it is going. Revisions can also be substantial enough to alter interpretation months later. Nevertheless, several key economic indicators provide a rough guide as to the location of the economy on the business cycle. Leading indicators such as new orders for consumer goods, the producer price index, vendor performance, contracts for orders of plant and equipment, housing approvals, housing starts, retail sales, average workweek of production workers, changes in sensitive material prices, an index of stock prices and growth in the money supply are all useful signals employed by the Fed. The aim of using these indicators is to predict changes in real GDP and gain a feel for the heat and tightness that is present in the economy. There are obviously value judgments involved and past experience is drawn upon but such experience is thoroughly tested in this bizarre era of financial history.

However, as discussed earlier, there are several sources of confusion for the Fed concerning the appropriate cruise speed of the US economy. One school of thought is that the Fed has placed too much emphasis on old guideposts and speed limits based on past empirical relationships. Not that the economic paradigm is 'wrong' as such, but that it has been applied too strictly. Another school of thought is that the paradigm itself is wrong and benchmark concepts such as the NAIRU and Okun's law are irrelevant or do not exist.

For example, two key indicators of tightness have diverged in the 1990s. There appears tightness in the labour market, if the official unemployment rate is any guide, but there is not the same degree of tightness, from a historical perspective, with regards to capacity utilization. As can be seen from Figure 7.1, the unemployment rate is the lowest for thirty years—in 1999. From Figure 7.2, the capacity utilization rate in the 1970s broke through 85 per cent twice in the 1970s and was associated with inflationary bouts. Capacity utilization rates in the 1990s were only marginally above the long-run average of 81.7 per cent. Therefore, current capacity constraints do not appear to be serious threats to an inflationary outbreak. Likewise, inflationary heat from the labour market has been subdued—even though it was exceptionally tight for most of the 1990s.

Perhaps a shifting paradigm explains why there are so many puzzles that Greenspan can't explain. For example, there is the query concerning the length and maturity of the 1990s boom. It did not reveal the patterns of 'old age' similar to those of past booms. Greenspan has often puzzled over the longevity and freshness of the recent stock and economy boom as it has departed from old signposts. Past 'experience' in formulating monetary policy may count for little in these turbulent uncharted waters of US financial history.

The Keynesian view is that fine-tuning the economy is both possible and prudent, given major advances in computer power and the plethora of statistical

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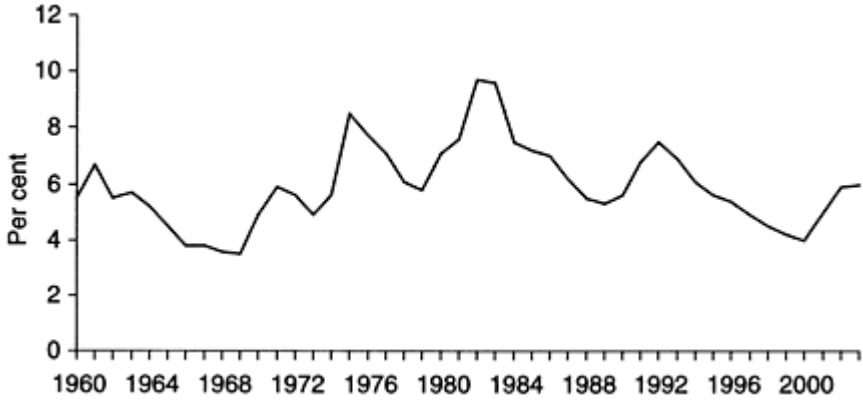

Figure 7.1 Unemployment rate.

Source: Board of Governors of the Federal Reserve System.

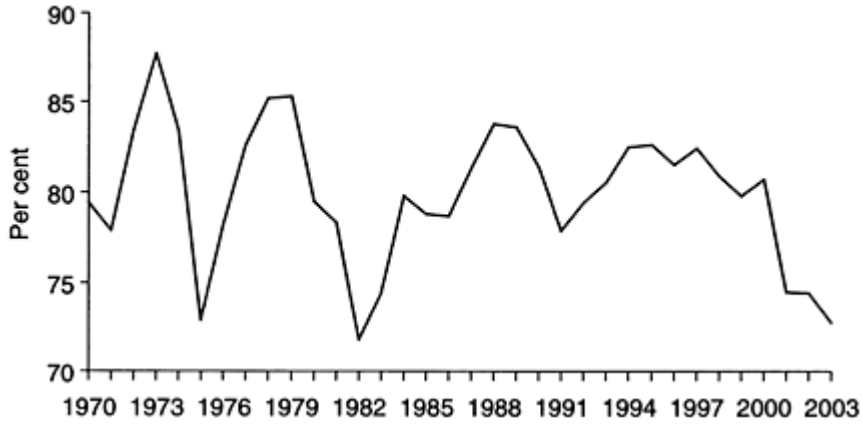

Figure 7.2 Capacity utilization.

information gathered by government agencies. However, there is no evidence to suggest that the Fed gathers statistical information and evaluates key economic indicators for the purpose of *managing* the economy. Rather, it uses such indicators to assess the degree of economic imbalances within the economy and predict future inflationary heat. It does not seek to smooth the business cycle as such, but rather remains alert to inflationary outbreaks that might detract from long-term economic growth. It, therefore, does not seek to fine-tune the economy in any Keynesian sense. The risks of such actions being counter-productive are too great in Greenspan's view.

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Critics of the 'Wrong Paradigm'

It is an understatement to say that Greenspan has his critics. For example, Lester Thurow (1996a) rejects the measurement of the official unemployment rate and claims, 'properly calculated, our rate of joblessness is well into double digits'. His estimates of the real unemployment rate are closer to 28 per cent. Given the changed nature of employment in the United States, there is a vast pool of contingent or fringe workers that lack bargaining power and pose no threat to most of the entrenched workforce. More importantly, such workers do not place upward pressure on wage rates and so cannot create wage inflation—they work on the terms and conditions set by their employer. In fact, there is not one labour market but a myriad of segmented markets that are insulated from the pressure of 'outsiders'. Hourly wage and compensation rates in the United States were under pressure from 1978 onwards and continued a downward trend until the mid-1990s. According to Thurow, *real* hourly wages were declining at 1 per cent per year during this era. How can a tight labour market era such as this generate real wage falls? Only in the late 1990s did real hourly wages pick up. It therefore follows that the current estimates of the NAIRU may in fact be well wide off the mark. The actual unemployment rate of 4.3 per cent is far to the left of such estimates. James Galbraith is another economist who has denied for many years the existence or relevance of the NAIRU, or the need to accept that the US economy faces any binding speed limits. In general, these authors cannot accept the Fed's assertion that US labour markets are tight—as there is a large amount of slack—albeit unmeasured.

Thurow (1996b: 186) also criticizes the official inflation rate, claiming that it is biased upward. He points to the Boskin Report, which claims that the CPI may contain an upward bias of 1.0 to 2.6 per cent. After allowing for greater quality improvements and excluding the health care component of the CPI, Thurow claims the over measurement may be closer to 3 per cent. It appears that Thurow has lunged for the trifecta by casting doubt over the mismeasurement of capacity utilization biased by the increased use of outsourcing, the IT revolution gouging more output from less inputs and the increased threat to US producers from developing world producers experiencing excess capacity. In other words, the old signposts of 'slow down' and sacrifice output—may not be as relevant as they once were.

The camp of Blinder, Canterbery, Galbraith and Thurow are critical of the billions of dollars of lost output while the US economy has been kept from realizing its output potential. In their view, there have been many years of waste and lost opportunity. This camp also feels strongly about the biased distribution of income and wealth in America, as blue collar workers are the 'working poor', while white collar professionals enjoy a premium above their worth—acquiring 'unearned income'. When the economy runs hot, it is the working class that are asked to make sacrifices and dampen their wage claims. Vast amounts of wealth

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accumulated in the hands of the few has created a national policy power base that is reflected in the pursuit of conservative objectives.

In the tradition of 'private wealth and public squalor', this camp believes that America should devote more of its resources to public infrastructure—for both economic and social reasons. There are many examples of public investment supporting private investment albeit with lags—a complementary relationship between the two. Therefore, the United States should run budget deficits to boost long-run growth potential and to rebuild some of America's old public infrastructure. For social reasons, this camp argues that public intervention is necessary to arrest growing income inequality in America. Hence, these economists argue that the US economy should be allowed to grow faster—more in line with its potential.

Canterbery's Vatican paradigm

A recent paradigm developed by Canterbery (2000b) views the conduct of monetary policy from a shared power perspective. In this paradigm certain characters and institutions are identified. Alan Greenspan is the Pope of Wall Street, the Federal Reserve the Vatican, Milton Friedman the High Priest, Wall Street and the Fed the Sacred College of Bonds and Money and the vast army of economists at the Fed are the Monks. In this religion, it is the pursuit of capital gain that is a godly cause and the central pump of the capitalist system. If the Fed raises interest rates—bond prices fall and capital losses result. A rise in rates sends stocks lower and further capital losses result in this market as well. The welfare of bondholders is of paramount importance in this capitalist system that relies heavily on long-term investment for its economic vitality. Likewise, the large US budget deficits required funding and it was America's rich that supplied much of this funding by buying US bonds. Therefore, in this Vatican paradigm, the Fed has a responsibility to bondholders and the bond market not to rock the boat. The prime objective is to maintain a low interest rate structure that produces an environment conducive to trading in bonds and stocks. Canterbery (2000b: 19) queries the Fed's bias in relation to its crusade against goods price inflation over its nonchalance towards asset price inflation. The working poor must make sacrifices and wage inflation is dangerous to the well-being of American society but a burgeoning asset price bubble is to be tolerated on the basis that millions of investors have got it right.

What is also cause for concern is the extent to which the Fed is indeed independent. In this Canterbery paradigm, the Pope listens carefully to the science of the High Priest, the Monks are blindly loyal in their obedience to the religion, the White House is fearful of Wall Street and the bondholders are not greedy individuals but rather patriotic citizens lending money to their government for the service of the community. Power is shared among the wealthy and powerful elite as they share common interests. At the macro level, inflation is the foe of the Fed. At the financial level, inflation is the foe of the bondholder as it

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devastates capital gains. This common foe of inflation culminates in a marriage of the powerful elite.

The upshot of this Vatican paradigm is the Fed's fear of Wall Street and the Administration's fear of both. If the bond market is unsettled and 'disapproves' of government policy it can censure the government by demanding high interest rates for a time. Public auctions of government securities may be poorly bid. In the mid-1980s the Japanese refused to bid for government bonds for a day or so as they were dissatisfied with low interest rates and a falling US dollar. They went on a 'capital strike'. Such 'blackmail' resulted in domestic interest rates rising. No US administration can afford to upset the bond market. This implies that the Fed keep a close eye on the inflation rate and the money supply and the government keep its own house in order by keeping budget deficits at modest levels. By so doing, interest rates could remain low and the potential for capital gains remain high. Room for policy manoeuvre in this paradigm is limited—as fiscal policy is constrained and a commitment to free trade, handcuffs policy activism towards industry. In short, policy manoeuvrability is severely checked.

The offshoot of this paradigm is that monetary policy has been too restrictive in the United States, based on the notion that the Fed pays 'too much' attention to the bond market. The monetary brakes are therefore applied too easily. This view is embodied in Blinder-Canterbery-Gailbraith-Thurow camp that an 'unfounded obsession' with stabilization over growth has been overdone in recent US financial history.

Reputation and credibility of the Federal Reserve

It is important for the Fed to 'build reputation' and maintain enough credibility to strengthen the effectiveness of monetary policy. There exists an opportunity for the Fed to exploit the short-term trade-off in the Phillips curve by reneging on its commitment to fight inflation. By so doing, output can be raised without any short-term inflationary cost, that is, *after* economic agents have formed their expectations, the Fed has the incentive to expand the money supply and finesse an increase in output. Workers experience a real wage fall and are 'burnt once' but learn from the Fed's bias towards cheating and so raise their own expectations of what inflation will be in the next period. Systematic errors are not made. In the case of the US Fed, the bias towards finessing short-term gains in output is particularly weak. Why? For the simple reason that the long-term cost involves a loss of reputation, permanent damage to policy effectiveness and a loss of face in its fight against inflation. If the Fed is to be 'believed' and credible in the eyes of the public then wringing inflationary expectations out of the business and wage calculus becomes an easier task. Reducing inflation therefore, involves a less painful economic contraction.

There are several ways in which the Fed can build and preserve its long-term reputation. In this quest it seeks to raise levels of openness and transparency by publicly announcing changes to interest rate targets and more importantly *shifts*

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in monetary policy. Detailing and explaining to the public the rationale of such decisions is aimed at building public confidence. Speeches by the Chairman and others of the FMOC in public forums can assist the fostering of greater public understanding and awareness of how the Fed arrives at its policy strategy. Making available minutes of the last FMOC meeting in a timely manner can also promote transparency in decision making (Greenspan 1999b). In reality, the Fed has embarked upon this 'new classical prescription' for the formulation of monetary policy and the maintenance of its reputation. In the section 'The yield curve', reference is made to Chairman Greenspan's efforts in explaining and justifying the current stance of monetary policy in front of Senate committees on national television.

The caterpillar market and fear of the Fed

When the Fed adopted monetary targeting in the early 1980s a vast army of Fed watchers closely surveyed monthly and weekly figures for hints of a changing wind in monetary policy. If money supply targets were broken on the upside, there was a likelihood of the Fed contacting the money supply via open market operations and indirectly causing a rise in interest rates. Diligent Fed watchers could profit by correctly anticipating the Fed's reaction to money supply bands being broken. Great theory, but not always, as the Fed sometimes gave 'lip service' to such bands being broken and even altered the bands themselves to accommodate or capture the most recent actual trend. Perhaps monetary targeting was a useful tool for the Fed to use when it saw fit and more importantly a smoke screen set up for Fed watchers believing that the strict laws of monetarism were being adhered to. *Unanticipated changes* in monetary policy could then have a maximum impact.

In the 1990s the Fed publicly stated that money supply figures and bands are useful in determining the stance and change of monetary policy but only constitute a part of the big picture. The Fed monitors a whole array of key economic indicators when formulating monetary policy. Targeting inflation is the Fed's prime objective and employing an interest rate strategy is its monetary tool. The debate over whether it employs a Taylor rule is discussed in Chapter 8.

What has not changed over the last forty years, is that the Fed is feared by all market traders and investors alike. Knee jerk reactions by the Fed can wipe off tens of billions of dollars of stock value in just a few days. An incompetent interpretation of the data, a poorly formed strategy or a tenacious cling to an old paradigm by the Fed can cause stock prices to oscillate wildly and/or remain under or overvalued for an excessive amount of time. However, even justified responses by the Fed over concern over macroeconomic stability and persistent imbalances—a deviation from the NAIRU—can wreak stock market havoc. Hence, investors are sensitive to any prospective change in interest rates and more importantly to any change in direction in monetary policy. By being one step ahead of the Fed, the smart investor can set stock positions immediately by

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anticipating changes in the Fed funds rate or discount rate. The even smarter investor can trade when the 'news' is released or when the announcement is made. If, for example, some professional investors correctly anticipate an interest rate fall or 'factor in' such a fall then stock prices may fall on the day of the announcement. Such Fed watching generates a caterpillar like market— one that humps on anticipation and slumps on facts. Timing is everything when dealing in such a moving caterpillar type market. Inexperienced retail or day traders normally get hurt in the short run by the 'forward-looking' professional traders.

When Alan Greenspan delivers his public speeches and testimonies before Senate committees, he is often questioned about the apparent desire of the FMOC to 'spoil the party', destroy jobs, inflict pain on the poor, its bias against growth and its obsession in fighting inflation. In other words, senators often ask 'why can't we have more growth and why do we live in fear of the Fed pricking the bubble of prosperity?' 'Why can't we reduce the inequality of income in this country?' 'Why do so many Americans live without health insurance?' His responses are normally of a reassuring nature—that indeed the Fed is aware of human suffering, the plight of the working poor, the needs of families and categorically stating that the Fed does not wish to sacrifice output and destroy jobs without cause. However, Greenspan quenches the fire of his critics by claiming his unswerving quest for price stability is *the best way* to solve most of America's deepest economic problems. Cynics often interpret this strategy as support for 'trickle down economics' with the unfortunate emphasis on trickle! However, the Fed's charter is to balance the pursuit of economic objectives and not pursue unbridled growth—that is the domain of a democratically elected administration.

Confessions of a central banker

Alan Blinder (1997:10), who served as Vice President of the Fed in the mid-1990s, has passed some useful insights into the workings, procedures and mindset of the FMOC. He is particularly critical of the lack of clarity in specifying ultimate targets and formulating monetary policy in a short-termist, ad hoc manner. Even though lags are a persistent curse and data may not be as recent as one would like, these are not excuses for the FMOC members to cling to a 'wait and see' attitude or 'we don't want to get locked in' mentality. According to Blinder (1997:15), the Fed is ever conscious of the NAIRU but has never formally adopted such a concept as a benchmark tool in formulating strategy. There is also the issue of how 'captive' the Fed is to the whims and fancies of the finance markets. For example, if the professional traders are concerned with inflation and the effect it has on the long end of the yield curve, then they can demand or 'provoke' the Fed on CNBC to raise interest rates 'or we will do it for you'. This is intimidation at its best! If the community perceives the Fed to be soft on inflation, then there is a great risk of the Fed losing its

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reputation. It is thus tempted to deliver the outcomes that finance markets demand. Another example in the mid-1980s was the 'capital strike' by Japanese investors in not purchasing US bonds. For a couple of days such investors did not bid and so conveyed the message to the US administration that inflation was too high and the US dollar too weak, Market interest rates soon went up in response to this 'strike' and message. Hence, the Fed may influence the short end of the yield curve, but the long end is dominated by market sentiment, which may in turn reverberate back down the yield curve and so force the Fed into action. Nevertheless, the Fed finds itself in a sea of uncertainty and must remain flexible enough to adjust to changing circumstances.

Is the Fed secretive?

Given that billions of dollars of stocks, bonds, securities and currencies can change hands on basis of a shift in Fed thinking on the future course of interest rates—it should not come as a surprise that Greenspan is guarded about what he says and how he says it. Moreover, how policy is formulated, what theoretical foundations are respected, what analytics are employed and what key economic and financial indicators are watched more closely than others is not entirely obvious. Fed watchers believe that they know how the Fed operates but such a belief is more wishful thinking than concrete fact.

In some ways the Fed is open and transparent. After all it does make available the minutes of its FMOC meetings. It seeks to make clear the bias, if any, in monetary policy. It does not wish to spook finance markets with careless words. Greenspan does comment in detail on the state of the economy and he does appear before the Senate and Congress.

On the other hand, the Fed cannot reveal all of its inner workings. To do so would be to give away power and perhaps some effectiveness in the conduct of monetary policy. Some monetary theorists stress the importance of 'surprise' or 'unanticipated' changes in monetary policy that has a maximum impact on the economy. If investors monitored the Fed workings and comments passed by Fed members by the minute then it is likely that finance markets would be far more volatile than what we observe now. Investors would try and predict the effect of every word and every move and possibly misinterpreting what was meant.

Conclusion

Throughout the twentieth century the Fed faced a multitude of challenges in its conduct of monetary policy. In the main, it has been flexible enough to adapt and steer the US economy along a reasonably high non-inflationary growth path. Traditional techniques within a conventional economic paradigm were employed along the way. Old guideposts and constraints on growth were watched closely—such as inflation, persistent current account deficits, international competitiveness, capacity utilization, tight labour markets, consumer sentiment

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etc.—particularly in the early 1990s. No two business cycles are the same and so the Fed has to weigh up and pass judgment on the weighted economic indicators it has before it. Different circumstantial combinations require different policy responses. It is fair to say that the Fed has sailed into unchartered waters for more than a decade. Puzzles over the relevance of the NAIRU and the fear of labour market tightness, probably caused the Fed to be overcautious in its reactions to the longevity of the US expansion—in the late 1990s. Old speed limits may have been updated as the surge in productivity growth has raised the economic cruise speed of the US economy. Nevertheless, as Greenspan cautions, the uplift in productivity growth has to prove itself above and beyond that of a mere cyclical aberration. It is still too early to light up cigars with $100 notes. On the matter of hidden surplus labour, there needs to be a greater statistical effort by US authorities to capture whatever slack there is in the labour market. However, there is another constraint that is both binding and dangerous. It is the purpose of this book to highlight the dangers of asset price inflation and the responsibility of the Fed to carefully monitor this inflationary twin. Greenspan and the Fed—from hindsight—may have something to answer for here. However, before we burn the Fed at the stake we must consider a wider range of challenges that it faces in conducting monetary policy. This is the task of Chapter 8.

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8
Shifting ground beneath the Federal Reserve

Introduction

Formulating and conducting an appropriate US monetary policy over most of the twentieth century was fraught with great difficulty for many reasons. There was a sea of change in terms of the institutional environment, structural changes within, and deregulation of the financial sector and a rapid technological revolution in the latter part of century. Given that the major priority of the Fed is to control inflation, and given the rise of monetarism in economic policy circles in the 1960s and 1970s, monetary targeting was employed. Keeping the lid on inflation implied an adherence to a Constant Money Supply Growth Rule (CGR) in some form. However, the strict relationship between money and output went awry in the 1980s and so prompted a revision of monetary targeting as a monetary policy strategy. The Federal Reserve's fight against inflation was thwarted by the deterioration of old empirical relationships caused by a rapidly changing economic environment in which it operated. Rampant inflation in the 1970s, partly a result of the oil crisis, tested the skill and nerve of the Fed. Executing an appropriate monetary policy was not only complicated by inflation and moving intermediate targets but also by financial innovation and a more open credit market. Thus, deregulation and greater competition had its costs. A less regulated financial sector brought with it greater credit risk, greater leverage and more volatility in prices. It is here that a serious conflict arises between the Fed and stock traders—as they are diametrically opposed. Stock traders want increased volatility in financial markets (in order to create profits) whereas the Fed wants to preserve economic and financial stability. There is a case for arguing that the abandonment of monetary targeting laid the foundation for the escalation of asset prices— as excess liquidity searched for a home. It will also be noted that although stocks were very interest rate sensitive for many years—they were less so in the 1990s. It was rapid money supply growth that fuelled the asset price bubble in these years. This chapter examines some of the challenges faced by the Fed in the recent era.

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Deregulation of the financial sector

For many years the US financial sector was compartmentalized, as walls were erected between financial company categories—a legacy of the depression era. The rationale for this segmented framework was to increase the stability of the financial system and the supervisory power of US authorities. In exchange for such regulation and restriction, the profitability of banks was enhanced via such protection and territorial assignment. This was a marriage based on mutual respect and gain, but unfortunately the consumer suffered out in the cold. Interest rates were lower on deposits, and the costs of borrowing higher than would otherwise be, in a deregulated environment. Over time US authorities realized that greater competition in the financial sector was a necessity. With the advent of the Depository Institutions Deregulation and Monetary Control Act (DIDMCA) in 1980 and the Garn-St Germane Amendment in 1982 there was a major transformation of the US financial system. The prohibition of savings and loans, mutual savings banks and credit unions providing checking accounts was lifted and such accounts were allowed to earn interest. Households responded by shifting funds out of non-interest bearing accounts and into NOW accounts (Marquis 1996). Even though the checking accounts of businesses were not eligible to attract a rate of interest, banks 'bent the rules' for close business clients. Both households and firms became more receptive to a variety of financial products that met their liquidity, risk and rate of return requirements. Increased demands for cash management were assisted by the growth of Money Market Mutual Funds (MMMFs) and money market deposit accounts (MMDAs) that lured the savings of small investors. These accounts became popular as a direct result of interest ceilings on savings accounts in the 1970s and of course the rampant inflation of the same period that crushed real interest rates. As firms and households shifted funds out of the banking system, a period of financial disintermediation followed. As deregulation caused funds to shift between monetary aggregates, so did the volatility of such aggregates increase and so further compound the task of conducting an appropriate monetary policy. In this deregulated credit market environment issues of moral hazard arise. Bank managers appreciate the competition in the market place and may succumb to temptation by issuing loans to high-risk marginal borrowers. In the chase for market share in a highly competitive market, bank managers are pressured to lower credit quality and indulge in moral hazard. That is, rely on the Fed's commitment to lender of last resort, deposit insurance or a balanced loan portfolio whereby the reliable clients subsidize the unreliable others. In summary, the move towards deregulation and greater competition was the right move but there were costs associated with the creation of a more open credit market—in terms of risk and exposure.

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Financial product innovation

The birth of several financial products has not only reduced the effectiveness of monetary policy but also reduced the effectiveness of the Fed's supervisory and regulatory network. For example, the rise of *securitization* whereby real estate and car loans are 'packaged', turned into marketable parcels on the stock market and/or on-sold to other financial institutions. These assets that were once stored in the portfolios of original lenders are now in a large market, ready for sale and resale. The Collateralized Mortgage Obligations (CMOs) and Real Estate Mortgage Investment Conduits (REMICs) of the 1970s turned banking and credit into a national not a local set-up (Kaufman 2000). Many 'other' financial institutions entered the home mortgage market and so intensified competition. However, there are several downsides to this securitization trend, such as the increased access of marginal borrowers to what is basically an open credit market. Shopping around lead to eventual loan approval. Converting non-marketable financial assets into marketable commodities raises questions concerning the ability of the market to price these assets and more importantly monitor their trend. The assumption that the market for these financial assets is both liquid and continuous is indeed a giant leap of faith. Asymmetrical information and disturbances in real estate and car markets may shock securitization packages disproportionately, as forward-looking financial investors anticipate the collapse of prices that may result from a sellers' stampede. The valuation of the last marginal sale in real estate means nothing when consumer sentiment changes and sellers scramble for the exit door simultaneously. Hence, the depth of these markets is a concern. More importantly, these 'other assets' are placed under the scrutiny of the market and are visibly sensitive to interest rate changes. Combined with the difficulty in pricing securitized assets, interest rate rises can put holes in financial asset prices —even a free fall as marketability declines sharply. Such a lack of pricing precision adversely impinges on meaningful credit assessment. How are credit risks assessed in such a soft market? There is an uneasy marriage here, between financial institutions that want to push securitized packages (thus lowering credit standards) and desperate, marginal borrowers that want to acquire an asset without much heartburn. For these reasons, the financial markets are more volatile and so more vulnerable to 'corrections' than ever before—as they operate at the margin.

Another innovation in financial markets is the increased use of *derivatives* as a means to hedge against fluctuations in other markets. Well, at least this is the 'risk management' justification of derivative trading but in reality such trading is highly speculative and offensive, rather than defensive, in strategy. The lifeblood of profitable derivative trading is volatility not stability. Professional managers have enjoyed a buoyant environment in recent years as inflation has been low and a willing clientele has queued up to dabble in financial assets. The deregulation of the financial sector and more competition between US financial

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institutions has pushed more resources into a wide range of financial instruments, including derivatives. From Chapter 1 there is a vast pool of wealth stored in the United States—looking for a 'home'—but not a safe home as in the 1950s. Aggression is common among portfolio managers when sitting on mountains of money—all seeking abnormal rates of return—and so risk-taking is higher and more fierce in this portfolio manager's competitive dynamic game. In fact, professional managers acquire open positions in the hope of beating other less skillful traders and do not just rely on commissions from trading. There is a danger here in that such aggression and chase for market share can cloud professional judgment and lower credit standards. Again, this is an issue of moral hazard whereby each bank manager is pitted against his colleagues and he knows very well that if does not 'sign up' with the potential client then others will. As outlined in Chapter 2—individual rationality does not necessarily add up to collective rationality amidst abundant liquidity and speculative hype. On the demand side, huge amounts of funds have been pushed towards derivatives trading—attracted by high leverage—and so booming profits when skillfully traded. However, these instruments are also known as 'weapons of mass destruction'.

How does the exponential growth of derivatives trading affect the stability of the financial sector? Most would argue that more volatile markets result. As discussed in Chapter 6—major accounting weakness comes to the surface—in that derivative exposure or liability does not appear in the balance sheet. For example, Long Term Capital Management (LTCM) had an exposure of more than $1.3 trillion but was not declared or known until the dire stages of financial disaster. Assessing risk exposure in this case was difficult, as accounting practices generated only an opaque view of financial health. Not only was the lack of disclosure of major concern but also the high-risk strategies undertaken by LTCM. The Fed passes the comment 'LTCM indicated that it sought high rates of return primarily by identifying small discrepancies in the prices of different instruments relative to historical norms and then taking highly leveraged positions in those instruments in the exception that market prices would revert to such norms over time. In pursuing its strategy, LTCM took very large positions, some of which were in relatively small and illiquid markets.' (Greenspan 1999). There was a lack of understanding by creditors of LTCM's high-risk strategy preferring to trust in the reputation of this large firm. The collapse of US financial giant shocked the Fed into greater action. They expressed their concern by stating 'In addition, the extraordinary degree of leverage with which LTCM was able to operate has led the federal agencies responsible for the prudential oversight of the fund's creditors and counterparties to undertake reviews of the practices those firms employed in managing their risks. These reviews have suggested significant weaknesses in their dealings with LTCM and—albeit to a lesser degree—in their dealings with other highly leveraged entities.' (Greenspan 1999). Thus, the Fed has expressed

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concern over its less than perfect supervisory function, by allowing a financial tornado to develop in this first place.

Another recent example of the dangers of derivative trading comes from East Asia. The ability of Nick Leeson to torpedo his employer—Baring Brothers—is testimony to the silent, but deadly nature of derivatives trading. Once large companies like these 'fail' there is a clamour by regulatory authorities to rescue such companies that are 'too big to fail'. Why? There is a fear that the whole financial sector may 'go under' or at least generate massive disintermediation that chokes real economic activity. But the lender of last resort function and support by government only encourages moral hazard. Portfolio managers in large financial institutions may succumb to temptation and bear high levels of risk in the belief that the US government, and so taxpayer, will bail them out in a crisis. Enron was examined in Chapter 6 and it came to light that the corporate hierarchy was all too willing to take on abundant risk.

The concern over expansive derivative trading centres is on whether market volatility is increased and the business cycle accentuated. To the extent that derivatives trading attracts marginal borrowers with low credit quality and a high propensity for risk this concern is well based. Traders want volatility and there is an inescapable risk associated with unexpected asset price fluctuation. Given that finan-cial institutions wish to generate more turnover and/or greater volatility, and given that credit standards have been compromised in order to achieve such objectives, the vulnerability of the US financial system is high. Heightened financial leverage only complicates the task of conducting an effective monetary policy. This partly explains why the Fed announces to the market shifts in monetary policy stance or current policy biases—so that there is less likelihood of highly leveraged traders being completely caught unawares. The Fed does not want to cause abrupt changes in market sentiment but rather incremental changes in the quest to maintain an orderly market.

Technology and innovation

Even though the Fed had good reason to adhere to money supply growth targets —the implementation of monetary targeting was more difficult than what economic theory predicted. As the payments and check clearance systems became more efficient over time so households and firms transacted more efficiently. Improvements in technology reduced the demand for money and raised the velocity of circulation. The period between 1960 and 1973 witnessed a stable velocity and a predictable demand for M1. However, velocity increased between 1973 and 1980 partly as a result of better cash management practices to counteract the low and/or negative real interest rates of the period. Hence, the demand for money—M1—fell. From Figure 8.1 it can be seen that the growth rate of M1 was volatile—it ranged between 3 and 9 per cent from 1965 to 1972. Between 1972 and 1974 the growth rate of M1 fell dramatically. As the Fed underestimated the speed of structural changes in the financial sector it

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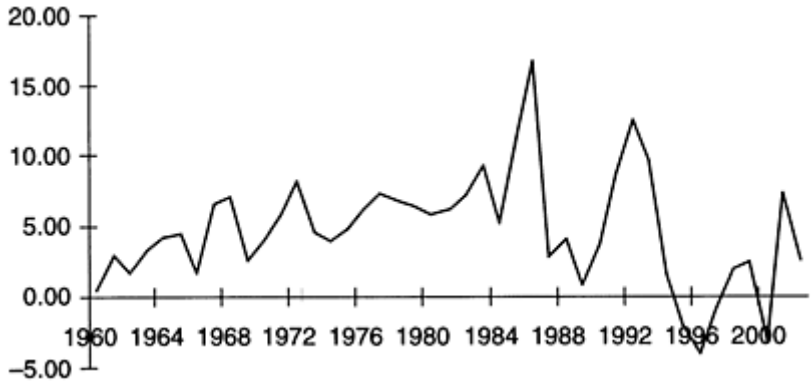

Figure 8.1 Growth rate of M1 (1960–2002).

Source: Board of Governors of the Federal Reserve System.

systematically oversupplied money. Inflation was a by-product of this misinterpretation by the Fed. As Figure 8.1 reveals, the volatility of the growth of M1 increased in volatility as the decades wore on—it became extremely erratic from 1983 onwards. The growth in M1 decelerated sharply in the mid-1990s. Needless to say the erratic nature and unreliability of the M1 renders it a poor monetary indicator in the eyes of the Fed.

The period of 1980–2003 revealed a volatile and declining velocity of M1 as the opportunity cost of holding money in checking accounts was lowered by deregulation. Therefore, the demand for M1 became both unstable and unpredictable. During the 1970s, amidst this growing instability of the demand for money there were short-term pressures on the Fed to lower interest rates. No doubt the oil crises of 1974, and again in 1978, placed upward pressure on the price level as well as interest rates in the United States. Monetary targets were presented to Congress and rationalized away when broken. Interest rate targeting became an acceptable policy strategy in the light of the internal and external stresses on the economy in the 1970s.

There was a change in monetary policy strategy in 1983 as the Fed switched to targeting M2 but preferring non-borrowed reserves to borrowed reserves as the interest elasticity on M2 was lower than M1 (Marquis 1996). Such a move came with a cost: interest rates displayed more volatility and eventually caused the abandonment of specified M2 targets. A return to interest rate targeting (the federal funds rate) took place again in the 1980s as M2 displayed volatility (Figure 8.2). In fact, the growth rate of M2 continued to fall from the mid-1980s until 1993. Only after 1993 did this growth rate rise and indeed rise faster than nominal GDP growth. Open market operations were employed using non-borrowed reserves to maintain the federal funds rate near its predetermined target. Hence, the targeting of interest rates became the Fed's prime objective.

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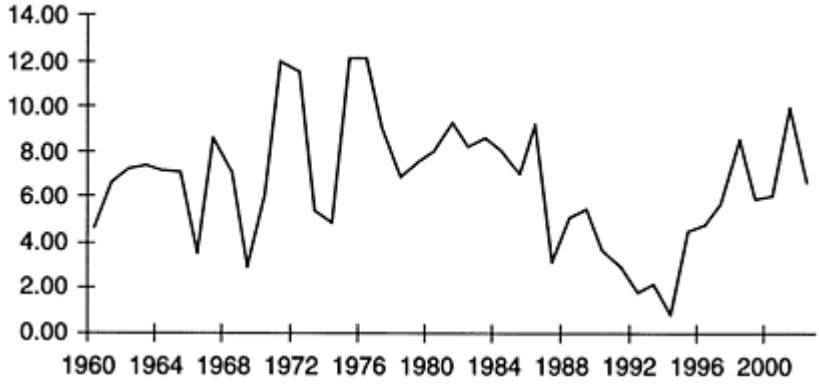

Figure 8.2 Growth rate of M2 (1960–2002).

Source: Board of Governors of the Federal Reserve System.

Figure 8.3 Growth rate of M3 (1960–2002).

Source: Board of Governors of the Federal Reserve System.

However, the M2 roared after 1993 and its growth rate averaged 8 per cent in recent years. There is a clear association with the rise in both GDP and stock prices since 1993.

From Figure 8.3, the growth rate of M3 decelerated in the 1980s and then accelerated faster than GDP growth in the 1990s. The growth rate of both M2 and M3 were rapid after 1993—fuelling both economic growth and stock prices. As the Fed states 'The robust expansion of bank credit underlies much of the acceleration in M3 this year. Depository institutions have issued large time deposits and other managed liabilities in volume to help fund the expansion of their loan and securities portfolios.' (Greenspan 2000). This is a confession by the Fed that the 'upper band' of money supply growth was indeed fuelling the stock market boom. In fact, from Figures 8.2 and 8.3 the rate of increase of these

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money supplies—rapid acceleration— was quite staggering. At face value, the stock boom possessed a strong liquidity driven market underlay.

Other forces were at work changing the growth rates of monetary aggregates and so their policy importance. Further innovation in terms of credit cards impacts on the demand for money by providing convenience to the user and reducing the need to have 'on call' cash. The ATM is open twenty-four hours and substitutes for any precautionary demand motive. Hence, the Fed also needs to be wary of such 'miscellaneous forces' that effect the growth rate of monetary aggregates.

The effectiveness of monetary policy

Providing the demand for money is stable, the Fed can alter the supply of money accordingly. In fact, the monetarist doctrine and monetary targeting rests heavily on a stable demand for money function and so constant velocity. From the earlier discussion, the power of the Fed to affect the real economy is severely diminished by unpredictability of money demand, clouding the degree of monetary expansion required. It is also troubled by having to choose the appropriate monetary aggregate. As stated above, the M1 became unstable whereas the M2 *appeared* more reliable in later years but even then had to be abandoned by the mid-1980s. From Figure 8.4, it can be seen that M2 velocity has diverged from historical norms—despite the fact that the opportunity cost of holding M2 fell dramatically between 1989 and 1992 the M2 velocity still rose sharply. Divergence occurred again in 1995–6. Given that the velocity of M2 increased sharply in the 1990s—the implications are two-fold. One, the reliability of this monetary aggregate has diminished in the eyes of the Fed as a monetary tool. Two, the MV=PY relationship is more powerful—as money times velocity implies higher nominal GDP (Price times Income)—and economic activity than just from a spurt of M alone. Stock prices enjoy the ride.

In fact, there are other reasons why the Fed does not have complete steerage power over monetary policy. The relationship between bank reserves and the money supply is not constant but tends to fluctuate. In other words, there is variation in the elasticity of the money multiplier. Even though the Fed sets minimum reserve requirements for the banking system, the banks themselves may choose to hold excess reserves as a liquidity precaution for any sudden depositor withdrawals. Other leakages from the credit creation process occurs when the non-bank public desires greater liquidity or transfers funds out of the banking system which in turn diminishes the power of the money multiplier. As stated earlier, velocity of circulation is also volatile at times.

Even if the Fed has a clear vision of what economic variables it wishes to target, it cannot hit them directly but only indirectly, by using the tools at its disposal—open market operations, reserve requirements and the discount rate. It resorts to using intermediate targets (monetary aggregates or the federal funds rate) in the quest to hit final targets (output, inflation and unemployment). This

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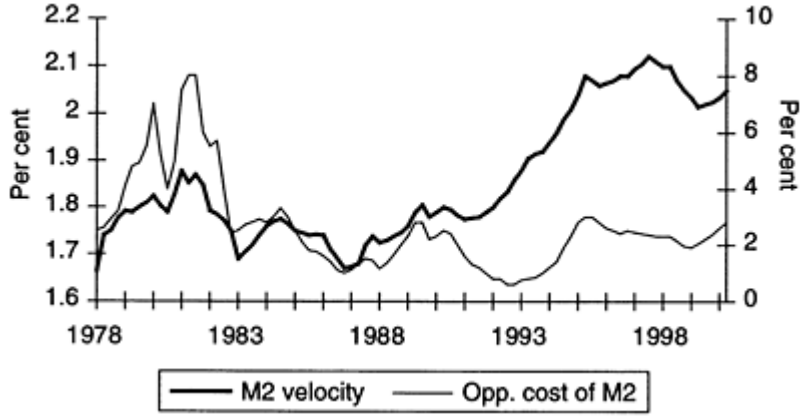

Figure 8.4 M2 velocity and opportunity cost.

Source: Board of Governors of the Federal Reserve System.

chain of command is by no means tight or stable as the transmission of power from monetary tool to final target is plagued by leakages, uncertainties and random shocks. If the economy is being hit by waves of permanent productivity improvement, then the appropriate monetary policy response is to accommodate such waves. However, given that preference shocks affecting allocation decisions towards leisure and savings are temporary the Fed should not intervene.

The effectiveness of monetary policy is also limited by recognition and impact lags. As discussed in the section 'what economic indicators?', the Fed is really looking in the rear vision mirror in terms of old data and passing judgment on the location of the economy in the current business cycle. Key economic indicators are estimates and are often revised months later that may in fact cast doubt or falsify the earlier policy decision. Impact lags are uncertain and only complicate the timing of monetary policy. According to the Monetarist, money is like fire: don't play with it.

If the Fed is overzealous in terms of trying to exploit the output-unemployment trade-off it must confront a credibility problem in the eyes of the public. This dilemma is known as the dynamic inconsistency hypothesis which states that authorities are biased towards the creation of inflation and have an incentive 'to cheat' by expanding the money supply *after* economic agents have formed their expectations. Thus, a one-shot rise in output may be purchased but only at the expense of central bank reputation and a growing awareness by the public (wage earners) that discretionary monetary policy is biased towards inflation. Such distrust between central bank and the public inhibits long-term commitment to capital formation. The solution to potential 'cheating and bias' is to remove discretion from the policy-maker and follow a monetary aggregate growth rule. However, the Fed has already accrued years of credibility and has not yielded to

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this theoretical temptation of purchasing short-run output growth. Besides, as discussed earlier, the monetary targets have proved unreliable in recent years and so a constant monetary growth rule would be difficult to implement in practice.

Target interest rates or monetary aggregates?

From the earlier discussion it is obvious that monetary targeting fell from grace for a whole host of reasons. Which money supply? The rise and fall of both income and interest velocities rendered money supply changes less potent. Nevertheless, from a theoretical perspective the Fed has a choice between monetary and interest rate targeting. For example, if the real economy is buffeted by real disturbances to aggregate demand, the appropriate monetary policy should focus on anchoring a monetary aggregate. If temporary preference or productivity shocks generate instability in the goods market, then the Fed should target the money supply. However, if productivity shocks are of a permanent nature, then this shock should be accommodated with an increase in the money supply. Conversely, if the real economy is buffeted by transitory velocity shocks, the appropriate monetary policy response is to target interest rates rather than a monetary aggregate. Hence, shocks in the money market (e.g. the instability of money demand) should be met with an interest rate target in order to keep the economy near full employment output.

Targeting the inflation rate via an interest rate strategy is reflected in the Taylor rule. In this model, the Fed funds rate is a function of four factors. The following form illustrates the Taylor model

$$\text{Fed funds rate} = \text{current inflation rate} + \text{real interest rate} + 0.5\,(\text{inflationary gap}) + 0.5\,(\text{output gap})$$

Hence, the Fed funds rate would rise in response to a rise in the current inflation rate, a rise in the inflationary gap or a rise in the output gap. However, there is a high degree of subjectivity involved as the real interest rate is often assumed to be 2 per cent (its historical average) and the target inflation rate is chosen by the Fed and so may vary according to regimes. Moreover, the weightings of 0.5 and 0.5 are subjective. If the Fed is biased towards fighting inflation the co-efficient of 1 may be chosen for the inflationary gap. There is no evidence that the Fed actually employs a Taylor type model in setting interest rates but Taylor (1998) does provide evidence that this model fits the data quite well from the 1980s and 1990s. Taylor also gives the Fed credit for fighting inflation more efficiently in the 1980s and 1990s than in the 1970s. In his words, there were less 'policy mistakes'. There is no doubt that the Fed has adjusted short-term interest rates in response to inflationary surges but not so obvious when confronted with deviations from potential output.

Just because the shortcomings of monetary targeting are known, we should not jump to the conclusion that interest rate targeting is superior in all circumstances. Even if shocks in the money market are to be avoided, there are

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ill side-effects of a build-up in monetary liquidity via endogenous money creation generating spillovers into asset markets. In a liquid economy, the demand for money can rise forcing monetary accommodation by the Fed. Waves of endogenous money creation can result from a buoyant economy keeping rates of return above the short-term interest rate— as the Fed honours its commitment to peg the short-term rate. Providing inflation does raise its head or accelerate, this monetary expansion can continue indefinitely. As discussed later in this chapter, there are reasons to believe that manipulating interest rates is not an instant panacea to cure inflation or raise output within a short time frame—the responses may be weak.

There are other channels through which investment and spending are affected. These include the health of bank balance sheets, bank lending policies, the net worth of corporations and expectations of economic agents. In other words, wealth effects out of asset markets may swamp the cost of money effects out of the money market. The former is a stock concept whereas the latter is a flow concept.

Does money affect output?

Most economists accept the monetarist proposition of the neutrality of money in the long run but concede that money may affect output and employment in the short run. Friedman (1968) does not deny that an increase in the money supply may have a real effect on output in the short run, but there are long and variable lags, that make it difficult if not impossible for policy-makers to oversee. In short, monetary expansions are dangerous not only because of inflation but because a mistimed monetary policy elicits further monetary policy responses in the future. Besides, initial rises in output are short-lived and therefore not sustainable. Only improvements in the capital stock, labour force and technological progress drive output growth in the long run. In this monetarist paradigm, the role of the Fed is to oversee a constant growth in the money supply and allow the private sector to flourish. That is, facilitate productivity and efficiency improvements and so underpin profit growth. The theoretical channels through which monetary policy affects output growth is via cash in advance constraints or when prices are set in advance (e.g. contracts). Another explanation from Lucas (1976) is that of the signal extraction problem. Producers are more aware of their own prices—not the general price level—and so are ‘fooled’ into producing more output, as they believe that relative prices are higher.

Evidence on this money-output relationship is clear but the direction of causation is not. In fact, most empirical evidence supports the money-output relationship as in Figure 8.5. No surprise here. But the direction of causation debate is ongoing. Some researchers, such as King and Plosser (1984) argue that when firms plan to raise production levels they increase their money holdings in order to purchase more intermediate goods. Consumers act in a similar manner. Thus, an increase in the demand for money elicits an increase in the money

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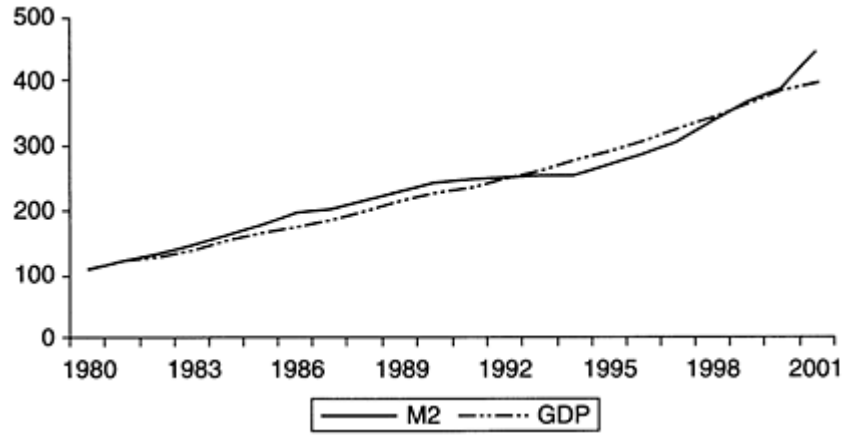

Figure 8.5 United States: growth in GDP and M2, 1983–2002 (1983=100).

supply. It may well be that money growth precedes output growth but is not the driver of output growth under this scenario. From a Keynesian perspective, the reason why money growth is endogenous is because economic activity raises the demand for money and causes the Fed to increase the money supply accordingly. Here are two perspectives as to why money growth is endogenously determined.

Other economists argue in favour of exogeneity. Research by Friedman and Schwartz (1963) concludes that the direction of causation runs from money to output. Romer and Romer (1994) also find that monetary policy severely affects the real sector of the economy rather than the other way around—as recessions have followed major monetary tightenings. Cook and Hahn (1989) also conclude that Fed open market operations affect interest rates over very short time horizons —an observation not consistent with developments in the real sector.

Channels of the monetary transmission mechanism

There are various schools of thought as to *how* monetary policy affects output or more precisely income. There is not one, but many channels, through which the Monetary Transmission Mechanism (MTM) may operate. What is of policy relevance for the Fed are the unwanted by-products of each channel in terms of inflation, lags and wealth creation. It is not just the flow of income that should concern the Fed but also incremental changes to the stock of wealth. Why? For the basic reason that the potency of monetary policy is reduced in an economy laden with wealth. The net effect of an interest rate rise on consumption is to some extent indeterminate amidst abundant middle class wealth. More importantly, it is the health of corporation and household balance sheets via sizable yet unrealized capital gains that determines the near term impact of

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higher interest rates on economic activity and inflation. The huge build-up of paper wealth in the United States is a direct outcome of interest rate targeting.

First, the elasticities approach emphasizes the *interest rate and the exchange rate channel*. The former channel focuses on a change in the interest rate affecting investment and consumer durables, whereas the latter points to a change in the exchange rate affecting exports. From a demand perspective, consumers welcome an environment of low cost or cheap credit and respond accordingly. On the supply side, investors welcome a lower cost of capital as pressure is eased off cash flow and more importantly the gap between rates of return and the lower cost of capital is widened. In the case of the United States, this channel appears to be effective in stimulating aggregate demand. However, the experience of Japan in the 1990s was the opposite; even though the cost of capital 'appeared' cheap by historical standards, rates of return were even lower and so there was little incentive for new investment. The marginal efficiency of investment was less than the interest rate. Real interest rates also 'appeared' cheap, but with fear of a capital loss and with little prospect for any significant asset price inflation there was no great rush for portfolio adjustment towards long-term assets and no great demand for credit. In other words, other factors swamped the power of this transmission channel.

Second, the monetarist view of the MTM focuses more on the *quantity of money and cash balance effects*. A broader monetary transmission mechanism is evident as economic agents adjust their portfolios according to changes in relative prices and marginal utilities. Excess liquidity drives all asset prices higher by disturbing the investor's portfolio. In response, the economic agent finds herself with excess cash and bids up asset prices until all returns are equated (Meltzer 1995). Money has a direct effect on output.

A third view of the MTM is the credit channel, of which one aspect is *bank-lending* whereby the central bank conducts a policy change that affects the deposits of banks and credit creation. The supply of credit is affected and disintermediation sets in. Banks lose their lending confidence and recall loans where possible. This is the *bank balance sheet channel*. Indeed banks become defensive concerning their own profitability and balance sheets at the expense of the corporations and households. Matters are complicated by aysmetric information—demanders of credit are more knowledgable about their own financial positions than banks. A lower interest rate strategy by the Fed may provide windfall gains for banks—as purchasing government bonds during a period of deflation may be the low-risk strategy for balance sheet repair and not incresaing exposure via lending to the private sector.

A variation of this balance sheet channel is that of the *external finance premium* — normally higher than any internal source of financing. As higher interest rates lower the net worth of corporations so does the external finance premium rise (Bernanke and Gertler 1995). Collapsing asset prices damage company balance sheets and adversely affects cash flows. Higher interest rate premiums and restricted access to credit choke off activity. A virulent interaction between

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damaged bank balance sheets and corporation balance sheets culminates in a downward spiralling credit crunch.

Cautious and low-risk lending policies by banks may assist in repairing bank balance sheets but not in re-stimulating aggregate demand or asset prices. Herein lies the dilemma: weak asset prices generate more non-performing loans, which in turn weaken bank balance sheets which further reduce lending confidence. Income growth collapses, further depressing asset prices. This is financial disintermediation at its worst, whereby the MTM works in reverse and actually contracts the economy due to rational bank behaviour.

Damage to household balance sheets also creates the same kind of contraction in aggregate demand. High transaction costs in fleeing out of assets, and general illiquidity, cause consumers and savers to favour cash. Debt service costs also imply balance sheet repair. Adverse wealth effects inflict serious damage on an economy.

Does money affect stock prices?

An article by Bradford De Long strongly denounces the concept of 'Vulgar monetarism' as it relates—and perhaps 'explains'—the run-up in US stocks prices. From Figure 8.6, the correlation appears strong but De Long argues over the choice of 'which' monetary aggregate? The M3 is used in this figure—but why use this in preference to others? This author prefers the monetarist interpretation of US stock markets being strongly underpinned by a liquidity foundation. All stock brokers appreciate the power and surge of monetary liquidity in driving stock prices higher. Unfortunately, economists far less so. There is no other singular variable in the 1990s that explains the stock boom better than does buoyant monetary liquidity. Why did the Fed allow the money supply growth rate to explode? Partly because targeting monetary aggregates had been abandoned (due to volatility) and because interest rate targeting was believed to be effective in steering economic activity—and to a lesser extent asset prices. Quite to the contrary, the money supply growth had more impact on both economic activity and stock prices than did interest rate changes—particularly from the early 1990s onwards. To re-emphasize what was stated earlier—the abandonment of monetary targeting—had its costs in terms of excess liquidity that found its way into assets—and so high asset prices. We shall see later that although interest rate changes strongly affected stocks up until 1990, the impact was far less after 1990. Vulgar monetarism or not, the fact remains that excess liquidity inflated America's stock price bubble—beyond sustainable limits. We can see from Figure 8.6 that the acceleration in the M3 coincided with the explosion in stock prices. The continuation of M3 growth (a deliberate orchestration by Greenspan) *after* the stock market crash has led to the 30 per cent rebound in stocks in 2003.

In the aftermath of the stock bubble, the Fed resorted to an avalanche of interest rate cuts and the effects on economy and real GDP growth have been

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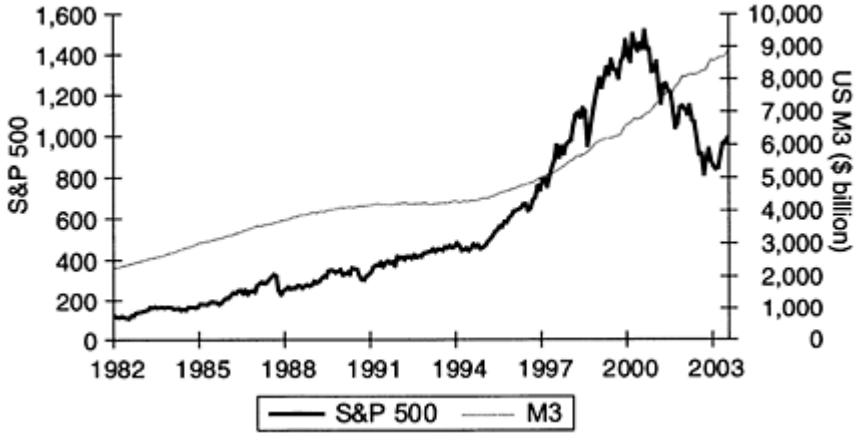

Figure 8.6 Performance of the S&P 500 and the Level of US M3.

rather slow— and the impact modest as of October 2003. However, the Fed has backed up these interest rate cuts with massive expansions in the money supply— the economic system is awash with money and 'cash is trash'. Greenspan has pushed economic agents out of cash and into assets and stock prices have responded handsomely since the 'end' of the Iraqi war. In this 'special era'—lower interest rates have spurred stocks to higher levels in the short term but long-run sustainability stems from persistent growth in the money supply.

Interest rates: how effective on output?

As the section 'Does money affect stock prices?' highlights, there are several monetary transmission channels not just one, and so relying on interest rate changes to curb activity in a deregulated and more open credit market is a dangerous foundation on which to build a monetary policy. Individuals and companies can find ways of ignoring a monetary tightening in an eager, widely diverse credit market that wishes to pump out loans. The cost of capital is not the sole criteria in the business calculus. Hence, other influences such as wealth effects and the behaviour of the financial sector significantly affect liquidity and lending and so may offset any interest rate potency. For example, rates of return may rise faster than interest rates during a boom and so bank lending rises. Conversely, when rates of return fall faster than interest rates during a deflationary recession, bank lending may still collapse. Even though the change in real interest rates may be a better guide to changes in lending and activity, this potency may also be swamped by the availability of credit in a deflationary environment wreaking havoc on all balance sheets—banks, corporations and households alike. And so unexpected movements in wealth, and not changes in the cost of capital, may be more powerful in affecting economic activity in an

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affluent nation like the United States. The Fed has recently acknowledged the importance of wealth effects on consumer spending as the percentage of household wealth tied up in stocks has accelerated appreciably. Just as in the 1920s, the fortunes and welfare of households are tied to the chariot wheel of the stock market.

What happened to the old-fashioned credit crunch? In the 1960s and 1970s when the local bank manager said 'no' he meant no! Credit was rationed and there were quantity restrictions. Cocktail loans were arranged during times of severe monetary tightness. By implication, a monetary policy that puts the monetary creation process into reverse and contracts the *availability* of credit was effective in crunching both output and inflation in a short time frame—just a matter of months. Yes, economic activity was devastated but the saving grace was that the recession was short-lived— short sharp pain. In this monetary aggregate regime, there was no doubt about the effectiveness of monetary policy —with all its harshness. However, with the advent of the deregulation of the financial sector and the use of interest targeting, the effectiveness of monetary policy withered significantly. The whole structure of interest rates has to ratchet upward far more than under the old monetary aggregate regime to produce the same restraining effect. Why? One reason is that banks can avoid a Fed tightening or discipline by rearranging their asset and liability portfolios. They can also go offshore in search of funds. After all, banks nowadays are margin lenders— it does not matter so much about the level of interest rates—high or low —but the spread they receive from borrowing and lending. In this 'floating market', banks can seek to pass on the Fed's interest rate structure to consumers. This leads to second reason for monetary policy slippage. Bank customers also like to avoid the Fed's discipline by borrowing at higher interest rates and so fulfil what contracts they have outstanding as well as pass on their higher interest rate bill to their own customers. A whole series of elasticities will determine how effective these 'pass on' initiatives will be. US businesses have often complained that when the Fed applies the monetary brakes—it does not appreciate the importance of contracts in propelling economic activity for number of months beyond what was anticipated by the Fed.

In summary, the breaking distance under an interest rate targeting regime is far longer than under a monetary aggregate regime. There are too many avenues for the banks and the non-bank public to avoid monetary discipline in what is basically a large money supermarket. Therefore, the long and variable lags that Friedman spoke of are far more deadly under interest rate targeting and more likely to provoke more Fed responses in the medium term. The consequences for macroeconomic management are serious. Not only can the real economy overheat for a far longer period of time but also abundant liquidity build ups in the economic system that spills over into asset markets. Hence, there can be an odd coexistence whereby interest rates are raised to relatively high levels and yet money supply growth remains buoyant. Under this scenario, higher interest rates may eventually restrain goods price inflation but not soak up enough liquidity to

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restrain asset price inflation. There are grounds for arguing that the Fed is locked into a monetary policy bias—there are political and social forces at work that oppose an 'excessive or prolonged tightening'. Forward-looking investors know that asset prices will only soften for a short time while the monetary brake is in lock—and that asset prices will soon escalate when the *expectation* of the tightening is over. This belief also constitutes a type of moral hazard, whereby the investor plays upon the Fed's disposition to attack only goods price inflation. Once the goods and labour markets have cooled off, the investor knows that impediments to a recovery in asset prices are almost nil. By contrast, an old-fashioned credit crunch via severe credit contraction reduced asset prices *and* wrung asset price inflationary expectations out of the system. To the extent that the Fed raises interest rates but does not soak up monetary liquidity, the asset markets are left to continue their upward run.

Interest rates: what affect on stocks?

As this book has continuously stated—stock prices are driven by rates of return. That is, earnings per share are the prime fundamental. But as we shall see—interest rate changes are major drivers of stock prices—over the medium term. Siegal (2002) makes the case for the potency of interest rate changes on stock prices with clarity. He cites evidence from 1955 and employs 3, 6, 9 and 12 months lags (Table 8.1). Between 1955 and 2001 there was asymmetric power—as decreases in interest rates possessed far more power in raising stock prices (elasticities were greater) than did interest rate increases in curbing stock price rises. Interest rate rises often dampened enthusiasm to purchase stocks and stock sometimes fell or were flat in the first six months. Conversely, expansionary monetary policy (via interest rate cuts) were very powerful—in the short periods and even more so over twelve months. Perhaps monetary authorities can push on a string!

According to this evidence, the power of interest rate changes to move US stock markets is unquestionable. Even the lagged impacts appear plausible. However, the impact of interest rate cuts appears to have weakened (1990–2003)—as does the asymmetry. This may be a reflection of a highly deregulated era mentioned earlier whereby the price of money was not an insurmountable obstacle to overcome by the investor. Second, the abundance of liquidity (the M2) in the economy could still offset the impact of interest rate changes. Third, the sheer build-up of US wealth makes it difficult for a 'price of money' monetary policy to deflate the huge asset price bubble that had developed in the late 1990s. Liquidity had to be soaked up as well. Fourth, stock prices, and in particular technology stocks, kept rising while interest rates rose in 1999–2000. This occurred in part because the technology craze and related investment was not interest rate sensitive—at least that is what investors

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Table 8.1 Interest rates and the stocks

	3 months (%)	*6 months (%)*	*9 months (%)*	*12 months (%)*
1955–2001				
Increases (99)	1.2	2.9	5.9	7.4
Decreases (99)	5.3	9.7	12.4	16.6
Benchmark[a]	3.0	6.1	9.1	12.2
1960–9				
Increases (22)	−1.2	1.2	1.4	2.6
Decreases (17)	3.5	6.1	7.4	8.6
Benchmark[a]	2.2	4.1	6.2	8.4
1970–9				
Increases (29)	−1.9	−1.2	3.7	4.8
Decreases (26)	6.5	11.1	13.8	17.7
Benchmark[a]	1.9	4.3	6.7	9.3
1980–9				
Increases (16)	3.9	4.2	9.1	8.6
Decreases (23)	6.5	12.9	14.9	21.1
Benchmark[a]	4.3	8.8	13.0	16.9
1990–2001[b]				
Increases (14)	3.2	7.1	8.8	13.1
Decreases (25)	4.0	5.4	7.4	10.5
Benchmark[a]	3.4	6.8	10.4	14.4

Notes
a Average of all time periods in selected sample.
b Assumes S&P 500 remains flat for 2002.
Source: Siegal (2002), p. 193.

thought. Fifth, while sales and profits were greatly affected in the short run, investors were not fazed by minor movements in the costs of capital. Besides, foreign capital flows stampeded into the US bond market because interest rates were higher and because of the expectation that capital gains would peak alongside the low in the interest cycle. This kept the US economy liquid—for a time.

Conclusion

The Fed, like many other organizations, has been forced to adapt to change in the economic environment in which it operates. The last thirty years have brought forth many challenges in the formulation and conduct of monetary policy. Volatile monetary aggregates thwarted the pursuit of a monetary targeting strategy. Changing bank and household behaviour also complicated the conduct of monetary policy. A disintermediation trend, as depositors shifted funds out of

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the banking sector, weakened the credit creation process of the entire banking system. As technology was increasingly applied in the financial sector—as in the economy at large—so old empirical relationships faded. As America became wealthier and as the money growth rate exploded so did an asset price bubble develop. Thus, the old pillars of monetary policy vibrated on this shifting financial soil.

Despite the difficulty in anticipating changes in the financial sector, and even the economy at large, the Fed has been the target of much criticism for its reactive role and slowness in adapting to change. Consequently, the US economy may have suffered losses of welfare as obsolete and unreliable monetary aggregates lost their informational content and so misguided the policy-maker. However, moving away from reliance on monetary aggregates towards interest rate targeting also has weakened the speed at which the Fed can restrain economic activity and inflation. Raising interest rates (putting on the monetary brakes) in a vastly deregulated environment will not automatically restrain the economy within a short time frame. There is a high degree of endogeneity in the monetary creation process that can render a Fed monetary tightening ineffective for a time. More importantly, this brand of monetary policy has contributed to rises in asset values as abundant monetary liquidity has inflated the stock market bubble.

Given the rapid pace of technological progress and financial innovation there is a constant challenge for the Fed to catch up to the modernization of the financial sector. Securitization, the explosion of derivatives trading and increased leverage has exponentially increased the vulnerability of the US financial system to shocks. The existing regulatory network may not be sufficient to ensure the safety and stability of the recently transformed financial sector whereby the old depression era segmentation has faded and multidimensional financial institutions have re-evolved. Even if new legislation is not introduced, the Fed must acknowledge that the financial world beneath its feet has changed dramatically. Not only are there ongoing challenges for excellence in prudential supervision as stated earlier, there are even more formidable challenges for the impact of monetary policy on economic activity—and stock prices. The Fed's recent challenge is dealing with deflation—and the ill side-effects that flow from a burst stock price bubble. We now examine the thoughts and attitudes of Chairman Greenspan to both historical and contemporary challenges in the next chapter.

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9
Evaluating the Greenspan years: 1987–2004?

Introduction

The election of a new Fed chairman will take place in 2004. There is already much conjecture over who will be the likely replacement. It may well be that Greenspan re-applies at the age of 76? Nevertheless, there will be much political discussion as to who will be the right person for the job in terms of qualification, specialist expertise, technical skill, respect among peers and political adeptness to name a few. Whoever takes over the helm will have an impressive Greenspan track record to beat and enormous challenges to face—as America crawls out of recession. This chapter outlines some of Greenspan's economic and philosophical background, in the hope that it will shed some light on the way he formulates policy. His views on a whole range of issues impinge on how 'interventionist' or 'active' monetary policy should be in order to ensure economic growth *without* compromising stability. Although the Fed has no clear mandate to 'target' stock market values, it appears as no coincidence to the author that Greenspan intervened, in some way, when the Dow reached record highs in 1994, 1996, 1997 and again 1999. The converse also appears true—that he intervened to support the stock market in 1987, 1998 and 2001—when investor panic was gaining momentum.

Why he tolerated a prolonged asset price bubble is questioned. His power to move markets and the economy is also surveyed. A re-examination of his respect for traditional economic paradigms provides some useful insights into the way he formulates and conducts monetary policy. There is an attempt to identify what mistakes he made, if any. Finally, an evaluation of the Greenspan era is outlined. This era is a tough one to criticize—as we all acknowledge and respect the dedication and knowledge of the man. If there were errors of judgment it was to be human. If there was a lack of a wise theoretical paradigm upon which to base monetary policy it was because one of 'clear consensus' did not exist—within the confines of conventional wisdom. And, of course, any criticism that is leftover stems directly from the Fed's lack of power to control the ebb and flow of the giant US economy. It is too large and too sophisticated to be 'controlled'.

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There will always be a business cycle that cannot be harnessed by man—or the Fed. Therefore, some humility in judgment is warranted for this Greenspan era.

Greenspan's background

He was born in 1926 in Manhattan, the son of a stockbroker. He displayed an interest in music early in life but formalized his interest and passion in economics by gaining a Master's degree from NYU in 1950. Although he enrolled in a PhD in the early 1950s, he did not complete one until 1977. A successful career in stockbroking intervened (his own firm) right up until the 1970s where he acquired great acumen for detail, employed forecasting models and could make sense of the generated results for his clients. He gained great knowledge of money and markets in this private sector job.

There was, however, a public side to Greenspan's career. He acted as a policy advisor to President Nixon in the late 1960s. He also accepted a prestigious position as Chairman of the Council of Economic Planning under President Ford —from 1974–7. A Ronald Reagan victory pulled Greenspan back into public life via the National Commission on Social Security. He was partly responsible for introducing tough social security reforms. He improved his knowledge of the US budget process, intergenerational transfers and the critical importance of the saving rate in generating economic growth.

It is worth noting Greenspan's right wing views on many issues—partly shaped by his association with a right wing think tank/discussion group led by Ayn Rand in the 1950s while at NYU. Rand was a critical thinker and social philosopher who preached that capitalism was not only efficient but also moral. Property rights, and indeed civil liberty, were protected under capitalism and free enterprise. Greenspan has never changed his mind on such core issues and consequently is opposed to big government and over-regulation. It fact, he is great believer in self-regulation within the private sector.

It was in 1987 that Greenspan became Chairman of the US Federal Reserve. He had big shoes to fill—as Volcker, it was generally agreed, did a good job in fighting inflation during the Carter years. His reign from 1979–87 was full of merit, particularly as both inflation and interest rates declined after 1980. He had the respect of Wall Street, Main Street and Washington. And so, Greenspan faced an uphill battle to build a reputation of his own and win the respect of various power brokers in the United States. Later in his career he did just that—but first he had to face his baptism of fire—that of Black Monday, 1987—the 508 point one-day fall in the stock market.

Greenspan's economic philosophy

To understand policy initiatives of the Fed it is more than useful to appreciate the mindset of Greenspan. He is right wing, conservative and neoclassical in his views of economics. He has great faith that markets work, that competition

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generates effi-ciency and that preferences of consumers dictate what constitutes economic value. He also believes that asset values are best left and determined by rational economic agents. Such views impinge upon the way in which monetary policy is formulated and conducted, that is, it is not government's role to force its own view of what is and what is not economic value upon its constituents.

On the issue of economic growth, he believes that technological progress is the prime driver, with the saving rate a reasonably close second. With regard to the importance of new knowledge, he acknowledges that ideas are overwhelming physical labour in driving growth in America 'The most important single characteristic of the changes in US technology in recent years is the ever-expanding conceptualization of our gross domestic product. We are witnessing the substitution of ideas for physical matter in the creation of economic value—a shift from hardware to software, as it were' (Sicilia and Cruikshank 2000:214). For example, a vast variety of businesses have benefited from telecommunications and information technology revolutions—driving unit costs lower.

A low savings rate in the US perplexes Greenspan as it implies less commitment to capital formation, downward pressure of the capital-labour ratio in the future and acts as a constraint on future productivity growth. He states 'The damage from low savings does not show up immediately. It is more insidious. It chips away at the productivity gains we are able to achieve over time; it gradually hampers our competitiveness in international markets; and after a period of years, it results in lower standards of living than we would otherwise enjoy' (Greenspan 1991).

Not only is he concerned with the adverse effects of a low savings rate on future US productive capacity (and so dependence on foreign savings), he is also concerned with funding for retirement. America's social security retirement plans are to some degree unfunded and he uses this fact to push for government budget surpluses—to partly offset the low private savings rate. 'I have testified often before committees of the congress about the corrosive effects that sustained large budget deficits have on the economy and about the way our economic prospects in coming years will hinge on our ability to increase national saving and investment. One factor that argues for running sizable budget surpluses…is to set aside resources to meet the retirement needs of today's working population' (Greenspan 1990).

With regards to employing an active fiscal policy he remains adamantly opposed to any attempt to fine-tune the economy. This view is linked to his view on the driving forces of economic growth, namely that real factors drive growth and not the *reshuffling of resources* by government or the stifling of economic incentives. He states

> I believe that we should stop trying to engage in short-term fiscal fine-tuning, which at best we are poor at and at worst is counterproductive. We should try instead to focus on solving longer-term problems, and in that

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> process engage in as little policy as was both economically and politically possible. My view is that we had to slow down the pace of governmental policy actions if we were to restore a level of risk in the system consistent with long-term inflationary growth.
>
> (Sicilia and Cruikshank 2000:6)

Greenspan is more pointed and forthright with this comment on crowding out—'The deficit is a corrosive force that already has begun to eat away at the foundations of our economic strength. Financing of private capital investment has been crowded out, and not surprisingly, the United States has experienced a lower level of net investment relative to GDP than any other of the G-7 countries in the last decade.' (Greenspan 1993). This is a critical issue for Greenspan, as he views capital per worker as being a serious driving force of growth and prosperity. He has been challenged many times before Senate Committees on his view of crowding out—his preference for private over public sector investment. He normally responds by stating that 'evidence' is in his favour, that choice is the centrepiece of a capitalist system and that higher interest rates (via crowding out) only thwarts his monetary policy strategy.

In response to events of September 11 and the US economy slipping into recession since 2001, the US administration has 're-employed' fiscal policy in an attempt to bolster spending and activity. Greenspan has viewed such fiscal expansion with some degree of skepticism. First, because the Fed has aggressively employed an expansionary monetary policy via lower interest rates and providing the economic system with abundant liquidity. Second, the long-term 'corrosive effects' of a fiscal policy in terms of crowding out, future tax rates, biases to economic incentives and the misallocation of resources offset any positive short-term effects. In fact, he presented his strong views to the Congress and the nation in early 2003. He stated his disapproval of growing budget deficits and a lack of fiscal discipline in the following manner

> I am concerned that, should the enforcement mechanisms governing the budget process not be restored, the resulting lack of clear direction and constructive goals would allow the inbuilt political bias in favor of growing budget deficits to again become entrenched. We are all too aware that government spending programs and tax preferences can be easy to initiate or expand but extraordinarily difficult to trim or shut down once constituencies develop that have a stake in maintaining the status quo.
>
> (Greenspan 1997d)

One of Greenspan's major concerns with a lack of budget discipline over the near term is that the United States is going through a 'demographic lull' and an aging population will pressure the public purse for years to come. It is a tall order for productivity and immigration to offset these growing and largely unfunded liabilities. Otherwise, tax rates and revenues may have to rise in the

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future to cover the prospect of increasing government expenditures for many years to come. This is why Greenspan favours a comprehensive set of budget scenarios being presented to the American public and why he favours government accrural-based accounting over cash-based accounting. This accounting change would provide greater illumination of future, intergenerational liabilities.

In summary, Greenspan believes that the private sector, together with a competitive drive, provides the best opportunity to create sustainable long-term prosperity. His job is to create a low inflation-low interest rate environment in which investors can make long-term decisions bounded by a limited amount of uncertainty.

Greenspan and the markets

As Greenspan's credibility as a policy-maker increased in the early 1990s so did fear spread throughout the professional investor community about what he could say that could significantly shift asset values—and within minutes. Professional investors would listen carefully to any hint that the *direction* of interest rates would change sometime soon. They also knew that interest rate hikes and falls tended to be in clusters or a series. Which one would be the last in the series—signalling a 'permanent' change in the direction of monetary policy—for the medium term at least. Professional traders were alert to signals of 'turning points' or major policy reversals that would provide green or red light for investing. The Fed would signal a 'bias' in future monetary policy—or state that it is currently 'neutral'. Investors would often wait for Greenspan's testimonies and not take large positions in the market for fear of a clear shift in the future direction of monetary policy. Or they would wait in the hope that Greenspan would say nothing and so remove the shadow overhanging traders in the finance markets.

A degree of caution is required when interpreting Greenspan-speak as 'bad news' maybe good news for the market and 'good news' may in fact turn out to be bad news. This resembles the Goldilocks economy referred to earlier—'not too hot and not too cold'. Bond traders want bad news concerning the economy to translate into lower inflationary heat and so lower interest rates. Hence, capital gains on bonds would rise. And stock prices would normally rise with a lag—as the future level of interest rates—remain low. Therefore, the inexperienced investor needs to be careful when assessing the impact of Greenspan's words on the markets. Too much good news concerning growth, capacity utilization, retail sales, consumer spending on durable goods, etc. may provoke a rise in interest rates and so scare off bond investors. Equity buyers must then decide on whether to ignore rumblings in the bond market and so buy stocks. The perversity of this goldilocks economy is that real bad, recessionary news or past data gloom may imply lower interest rates in the near term and so a surge on Wall Street via a

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calm bond market. After all, Wall Street is more concerned with the future not the past.

Some examples of hints or signals that would influence traders are references made by Greenspan to current or future inflationary heat, demand persistently outstripping supply, wage pressures, labour market tightness, job creation, the unemployment rate, growth being too rapid, gross imbalances or the onset of deflationary forces. Any hint that inflation is subsiding would spell a prospect for interest rates to fall and so a signal to buy stocks. However, such hints could be seen in a negative light—that of imbalances being unsustainable and excess demand pressuring limited resources. Hence the risk that long-term interest rates would rise. Of course, the famous phrase that investors jumped on was that of 'irrational exuberance' uttered by Greenspan. While some signals are clear others are not, perhaps for the reason that Greenspan speaks in the hypothetical and in the abstract. It is therefore very easy for the investor to misinterpret.

What are some examples of Greenspan's words moving the market? First, we shall examine those periods when, somewhat coincidentally, the Dow was at or near all time highs. The chairman had a habit of moving against investor enthusiasm in 1994, 1996 and 1997—all record highs in US stocks—by raising interest rates or jawboning the market down.

The famous utterance of stock markets displaying 'irrational exuberance' was delivered in a speech entitled 'The Challenges of Central Banking in a Democratic Society' on Thursday 5 December 1996. Not only did he use this phrase but also used the word 'bubble', although mostly in reference to Japan. Investors read this as Greenspan's way of telling them that stocks were overvalued in his view. And perhaps speculation was rife, generating values that were not sustainable in the long term. These words scared the market, causing it to see-saw on Friday but closing down and losing 3 per cent by the end of the next week. The damage overseas was more vicious as Friday in Asia and Europe are normally down days anyway—for fear of the US markets collapsing on the weekend. These markets lost 2 and 3 per cent on their Friday immediately after Greenspan's speech. Perhaps Greenspan wanted to warn the markets of danger and maybe he was doing investors a favour? Rumour has it that he warned Wall Street power brokers earlier that week of his stern view that stocks were overvalued and that these brokers should counsel their clients. According to theory, this is a cheap way of cooling off asset prices and inflationary heat by 'jaw-boning'—that is, scaring markets to cool off without having to raise interest rates.

On another occasion, the 8 October 1997, Greenspan took the opportunity to talk the market down. In early October, the stock markets had been humming along spurred on by robust economic data. For example, the Dow rose 61 points on the Monday and 78 points on the Tuesday to sit at 8,178 points. The recent Dow high of 8,260 was hit in early August. The stage was set for Greenspan to throw some cold water on investor enthusiasm. On Wednesday, he made some points very clear concerning labour market tightness—the likely near term rise in

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wage growth and hence inflation. His basic thrust was that labour was willing, for the time being, to temper higher wage claims in exchange for greater job security. In his view this 'treaty' could not last. He states

> To be sure, there is little evidence of wage acceleration. To believe, however, that wage pressures will not intensify as the group of people who are not working, but would like to, rapidly diminishes, strains credibility. The law of supply and demand has not been repealed. If labor demand continues to out-pace sustainable increases in supply, the question is surely when, not whether, labor costs will escalate more rapidly.
>
> (Greenspan 1997d)

Greenspan's basic message to the markets was that inflation was on the horizon and he may well have to act. In the same speech he felt compelled to warn investors again about overvaluation and the remoteness of stocks rising in the near term by anywhere near the magnitudes of the last two years. He stated 'Aside from the question of whether stock prices will rise or fall, it clearly would be unrealistic to look for a continuation of stock market gains of anything like the magnitude of those recorded in the past couple of years.' (Greenspan 1997d).

Although this 'warning' was not stating anything new, as the investment community knew that stocks were running hot and were near all-time highs, there was an element of realism and urgency in the warning. The markets did not like the strength or tone of what Greenspan had to say in his statement. The Dow retreated a 120 points the next few days or around 1.5 per cent. The bond market did not like the tone either and bond yields rose—this time there was flow on effect to home mortgages—and now much of middle-class America felt what Greenspan had said!

If we go back to 1994 we witness a similar desire by Greenspan to cool-off expectations and stock prices. When the Dow hit 4,000 points in 1994 Greenspan responded swiftly by raising interest rates. Giving him the benefit of the doubt, his target was a lower *goods price* inflation rate but he was not disappointed that *asset prices* would fall as well.

A similar picture develops when we examine Greenspan's fear of financial contagion in late February 1999. His concern was that financial disturbances and failure overseas could be transmitted to the United States quickly and traumatically. Shaky foreign economies could soak up would-be capital headed for the United States and so cause foreign capital inflows to subside. This in turn would impact on the US dollar and so spur imported inflation—prompting higher domestic interest rates. The other channel by which interest rates may rise is via a shrinking pool of domestic savings. Greenspan (1999e) stated his concern 'Foreigners presumably will not want to raise indefinitely the share of their portfolios in claims on the United States. Should the sustainability of the buildup of our foreign indebtedness come into question, the exchange value of the dollar may well decline, imparting pressures on prices in the United States.'

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Any inflation hike or interest rate scare was bound to unnerve investors whether the origins were financial contagion or not. Greenspan's fear was realized soon after. The Dow fell 250 points within three days or 2.6 per cent. The experienced investor knew from previous confrontations with Greenspan that it was always wise to run— for simple reason that your fellow investor would most likely run anyway—and you had to run faster than him to the exit gate. A sliding US dollar has become a real concern for US policy-makers—as foreigners have displayed their reluctance to hold the US dollar in the face of a widening current account deficit. The Iraqi crisis added greater uncertainty to the business calculus.

From this section we have a clear picture that Greenspan's views on the state and dynamism of the US economy will move markets quickly but what we have not told you is that the effects normally fade within a few days. *Jawboning has its limits.* Only if Greenspan's words alter perceptions of risk permanently—will the investment community take heed and adjust their asset allocations. For example, when investors perceive that turning points in interest rate cycles are near or that a productivity surge is sustainable—they shift their perceptions of risk and alter asset allocations accordingly. From the historical record, there are times when Greenspan has moved markets—in a lasting manner—from expressing his views on the US economy. Most times, however, his view is acknowledged within the gambit of many views and market participants conduct their own analysis and act accordingly.

The earlier discussion assumes that the Fed wields *absolute* power. There are those that remain grossly skeptical of the Fed's power to decree what the level and structure interest rates will be. For example,

> The Fed cannot move interest rates, because its open-market operations occur in the federal funds market, a tiny, artificial marketplace by comparison with the total market for short-term debt securities. The Fed's domain is comparable to a child's sandbox stuck in one corner of the football field. Consequently, the Fed cannot move interest rates through brut force, the buying and selling of treasury securities. Its influence over interest rates stems directly from the perception that it can move rates, much as the Wizard of Oz's influence over the Munchkins grew from their belief in this power.
>
> (Ely 1996)

This skepticism highlights the point that the Fed may *influence* interest rates at the short end of the yield curve but not *control* them. Perhaps why the Fed appears so effective is because of its credibility, its authority and its ability to bluff the investment community into believing that the interest rates they set are indeed 'official'— and will stick.

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Sifting wheat from the chaff

Listening to Greenspan and watching the Fed is almost a sport in America. Trying to second-guess the most powerful man in the world is both fun and profitable—that is, if one can interpret what he *means* from what he *says*. Herein lies the problem, as 'Greenspan talk' is full of double negatives—is guarded, hypothetical, abstract and conservative. He deliberately speaks from a historical and theoretical background concerning the economy but will not state categorically where the United States is on the business cycle, or whether growth is too rapid compared to potential output or whether inflation is too high or whether asset values are excessive, etc. He is more cautious with what words he uses—often preferring 'in all probability', 'most likely', 'on balance', 'possibly'—in order not to signal to markets that the Fed has superior, secretive knowledge concerning the economy and its future. He does not wish to give 'advice' to investors that later on may turn out to be erroneous.

He is also very careful with regard to his comments on interest rates. He knows that any loose word or phrase concerning the future course of interest rates could send the finance markets into a frenzy. He also knows that professional traders will hear what they want to hear and so it is essential that he says what he means or not say it at all! This is why we observe that Greenspan will deliberately avoid any discussion of interest rates if at all possible. Only when he decides that markets should be informed would he send a 'clear' message, at least by his own standards. It is here that shifts in monetary policy stance are made clear and that the expectation is created that a series of interest rates changes will be made over the coming months. Again, according to theory, Greenspan does not want to surprise or shock the markets unnecessarily.

What is also worth noting is that most of the power of Greenspan to move markets comes from within his Humphrey-Hawkins testimonies. Occasionally, he may use his addresses at universities and other public forums to gain some media attention and so impact but this is not the norm. His carefully designed speeches in front of the Senate and Congress committees are his forum for analyzing the most recent trends in the economy and to respond to questions during question time. It is in this forum that Greenspan addresses issues that are close to his heart and the more time he devotes to them the more we should listen. Hints to interest rate policy often flow from these topics. He recently shared his heart concerning the danger of US budget deficits in March 2003—but was careful in stating that 'these views are my own and are not necessarily shared by my colleagues at the Federal Reserve'.

Power to move the economy?

How much of a contribution did Greenspan make to the many years of US prosperity under his reign as chairman of the Fed? I believe that the jury is out on this one. Neoclassical economists, including Greenspan, do not believe that

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government policies drive long-term growth. Such policies may aid macroeconomic stability in the short run and so create a stable setting for certainty in decision-making—particularly capital formation in the long run. His basic paradigm of 'growth via low inflation' is very much a conservative view of the growth theory—the private sector will invest and create new knowledge in the calm sea of certainty. The size of the government should be kept small so as to not stifle economic incentives. It then follows that Greenspan or the Fed does not possess any power to create long-run growth. Most economists believe that the ebb and flow of the money supply does not stimulate any lasting growth nor does the manipulation of interest rates. There may be short-term *real* effects on output and employment and such stimulii may assist in kick-starting the economy —but not in maintaining any long-term growth momentum. Despite what theory has to say, the Fed did create an environment in which growth could flourish and the Fed did remain 'alert' to clear and present dangers concerning 'threats' to growth. It maintained levels of real interest rates that were conducive to growth. The Fed also managed the US banking system well—in that credit could flow smoothly to credit worthy customers. A healthy financial intermediation function —by the banks—was a major supervisory watchdog role cherished by the Fed.

In summary, Greenspan has the power to move financial markets around for a time but not so much the real economy. Perhaps, it is more accurate to say that the Fed has the power to move the economy closer to full employment or full potential. That is, to restore the economy's actual cruise speed closer to its natural potential. We discussed such concepts as Okun's law and the NAIRU in the previous chapters.

Mistakes in the Greenspan era?

In his early days of office, in mid-1987, he raised the discount rate by half a point. This may have been a premature and hasty move given that the economy was already cooling off. This move was also not welcomed by an already nervous stock market. It fell by 508 points or 22 per cent of its value on Black Monday—the 19 October. Although the driving forces of collapse were manifold, the signal sent out by Greenspan to the markets was of possible more interest rate hikes. This signal changed risk perceptions and investors wanted out. After Black Monday, Greenspan reacted rather promptly by lowering the discount rate from 7.5 to 6 per cent. Although a swift policy reversal was warranted, the question remains whether Greenspan was cleaning up his own mess, that is, raising interest rates only to lower them five weeks later. It would be unfair to 'blame' Greenspan for the sudden collapse in investor sentiment but no doubt he learnt the hard way that he did have power to alter risk perceptions and all too quickly at that. After all, the growth rate of the money supply lost its momentum in that era.

A persistent theme in Greenspan's thinking is that a financial crisis should not be allowed to damage the real economy and therefore the Fed should stand ready

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to provide liquidity to the limit of calming investor nerves. He made this point clear

> Early on Tuesday morning, 20 October, we issued a statement indicating that the Federal Reserve stood ready to provide liquidity to the economy and financial markets. In support of that policy, we maintained a highly visible presence through open market operations, arranging system repurchase agreements each day from 19–30 October. These were substantial in amount and were frequently arranged at an earlier time than usual, underscoring our intent to keep markets liquid.
>
> (Greenspan 1988b)

Greenspan's view of the causes of the 1987 stock market crash focused on portfolio insurance, program trading and a breakdown in the effectiveness of arbitrage trading. What began as technical plays in a falling market ended up as psychological panic in a collapsing market. Professional traders placed program sell orders if certain levels were breached. They were breached and waves of selling were triggered. The exchanges were overloaded with orders far beyond the limits of technical capacity and such a jam caused investors to panic in an effort to get out. Normally, arbitragers would be at work to close the gap between current and future prices but they too panicked and followed the trend down. Greenspan believed that an interaction of technology and human nature accentuated the collapse. 'On October 19th and immediately thereafter, one could observe the interaction between technology and human nature quite clearly: the news of sharply falling stock prices, communicated instantly to a sensitive investment community, triggered an avalanche of sell orders on both futures and stock exchanges' (Greenspan 1988c).

Despite such a horrendous collapse in stock markets Greenspan (1988b) still maintained his philosophic stance that markets are efficient and do self-correct. 'We must carefully distinguish those problems that are self-correcting, or can be addressed within an existing regulatory frameworks, from those that will require more fundamental, perhaps legislative, solutions.' He adamantly favours self-regulation over government regulation—'As a general principle, it is in the self-interest of the exchanges and associations of market makers to protect and enhance the integrity of their markets. They also have superior knowledge of their own markets. Thus, we should rely where possible on the private organizations to correct the problems that were evident last October.' (Greenspan 1988a).

Thus, during this crisis Greenspan offered support via lower interest rates but he did not seek heavy-handed intervention over the way stock exchanges conducted their business. It should also be noted that Greenspan was concerned, *as always,* with the possible damage that collapsing stock values would inflict on the real economy. As it turned out the damage was minor—probably because the economic system remained liquid for months after the 1987 crash.

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In 1994, I was in the United States happily watching CNBC and hoping for a good investment year. I was sadly disappointed of course as this was the year that Greenspan embarked on his pre-emptive strike against inflation—or as some say the 'old enemy'. According to his economic paradigm there were flashing signals of imbalances, excess demand heat and tight labour markets that all spelt an acceleration of inflation—that was underway but somewhat opaque. There were many angry critics of his strategy of attacking an enemy that was not a 'clear and present danger'. His defense was that it was easier to wrench inflationary expectations out of the system now than to wait for inflation to accelerate and so pay a higher demand management costs later. His critics pointed to lost output and jobs, hurting working-class America and to falling equity and bond prices hurting middle-class America— these were the visible current costs of his engagement with the invisible and perhaps phantom enemy. Greenspan's response was that inflation did not accelerate in 1994 or 1995 and so his policy tightening was justified. Others counteract this claim by saying that inflation was not a problem anyway—in 1994 or 1995—and so the Fed was on a self-indulgent wild goose chase. The jury is out on this one and perhaps we shall never know. Perhaps the eighteen months of lost output and financial market weakness was a price worth paying for greater certainty and a more stable economy over the longer term. After all, the growth stint from 1995 through 2000 was impressive.

There is, however, a lesson that Greenspan may have learnt here and that is the neat and well-loved paradigm that he claims to be conventional, neoclassical theory of growth and stabilization may have shifted beneath his feet. He knows that the US economy has an economic cruise speed or a level of potential output that according to history is around 3 per cent. Any growth rate beyond that 'speed' will generate inflation and the greater the speed the faster will inflation accelerate. It is the Fed's role to ensure that speed limits are not broken for any length of time as the inflationary cost will only escalate. It is here that Greenspan based his pre-emptive strike against inflation in 1994. Unfortunately, the paradigm may have shifted as the United States experienced higher than trend growth in the late 1990s and did not suffer inflationary outbtreaks! Likewise, in the labour market the unemployment rate fell as low as 4 per cent in the 1990s and there was no wage explosion. In other words, extreme labour market tightness nor 'excess' demand caused inflation—anything like past experiences. Therefore, Greenspan learnt that relying too much on old empirical relationships to be time-consistent, and indeed too much reliance on the neoclassical paradigm, may not be effective on every occasion—or in the current 'unchartered waters'. The US economy broke old cruise speeds without igniting inflationary chaos—a fact that Greenspan is still trying to explain to this day. He is now more cautious about predicting *when* inflation will raise its head. Finding a new paradigm that can explain America's high growth speed and therefore low levels of monetary policy intervention is now a challenging issue.

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A pressing question relates to Greenspan's tolerance of asset price bubbles during his reign as chairman of the Fed. Why did he just ignore them? Why did he not act aggressively enough to deflate them? Were the spillovers of effects on the real economy going to be minimal? We have seen in Chapters 7 and 8 that he has quite clear and strong views as to how they develop, why they persist and why the valuing of assets is best left in the hands of the private sector. Greenspan states

> Most of the variations (in degrees of confidence) are the result of the sheer difficulty in making judgments and, therefore, commitments about, and to, the future. On occasion, this very difficulty leads to less-disciplined evaluations, which foster price volatility and, in some cases, what we term market bubbles— that is, asset values inflated more on the expectation that others will pay higher prices than on a knowledgeable judgment of true value.
>
> (Sicilia and Cruikshank 2000:197)

Has human nature changed over history? Have human beings discovered a different set of rules for valuing assets? Are they driven by a different psychology? Greenspan answers 'no'. He states

> There is one important caveat to the notion that we live in a new economy, and that is human psychology. The same enthusiasms and fears that gripped our forebears are, in every way, visible in the generations now actively participating in the American economy. Human actions are always rooted in a forecast of the consequences of those actions. When the future becomes sufficiently clouded, people eschew those actions and disengage from previous commitments. To be sure, the degree of risk aversion differs from person to person, but judging the way prices behave in today's markets, compared with those of a century ago, one is hard pressed to find significant differences. The way we evaluate asset and the way changes in those values affect our economy do not appear to be coming out of a set of rules that is different from the one that governed that governed the actions of our forebears.
>
> (Sicilia and Cruikshank 2000:41)

In short, he argues that volatility in asset prices is not a new phenomenon that we should puzzle over. Human nature has not changed.

Greenspan's two flagships

There are two key flagships of Greenspan's economic rationale. One is the fervent belief in the current US productivity miracle. The other is the linchpin importance of consumer confidence. All economic activity can be traced back to

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the health, wealth and optimism of the consumer. All investment and saving is aimed at future consumption. It then follows that any sustainable revival in US private sector investment spending must ride on the back of healthy, if not rising, consumption levels. Greenspan is all too aware that a consumer without confidence will collapse and shrink back into a shell—causing economic stagnation and eventual contraction if left to wallow in despair. Consumer expectations are influenced by a number of variables—some of which can be fortified by the government. Hence, Greenspan is circumspect and guarded as to what he states in public and how he phrases it. He knows that the media will pounce on any loose word or pessimistic view. This is why he often uses an understatement—such as 'the economy is going through a soft spot'—to portray a situation that is rather more serious like a 'recession'. He does not wish to alarm consumers or create an unnecessary air of pessimism. He knows that the current 'soft spot' in economic activity is chugging along on the sail of consumer doggedness.

The persistent rise in US productivity is often referred to by Greenspan as the saving grace and rear guard of the US recovery. Even though stock prices have softened, adverse wealth effects kicked in and several types of investment have collapsed—the foundation of the real economy (productivity growth) has not faltered. He notes that productivity growth in 2001–2 was even better than in the 1990s—'During the recent downturn, however, productivity held up comparatively well, a performance that makes last year's surge all the more impressive. Indeed, productivity rose at an average annual rate of nearly 3 per cent over the past two years, faster than the average pace of increase during the late 1990s.' (Greenspan 2003).

We need to be careful in proclaiming the virtues of productivity growth. Businesses may operate more efficiently by shedding labour and extracting more output from a shrinking work force but there are negatives to consider. First, this 'type' of productivity gain is not necessarily sustainable—shedding labour has its costs in terms of losing experienced workers and re-training new workers in the future— when economic expansion recovers. Second, there are limits as to how much labour can be shed in relation to organizational structure and capital stock. Too many layoffs may actually be counterproductive over the medium term —even though visible cost reductions accrue in the short-term. Third, the best 'type' of productivity gain is based on both rising output and employment levels. That is, expanding employment numbers in the face of rising aggregate demand. This is particularly relevant to the US economy in 2004–5—as cost cutting and labour shedding has probably reached its limits—and now improving labour productivity is required amidst an expanding work force and aggregate demand. This is the true test of real productivity gains affecting human welfare. We want job creation not job destruction despite what the productivity statistics tell us.

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Flexibility: Greenspan's hallmark

There have been many trials and tribulations during Greenspan's reign. The crash of 1987, the recession of 1991, the Asian crisis of 1997, the bubble years of 1999–2000, the implosion of stock prices in 2001–2 and the collapse in economic activity that ensued. He is one of the few Fed Chairmen who has faced both asset price inflation *and* deflation in one reign. Deflation, both of asset and goods prices, is a relatively new phenomenon and Greenspan has admitted himself before senate hearings in May 2003 that persistent deflation constitutes uncharted waters for the Fed. There is no relying on past experience to finesse solutions.

Another dimension of the chairman's job is to consider more closely geopolitical events, other nation's monetary policies and the cohesion and symmetry of the world's recovery. He knows that both Japan and Germany are languishing under deflationary clouds and signs of economic revival are weak. He also knows that his analysis and decisions on both the level of interest rates and the timing of those changes have an enormous impact on the rest of the world. As the global village has shrunk so has the power of the Fed chairman increased. The stock markets of major economies are strongly linked to the health of the US stock market.

Perhaps, in previous discussions we have revealed Greenspan's loose affection for any one economic paradigm or model. He displays all the hallmarks of being an eclectic—one who gleans wisdom from a whole host of data—and evaluates the different results generated by different models. He uses a plethora of data to evaluate inflationary heat—not just one.

With regards policy initiatives there are distinct pluses from his analytical framework. First, he acknowledges that low interest rates, of themselves, may not be enough to maintain the gradual lift in economic momentum. The price of money may not be enough to illicit a response in long-term investment. As the old saying goes on the effectiveness of monetary policy—'you can't push on a string'. People can't be made to borrow money. Other forms of the monetary transmission mechanism need to be considered—such as corporate net worth, spreads between corporate and government bond yields and the availability of credit in general. Greenspan is aware that the US system needs to be kept as liquid as possible and he has done so since September 11.

A key insight of Greenspan is that he has expressed willingness to buy long dated government securities in an attempt 'to tame' the long end of the yield curve. Even if his efforts to drive down interest rates at the short end of the yield curve 'fail' to encourage the long end to come down as well—he is willing to act. The long end sometimes, as in 2002, believed that the aggressive monetary and fiscal policies in train would result in inflationary pressure in the medium term. Such a belief was mis-founded and long-term interest rates actually eased late in 2002 and 2003. Nevertheless, Greenspan has revealed his flexibility and willingness to conduct a monetary policy that will be effective in the first stage—

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and that is keeping both short- and long-term interest rates relatively low. He is also aware of the beneficial flow-on effects to corporate debt ratings of this two-pronged monetary strategy.

One reason why this approach is so ingenious is that most analysts think that interest rates can't conceivably go any lower in the United States What would the recent interest rate cut from 1.0 to 0.75 per cent achieve anyway? Perhaps a fall all the way down to 0.5 per cent may have significant real effects? However, market analysts often talk about further cuts below the current 1 per cent as a sign of panic by the Fed. After all, we have witnessed Japan use the interest rate tool until it cannot use it any more—and the real effects on the economy failed to eventuate. Greenspan does not wish to over-depend on the interest rate tool as he knows the limits are being reached. Nominal rates can't go negative. True, real interest rates could be pushed negative by a combination of lower nominal rates and 'allowing' a mild rise in the inflation rate. This still remains a viable option for the Fed but not lower nominal rates alone. Although Greenspan publicly states that the level of the US dollar is the concern of the administration, he knows that monetary policy will affect expectations of asset prices and capital flows. Any further aggressive interest rate cutting and the US dollar may be sold off further.

This leads to another insight into Greenspan's tactics with regard to the effectiveness of monetary policy. He teases the finance markets with the possibility of an interest rate cut, knowing that a fully anticipated cut will have little impact whereas the opposite is true when the finance markets doubt an interest rate cut but Greenspan delivers one. This is standard text-book theory, *unanticipated* shocks have more effect on economy activity and the markets than does an anticipated shock. This is not to say that he attempts to beat or fool the markets—he does not. But he will time his announcements, biases in policy settings and rate cuts when he thinks maximum impact will be achieved.

Another example of flexibility in policy-making is when Greenspan uses the principle of *insurance*. In mid-2002 when the stock markets tumbled and US economic data revealed signs of extreme weakness there was much pressure on the Fed to cut rates further and soon. Although Greenspan's long-term view was that the economy was on track for recovery there were reasons for concern and even doubt—that the economy may be headed for a double dip recession. His fundamental view was that enormous stimulus was already in the pipeline and so we just had to wait—more cuts may turn out to be over-kill and more inflationary heat later on. Besides, the long end of the yield curve wouldn't like it. He gave in and did cut rates further based on the notion of taking out insurance. What would it cost to lower interest rates anyway? Even then, the costs of getting it wrong would be low. Would a spike in inflation be an immediate threat? Probably not with sizable excess capacity and idle labour. Corporations lacked pricing power and were undertaking massive costcutting operations and so immediate price pressure was not likely. Perhaps, the casualty was the slide in the US dollar but then again there is some credibility to the view

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that a lower dollar was desirable. From hindsight, Greenspan's use of insurance worked well. He has also stated his willingness to employ this principle of insurance in 2003 if need be.

In summary, Greenspan's flexible approach to formulating and executing monetary policy has been commendable. He has been *solutions* and not *constraints* orientated. He has not been tied to one economic paradigm even though he probably has been confined to neo/new classical schools of thought.

Conclusion

This chapter surveyed some of the highlights of Greenspan's achievements as prime policy-maker in the United States from 1987 till 2003. There were many victories during his reign and only a handful of failures—if I could be so bold. Whether his tolerance of asset price bubbles taints his stewardship record in the future remains to be seen. What is fair to say is that his knowledge of economics and finance has been of a high standard and his use of an economics paradigm on which to formulate monetary policy has been sound—at least within the confines of traditional wisdom. He has favoured caution over flair and insurance over risk-taking and yet he has acted swiftly and decisively during times of crisis. He maybe not as conservative as what his testimonies portray. During the 1987 and the September 11 crises he opened the discount window widely and made sure that markets understood his resolve that abundant liquidity would be provided to the financial sector. He also sought to soothe the nerves of markets during the Asian crisis in 1997–8. America experienced eight years of solid economic growth *with* stability and part of that triumph can be attributed to Greenspan's helmsmanship. What remains in doubt is the bursting of the stock price bubble and the potential of the subsequent asset price deflation to overhang and suffocate the real economy for years after the collapse. It is here, fighting deflation, that Greenspan may have his finest hour. He has displayed a substantial degree of wisdom and courage in forming a strategy to re-float America's economy. He will most likely triumph once again.

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10
The great asset price bubble of 1929

Introduction

Rarely does an economic crisis scar the minds of people for life, but the Great Depression is the exception. Many years after the event, even when many ordinary people had become millionaires, they remained frugal in their lifestyles. Fear of another depression burnt the importance of thrift into their mindsets. Given the magnitude of the disaster, and its long aftermath, it should not come as a surprise that governments introduced regulatory changes in the 1930s that were aimed at reducing speculative tendencies within the economic and investment arenas. The financial sector was a major target, as it significantly fuelled the boom of the 1920s, as was the stock broking fraternity that fostered 'buying on margin'. Nevertheless, it was the individual speculator's greed that drove the quest for quick capital gains, rather than medium term dividends, and so the speculator could accept a major slice of the blame for the economic and social crisis that ensued. What were causes of the Great Depression? How important were speculative forces in this crash? What lessons have we learnt? Could history repeat itself? This chapter examines these questions in the light of the recent boom in US stocks prices. Of particular interest is the degree to which speculative forces overshadowed real economy-wide forces in driving the crash of 1929.

Seeds of the bust in the 1920s

There were economic developments in the 1920s that may have spurred the rise of the stock market later in the decade. The economic power of the United States was given a boost post First World War as Europe was still recovering from the ravages of that war. There was a race to lift inventory levels and so a boom developed in 1920–1. The domestic economy was also undergoing a transformation, as an industrial organization revolution saw US companies develop new management techniques, generate economies of scale and scope and benefit from innovation as science was applied more to industrial problems. Such a transformation is analogous to the 'peace dividend' spoken of after the end of

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the Cold War in the 1990s. Hence, real factors or better economic fundamentals may have laid the foundations for the improved economic performance of US companies in terms of earnings and dividends throughout the 1920s. Higher productivity could then explain the 'real bubble' in stocks from early 1927 until October 1929.

Structural changes in the world economy were underway as a result of the dislocation of war. New producers, and therefore competitors, contributed to obsolescence in some industrial countries and more importantly caused a misalignment of exchange rates. New parities had to be found. Europe held comparatively small gold reserves and so any disruption to old world trading patterns was going to place stress on 'old equilibrium' exchange rates. The environment was ripe for a series of competitive devaluations.

Major shifts were taking place in US industry. General Motors challenged Ford as the industry's leader and such stocks were seen as 'frontier stocks'—offering much 'blue sky'. Utility stocks were in favour, as they promised lucrative returns from consolidation and economies of scale. RCA emerged as a 'growth industry' stock in radio and so provided an example of how new technology stimulated investor imagination and the possibility of enormous future dividends. Hence, this era possessed the 'hightech' growth stocks that are so common in the frenzied markets of the late 1990s. Unfortunately, rampant expectations ran far ahead of what dividends were even likely to eventuate and so profit disappointment was inevitable. This was particularly true for the high-flying 'new economy' stocks of the era.

Even though domestic industry was enmeshed in a technological and innovation push there were nevertheless growing pains and instability in the real sector that threatened to derail the industrial boom. Problems of overcapacity and overbuilding were the downside of the real sector's speed in the fast lane. Market saturation set speed limits on industrial expansion and sales. A continuing boom in consumption was constrained by a lopsided distribution of income. Overcapacity in industry was linked to market penetration limits, which in turn was constrained by the fault line in the distribution of income. Companies that wished to break this barrier or fault line were venturing into waters of high-risk credit buyers of dubious credit quality that were bound to default during hard times.

If it is not a fundamental productivity-driven boom driving the stock market boom in the 1920s then would a speculative bubble provide a better explanation of such euphoric stock prices? In other words, was this an economic or a financial crisis? There is much empirical support for the view that the stock market boom, bust and subsequent depression were all of a *financial* nature. The underlying forces generating such a financial crisis were easy access to credit, high leverage ratios, speculative mania, 'Vested interests' pumping the market up like a balloon and rapid changes in risk perception to name a few.

However there are several reasons for caution in this 'fundamentals versus bubble based' stock market boom. First, the additional wealth created by the

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productivity boom of the postwar era indirectly contributed to additional liquidity in the economic system—a 'problem' of growing prosperity, that is, where to place the surplus? Second, as pointed out by Blanchard and Watson (1982), there was a risk assessment issue, as the fundamentals of individual stocks, old economy versus new economy or significant shifts within specific industries, posed analytical problems for the would-be investor. Third, a subtle distinction may help reconcile this 'either/or' debate in that the early stages of the boom, or economic recovery in 1927, may have been legitimately based on fundamentals but was quickly subsumed by large and not-so-large speculators seeking quick-fire profits. Moreover, if government authorities had not 'mismanaged' both the stock market collapse and the economy later on—then the healthy strides made by US industry may have continued into the 1930s, that is, a smooth trend line of growth and consumption and not a bumpy ride of plenty or famine.

Damage to the real economy

From Figure 10.1, the massive drop in the Dow can be seen. From the peak in 1929 to the trough in 1932 the fall was around 85 per cent. The duration of the collapse was over four years and it was not until 1934 that both the Dow and the economy partially recovered. Even so, the rest of the 1930s were not spectacular and it was not until the next war boom conditions that prosperity returned.

Given the major scramble out of stocks and into cash, one might expect that other more productive and physical assets such as real estate would be given a boost. After all, payments for land and building were not 'on call' as in margin calls for stocks. Such loans were more long-term in nature and so would not suffer from a credit squeeze? However, this line of reasoning proved false, as real estate assets along with financial assets tumbled albeit with a lag. Rates and taxes still had to be paid, pressuring the cash flow of real estate owners and this combined with the recalling of loans by banks brought more sellers to the market. Again, falling asset prices damaged bank balance sheets stimulating more loan recalls and further straining cash flows which in turn damaged asset prices. In short, this vicious circle of contraction in the real estate market caused many banks to fail. Bank failure was more a result of collapsing real estate prices and non-performing loans than of non-performing loans from stockbrokers or speculators in stocks. Such a contraction was partly a result of a contracting money supply—as can be seen from Table 10.1. Hence, the rolling financial wave of disaster spread over the whole economy and devastated all asset prices in its wake. Non-discriminating contagion was at work.

Undoubtedly the distinguishing feature of the Great Depression was the huge instability of the financial sector that transmitted reverberations into the real sector of the economy. Everyone's daily life was affected. Output and employment collapsed sharply in a short time frame as can be seen from Table 10.1.

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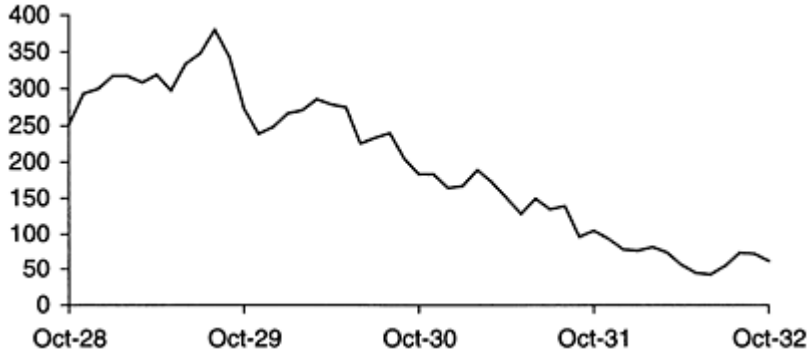

Figure 10.1 Level of Dow (Oct 1928–32).

Source: Board of Governors of the Federal Reserve System.

Table 10.1 Key economic and financial variables

	Unemployment	*Inflation*	*Money supply*	*Real interest rates*
1929	3.2	—		5.9
1930	8.9	−2.6	−4.0	3.6
1931	16.3	−10.1	−6.6	2.6
1932	24.1	−9.3	−12.5	2.7
1933	25.2	−2.2	−5.7	1.7
1934	22.0	7.4	+10.0	1.0
1935	20.3	0.9	+18.7	0.8
1936	17.0	0.2	+14.2	0.8
1937	14.3	4.2	+4.4	0.9

Source: Mankiw (1999).

Causes of the 1929 crash and depression

It is important to distinguish between the forces that caused the stock market crash from those driving forces, which caused the slump in economic activity for over five years. It is also important to appreciate those forces that were triggers from those that were part of the propagation mechanism(s). In other words, distinguishing between causes and symptoms—and between exogenous and endogenous—driving forces of the crash. Even though ‘direction of causation’ issues have not been resolved, there are several interesting theoretical twists that may shed some light on these matters.

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The Keynesian view

The Keynesian view centres on a collapse in aggregate demand. The money supply fell in response to lower levels of demand and economic activity, and so represents an endogenous view of monetary creation process. It is true that spending collapsed, but why? One reason given is the housing boom of the 1920s, and so overbuilding, that caused a building recession as the stock of the nation's housing became excessive. Slowing migration in the 1930s probably compounded this slack demand for housing. Another explanation for collapsing demand is the adverse wealth effect that devastated stock prices and so worker-consumer balance sheets. Lower wealth and greater uncertainty restricted spending. Higher real interest rates dampened spending and so interest rate sensitive expenditure suffered immediately. Moreover, higher unemployment rates and the fear of job loss forced consumption lower. In this view, it was the collapse in aggregate demand that caused or initiated the depression. As Christine Romer (1993) points out, consumer—worker expectations of *future* income was an important factor that caused lower spending *now*. Fear drove abstinence, further job insecurity and rising unemployment triggered a drastic revision of near term spending plans— 'awaiting information about the future'. In fact, Christine Romer (1993) claims that 'domestic shocks related to the stock market crash were crucial in the first year of the Depression, while monetary shocks were important in later years'. What then caused spending to collapse? The stock market crash itself—working through the above channels? Where were the self-correcting forces of the market? Some economists claim that prices and wages were not flexible prior to 1930 and so a fall in aggregate demand had real effects on the economy. Moreover, the Pigou effect could not be relied upon — where falling prices causing a rise in real money balances making people 'feel more wealthy'—was more than offset by pessimism, deflation and the devastating interaction of debt and inflation.

On the financial front, the health of banks had deteriorated because of the quality of assets held and the growing percentage of non-performing loans as households and businesses struggled to meet repayment schedules. Bank lending slumped under the weight of falling asset prices (a cumulative momentum) and the potential of the private sector to spend vastly slashed as banks either closed their doors or restricted lending. Investment spending was hit hard. Hence, the circular flow of income had collapsed or shrunk, in true Keynesian style. Once the downward spiral had begun, it possessed a life of its own.

Did government policies smooth or exacerbate the collapse of private sector spending? The economic orthodoxy of the day was to balance the government budget. Even amidst a severe economic contraction there was a desire by the government of the day to raise taxes and lower government spending in order to balance the budget. Unfortunately, this strategy is akin to a dog chasing its own tail. The downward spiral of output and employment is a self-fulfilling prophesy in some circumstances, particularly amidst falling asset prices, as further

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uncertainty sets in and destroys current horizon spending. Unfortunately, the Fed raised interest rates in 1931 as part of a strategy to stem capital outflow and defend the US dollar. The Fed also failed to raise the nominal money supply in face of a declining real money supply caused by falling prices.

The earlier discussion highlights the workings of the propagation mechanism of the Depression but what force(s) triggered the 1929 crash from a Keynesian perspective? Uncertainty, a change in risk perception concerning expected earnings and eventually investor pessimism sent the market into a tailspin. Animal spirits were at work.

The Galbraith-Kindleberger view

A second view, and still Keynesian in perspective, is that of Galbraith's notion of the role of 'Vested interests' in euphoria and mania. As Galbraith (1998) stated 'the vested interests in euphoria [that] leads men and women, individuals and institutions to believe that all will be better, that they are meant to be richer and to dismiss the notion as intellectually deficient what is in conflict with that conviction.' The 'Vested interests' he speaks of includes corporations that seek fresh capital, stockbroker's prosperity based on trading volume, large speculators and company promoters pushing new issues and the potential capital gains available. Although a craze or mania helps explain the upward momentum in stock prices it was indeed easy credit that fuelled this mania. Kindleberger holds a similar view that easy access to credit was the major culprit of the ballooning asset price bubble, citing the rise in call money from $6.4 billion at the end of December 1928 to $8.5 in early October 1929 (Kindleberger 1978). A down payment of 10 per cent for buying stocks was common. Moreover, the rationing of credit amidst the crisis, and the paralysis of the credit system after the crisis, choked any possibility of financial or economic recovery. His view is based on that of Minsky, that the financial system is fragile and the credit system inherently unstable.

A variation of this second view is that of Minsky's model of debt structures, leverage and bank credit. During the boom there is an expansion of bank credit, including personal credit, and economic agents take advantage of high leverage ratios in this 'one-way street' and indulge in the purchase of speculative assets. Credit from outside the banking system joins in on the lending craze and the associated rising wave of asset prices. Not only is credit creation the domain of the banking sector but also non-banks and other institutions providing personal credit. The wave eventually breaks through a 'displacement' or shock that hits the economic system. In the aftermath, loans are recalled and credit is rationed—accentuating the fall in asset prices. Just as the boom feeds on itself so does the crash—*a negative feedback mechanism*—that possesses a momentum of its own. Such a scenario is similar to that of the chronology of the depression era.

However, this view of easy credit causing the Great Depression has been challenged by White (1990). From Figure 10.2 there is an obvious close

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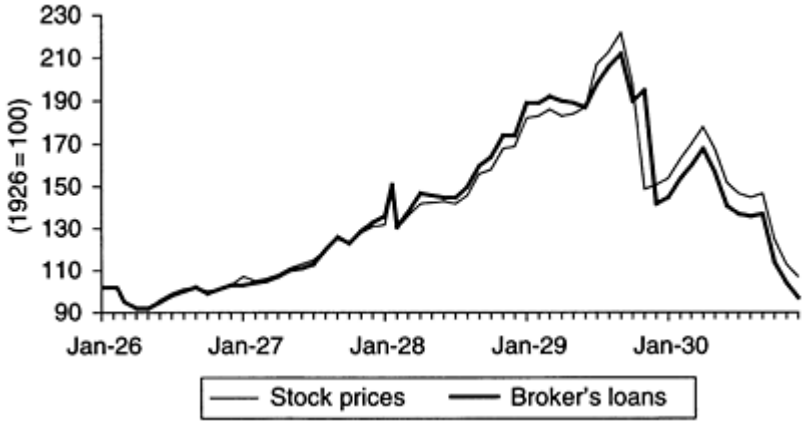

Figure 10.2 Stock prices and broker's loans.

Source: White (1990).

association between the extension of credit (broker's loans) and rising stock prices. However, the claim that broker's loans drove the stock boom is no more than an assumption. In his view, the demand for new issues and the insatiable hunger of the public for stocks generated an increase in the supply of stocks and credit. Kindleberger stresses the point that broker's loans went down from $1.64 billion at the end of 1928 to $1.1 billion by 4 October 1929. Call loans from outside banks went up from $2 billion at the end of 1926 to $3.88 billion in late 1928 to $6.64 billion by 4 October 1929 (Kindleberger 1978). There was not only an overall rise in credit supply but also a change in its source, indicating that demand was strong for stocks and credit even though the Federal Reserve had raised its discount rate and New York banks were tightening up. More hot money flowed from outside banks and into the provision of call money. The rise in broker's call rates in early 1929 should have dampened the enthusiasm of investors to buy stock on margin but did not. In his view, the *independent nature* of the stock market bubble forced changes in financial markets and the supply of credit. However, Kindleberger makes the point that the *threat* of the stock market closing for a few days—or even worse indefinitely—triggered a capital flight of call money by out-of-town banks (Kindleberger 1978).

In this view, the trigger mechanism for the stock market crash was the withdrawal of easy credit, first witnessed by the rise in the discount rate and second by rises in call rates signalling tighter credit conditions in the future. Even though more expensive credit was not enough to dampen speculator enthusiasm in early stages—the shrinkage of supply, burgeoning margin calls and excessive leverage colluded together to eventually squeeze investors into submission.

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The monetarist view

A third view of why the Great Depression took place is based on money and monetary policy. This is essentially the view of Milton Friedman, espousing the fact that the money supply did indeed shrink by 28 per cent between 1929 and 1933. This fall was due to a combination of factors; bank behaviour in response to their own balance sheets being suffocated, waves of bank failures and the fault of the Federal Reserve not acting quickly enough to restore liquidity to the economic system. Monetary liquidity was a major cause of the boom of the 1920s as it was a cause of the bust after 1929. A shrinkage in bank reserves caused 'high-powered money' to lose its potency—and even work in reverse. Friedman and Schwartz (1963) argue that waves of monetary contractions after 1929 generated a plethora of bank failures, which in turn reduced the money multiplier and the money stock. In this paradigm, a lack of monetary creation was the major propagation mechanism of the prolonged depression.

A corollary of this view is that the Fed reacted to the outflow of gold and so raised interest rates in order to defend the exchange rate under the gold standard regime of the time. Even though there was a choice between devaluation and deflation, the Fed in this era choose deflation by raising the discount rate from 3. 5 to 5 per cent. There was a contagion effect as European countries were forced to raise interest rates as well. Hence the Fed policy commitment to the gold standard came with a cost: *the spreading of deflation worldwide*. Lower international income and confidence spelt lower exports for all, including the United States. Foreign governments faced with a choice between further deflation or devaluation eventually were forced to forsake the former and choose the latter.

However, the raising of interest rates by the Fed was also targeted at cooling off the stock market bubble and its speculative heat. The interest rate rises were significant but nevertheless modest. Perhaps the Fed aimed for a soft landing. It is true that *real interest rates* did rise appreciably in 1928—from around 5.5 to 9. 5 per cent. Technically, 'money was tight' but the Fed was not in supreme control of the money creation process—despite its confidence. Investors could not only access broker's loans but also out-of-town banks provided funding for margin calls and so offset the tightening of liquidity by the Fed in short term. In fact, the rising interest rate environment before the 1929 crash orchestrated by the Fed only caused investors to circumvent formal channels and caused some banks to oblige such credit demand in what was still a lucrative capital gain environment. As outlined in Chapter 5, rising interest rates are not always a cure for an overheated economy. Higher rates of return and credit availability may offset any higher cost of capital. Out-of-town banks were willing to rely more heavily on the more 'expensive' borrowed than non-borrowed reserves in response to credit demand driven by the stock market boom.

However, after 1929 there was a flight to quality by banks and people driven by fear and uncertainty. Banks appeared liquid and the Fed misinterpreted such

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liquidity as potentially dangerous—not realizing of course that banks gave priority to repairing their own balance sheets and not lending. Moreover, the Fed was fearful of lower interest rates accentuating the already visible outflow of gold and so tightened credit conditions and raised interest rates to support the US dollar. From hindsight, this policy was the tail (external balance) wagging the dog (internal balance).

Research undertaken by Temin (1993) criticized this monetarist explanation. He claimed that consumption deviated from 'trend' and so *caused* the fall in the money supply. In this Keynesian view, consumption depends mainly on income but leaves open the question as to why income fell and what adverse wealth effects were at work? On the issue of causation from spending to money, the interest rate should fall if a reduction in spending precedes the decline in the money supply. In fact, nominal interest rates did fall and not rise. On the issue of the falling nominal money supply Temin (1993) points to his evidence of *real* money balances actually rising for much of the period. But the swamping effects of debt-deflation more than offset this *apparent* rise in the real money supply.

Another source of criticism is over the Friedman and Schwartz (1963) view of *exogenous* monetary contraction causing output declines with lags. There is an implicit assumption that the demand for money is stable. However, Field (1984) claims that hyper-intensive stock trading increased the demand for money in the face of a declining money supply in 1928–9. Such forces pressured real interest rates higher and crunched economic activity. Therefore, the monetary creation process contained some *endogeneity* according to this view and so reinforces the view of White that a speculative demand for money drove both the credit and stock market booms.

An undeniable fact remains however, that is, a contracting money supply was *associated* with the collapse of the real economy and a dramatic rise in the money supply was associated with GNP rising by 10 per cent each year between 1933 and 1937. Such an increase in the money supply had an external origin—the inflow of gold into the United States went unsterilized by the Roosevelt administration. Meanwhile, a failed and bitter artist was making his mark in European politics, causing people and money to flee the continent.

The trigger of the crash, according to the monetarist, was the Fed tightening and the contracting money supply. Banks in the Federal Reserve system were instructed to severely restrict credit for would-be stock market investors as stocks were 'overvalued'.

Financial sector disintermediation and balance sheets

The ways in which damaged balance sheets of households, corporations and banks interacted and caused a slump in spending was discussed in Chapter 7. Access to credit is limited when balance sheets are depressed by lower asset values and when the prospect of falling asset prices remains. Banks do not wish to lend money as they are uncertain of which lenders remain both liquid and solvent and

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so capable of loan repayment. Bernanke (1983) highlights the importance of company net worth when accessing bank credit. A shock to bank net worth also results in disintermediation. The gathering of costly information acts as a stumbling block to the efficient allocation of capital. Insiders (company directors and accountants) have a greater appreciation of the company's financial position and cash flow than outsiders (creditors and stock investors) and so external funding is higher the greater the difference in 'knowledge'. Hence, the 'external finance premium' skyrocketed during 1929. It was only the very large companies that were able to access bank credit and the credit crunch fell disproportionately on small businesses. Capital markets never operate perfectly, but the great deflation of the depression era interacted with contractual debt commitments to suffocate household balance sheets and so consumption. The dominos began to fall. Over 9,000 banks closed their doors and/or were suspended between 1929 and 1932.

It is worthwhile to note the nature of American banking at the time; it was fragmented, small and undiversified, that implied it was exposed to regional shocks within the economy. For example, agricultural clients who suffered from drought or poor harvests could place an enormous amount of stress on local banks that in turn affected other banks. Bank runs therefore could easily spread. Given that out-of-town banks assisted in the fuelling of the stock boom they were exposed to the 1929 Wall Street crash. Banks that lacked portfolio diversification were hit from both sides— agricultural shocks and the deflationary fire originating from the stock market.

The trigger of the stock market crash in this view was the collapse in bank lending and the extension of credit. Lenders who were previously content with high lending premiums (after all, that is what attracted them in the first place) that 'offset' higher than normal risk all of a sudden became nervous by investor panic. An avalanche of margin calls crushed asset values and caused non-performing loans to escalate. Creditors panicked and fled.

Goods price deflation

There is a fourth view of the crash and that is deflation interacting with debt and real interest rates. In this view, falling prices inhibit current borrowing, as forward-looking producers believe that sales and profits will be lower in the future and that the burden of debt repayment will be higher in terms of deflated dollars. This stagnation is caused by the belief of *expected* deflation. A second channel of contraction is that of *existing* commitments—paying off debt is far more difficult amidst falling prices—and of course job loss. Deflation causes national income to fall via higher *current* real interest rates and investment plans are deferred indefinitely. Another explanation of how national income might fall in response to deflation is based on the redistribution of income from debtors to creditors as the latter group is likely to have a lower spending propensity The value of debt repayment is raised via deflation as debtors are forced to pay the

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creditor in higher valued dollars. Therefore, debtors contract their own spending for two reasons. Hence, the collapse of national income and employment may be largely attributable to falling prices and their effects on investment confidence and real interest rates. There is evidence supporting the view that deflation between 1929 and 1932 was largely *unanticipated* (Hamilton 1986). Further fall in prices *surprised* both producers and consumers causing past decisions to be poor ones. Paying back debt in a deflationary environment was a real short-term burden that acted as a constraint on immediate spending plans of all groups in the community.

Asset price deflation

A fifth view requires examination of asset price deflation. The views mentioned earlier are focused on the goods, labour and money markets. Each accounts for part of the story. However, the almost forgotten leviathan of the Great Depression is across the board asset price bubble of the 1920s. The huge upward momentum created a 'whirlpool effect' whereby butchers, bakers and hairdressers were caught up in the investment (speculative) craze. Utilizing one's own income and wealth to buy assets was legitimate but to be highly leveraged by borrowing from financial institutions was to enter a whole new world of risk. When asset prices collapsed, the overcommitted investor was placed in a severe squeeze in gathering sufficient funds to meet medium term repayments or even worse immediate margin calls. But there was an irony in the crash of 1929. Who actually was taking the risk? To paraphrase Keynes (1936) 'If you borrow a $100 from a bank and cannot repay…then you have a problem. If you borrow a $1, 000,000 from a bank and cannot repay then the bank has a problem!' He quite rightly pointed to a critical threshold, which once broken, meant that the balance sheets of banks would be severely dented. Financial disintermediation results as banks loose their confidence to lend, lack liquidity, call in loans and seek to avoid any kind of risk.

How did this burst-of asset price bubble damage the real economy? First, 'stored wealth' was shaken, if not destroyed, and so the wealth effect inhibited all kinds of spending. Second, investment in capital goods, factories, equipment, etc. stalled. Third, banks as intermediaries aborted their function and so lending shrunk. Fourth, damaged private sector balance sheets inhibited borrowing potential and so consumption. Fifth, the arduous task of repayment of borrowed capital locked into low value assets that could not be sold without incurring huge capital losses acted as a drag on spending.

To appreciate the mystery of the causes of both the 1929 stock market collapse and the Great Depression requires the appreciation of the importance of asset levels and just not income flows—and so wealth effects and not just income effects. Economic activity, jobs, income flows were devastated after 'stored wealth' dissipated or evaporated in financial assets and then later in physical or productive assets.

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What were the triggers?

If the Galbraith-Kindleberger view is to be believed, then any disturbance or shock to investor expectations is sufficient to puncture a bubble. Some of the possible triggers of the crash of 1929 were the introduction of the Smoot-Hawley Tariff, the rise in the *real* interest rate orchestrated by the Federal Reserve, the earlier decline of the London stock market and tighter margin lending conditions to name a few. Even though identifying the triggers of panic has never been settled, the compression of rates of return by rising interest rates and higher rates on margin lending weighed heavily on asset prices. Out-of-town banks and fearful lenders withdrew their provision of call money and so contributed further to the panic of squeezed investor-borrowers. The fact, that the Fed raised the discount rate on several occasions before the crisis tightened lending conditions. European countries followed the lead of the Fed and raised interest rates as well, creating an environment of lower activity and beggar thy neighbour tariff initiatives by the United States. Hence, the international repercussions of the United States raising both interest rates and tariffs elicited retaliation by other countries and dampened world activity. It is more likely that a combination of adverse factors built up over time—that in turn caused an abrupt change in investor expectations. Bubbles may burst for any number of reasons and the size of the deflation is inversely related to the magnitude of the overvaluation of stock prices in the first place. If the crash did not take place in 1929 it would have been soon after— for the sheer fact that speculators had pushed asset values to absurd and *unsustainable* levels that could never have delivered dividends in line with expectations.

What lessons have we learnt?

Markets normally function well and on most occasions there is a degree of rationality. However, the 1929 crash revealed several weaknesses in the financial and regulatory systems of the United States. We have learnt that the conduct and timing of monetary policy is crucial to the economic well-being of a nation. If the Federal Reserve in 1928 had raised interest rates faster, and tightened the availability of credit more quickly, the crash of 1929 may have been more akin to a soft landing. If the response of the Fed after the stock market crash had been more accommodating in terms of liquidity there would have been less of a credit squeeze, less pressure on call rates to rise and so less selling pressure on stocks. Thus, the bubble may have shrunk more slowly and deflated without major implications for the real sector of the economy. Allegations of policy mistakes abound as the Fed went the ‘wrong-way’ and did not pump the real money supply enough—much to the detriment of asset prices and aggregate demand. From this policy debacle came the realization that the economic system needs a ‘lender of last resort’. The Fed learnt this lesson and has sought to reassure markets in timely ways that additional liquidity would be provided to asset

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markets in distress when there was a real risk of spillovers into the real economy. The crash of 1987 was a prime example, and even the Asian crisis of 1997, whereby monetary policy was deliberately loosened in order to reassure investors.

Alas, the control that the Fed had over the credit creation process was incomplete and so lacked the firepower to subdue the flames of speculation. Greater regulatory control by the Fed over the US financial system has been an indirect result of the 1929 crash. Critical deficiencies in stock exchange regulations were also exposed. Overgenerous lending margins by brokers were seen as a major fuel of the crisis and such margins were raised to 50 per cent in the 1930s. Even so, the desire of investors to speculate and employ high gearing ratios was not confined to the 1920s. High leverage and a lack of appreciation of risk have been perennial biases in stock markets throughout recorded history. Just as investment trusts of the 1920s wielded price-making power so did mutual funds achieve similar power in the 1960s. The dangers of margin lending, privately and on mass, have not been learnt well. Instability in the credit creation process has plagued, and will plague, economic systems for a long time to come.

Could history repeat itself?

Mankind claimed that the Titanic was unsinkable. As the Almighty pointed out, great calamities are not always the artistry of man. And so any claim made by man that the Dow is unsinkable should send shudders down our spines. It is interesting to note that man's attitude to severe crises has always been one of conquest and optimism. Faith in the SEC and the Fed has created an air of reassurance in the minds of many people that economic catastrophes, like the Great Depression, will never occur again. Such reassurance is partly based on he power of a set of comprehensive regulations by government authorities that can control the 'unbridled optimism' of the risk-loving investor for quick capital gains. Besides, the Fed has monetary tools available to fine-tune the economy or create a soft landing for the economy. Any financial excesses can be modified in a relatively short time frame. Moreover, the experience gained by the Fed and the economics profession in general, ensures that any great economic calamity would either not be allowed to eventuate or foreseen so that the appropriate corrective would be undertaken swiftly. This is the faith of mankind in mankind. Governments can save us…even from ourselves!

Quite aside from governance problems, the excesses of the financial system and everlasting greed of the people will always pose a continual danger to financial stability. Perhaps the extremes of Great Depression will never be seen in the developed world again but a severe and painful correction that damages the welfare and livelihood of ordinary people remains a possibility. Why? Governments may choose to let those investors who embraced abnormal levels of risk 'pay for their own sin' by allowing substantial market corrections without intervention. An alternative, and more serious scenario, is that the lender of last

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resort function may fail…at least in the short run. There is always the temptation to print money and/or monetize the national debt. Or the coordination of international central banks to agree on a combined and comprehensive strategy to rescue collapsing asset prices may not be reached or at least take time to package together. In short, severe market corrections may develop into crises and so cause living standards to decline significantly for a time. An event similar to the Great Depression is not likely but the likelihood of a Great Recession is still with us.

Conclusion

There is no doubt that the 1929 crash was the result of a speculative bubble. The origins of the crisis were financial and not economic in nature. In fact, the real sector and production side of the economy deteriorated *after* signs of financial stress. Easy credit and loose margin lending by stockbrokers fuelled the prior boom. Additional credit from outside banks, and a reallocation of funds away from productive investment and into speculative financial assets fed the hunger of speculators for more leverage. This switch of funds from one corner of the economy to the other was probably more important than the stance of monetary policy or the growth rate of the money supply. This compositional change in the source and direction of credit proved deadly. Vested interests also fuelled the boom by promoting 'overtrading' and new issues of stock. Unsuspecting and unsophisticated investors only complicated and accentuated the rising wave of asset prices.

The real sector suffered after the collapse of the stock market via balance sheet destruction of households, corporations and banks. Severe stress in the financial sector spread to the real sector via lending shyness and the recalling of loans. An old-fashioned credit crunch depressed asset prices further. Financial sector disintermediation suffocated any real sector recovery for many years and as banks placed priority on repairing their own balance sheets first. The crisis fed on itself as collapsing asset prices reduced the demand for credit by the private sector and physical investment. Even though the symptoms of the Great Depression were more visible in the goods and labour markets, as idleness set in, the origins were in the asset and money markets. Unfortunately, the Fed did not have enough expertise at the time in dealing with a financial bubble of this type or magnitude and so misread monetary and credit signals and overcommitted to the gold standard. Policy mistakes were made and devastating deflation was tolerated for fear of excess liquidity building up in the financial system causing interest rates to fall and igniting another round of speculation. Such a fear by the Fed was grossly unfounded as people indulged in a 'flight to quality', taking precaution against future illiquidity. What we have learnt from the era of the 1930s is that deflation can be just as devastating in destroying real economic activity as that of inflation.

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11
Lessons from Japan's financial crisis

Introduction

Just as rampant speculation in assets, excess liquidity and high financial leverage ratios generated the US stock bubble of 1929 so too did similar forces drive up stock and real estate prices in Japan in the mid-1980s. Asset prices became unsustainable and eventually collapsed—suffocating the real economy in its path. The huge fall in the Dow of 89 per cent by 1932 can be compared to the 80 per cent fall in the Nikkei by 2003. Interlocking relationships between Japanese companies only complicated the downward spiral of asset prices and economic activity. Japan experienced serious unemployment problems for the first time since the Second World War. In fact, the implosion of asset and money markets sent shock waves throughout the labour and goods markets albeit with lags. A loss of confidence in the financial sector spread throughout the real economy via lending contraction and an aversion to risk. Japan's policy response was first one of wait and delay, then astonishment as 'flagship' bankruptcies mounted. The intermittent application of traditional monetary and fiscal initiatives failed to offset a prolonged collapse in aggregate demand. Such *traditional* strategies failed to stimulate economic recovery. Relying on the old strategy of the US locomotive to pull Japan out of recession via export-led growth no longer proved to be effective. This chapter outlines the root causes of Japan's prolonged recession and why policy responses have failed to date. It also examines why the stock market imploded year after year. And what of the Japanese Model? Is it not relevant anymore? What of Krugman's ideas—are they that radical? There are also lessons for the rest of Asia.

Japan's old growth strategy

It is a matter of historical record that Japan's economic performance after the Second World War was nothing short of magnificent. Its growth strategy was based on first mover advantage, tapping a wealthy US consumer market, industrial organization and efficiency, reverse engineering, a tightly knit cross-holding of companies, government guidance by Ministry of Trade and Industry

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(MITI) and the Bank of Japan (BOJ), easy access to directed credit and a vast pool of saving to name a few. Convoy Japan moved in unison as industries and sectors were targeted for growth and given all kinds of government support, including long-term cheap credit, to expand and capture market share. The export sector was the lead ship in this convoy to prosperity and high income elastic goods were given priority. Manufacturing excellence—to a world standard—was achieved in only a few years. The prime growth strategy was to hitch a ride on the US market—its high income level and its potential to grow after the Second World War. Even if the United States went into recession all Japan had to do was to wait a few months and it knew that the US recovery would be robust and swift. It could then free ride on a world recovery. In a bouyant and reliable export environment there was little need for an active monetary and fiscal policy by Japanese authorities during times of recession—as they were *always* short-lived. This overdependence on export success had its drawbacks as the non-traded goods lagged behind in efficiency and other nations threatened to erode market share in many standardized products.

So what of the Japanese Model? Roubini (1999) outlines some of the key characteristics of this model:

- An economic and social system valuing social cohesion and collective goals over individualistic pursuit of welfare.
- An economic system based on limited market competition and oligopolistic market structures—rather than free market competition.
- Strong amount of government regulation, intervention and direction in most markets.
- A protectionist trade regime, favouring exports over imports and restrictions towards Foreign Direct Investment (FDI) policies.
- System of life-time job security.
- Implicit/explicit systems of social insurance to adrress risk-averse behaviour by households and firms.
- Keiretsu corporate organizational structures.
- Process 'innovation' model not 'product innovation'.
- Educational system based on traditional values rather than promoting innovation and creativity.

This is a fair overview of how Japan organized itself into an economic power. There are several points worth emphasizing. In this convoy approach to economic development the BOJ, and the Ministry of Finance (MOF) in particular, controlled the channeling of resources (cheap credit) into industries and sectors that possessed both long-term growth and export potential. In their view, market share *now* spelt profits *later*. Through consensus building—between government and industry—Japan could move forward. More importantly, the government ordained above normal profits in many industries by assigning selling rights, implicit franchises, segmenting markets and turning a

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blind eye to price rigging and to private distributional agreements. Those companies that complied with national (MOF) objectives were blessed with security, guaranteed clients and protected profits. Those that did not conform were denied privileges, including access to cheap credit. In short, Japan employed a large-scale industrial policy to orchestrate development and avoid, according to their view, unnecessary overlap and competition.

Weaknesses and seeds of destruction

Some economists argue that the Japanese model was a major reason for its success. Fewer economists believe this now. Strategies that assisted Japan recover in the early years after the war—as a developing country—are not as potent now as Japan achieved developed country status. Moreover, what were seemingly 'strengths' in this model now appear as 'weaknesses'.

For example, the over-dependence on banks as a source of credit, and the manipulation of them by government policy, came home to roost in the 1990s. Poorly developed capital markets pushed Japanese companies towards an over-reliance on banks for investment capital. When banks contracted credit—the alternatives were not plentiful and indeed those companies (and banks as well) that sought offshore lines of credit suffered under the 'Japan Premium'. Second, the avoidance of competition and the allocation of resources by the MOF only inhibited the potency of market signals. This largely explains why the non-traded goods sector was, and still is, grossly innefficient. Third, the tightness of interlocking relationships in the corporate sector and with the banks exacerbated the domino effect when many within the 'family' fell on hard times. Stresses and strains were felt throughout the whole network. Fourth, the cross-subsidization culture of winners supporting losers, Convoy Japan pulling together consensus for the national good and stiff protection for politically powerful lobby groups kept much of Japan from modernizing towards world standards. Fifth, an over-reliance on exports and the dogged protection of domestic industries from foreign 'threats' was a lopsided policy that was bound to fail in the end.

A mercantalist policy can be effective for a time but eventually the United States will demand an abandonment of a Japan's free-rider policy. Unfortunately, financial and investment excellence was not achieved—as Japan squandered many years of export profits on overpriced American assets, poor stock market investments and illconcieved 'white elephant' projects at home. A very poor financial investment record has overshadowed its manufacturing and export success. On the social side, Japan acted as a family by indulging in the cross subsidization of industries and support for the non-traded goods sector. In this way everyone gains access to prosperity as the wealth is spread throughout the community. However, the downside of this 'family approach' was innefficiency in sheltered industries and a domino effect of bankruptcy pressure —when the economy endured many consecutive years of recession.

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Macroeconomic challenges

Many of the current challenges facing the US policy-maker have confronted the Japanese policy-maker for years. These post-bubble challenges are quite typical after an era of excesses.

- Sluggish and intermittment GDP growth
- Asset price deflation
- Goods price deflation
- Financial sector fragilty
- Financial sector disintermediation
- Weak investor and consumer confidence.

Deflation, and the expectation of further deflation, has suffocated the real economy and caused the banks to be timid and hestitant with regards to lending and investment. Ironically, Japan needs inflation and the authorities need to specify a target rate for inflation and credibly hit it. This cannot be achieved without a firm resolution of the banking crisis.

Policy levers

As discussed earlier, the interwoveness of Japan's corporate and financial sector should not be underestimated. Both stock prices and land values impinge directly on the financial sector's health and its ability to lend. When stock and land values are rising the financial sector is flush with funds and actively seeks to lend. When stock and land values are falling the opposite is true—the financial sector contracts its lending out of fear and compression of their capital adequacy ratios. Such fear is based on rising nonperforming loans and the threat of more to come, as well as a shrinking capital base that fails to conform to international standards. In the past, the MOF could manipulate asset prices (land inflation) and so push on a lever to push prices up and down at will (Hayes 2000). It did so by its control over a whole array of land and inheritance taxes. It should be obvious as to why Japan could not refloat via this lever in the 1990s— overwhelming deflationary pressure in real estate could not be overcome—and so aggregate demand could not be controlled by the government.

In theory at least, the BOJ could also inject liquidity into the system with the objective of raising asset prices and so spur a chain reaction through the tight relationships between land, stock prices and in turn bank lending. Hence, the MOF and the BOJ could wipe out past credit mistakes by using this asset price lever. Those companies in tight financial situations and highly leveraged would be 'saved' by the next wave of asset price inflation orchestrated by government authorities. Land as collateral was at the heart of bank lending policy. Asset backing was favoured over cash flow. An underdeveloped capital market pushed corporate Japan to excessively rely on banks and so indirectly government

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guidance schemes. At the heart of government strategy was the dependence on land values as collateral for lending. Asset values, and not necessarily short-term corporate profits, drove the whole credit cycle.

The other major policy lever is that government authorities exert *some* control over the Yen. The movement in this variable affects all price levels in Japan. A low Yen causes Japanese goods and assets to appear cheap in foreign eyes. However, Japan has been xenophobic for much of its life. It has devised a myriad of schemes and laws to keep Japanese assets in the hands of nationals. A strong Yen acts as a deterent to foreigners to buy Japanese goods and assets. If authorities are concerned about *deflation,* then a lower Yen should be favoured as higher import prices will raise the domestic price level and create a degree of pricing power for Corporate Japan. Foreign buyers of domestic assets should push these prices higher as well. A revaluation of the Yen, and reflation that it brings, should not however, be seen as a substitute for structural reform.

Therefore, Japan has three policy levers to reflate with: taxes (land and inheritance), money supply expansion and the Yen. The other sub-levers of income tax cuts and low nominal interest rates are possible avenues of revival but have not been effective to date. However, a key external force of revival is that of US demand, and world demand in general, that will stimulate export growth and industrial production. Greater efficiencies in production, combined with technological progress, can lower unit costs and so increase international competitiveness—despite Yen appreciation.

Why the asset price bubble?

Japan's huge escalation in asset prices in the 1980s was due to a combination of forces such as high debt-equity ratio, cross-ownership of financial and real assets by Japanese companies, accumulated trade surpluses, money supply creation by the BOJ, speculation in stocks and real estate and a financial system that over-lent for private sector speculation. Thirty years of current account surpluses also generated a huge pool of liquidity—a build-up that fuelled the asset price boom. Japan endured a prolonged recession, failed to deal with the root causes of its own economic problems and basically wallowed amidst policy failure. Two key curses, associated with deflation, suffocated any potential economic recovery: the debt overhang (non-performing loans) experienced by many Japanese finance companies and the asset price overhang (non-performing assets) experienced by investors in general. The Tokyo stock market has languished for years—falling to a low of 7,780 in 2003 after reaching 39,000 in the late 1980s—as can be seen from Figure 11.1. Commercial real estate prices in the late 1990s returned to their 1985 levels. Such adverse wealth effects severely dented consumer and business expenditure, depressing sales, income and employment.

Gross overvaluation in asset markets sent shocks waves throughout the entire economy for many years after the visible epicentre of 1990. Investment and money multipliers have worked in reverse, *accentuating* contraction throughout

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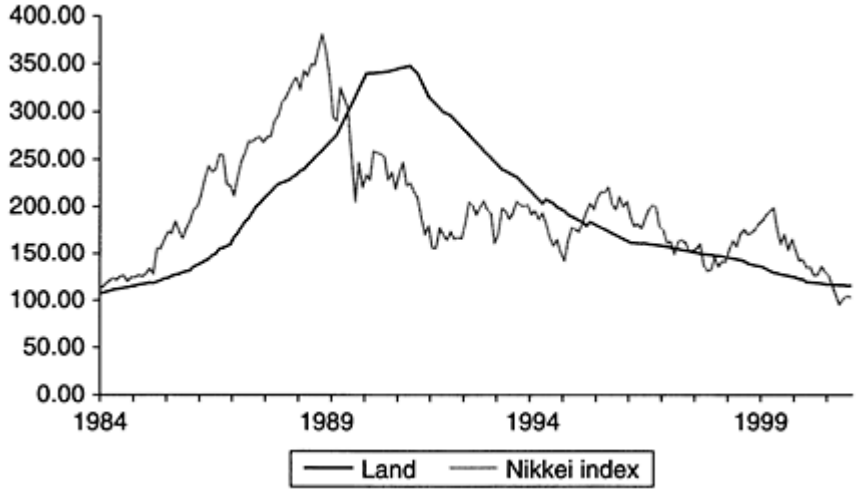

Figure 11.1 Land prices versus Nikkei index (base year: 1984=100).

Source: Ministry of Land, Infrastructure and Transport and BOJ.

the entire economy. However, the stock and real estate markets were *pumped* by both the money market (abundant liquidity) and the financial sector (loose lending). Hence, the origins of Japan's bubble were attributable to the interaction of these three markets.

What can be seen from Figure 11.1 is that the Nikkei average—as of the first quarter 2003—has given back all of its gains over the last twenty years. Stock price levels fell back to those set in 1983. The fall from the peak of 39,000 points in 1988 to the recent low in 2003 of 7,780 is a staggering 80 per cent—comparable to the fall in commercial real estate. Although this is an extreme comparison of a high and a low—a comparison from the average in 1992 of 20,000 points to the average ten years later in 2002 of 10,000 points is still a huge 50 per cent fall. This is asset price deflation at its worst. It is no wonder that Japan's real economy and its national balance sheet suffered under such extreme deflationary weight. However, there remains a glimmer of hope for Japan's economic revival in late 2003 as the Nikkei has rallied from its low of 7,780 to above 11,000 points—for a time. Stock prices have been supported by a increase in GDP growth and more importantly foreign buying into Japan's situation and cyclical stocks. The prospects of world recovery raises buying interest in Japan's cyclical and export type stocks. As discussed earlier, a rising stock market will underpin the vitality of the financial sector—if it is sustainable and robust enough. In some ways the Yen can be viewed as a proxy for world recovery and so explains why foreign investors demand Yen-based securities. They seek a double layered capital gain via rising Nikkei stock values and a rising Yen— as in 2003.

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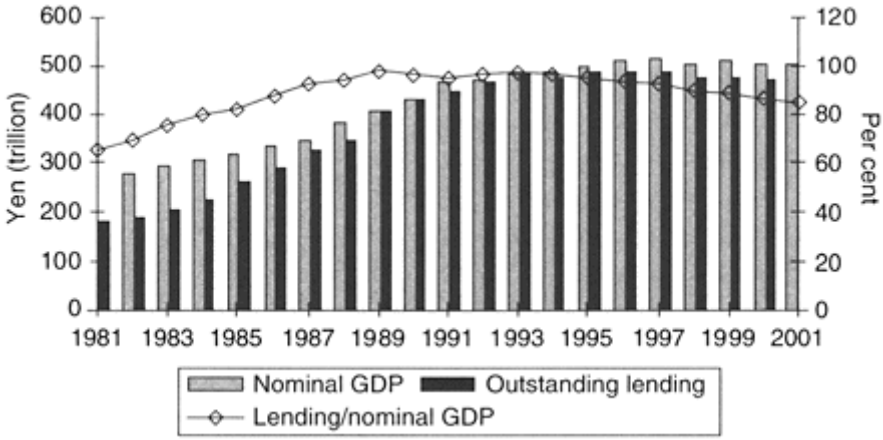

Figure 11.2 Trend in lending and nominal GDP (1981–2001).

Source: Bank of Japan (2004).

Financial not economic constraints

What appears to be an economic crisis in Japan is in fact a financial crisis. Stagnating economic indicators are but symptoms of more deep-seated financial problems. Japan has lost its financial pulse and heartbeat, akin to blood slowly circulating the body. Japan's financial sector faces declining profits, a high percentage of non-performing loans, damaged balance sheets and a gross unwillingness to undertake risk. A lack of credit is suffocating the real sector. Financial *disintermediation* is taking place, as the financial sector accepts deposits but reluctantly and cautiously on-lends to its customers. It is here that a banking liquidity trap has been forged. Interest rates instigated by the BOJ have furnished the financial sector with windfall gains via bond holdings—gains that have taken priority over extending credit in what is still a deflationary environment in the late 1990s and early 2000s. Hayakawa and Maeda (2000) highlight this point '…An unpredictable phoenomenon has occurred within the interbank market: while the Bank of Japan has adopted the exceptional zero interest rate policy', funds supplied by the Bank are not maintained as bank reserves, but are being accumulated as on-hand funds of tanshi companies (money market broker-cum-dealers).' As a result, the monetary transmission mechanism has been damaged or lost its signal; in short, Japan has fallen into a Keynesian-type liquidity trap. The most formidale challenge facing Japan is how to overcome the bank's hoarding of funds. Figure 11.2 reveals the collapse in lending in absolute terms and as a percentage of GDR

Although banks are unwilling to lend—so too are customers unwilling to borrow. It therefore follows that there are several constraints to any significant *supply-side restoration* of bank lending in Japan. First, raising low levels of

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capitalization may be addressed by operating profits. Here again, government attention to address inadequate capitalization levels is at loggerheads with its desire for banks to undertake more lending. Second, the banks are encouraged by government to use operating profits to write off bad debts and so reduce the abnormally high levels of non-performing loans. However, this strategy has the damaging side effect of reducing lending in the near term, creating further doubt over outstanding loans as spending and asset prices remain soft. Third, while risks in lending to corporate Japan are still perceived to be high, there is great reluctance by the banks to risk exposure to higher levels of non-performing loans. The core issue here is one of non-performing assets and not just non-performing loans. This dilemma may not be so much a credit crunch than a credit stalemate. Lenders are under no compulsion to borrow when rates of return are low and even below the level of real interest rates—as deflation clouds the business calculus.

Japan's asset price bubble: liquidity roots?

There is no doubt that *excess liquidity* in the Japanese system drove asset prices higher across the board—a case of too much money chasing too few assets. A monetarist interpretation of this bubble revolves around the excess liquidity that built up in the Japanese economy in the mid-1980s. According to Meltzer (1995), the BOJ deliberately pumped up the money supply in order to lower the value of the Yen against the US dollar, in accordance with an agreement that was reached at the Plaza Accord in 1985. A second interpretation is the *loose lending policy* view, which points to inadequate risk management and an over-reliance on asset backing rather than cash flow by Japanese banks. A lack of surveillance of high financial gearing ratios employed by the private sector accentuated the boom in asset prices. The cross-holdings of shares between companies (ziabatsu) also clouded prudential judgement. A third interpretation of Japan's bubble is that of *poor prudential supervision* whereby moral hazard and overambitious lending policies were partly government backed via a government safety net that 'secured all'. Government regulation and protection from competition, mergers, takeovers and bankruptcy cocooned the whole banking system from market discipline. A 'convoy approach' was employed, whereby healthy banks would cross-subsidize or pull along weaker and even non-viable banks. A fourth interpretation is the vast build-up of *export related wealth* in Japan that was looking for an investment home. Many Japanese investors shied away from overseas investment partly because of exchange rate risk and partly because of unfamiliarity with overseas investment opportunities. Japanese banks were among the biggest in the world by the 1980s and Japan gained the nickname of super-creditor.

From that stated earlier there are a multitude of interpretations as to why the bubble expanded to such a size, vast amounts of credit were used for speculative purposes that pushed up asset prices to heights that could not possibly yield long-

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run, or even normal rates of return. In other words, price-earnings ratio reached heights that were unsustainable. What was not foreseen amidst the hype of the bubble was not only the size of the implosion to come, but also the extent to which Japan would suffocate itself from the devastation of *asset price deflation*. Japan entered unchartered waters in the 1990s, a test of the skill and finesse of the BOJ and MOF as well as Japan Inc, in responding to a crisis embracing a new set of challenges.

What of the export growth strategy?

For many years Japan relied upon export-led growth—particularly to the United States—and so it would always wait for the locomotive of US recovery to pull it out of recession. During the 1990s, Japan's export growth was around 3 per cent annually, but still nowhere near enough to cover or offset the severe damage inflicted by asset price deflation of between 50 and 80 per cent throughout the whole of the 1990s. Such deflation suffocated domestic investment and to a lesser extent consumption spending in Japan. Although current account surpluses, as a percentage of GDP, averaged more than 2.5 per cent of GDP in the 1990s—they were not powerful enough to subdue deflationary forces.

So why was such a powerful export response not enough to pull a deflationary Japan out of a prolonged recession. First, the sheer size of wealth destruction in the aftermath of the bubble would require many years of liquidity injection via export growth to offset. Even a 3 per cent current account surplus, along with export expansion, could take more than fifteen years to cover a 50 per cent collapse in asset prices. Repairing Japan's national balance sheet would take time. Second, reliance on the US markets has lost some of its locomotive power as the US economy has shrunk in percentage terms in the total world economy. Third, this one-pronged strategy was bound to be inadequate with only mild support from monetary and fiscal stimuli for most of the 1990s. We shall examine why monetary and fiscal policies failed to stimulate Japan's economy below.

Monetary policy failure

How did the Japanese government seek to reflate its flagging economy in the 1990s? An 'expansionary' monetary policy was part of the recovery strategy, that included lowering interest rates, to exceptionally low levels of around 0.25 per cent in 2000 from a decade high of 7 per cent in 1990 (Figure 11.3). However, the deterioration of the economy and the threat of a triple dip recession in 1998–9 caused the BOJ to commit to a 'zero interest policy'—in real terms. We now examine why a series of interest rate cuts failed.

On the demand side of the fence, business and consumer confidence was low, rates of return from business enterprises under severe downward pressure and so the demand for credit remained weak. Although bank lending grew at a rate of 11

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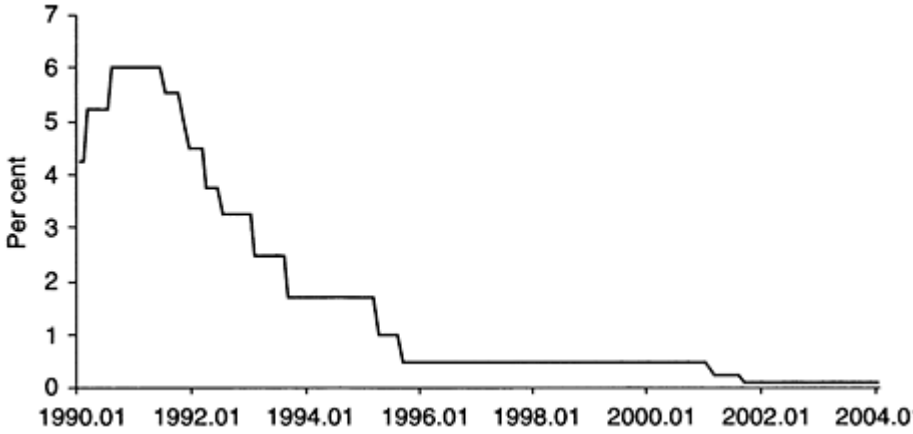

Figure 11.3 Bank of Japan cash rate (1990–2003).

per cent from 1985 to 1989, it drastically shrunk—even into negative territory by the mid-1990s. As can be seen from Figure 11.2 the massive and decisive decline in credit and lending from the early 1990s can largely explain the equally sharp decline in asset prices (with lags) in the early 1990s (from Figure 11.1). Hence, an apparent monetary 'expansion' via a low interest rate policy was not enough to offset the deflationary effects of sluggish money supply growth. This failure was particularly evident in 1997–9 as Hayakawa and Maeda (2000) state 'the relationship between the growth in money and the economy in the past two years looks different from what orthodox economic theory tells us. That is, money growth accelerated in 1998 while the economy was in recession and yet money growth decelerated in 1999 as the economy picked up.' Traditional empirical relationships seem to have gone astray.

Monetary transmission mechanism: clogged pipes?

Japan seems to have suffered from the 'clogged pipe' syndrome whereby monetary stimulii have not translated into economic activity. There is not one, but many channels, through which the Monetary Transmission Mechanism (MTM) may operate.

The monetarist view of the MTM focuses more on the *quantity of money and cash balance effects*. A broader monetary transmission mechanism is evident as economic agents adjust their portfolios according to changes in relative prices and marginal utilities. Excess liquidity in the 1980s drove all asset prices higher in Japan.

The elasticities approach emphasizes the *interest rate and the exchange rate channel*. The former channel focuses on a change in the interest rate affecting investment and consumer durables, whereas the latter points to a change in the

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exchange rate affecting exports. Japan has witnessed a strong responsiveness in the latter channel but not the former. From a demand perspective, while the cost of capital 'appeared' cheap by historical standards, rates of return were even lower and so there was little incentive for new investment, that is, the MEI < *r*. Real interest rates also 'appeared' cheap and even negative, but with fear of a capital loss and with little prospect for any significant asset price inflation there was no great rush for portfolio adjustment towards long-term assets and no great demand for credit.

A third view of the MTM is the credit channel. One focus is on the *bank-lending channel* whereby the central bank conducts a policy change that affects the deposits of banks and credit creation. However, in Japan's case, the lower interest rate strategy of the BOJ has provided windfall gains for the bank holdings of bonds and a risk-free rate of return at that. This has curtailed the extension of bank credit and so exposure to more risk could be avoided.

Another focus is on the *bank balance sheet channel*, as bank 'health' affects confidence and its own lending policies. Given the massive need to recapitalize Japan's banks and the squeeze on bank profitability, there was a move towards a credit crunch, partly as a result of risk-aversion, information aysmmetry and continued asset price deflation. Given the size of non-performing loans in Japan (15 per cent of GDP) and the questionable quality of assets supporting these loans, it is difficult to discern credit worthy from non-credit worthy customers, due to aysmmetric information. Moreover, capital adequacy ratios have taken a hit from weak and falling equity values, as unrealized profits could normally be counted as bank capital. This crucial link with equity prices has proved troublesome for the vitality of Japan's banking sector, as a *Nikkei* below 15,000 points has generally been regarded as a critical danger level for the whole of Japan's financial sector. The trading range of the Nikkei at around 11,000–12,000 points in mid-2004—although up from 7,800 lows of 2003—is still a threat to the stability of Japan's banking system.

Another debilitating influence of the banking sector's behaviour on the real economy is its desire to rebuild and repair its own balance sheet by exploiting the privilege it has with the Japanese authorities. Official cuts in prime interest rates benefit banks in that lending margins can be maintained or widened and so operating profits can be increased, allowing write-offs of further bad debts. Banks could also invest in safe government securities and so reap a profitable margin without taking lending risks and thus insulate themselves from exposure to possible company bankruptcies. The legacy of such bank behaviour is that the volume of bank lending may not increase, the real economy may not be given a boost. Short-term interest rates fell from 7 per cent in 1990 to 0.5 per cent in 1997 and yet bank lending grew by only 1.5 per cent a year during this period. In the early 2000s interest rates fell to 0.25 per cent. Cautious and low-risk lending policies by banks may have assisted in repairing bank balance sheets but not in re-stimulating aggregate demand or asset prices. Herein lies the dilemma: weak asset prices generate more non-performing loans, which in turn weaken bank

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balance sheets which further reduce lending confidence. Income growth collapses, further depressing asset prices. This is financial disintermediation at its worst, whereby the MTM works in reverse and actually contracts the economy due to rational bank behaviour.

Damage to household balance sheets creates the same kind of contraction in aggregate demand. Fear of high transaction costs in retreating out of assets, and general illiquidity, cause consumers and savers to favour cash. Debt service costs also imply balance sheet repair. What is often forgotten in explaining the potency of the MTM is the damage done to private sector balance sheets. Adverse wealth effects, debt servicing amidst sluggish sales and balance sheet repair impact on expectations and spending. The demand for credit contracts in response.

Japan displays all of the hallmarks of a breakdown in the credit channel of the MTM, which more than offsets any theoretical benefits from the elasticity or interest rate channel. In short, the collapse of rates of return, caused in largely by asset price deflation, is faster than the collapse in the price of credit. Hence, the MEI shrinks to a point whereby both the demand and supply of credit contract to almost stagnation between borrower and lender.

Fiscal policy failure

Fiscal policy was another major alternative to stimulate economic recovery, attempting numerous public work programs and increasing government expenditure to boost aggregate demand. There were a series of attempted piecemeal fiscal rejuvenations in the 1990s including a $120 billion package in mid-1998. While such a fiscal impetus was theoretically well founded, the end results were disappointing. Why? Because many projects had little long-run economic value, multipliers were weak, tax cuts were presumed to be temporary, private sector balance sheets were still damaged and many economic agents feared there was worse to come in terms of asset price deflation. Japan's demographics point to an aging population (mindful of retirement) and with their security under threat and unemployment rising there was a definite drag on the willingness to spend. Continual downward pressure on asset prices, further weakened the balance sheets of banks and in turn compromised lending for productive investment. Despite the fact that interest rates are still extremely low in 1999, the rates of return from real estate, business and stocks are also very low and fragile.

There was also a policy mistake made in the mid-1990s, a premature attempt to employ a fiscal contraction (raising taxes) in the belief that a sustainable recovery was underway. From hindsight this policy initiative was unwarranted and only delayed any potential recovery. In fact, there is some evidence to suggest that Japan's underlying structural budget 'deficits' were in fact budget 'surpluses' for the early part of the 1990s.

Despite the problems associated with the use of a fiscal policy—the authorities did attempt to refloat the economy—as can be seen from Figure 11.4. The

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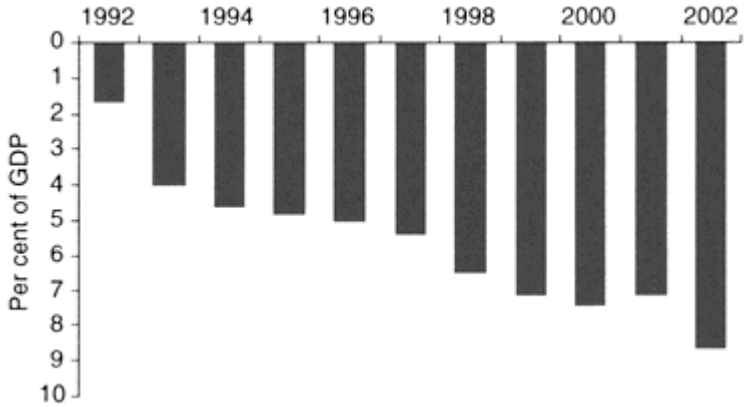

Figure 11.4 Japan's budget deficit: 1992–2002.

Source: OECD (2003).

budget deficit as a percentage of GDP ballooned from 1.75 per cent in 1992 to 8. 5 per cent in 2002. These are quite staggering figures. However, these raw budget deficit figures should be treated with a degree of caution as they are not adjusted for the cycle. The average cyclically adjusted budget deficit as a percentage of GDP in the 1990s was less than 2 per cent, in effect, a very weak contribution to aggregate demand stimulus. Even recently, the cyclically adjusted figures are probably only half that of the raw figures.

There are good reasons to believe that Japan's policy-led expansions have reached their limits. From a monetary policy perspective, interest rates hit historical lows, even negative in real terms and so there appears little room left for policy impetus. A policy constraint exits in that the BOJ can only force the overnight rate to near zero—not below. Driving real interest rates lower entails raising the inflation rate—a difficult task amidst asset price deflation, industry and financial sector restructuring and the fear of job loss. Hence, suppressing the nominal or the real interest rate lower appears remote in the immediate term. Besides, any BOJ move to improve liquidity is soaked up by the *financial sectors' liquidity trap*. Balance sheet repair, combined with risk-aversion, remain the financial sector's primary objective. Monetary initiatives, via the expansion of the *money base*, have failed because the financial sector has obstructed the expansion of the *money supply*.

Japan's monetary policy failed to stimulate demand and output as financial sector disintermediation further depressed asset prices, ballooned non-performing loans and caused consumption and investment spending to be weak. On the demand side, economic agents cannot be forced to borrow and so monetary policy can be likened to 'pushing on a string'. Given that real rates of return have been either soft or declining for most of the decade why would

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potential investors wish to borrow? Banks defend their cautious lending policies by claiming that the demand for credit has collapsed whereas potential investors claim they are credit worthy customers being refused funds for productive investment. There is a stalemate, with declining asset prices driving a wedge between borrower and lender.

The over-reliance on low real interest rates to stimulate consumption is also debatable. Research undertaken by Nagagawa and Oshima (2000) suggest that Japanese consumer/savers are more influenced by the income than the substitution effect of low interest rates. Why? Because the percentage of safety assets (liquid assets) in their portfolios is over 60 per cent and the dependence on credit is low. Japan's aging population is inclined to save harder under this scenario. The opposite is true for the United Kingdom and the United States, whereby the percentage of safety assets is low and willingness to use credit far higher than in Japan. Hence, the substitution effect dominates the income effect and so lower real interest rates stimulate consumption.

The use of an expansionary fiscal policy also has its limits, as Japan's public debt as a percentage of GDP is around 200 per cent—the highest among OECD countries. Conservatism and balanced budget philosophies act as a constraint on a series of budget deficits being employed as they contribute to further long-term indebtedness and future tax rises. What has become evident in the money market, is the rise in interest rates at the long end of the yield curve in response to the cumulative effects of Japan's budget deficits on the national debt in the 1990s. Japan's demographics also interact with the budget deficit and the national debt. Japan's aging population generates a long-term liability for government that will impinge on the government budget over the medium term.

With regards to the effectiveness of Japan's fiscal policy, there is the question of whether tax cuts are potent in raising private consumption. Consumer-savers must believe that tax cuts are permanent, raising permanent income. It may be that future productivity gains from structural reforms may persuade consumers to lift consumption levels. Nevertheless, consumption responses from tax cuts to date have been muted. Another major reason why a fiscal policy has not been effective is because the size of the *apparent* stimulus—after adusting for the cycle—has been modest.

Export-led growth also has its limits as large surpluses with the United States incur Congressional concern and retaliatory measures. There will be some point in time when the United States' current account deficit as a percentage of GDP is considered to be 'excessive' and market censure will lower the US dollar and raise the Yen.

Krugman's insight

How is Japan to get out of its liquidity trap? That is, how to persuade investors and consumers to prefer spending over saving—and assets over cash? Krugman (1998) argues for a massive printing of money in order to push economic agents

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out of cash and into assets for fear of 'missing out' as asset prices rise. Not only should current monetary policy be expansionary, but future monetary policy as well, for the BOJ needs to credibly commit to sustained (asset price) inflation well into the future, that is, set an inflation rate target and employ whatever tools the BOJ has at its disposal to that target. Some economists argue for a 2.5 per cent target. It is raising inflationary expectations that is the key to Japan's economic recovery, not just a cut in the cost of capital via lower interest rates. Abundant liquidity rather than cheap money should be the intermediate target of monetary policy. By expanding the money supply growth rate to at least 2.5 times that of the GDP growth rate and by driving *real* interest rates negative; to −2.5 per cent then there should be less incentive to save and more to spend.

Krugman (1998) appreciates that the 'cost' of such negative real interest rates will probably cause the Yen to depreciate further, but in his view this would place upward pressure on inflation and inflationary expectations. Production, exports and asset prices should benefit from such depreciation. However, there is considerable fear in the Asian region that such Yen depreciation will cause China to devalue its own currency and trigger a round of competitive devaluations around the region. Any prospect of other Asian nations dragging themselves out of the current crisis via an 'export-led recovery' would diminish. Therefore, Krugman's panacea of printing money in Japan does contain an element of risk, not from a rapid rise in inflation but from regional instability.

But does Krugman's recommendation address the root cause(s) of the crisis? Yes, in that Japan has a demand-side, not a supply-side problem, and because investor and consumer confidence has sunk very low. In many ways Japan 'over-saved' in the 1970s and early 1980s, 'over-invested' in the late 1980s and then 'over-saved' in the 1990s to compensate for lost wealth and poor investment decisions—albeit at lower levels of income and amidst sluggish growth. A typical paradox of thrift scenario whereby what is rational and productive for the individual is not for the economy as a whole. Yet the answer to Krugman maybe 'no', as this is no ordinary deflationary spiral in the Keynesian tradition, but a downward asset price spiral that debilitates corporate and financial sector balance sheets and not just income and spending flows. The Krugman recommendation has merit in that any boost to aggregate demand that raises rates of return to business activity must raise asset prices. While this is an *indirect* and possibly slow method of recovery, a more *direct* method of asset price support may be required.

Japan's policy response: why so ineffective?

The first mistake was to allow the economy to lose its dynamism. An economy that grinds to a halt and loses its confidence requires enormous energy to restart. Central to any recovery strategy is to engineer a 'jump start' for the economy in order to restore lost dynamism. Policy reactions were left 'too long,' imposing

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severe costs in terms of foregone income flow and allowing asset price deflation to destroy balance sheets to the point of illiquid firms becoming insolvent.

Asset price deflation affects all sectors of the economy and cannot be confined to asset markets alone. The appropriate response, at some point, is to reflate asset prices and re-stimulate the virtuous circle of income flow. Japan's second mistake was not to arrest the viciousness of non-performing assets souring non-performing loans, as weak asset markets placed stress on an already weak financial sector. Japan's mistake was to address wounds in the financial sector rather than wounds in the asset market.

A third mistake was an incremental, piecemeal approach to refloat the Japanese economy. Government spending initiatives, combined with low multipliers were not enough to kick-start the economy. Many stimulus packages were announced and yet the impact on economic activity was low. Given the massive decline in wealth and asset prices, a more aggressive and comprehensive policy stimulus is required—a big bang approach to restart the economy is required by the BOJ.

A fourth mistake was to rely on a supply-side strategy to overcome an excess supply-side problem. Fiscal stimuli were aimed at public works spending and a public sector revival. The objective of raising productive capacity was ill-founded and misdirected as many of these projects contained little short-run productive value.

A fifth mistake was the strategy of over-reliance on cheap money, a low interest rate monetary policy to jump-start the economy once it had stalled. This strategy met with blatant failure. Other channels of the MTM, money supply growth and liquidity are crucial to economic revival, a lesson that Japan is only beginning to learn. Post financial crisis, the objective is to raise asset prices via monetary creation and credit expansion.

Lessons from Japan's financial crisis

Much of Japan's economic misery in the 1990s, and failure to recover, can be traced back to the asset price bubble of the 1980s and to the macroeconomic mismanagement that followed. There were two dark economic clouds that dwelt over Japan for much of the 1990s—*an asset price hangover and a debt hangover*. Collapsed asset prices spelt massive deflation and damaged corporate-sector balance sheets that in turn translated into economic stagnation in the real sector. Although the origins of Japan's excess liquidity were somewhat different from those of East Asia, the consequences of excess liquidity were, and are, basically the same: asset prices boomed and eventually burst, causing major reverberations in all sectors of the economy. Of key interest to the rest of Asia is how Japan's financial sector reacted to prolonged asset price deflation in terms of managing non-performing loans and extending further credit in a high risk corporate environment. Second, how the Japanese government sought to assist the bewildered financial sector suffering damaged balance sheets and a loss of

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confidence. Third, how effective Japan's traditional policy strikes were in reviving spending flows against a backdrop of spiralling deflation. Asia can learn 'what not to do' from Japan's financial nightmare.

A multi-pronged approach to recovery

Given the complexity of Japan's problems, there is a need for a simultaneous and comprehensive policy effort to stimulate economic activity. While supply-side reforms are necessary, there is an even greater need to revitalize domestic demand.

First, the BOJ needs to become more aggressive with a big bang philosophy towards money supply creation. Extra liquidity holds the key for raising both asset prices and rates of return. Economic agents need to be simultaneously pushed out of cash via the threat of *future* inflation and the threat of a lower Yen.

Second, raising consumption and durable good demand impacts on rates of return. Raising profitability via an income stimulus is preferable to depressing an already minuscule cost of capital as a higher MEI (Marginal Efficiency of Investment) will provoke more investment. Hence, the multiplier-accelerator interaction may be invigorated by an aggregate demand side stimulus. In this strategy, a bias should exist towards permanent tax cuts, rather than government spending, aimed at restoring private consumption.

Third, priority needs to be given to the restoration of private sector balance sheets over financial institution balance sheets. Raising asset prices will indirectly reduce the severity of non-performing loan problem suffocating financial sector vitality.

Fourth, public confidence in the financial sector must be maintained. Therefore, public funds must be made available for deposit insurance and for the re-capitalization of the financial sector.

Fifth, government policy attention must focus on the excess supply of real estate with the objective of either supporting real estate prices or clearing excess stock or both. Failure to arrest asset price deflation will drag the financial sector into a deeper malaise and the stock market with it. Stimulus to residential housing construction holds the key to raising consumption demand.

Sixth, measures aimed at improving financial sector efficiency are likely to yield long-term results. There is no doubt that foreign competition and take-over bids will make Japan's financial sector more efficient and generate lower costs. However, this supply-side initiative may generate adverse effects on capitalization and lending that pose significant short-term transitional problems.

Flow on effects from Krugman's solution

To the extent that the Krugmanite solution is appropriate, if implemented, the Asian region may be blessed by several benefits. First, a lower Yen may stimulate domestic demand in Japan and exports abroad, reviving Japan's

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income growth. Expected inflation becomes the motivating force to spend. Such a revival in income growth should encourage more imports from the rest of Asia. Second, the Asian component of the financial sector's non-performing loan problem should become less of a problem under a lower Yen. Third, the prospect of a lower Yen should also push Japanese investors offshore into 'cheap' Asian assets. This could result in the second wave of FDI flowing to Asia based on a strong current Yen but an expected weaker forward rate. Fourth, excess liquidity may cause Japan to export lower interest rates around the world via a stronger US bond market. Downward pressure on the Yen may assist in the current export of capital and purchase of US bonds. Buoyant world activity is a prerequisite for an early Asian recovery.

However, there are negatives of a lower Yen. Competitive pressure is placed on various Asian exporters, together with adverse valuation effects on US dollar denominated foreign debt. A devaluation by China may trigger further devaluations by South-East Asian exporters of labour intensive goods. To the extent that a lower Yen implies a stronger US dollar, there is pressure on Asia's foreign debt to rise.

An appropriate policy response

Even though Japan's economy is languishing under two heavy debt and asset price overhangs, there is still a real opportunity to reflate economic activity by aggressive demand-side stimuli. Recent supply-side initiatives have failed to solve what is basically an excess supply-side problem. A 'Big Bang' approach is required, not only in the financial sector, but in the real sector also, boosting aggregate demand. Such a package should have several prongs and be implemented simultaneously, maximizing cumulative momentum. However, the Japanese policy-maker must be mindful of raising deflated asset prices, directly, if possible.

Hence, a vibrant expansionary Japan may raise demand for East Asia goods and cause FDI around Asia to rebound and a recessed, yet liquid, Japan may cause United States and European recoveries to be sustained via lower world interest rates.

Lessons from Japan's stagnation

A key lesson from Japan's experience is the destructive power of asset price deflation that may hound an economy for years after the initial collapse. Damaged corporate and financial sector balance sheets cause spending flows to shrink as debt repayment retains priority over new spending on consumer durables and investment. Adverse wealth effects send contractionary propagation waves through the economic system for years. Therefore, a demand-side stimulus to offset private sector strangulation is required to avoid the two poisonous debt and asset price overhangs.

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Indecision by policy-makers is also costly in terms of greater balance sheet damage and its spreading effects to the rest of the economy via reverse multipliers. Waiting for the natural 'self-correcting forces' of the market may be a fruitless wait in that changes in inflation rates, wage rates and profit rates may not be enough in terms of *flows* to offset the massive damage inflicted on the *stock* of wealth. A 50 per cent fall in asset prices cannot be healed by an incremental yearly decline in prices and wages—unless a wait of ten years is acceptable. East Asian policy-makers need to respond quickly and decisively in terms of restoring asset values—albeit not to former levels.

Restoring financial sector health is a major priority as lending flows hold the key to increased economic activity post crisis, and indeed the indirect key to supporting sagging asset values. However, the financial sector should be prevented from repairing its own balance sheets at the expense of the corporate sector and the community in general. Bank stockholders should bear some of the burden of recovery.

Conclusion

Asset price bubbles are the privilege of wealthy nations and Japan had its turn just as Holland, Britain and the United States had done so at their peak. It should come as no surprise that a mercantilistic Japan fell victim of its own success. Accumulating wealth has its costs in terms of asset price inflation and underwriting speculative fever. Unlike previous recessions that were inventory and overcapacity related, this great recession of the 1990s stemmed from Japan's overheated asset market. Expenditure *flows* contracted in response to collapsing asset price *levels*. Financial sector disintermediation compounded the softness in aggregate spending by constricting lending flows. A vicious circle of debt-deflation suffocated corporate, household and financial sector balance sheets. Such a virulent interaction posed an enormous policy dilemma for Japan's policy-makers, that is, how to kick-start the economy once dynamism was lost. A lethargic and sick economy plagued Japan for most of the 1990s and alas even into the twenty-first century. East Asia could learn well from Japan's corporate sector and policy mistakes. Chapter 12 examines how East Asia can turn a crisis into an opportunity by learning from Japan's financial sector malaise and its own governance mistakes.

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12
The Asian bubble and crisis

Introduction

In previous chapters the driving forces of stock market bubbles were examined. In the case of East Asia, the origins of stock market euphoria shared common threads with the experience of Japan, the bubble of 1929 and the US bubble of the late 1990s. Excess liquidity and loose lending policies destabilized these three regions by ballooning both stock and real estate prices to peaks that could not be sustained—leaving a wake of bankruptcies and bad debt—in the deflationary aftermath. Balance sheets of corporations and individuals were severely dented—if not permanently damaged. Spending flows were severely restricted as a consequence and these economies went into a tailspin. What shocked Asian investors was the suddenness of the crisis—as it came like a thief in the night.

This chapter seeks to finesse some of the commonalities between these four stock market bubbles. Each displayed a 'real' foundation or an initial phase of economic expansion based on solid productivity growth and a build-up of human capital. What began as a *boom* based on real fundamentals ended up being a *bubble* based on speculative euphoria. Somewhere amidst the economic boom investors became over-optimistic and overconfident and so fell into speculative activity and hubris. We discover that both the origins and aftermaths of these bubbles are remarkably similar. However, US policy-makers and citizens hope that the US post-bubble recovery is not similar to that of Japan—plagued by non-performing loans and a financial sector that lost its confidence.

Some commonalities

Export success and the acquisition of hard currency were the major driving forces of East Asia's economic rise and consequent stock market bubble—as was the case in Japan twenty years earlier. Abundant liquidity also drove East Asian stock markets as central banks, in the main, were able to expand the money supply without any major adverse consequences in terms of goods price inflation. However, abundant liquidity did propagate asset price inflation. East Asia may

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have fallen victim of its own success, in that export success, accumulated wealth and high savings rates generated both a huge asset price bubble and an overheated economy. Just as in Japan in the mid-1980s, asset prices were bloated by strong export growth and an accelerating money supply (prompted by the Plaza Accord) so did such a build-up of financial forces operate in East Asia in the early 1990s.

Relative prices were also affected. This biased investment decisions and the allocation of long-term capital towards quick-fire capital gain. A casino mentality gradually subdued rational business calculus undertaken by private investors in 'normal circumstances'. The financial sector compounded the upswing of the economic boom by indulging in loose lending policies that focused on asset backing, rather than cash flows, thus adding to the liquidity fire. Thus, speculative activity possessed a life of its own.

Debt-deflationary spirals were common to all cases. As the financial sector overindulged in its lending to both real estate and stocks so did the probability of a higher percentage of non-performing loans result. As asset prices collapsed so debt repayment become highly squeezed. Highly geared and over-indebted corporations pressed heavily on overextended banks that soon indulged in disintermediation and the hoarding of money. Banks lost confidence as to who was and who was not a good credit risk.

There were also causes that were not common. The United States did not enjoy any sizable amounts of export created wealth in either 1929 or 1999. Whereas both Japan and East Asia were dependent on export created wealth for much of the last century. Bubbles in the United States and East Asian asset prices were partly fed by the inflow of foreign capital whereas in Japan's case it did not. After all, it had its own freshly earned capital to play with. Another devastating force in the aftermath of the East Asian bubble was that of the debt-deflation-devaluation spiral—capital flight exacerbated already weak currencies causing foreign debt in local currencies to double. Japan and the United States did not suffer from this vicious circle of contraction—unless the decline of the US dollar from 83 Euro to 124 Euro holds greater contractionary pressure than is currently visible. Potential deflation in the United States is a major worry to international investors. Such investors witnessed the carnage caused by collapsing asset prices in East Asia and then collapsing currencies.

This chapter examines the major causes of East Asia's crisis with particular reference to financial factors generating an asset price bubble in stocks and real estate. Speculation and greed played major roles in the craze.

Financial origins of the bubble

Just as excess monetary liquidity was the prime engine that drove Japan's asset price bubble, so too did this same force drive East Asia's bubble in real estate and stocks. In true monetarist tradition, it was 'too much money chasing too few assets'. Liquidity was abundant for many reasons. Excess demand for assets was

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driven by the monetary authorities' failure to completely sterilize capital inflows, adequately supervise their financial systems' foreign borrowing programmes, monitor the credit boom, censure high corporate sector leverage ratios and the printing of money before the outbreak of the crisis. The sheer magnitude of capital inflows implied that complete sterilization was not possible. There was also an ongoing reform process in many East Asian nations that fostered ambitious lending programmes by their financial sectors. Increased deregulation and openness heightened the desperation by bank managers to 'place funds' in a very liquid and competitive environment. A huge credit boom followed that fed on itself. Unfortunately, a complicating factor arose when some Asian economies faced adverse economic signals and the central banks yielded to macroeconomic temptation by printing money to 'buy time' for the defense of the currency, meet debt obligations and even avoid the collapse of the entire financial sector.

The quest for rapid economic development caused 'temporary blindness' among monetary authorities regarding monetary and credit laxity. Liquidity became the means to increase the *speed* of economic development at a pace incommensurate with the formation of human capital and productivity levels. In summary, the origins of excess liquidity rest with vibrant export sectors that reassured foreign investors that economic take-off was well underway, and so profits were available from re-exports to mature economy markets and growing domestic demand. Foreign investment complemented trade profits in creating liquidity, as did the opening of the financial sector that borrowed from abroad.

An examination of Thailand's case is particularly revealing from the point of view of conducting a monetary policy in a 'fixed' exchange rate environment. Massive capital inflows compromised the independence of monetary policy. There are two key and separate layers of analysis. The first layer is the *pre-crisis environment* for the conduct of monetary policy. By targeting the exchange rate, the Thai authorities lost partial control of both interest rates and the money supply. When Thai interest rates were 300–400 basis points above those of the United States, there were pull factors causing Thai businesses to want to borrow abroad, as there were push factors causing foreign investors to want to invest in Thailand—at both relatively high and seemingly safe rates. Was this a marriage made in heaven or hell? It appears that it was the latter. Why? If such capital inflows went unsterilized, then a build-up of liquidity would result as the central bank issued baht in exchange for foreign currency. Such liquidity filtered throughout the whole financial sector. If capital flows were sterilized, in an effort to stabilize the baht, then domestic interest rates and the interest rate premium over US rates would widen—therefore further driving domestic investors offshore. Thus, there was a dynamic inconsistency inherent in the conduct of monetary policy pre-crisis. Higher interest rates attracted another wave of foreign capital flow which only added to excess liquidity. However, post-crisis the dynamic worked in reverse. Capital outflows triggered higher interest rates in East Asia which in turn compressed the MEI, depressed

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expectations, lowered demand and with it, asset prices. Thailand's credit crunch had two prongs: high interest rates and contracting liquidity. Such a tight monetary policy only accelerated short-term capital outflows by compounding repayment difficulties and slaughtering expected rates of return. The baht did not stabilize under this monetary strategy in the early months after the crisis—despite the theoretical appeal that it would.

Much of this monetary policy dilemma rests in the nature of the foreign funds that flowed into Thailand as well as the response of the Central Bank of Thailand to such flows. While the first wave of foreign capital to invade Thailand was long-term (FDI) in nature, the second wave of the 1990s was portfolio and short-term in nature. This capital was debt, not equity, and was willing to leave when higher interest rates threatened to destroy asset prices and the ability to repay.

Corporate sector leverage before the crisis

Given that East Asian economies were both buoyant and liquid, there was every incentive for corporations to exploit a rampant rise in economic activity via the use of high financial leverage. As Table 12.1 shows, Japan's corporations indulged in high debt-equity ratios in the mid-1980s—a precursor to its huge asset price bubble. Other Asian nations applied a similar strategy a few years later, singularly rational for corporations, but collectively disastrous for the nation.

It is worth noting that Japan's debt-equity ratios fell in the aftermath of Japan's asset price bubble. Korea and Thailand's debt-equity ratios were relatively high by mature economy standards, before the crash, whereas that of Malaysia was far lower. Taiwan's debt-equity ratio actually fell before the crisis and so was less exposed to a corporate profit collapse. Both Korea and Thailand appeared exposed, according to these data, as did Japan in the late 1980s. High leverage ratios are a great servant but a tyrannical master. As corporate profits dried up, Asian companies faced the domino effects of inability to meet debt obligations, a financial credit squeeze, and a reduced cash flow that further choked corporate sector balance sheet health.

The roller-coaster of speculation

In an environment of excess liquidity, there was plenty of fuel for speculation on asset prices. Easy access to credit combined with aggressive financial sector lending policies caused price-earnings ratios to skyrocket along with real estate prices. Internal speculation would trigger interest rate rises eventually, as the central bank would react to preserve its own reputation. Canterbery (1999) provides insight and warning on the self-fulfilling nature of a speculative bubble 'pure speculation takes over whereby players buy for resale rather than income'. It is the belief that asset prices will rise that spurs even the ordinary working-class citizen to purchase assets irrespective of expected income flows. Such 'irrational exuberance' flies in the face of the rational expectations view of

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economic fundamentals driving asset prices. A rise in the interest rate or even an expected rise may be enough to cause the bubble to collapse. There is

Table 12.1 Debt-equity leverage

	1986	*1988*	*1990*	*1992*	*1994*	*1995*	*Average*
Japan	69.2	60.8	56.1	56.1	52.8	50.4	57.5
Korea	73.8	64.5	65.2	71.9	67.9	67.1	67.5
Malaysia	25.4	28.7	25.6	27.0	30.4	36.1	29.5
Taiwan	40.5	37.0	31.9	33.1	30.2	28.2	33.1
Thailand	45.1	35.7	28.9	46.8	47.4	52.1	42.5

Source: Alles *et al.* (1998).

some evidence of rising interest rates in Asia (even before the crash) generating fear and anxiety among asset holders. Moreover, the interaction between the (more liberalized) financial sector and the casino mentality of 'investors' proved to be a very potent mixture in driving asset prices to unsustainable limits in terms of cash flow and realistic rates of return (profits). In short, asset bubbles are inherently unsustainable but also may be pricked by government-led interest rate rises.

Crony capitalism and accelerated development

Given the success of Japan and the respect for the 'Japanese Model', many East Asian nations favoured active government intervention in order to accelerate economic development. Three implicit government guarantees were employed, in the hope of accentuating development. The first involved pegging the exchange rate to the US dollar. There were no doubt very good reasons why some Asian nations pegged their exchange rate to the US dollar. Benefits included the appropriation of 'US Federal Reserve credibility', stability for decision-making on trade and investment and most importantly the attraction of capital inflows for very large and ambitious development plans. There was an implicit guarantee to the foreign investor, by government, that exchange risk would be absorbed by the central bank and domestic citizens. Foreign investors interpreted such a guarantee as the host government's commitment to sound economic management, and 'promise to pay' in US dollar, in time of crisis. Such an open cheque was drawn upon in 1997.

A second type of implicit guarantee given by the government was for large development projects, both public and private. Foreign capital required reassurance that such projects met with government commitment and legitimacy. From hindsight, the 'close relationship' between government and business backfired in that 'crony capitalism' eventually failed to satisfy foreign investor demands for openness and transparency in decision making.

A third type of implicit guarantee involved closeness of governments to the financial sector via shareholdings by government officials, government deposits

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and the lender of last resort facility available from the central bank. Depositors seemed reassured by government association.

From the point of view of macroeconomic stabilization, several mistakes and failures were evident. First, financial sectors were fragile and most governments failed to adequately supervise such an important sector of economy in terms of money creation, foreign borrowing, domestic lending polices and bank capitalization. Second, there was a significant delay in raising interest rates and tightening liquidity when it was blatantly obvious that asset price inflation was escalating. Such an asset price bubble was ballooning in the very early 1990s (even though goods inflation was modest) and yet most Asian central banks were reluctant to cool off an already overheated property market. Third, when it became obvious that the whole financial sector was at risk in 1997, by way of increasing non-performing loans, deteriorating balance sheets and softening asset prices, the central bank increased domestic liquidity via money creation. Such a rescue effort was knowingly undertaken despite all of the ill side-effects of increased domestic liquidity (e.g. Thailand, Indonesia). However, such an excess liquidity response to a collapsing financial system should be seen in the light of a choice of two evils—an exchange rate collapse or a collapse of the whole financial sector.

Financial sector failure: the fading heartbeat

It was not only the corporate sector that employed a high leverage strategy to secure high profitability, but the financial sector did the same as well. Heavy reliance on banks and finance companies, rather than bond markets, was a distinct characteristic of Asian financial markets. Such a structure created a bias in favour of short, rather than, long-term borrowing. A mismatch arose when financial institutions borrowed short offshore in US dollars and lent long in domestic currency (e.g. Thailand). The corporate sector in Indonesia followed a similar strategy. To make matters worse, when the crisis broke, a lack of clear, enforceable bankruptcy procedures complicated the effective collection of debt.

The size of the non-performing loans' problem became apparent in 1998 and as Table 12.2 reveals there was no significant improvement in official estimates by September 1999. Perhaps this was because the unofficial size of this non-performing loans' problem was far higher than official estimates. In terms of the fiscal costs of restructuring, the estimates for Indonesia and Thailand appear to be the highest.

Erosion of competitiveness

Several East Asian nations witnessed their competitiveness erode in the 1990s. Several forces were at work. First, by pegging to the US dollar, several Asian currencies rose on the back of a rising US dollar and so became 'overvalued' in comparison to other trade competitors. Second, large capital inflows placed

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upward pressure on non-traded goods prices and so the 'internal' real exchange rate became overvalued. Third, inflation and wage costs in particular, in many Asian countries displayed an upward trend above those of trading partners. Fourth, China with its low level of the real exchange rate and wage levels in particular posed a competitive threat to the South East Asian region. Fifth, the appreciation of the US dollar and the depreciation

Table 12.2 Non-performing loan ratios and fiscal costs of restructuring

	Official estimate, end of 1998	*Official estimate, September 1999*	*Unofficial estimate, peak level*	*Fiscal costs of restructuring as share of GDP*
Indonesia	—	—	60–85	58
Korea	7.6	6.6	20–30	16
Malaysia	18.9	17.8	20–30	16
Philippines	11.0	13.4	15–25	—
Thailand	45.0	44.7	50–70	32

Source: Asian Development Bank (2000).

of the Yen in the mid-1990s caused much consternation and currency realignment in the region. Increased competition from Japan posed a threat, as did the shrinkage of capital flows from Japan to the rest of Asia. Thus, Asian currencies were placed under downward pressure. Given a decline in competitiveness, there should have been no surprise that several Asian nations experienced an export collapse in 1996, at least in growth terms. That is of note is the severity with which Thailand's exports crashed and the rapid export recovery of both China and the Philippines.

Foreign forces

Many Asian policy-makers have voiced their views on foreign currency speculators. In the early days of the crisis, much of the blame was placed at the feet of *foreign speculators* that sought to extract large profits from the forward sale of some Asian currencies. Quick profits were no doubt the objective. But the question remains as to whether such external speculation triggered the crisis or whether it signalled the deterioration of a deeper set of economic and financial fundamentals. Forward-looking, rational economic agents obviously were perturbed by national policies, declining corporate profitability, an export collapse and unsustainable asset prices. It appears that the foreign currency speculators sought the exit door before other (more long-term investors) made their way to the same exit. Blame, therefore, is in the eye of the beholder.

Worldwide fund managers could also share some of the blame. In the early 1990s when rates of return were low in Europe, and extremely low in Japan, there was a push of funds to the Asian region with a kind of self-fulfilling

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optimism. Developing Asian markets seemed ripe for the picking, and with vast amounts of world liquidity there was ample room for fund managers to diversify their portfolios. As more Asian nations liberalized their financial sectors and economies in general, so did foreign fund managers increase their portfolio investment. What also should be noted is that the international financial system is in need of an improved architecture, as international capital flows have become extremely volatile. The continual search for higher rates of return combined with increased international capital mobility has increased the vulnerability of developing Asia to an international financial business cycle.

It is also possible to allocate blame towards the *US Federal Reserve* and its 'preemptive strike' against 'inflation' in the United States in 1994. The US Federal Reserve raised US interest rates which caused industrial activity to decline and created a worldwide economic slowdown, with a lag, in 1995. Other factors affecting demand included the possibility of market saturation, rising protectionism and depressed demand from Japan. Such downward pressure on aggregate demand further compounded Asia's export slowdown. Moreover, upward pressure on Asian interest rates further squeezed profit margins in the region.

Pre-crisis contagion effects were still being felt, as the ongoing recession in Japan only exacerbated Asia's export slowdown as intra-regional links amplified Japan's economic and financial contraction. Conversely, China's expansion and growing share of world exports sent warning signals to policy-makers and investors alike around Asia that competition in labour-intensive exports was not a temporary phenomenon.

In summary, there is some credibility to the view that Asia's crisis was partially externally driven, as international forces were at work in destabilizing the region.

Excess liquidity revisited

Just as Japan accumulated much wealth from its industrialization drive, and export drive in particular, so too did East Asia capture super profits from exporting to the West. Much of these profits were ploughed back into the export drive in the early years of development but later on were channelled towards conspicuous consumption and speculation on asset prices. More precisely, export earnings in US dollars encouraged foreign capital inflow that provided a base for further monetary expansion.

Given that East Asia enjoyed superlative export success, it earned and accumulated valuable foreign exchange, and so liquidity, for development goals. In a sense, it was such liquidity that fuelled domestic inflation rates, asset price speculation and raised development expectations beyond current productivity constraints. Export success, also contributed indirectly to a speculative boom in assets via the provision of national 'balance sheet' credibility upon which foreign funds could be attracted. The foreigner believed that he would be repaid.

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A massive flood of foreign capital in Thailand, Indonesia and Korea also fuelled abundant liquidity—much of which *could not be sterilized* by the central banks. Many foreign investors were lured by an impressive track record and readiness to indulge in consumption as East Asian citizens acquired more discretionary income. Although foreign investment took on many forms, much of it was short term and 'hot' in nature. Such foreign funds further fuelled domestic liquidity and significantly contributed to a credit boom that in turn fuelled higher asset prices and created 'false wealth' in corportate balance sheets. This raises the whole question as to why East Asia borrowed so much when domestic savings rates were already high by world standards.

Why did the bubble burst?

Was the crisis predicted? A key prediction of Krugman (1994) was that East Asian growth would eventually slow down as a result of diminishing returns to factor accumulation. The emphasis is on slow down not a sudden crash. As Krugman himself admits, his prediction was not of a sudden collapse in growth. Therefore, this model is inappropriate in explaining the crisis in terms of a collapsing MPK or productivity. However, there were signs of a corporate profit slow down in East Asia in the mid-1990s as over-investment and idle capacity squeezed profit margins. Hence, it appears more likely that East Asia suffered from a *profitability* rather than a *productivity* slow down. There were signs in East Asian stock markets in 1996 that stocks were grossly overvalued as *P/E* ratios were extremely high.

In summary, it was export success and the associated attraction of foreign capital (in a short time frame) that sowed the seeds of East Asia's crisis via the impact on monetary liquidity.

What kind of crisis was this? At face value it was an *economic crisis*. However, it is difficult to accept that real factors, such as capital and labour accumulation, suddenly turned sour or that diminishing returns caused economies to collapse in 1997. After all, the solid foundations of growth—that of human capital, productivity levels, education, receptiveness to knowledge flows and a hard work ethic were not disappearing. Moreover, economic fundamentals in general, such as inflation rates, current account deficits, size of government and budget deficits were not, by and large, at alarming levels. The exceptions, however, were Thailand and Malaysia, especially as they breached the magical 8 per cent of GDP—an alleged benchmark signal that concerns finance markets.

A second view is that of a *currency crisis*. Large depreciations of 40 per cent or more were common. Such depreciations created widespread havoc in terms of foreign debt repayment, acquiring inputs denominated in US dollars, as well as disrupting trade and foreign investor certainty. In many cases, East Asian authorities sought to defend their currencies against overwhelming capital outflows and short-selling by drawing upon foreign exchange reserves. This was

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a costly defense for Korea, Thailand, Malaysia and Indonesia that failed by mid-1997. Taiwan, Hong Kong and Singapore weathered the storms of currency attack, partly due to stronger underlying fundamentals, greater commitment by authorities and sizable foreign exchange reserves. But why did capital exit with such mass force and speed? External speculation was commonly blamed, as opportunities arose to slay the Asian water buffalo caught in the mud. This mud was a large percentage of short term to total debt falling due within months—and visibly so.

There was doubt as to whether domestic businesses and investors could pay off this short-term debt in the face of increasing softness in asset prices, declining corporate profitability and collapsing export values. George Soros smelt blood, and so he and other speculators short-sold some East Asian currencies in mid-1997. However, this view is not totally 'external' in nature, as rational forward-looking agents critically assess economic, financial and government fundamentals and so are *reactive in response*.

A third view of the East Asian crisis is that of a *debt crisis*. Not only was there over-borrowing by the domestic private sector but also over-lending by many mutlinational companies. There were two critical mismatches. The first mismatch was the short-term nature of such foreign capital flows, and yet the long-term nature of the domestic assets held—there was always a risk that debt servicing would pose a problem. This type of strategy has to be soundly based on expected rates of return and cash flow being substantially greater than the cost of capital in order to compensate for any unforeseen risk. Unfortunately for East Asian borrowers, these risks were real and eventuated in the form of deteriorating financial fundamentals. The second mismatch was the overwhelming bias of foreign debt in US dollar, and yet much of the revenue driven by such debt was in local currency. Such a bias was compounded by the rise in the US dollar against many currencies in 1996 and 1997 creating both unrealized, but sizable, capital losses along with the difficulty in debt servicing. Moreover, devaluation and high foreign debt worked interactively in destroying corporate balance sheets and instigating a vicious circle of economic contraction.

A fourth view is that of a *financial crisis*, whereby the financial sectors of many East Asian countries were too loose in their lending policies, prudential supervision was weak, accounting and audit standards were below international standards, capital adequacy was low and an overemphasis placed on asset backing rather than the cash flow of lenders. Excess liquidity was generated not only by the financial systems, but also by the central banks and global funds searching for higher than normal returns in East Asia. The sheer flood of foreign capital, in such a short time frame, made it exceptionally difficult for profitable opportunities to be both found and realized. Price-earnings ratios hit both unprecedented and unsustainable highs. Lending officers in the financial sector were under enormous pressure to discern between good and bad credit risks, as asymmetrical information in favour of the borrower clouded prudent financial judgement. In this competitive lending environment, the financial sector

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undertook enormous credit risks in early 1990s for fear of losing market share and smug in the belief that implicit government backing would save major financial institutions in times of trouble. This is known as a moral hazard problem, as lending in East Asia was premised on the idea that 'heads, the bank wins; tails, the taxpayer loses' to quote the Krugman insight. Such a belief generated a false sense of security and caused lending policies to be reckless.

Hence, East Asia's financial system, in general, was seen as being fragile. But this begs the question—would such a 'fragile' financial sector have been able to grow in sophistication and perform satisfactorily under less of a flood of foreign money? Financial collapse may have been more of a case of too much capital, too quick, too soon and too footloose.

A fifth view is that of a *liberalization crisis*. Montes (1998) sees this crisis as occurring by the twin liberalization of the domestic financial sector and the capital account of the balance of payments. Such a free trade in money has its costs in terms of foreign speculators desiring high and quick returns in exchange for short-term loans oiling development aspirations. Some economists claim that such liberalization led to over-borrowing, over-investment and overcapacity as well as mis-investment. But why was financial openness such a problem for many East Asian nations? A major reason was the lack of appreciation by domestic investors of potential exchange rate risk—as domestic financial intermediaries 'had borrowed on their behalf' offshore. Even so, these same intermediaries lacked any fear of exchange rate risk by the unhedged nature of their foreign borrowing. Furthermore, such massive capital inflows placed great pressure on domestic companies to generate high rates of return in order to meet debt service. Skepticism was echoed by Greenspan (1997a), 'In retrospect, it is clear that more money flowed into these economies than could be profitably employed at modest risk.' Rate of return disappointment was bound to set in eventually. Moreover, savings rates in East Asia appeared high by world standards in the late 1980s and 1990s and so the 'need' for additional capital was questionable.

Given the suddenness of the crisis, it appears unlikely that any visible deterioration of economic fundamentals were the precipitating force. Financial rather than real factors have greater explanatory power in shedding light on the speed and fury with which the crisis broke. Moreover, the complexion of the crisis was virulently interactive, in that a vicious spiral of debt-liquidity-leverage-currency-deflation spilt over into the real sector of the economy. Just as East Asia's economic boom possessed a financial origin, so did its economic collapse.

The Asian crisis: why so sudden?

Many economists were puzzled by the suddenness, speed and lack of warning that was associated with the Asian crisis. The economics profession did what it does best—it looked backwards towards theory—with a degree of

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disappointment. First generation models by Krugman (1979) and Flood and Garber (1984) focussed on the crisis as being a by-product of fiscal laxity Cumulative and persistent budget deficits needed to be financed, and governments were tempted to use seignorage as a weapon. A fixed exchange rate could not endure under such circumstances, as foreign investors withdrew funds and diminished the host nation's foreign exchange reserves.

Moreover, rational economic agents would foresee the host nation's foreign exchange reserves declining to a critical level, and so via a speculative attack, *cause* this level to be struck. As noted earlier, fiscal laxity *(in any visible form)* was not observable in these Asian nations in the 1990s and so these models appear to lack applicability to the Asian crisis.

Second generation models by Obstfeld (1994) viewed a crisis as being the result of a conflict between maintaining a fixed exchange rate and either the pursuit of domestic expansion or monetary laxity These models have a 'macroeconomic temptation' foundation whereby the government may choose employment creation over exchange rate stability. While this view does not strictly fit the East Asian experience, in that money creation was not a prime motive, there is enough evidence to state that East Asia was awash with money—due to capital inflows and so there was a special type of monetary laxity, partly of an external origin. There was also a strong pro-growth rather than pro-stabilization bias that was bound to eventually pressure the exchange rate.

Third-generation models concentrate on moral hazard via implicit government guarantees to the financial sector that 'underwrites' a lending and investment boom. Krugman (1998) claims, in Asia's case, this was a 'hidden investment subsidy' and Corsetti *et al.* (1998) claim that it represented a 'hidden government budget deficit' as banks possessed unfunded liabilities. Beneath the surface it was governments that underwrote a huge lending boom—to the private sector.

The financial sector (and investors) felt comforted by the thought that governments would bail them out if the investment boom faltered and non-performing loans became troublesome.

A variation of this implicit guarantee view is that of Canterbery's 'casino economy' view whereby governments grant privilege to the rich in society via tax breaks and investment incentives. In the case of the United States, the Reagan supply-side initiatives were in essence a huge wealth stimulus to the American rich. As Canterbery (1993) states 'During the Reagan years the entrepeneur's share of national income declined drastically even as the rentier's (unearned) income share has soared. All of the increase in disposable income during the 1980s is more than accounted for by the rise in the share of interest income, while the shares of labor and other income sources declined.' Hence, real capital formation took a back-seat while enormous speculative profits were made—America moved away from making goods to making fast money It was the lopsided distribution of income that compounded the speculative craze and so contributed to the speculative bubble that burst in 1987. The relevance of

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this 'speculative bias' in the United States for East Asia is that the desire to make fast money transcends national boundaries—with dire consequences for the real economy—sooner or later. The granting of privilege, by government, to the small wealthy business class of East Asia acted as a funnel that caused a diversion from productive activities.

Another strand of the third-generation models is based on financial fragility and Diamond and Dybvig (1983) view bank runs. In these models there can be a sudden exit of funds from the financial sector resulting from a herd mentality and panic. Investors may panic because they fear other investors are panicking and withdrawing funds. This self-fulfilling prophesy scenario is capable of explaining the speed and suddenness of the Asian crisis. There is a clear distinction between liquidity and solvency of a financial system and indeed a nation. In these models, the financial system is somewhat exposed and vulnerable to a funds withdrawal as it borrows short and lends long. Any panic that demands immediate payment causes long-term investments to be liquidated at fire-sale prices. There is no doubt that with the onset of collapsing asset prices around Asia in 1997, there was enormous pressure placed on the liquidity of the financial system.

There is a growing movement towards the creation of fourth-generation models led by Krugman (1998). This embryonic model is based on the health of private or corporate balance sheets that is adversely affected by a currency depreciation. Amidst a contractionary or deflationary period, it is declining sales, higher interest costs and a depreciating currency that squeeze a firm's profitability but more importantly suffocate its balance sheet. The firm's ability to lend is drastically reduced, even if its willingness remains. In short, it is capital inflows that inflate the health of a firm's balance sheet, and capital outflows have the opposite effect. Such capital inflows combined with high corporate sector leverage create a potent investment boom that interacts positively with a firm's balance sheet. However, this expansion strategy is high-risk in nature, as panic and capital outflows can impose cumulative deflationary effects on the private economy and the financial sector.

Of all of the generation models, the most promising in explaining Asia's crisis is the fourth-generation profitability variety. A key reason for such optimism is that this generation is mainly financial and not economic in nature. It also embraces the concept of an open and not a closed economy. Nevertheless, fragments of other generation models also have some plausibility. The theoretical search continues for an explanation that adequately comes to grips with the suddenness of the crisis, the ferocity of impact on the real sector of the economy and the lack of anticipation of its occurrence.

Stock market performances: post bubble

The growth experience of East Asia was *different* to the path worn by most modern day mature economies—as exports as a percentage of GDP was

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exceptionally high. Many of these developing nations of East Asia experienced robust growth from the 1970s onwards and attracted much foreign investment. As financial sectors and stock exchanges matured so did a more conducive environment emerge for more trading and speculation. While US stock markets boomed and the US economy sucked in more imports so did East Asian stock markets perform well. A roaring NASDAQ lifted tech-related issues throughout East Asia. Japan's stock market was also roaring along in the 1980s and many Japanese corporations invested heavily throughout East Asia—supporting investor confidence. Several East Asian stock markets outperformed those in mature economies as investors extrapolated past super performances and (over) anticipated near term prospects. Hence, many East Asian stock markets suffered from excessive exuberance as stock values could not be justified by real fundamentals. To a large extent the flood of foreign money ballooned already high *P/E* ratios.

There is another distinction in the growth experience that is worth noting. The nations of South East Asia, as per the Flying Geese paradigm, are less industrialized and possess lower productivity levels than their northern counterparts. Hence, nations such as Thailand, Malaysia, Indonesia and the Philippines are more prone to monetary and financial disturbances than say Taiwan (with low foreign debt levels), Singapore (with a highly educated work force), Hong Kong (with strong trade links with mature economies) or Japan (engineering excellence). The exception being that of Korea that overindulged in acquiring foreign debt and so left itself vulnerable to a collapse in export sales and world determined prices. Such North-East Asian economies could fall back on higher levels of human capital and higher product ladder goods in time of crisis. The export of sophisticated manufactured goods will always find a market or at least so the argument goes.

Conversely, most of the South-East Asian nations rely more heavily on foreign knowhow and capital and so are more susceptable to exchange rate fluctuations, credit crunches and foreign capital flight. We observe that stock markets have responded, and possibly overreacted, to both the deterioration of economic and financial fundamentals in their respective economies. What seems typical of the post-bubble years is that those East Asian nations that enjoyed the most explosive bubbles also endured the most painful and drawn out economic recoveries. Stock values suffered accordingly. We shall see that those countries that relied heavily on foreign funds during the boom took a while to recover—as confidence remained a critical factor.

If we examine the stock market performance of Thailand and Indonesia we can see the massive collapse in 1998 (Figure 12.1). The impact of the mid-1997 crisis was felt by mid-1998 as foreign capital flight became severe, debt burdens became alarming and currencies had still not stabilized. All asset prices, including stocks were pummeled as EPS prospects collapsed in response to weak economic activity, higher interest rates and fleeing foreign capital.

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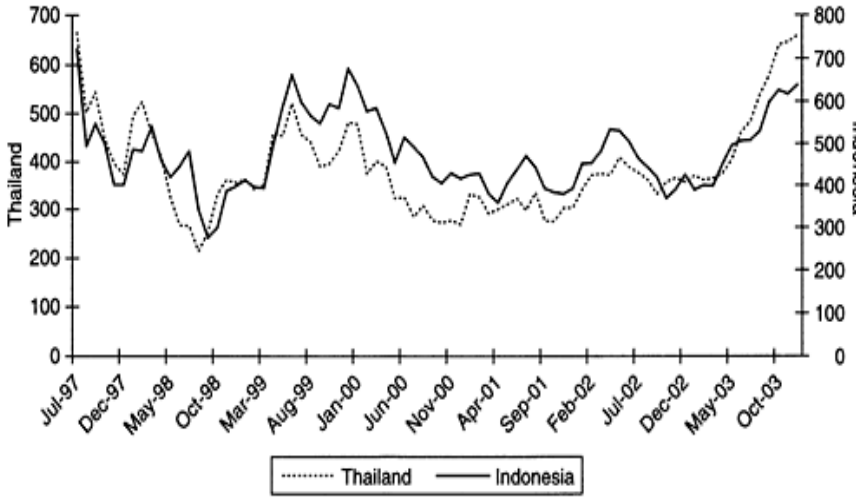

Figure 12.1 Comparative stock market performance: Thailand and Indonesia.

Source: Thailand and Indonesian Stock Exchanges.

Despite the huge fall in stock prices in 1998, there was a rally in both countries in 1999—mainly because of the euphoria in US stock prices. However, such a rally proved to be false dawn as the same excesses of early 1990s were still being worked off and as the United States went into recession post-2000. However, a remarkable rally—probably based on catch-up growth—occurred in 2002–3. Thailand's rally was quite staggering.

The Korean economy and stock market took a large hit during the crisis because of interaction between foreign debt and the Won (Figure 12.2). Foreign investors got nervous and fled until the exchange rate stabilized. A sizable rally in stock prices occurred in 1999 only to relapse in 2000 as the US markets softened. As the US economy recovers so will Korean stock prices for reasons of financial confidence and manufactured export penetration into the US market. Note that the financial wounds of the crisis were less onerous on Korea than Thailand. Taiwan stocks were not as prone to the Asian crisis as say Korea, Thailand or Indonesia. Although stock prices softened during this period they did not crash. However, a lack lustre performance followed the crash of the NASDAQ in the United States between 2000 and 2003.

The Sinagaporean economy suffered in fits and starts (Figure 12.3). Contagion effects were at work during the Asian crisis and regional banks were hard pressed for a time. Singaporean stocks floundered with the region in 1998 only to recover quite well in 1999. Again, the softening of US stock prices from 2000 onwards placed pressure on export oriented stocks as well as a climbing exchange rate against the US dollar. Higher incomes and more export competition from the region is thwarting any significant rally in stock prices. Structural problems persist. Malaysia's post-bubble recovery has been slow but

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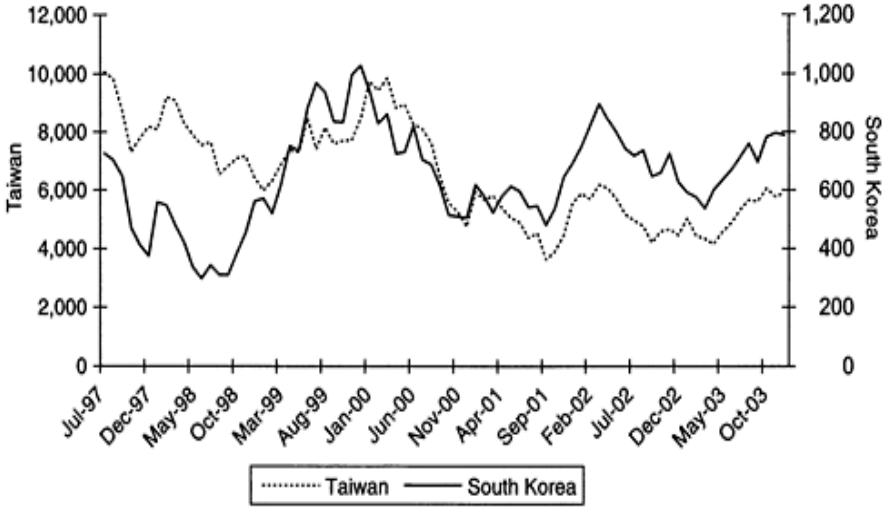

Figure 12.2 Comparative stock market performance: Taiwan and South Korea.

Source: Taiwan and South Korean Stock Exchanges.

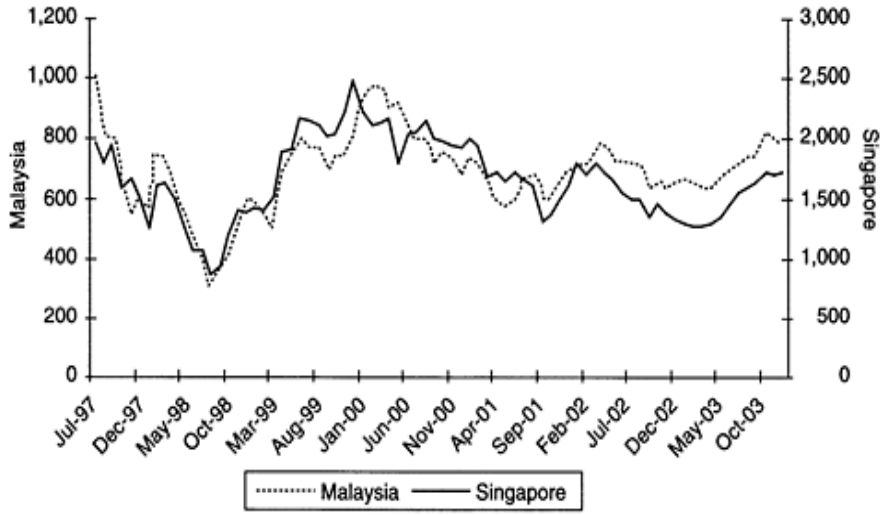

Figure 12.3 Comparative stock market performance: Malaysia and Singapore.

sure and stock prices have reflected such an improved economic outlook. Abundant resources have helped. Higher commodity prices provide support for the stock market in the near term. Like all Asian nations that are ‘developing’ their immediate future depends on the gaint US economy maintaining a head of steam into 2005–6.

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Conclusion

East Asia learnt the hard way that an extended boom sows the seeds of the next down-turn. There were similarities with Japan's bubble—super-profits from exports, high corporate financial leverage, loose lending policies and monetary accommodation that fuelled asset price speculation. There were also similarities with the US experience in that several waves of foreign capital inflow and hot money drove up the exchange rate, overinflated asset prices and created an air of investor exuberence. Excess liquidity and credit creation were *common* causes of asset price bubbles in all three regions in question—the United States, Japan and most of East Asia in general—even though the origins of excess liquidity differed.

Despite the fact that financial variables had turned soft there was also a degree of concern over economic fundamentals turning sour. Foreign speculators seized on an export downturn in the region, rising current account deficits and uncertainty over the sizable amounts of the short-term foreign debt that was coming due. There was an air of inevitability of rising interest rates to 'protect' the exchange rate and so raise domestic savings levels. A once virtuous circle of prosperity turned into a vicious circle of poverty as asset prices tumbled and a stampede for the foreign exchange gate resulted.

Even though a deterioration of economic fundamentals were part of the crisis story these were overshadowed by several virulent financial factors. A flood of foreign capital caused fragile financial systems to become excessively liquid. A credit boom coexisted with lax supervisory standards and a poor appreciation of the risk-return trade-off sowed the seeds for disaster as non-performing loans escalated. Too much money chased too few assets, that in the end resulted in an imploding bubble that left weak balance sheets and even persistent loss reports. A vicious downward spiral of spending further complicated the prospects of a profit revival in the corporate sector.

Amidst the crisis there was a great deal of panic both within the government and private sectors as to how to respond to crashing currencies and aggressive capital flight. Banks were facing insolvency. Some East Asian nations called in the IMF. Malaysia went in alone. A period of economic austerity followed as the growth rate of the money supplies contracted and interest rates soared. We know from history that these economies and their stock markets bounced. Korea, Taiwan, Hong Kong and Singapore recovered quite strongly shortly after the crisis whereas Thailand and Indonesia were slow to recover.

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13
US stock markets
Where from here?

Introduction

We have explored the causes of the extended stock market boom of the 1990s and also the driving forces of the bust from 2000–3. The US economy floundered for more than two years and the stock market with it. This is an unusual and prolonged downturn as the US economy normally rebounds quickly from a recession—and the stock market even more rapidly. As this book has explained, the post-bubble era is no 'ordinary' recession as asset markets, capital spending and balance sheets have been severely dented— despite the liquidity-driven re-floating of asset prices in 2003/4. It may be argued that the excesses of the 1990s are still to be worked off. The excesses of the 1990s are still to be worked off. Such excesses represent a serious obstacle to an investment revival, as fresh additions to the capital stock are essential for the next phase of the recovery—without it there will continue to be excess reliance on the consumer, and to a lesser extent, government spending. Perhaps the sluggish revival in private sector investment and a worn out consumer has prompted the US administration to favour a weaker US dollar in the hope that increased exports will assist in the recovery process? A shrinking current account deficit would also be a welcome by-product of a lower dollar.

While the US stock market languished for two years since 2000, the opposite is true of the US bond market. Bond prices roared—portraying a very pessimistic outlook for economic performance over the medium term. Bond yields hit a forty-five-year low and global investors sought the 'safe haven' of the US bond market while world stock markets have been weak and volatile. However, as the US dollar continues to slide as of early 2004 there is growing anxiety by bond investors to search for high yielding offshore bonds in order to avoid further US dollar weakness. It is here that Greenspan has a problem—lowering interest rates further will more than likely undermine the US dollar—and perhaps the US bond market as well. Why should foreigners support US private and public consumption via their holding of US bonds when yields are low, with little prospect of further capital gain and a weakening US dollar that further erodes their

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capital holdings? Such fear was evident when the US dollar fell to a low of 128 Euro and to around 105 Yen in early 2004.

This chapter examines the arguments for and against a revival in US stock prices. By so doing it also focuses on the health and stability of the real economy. Nevertheless, just as in Japan's post-bubble experience, the role of financial variables, and balance sheet damage in particular, is scrutinized. Geopolitical influences are also canvassed as they impinge on the growth prospects of US multinationals. As the reader is already aware, a vibrant and revitalized US stock market—as for most of 2003–4— will transmit confidence signals to the rest of the world's stock markets. The converse is also true, as world stock markets are unlikely to recover while US stock markets remain weak—unless there is strong substitution effect out of US assets and into Yen and Euro denominated assets. Could a lethargic US recovery been seen in the same light as Japan's limp-wristed fake recovery? Full of promise but lacking in substance?

From one bubble to another?

Between 2000 and March 2003 investors fled from one bubble (stocks) into another (bonds). Such a switch generated much volatility—and sizable capital gains and losses along the way. Fear and uncertainty pushed investors into risk-free securities and away from stocks. Such a switch was in response to excessive price-earnings ratio, profit disappointment, weak corporate governance, recessionary fears and September 11, the Iraqi conflict and finally of widespread talk and fear of deflation. However, just as the stampede into stocks lacked rationality so too did the rush into bonds. Bond yields hit forty-five-year lows and still investors clamoured to hold bonds when the expectation of capital appreciation was well-nigh nil. The bubble did burst in July/August 2003 when bond prices collapsed and yields rose appreciably within a few weeks.

And what of the property bubble? Unlike the Great Depression, investors also sought the safe haven of property (and not just bonds)—residential real estate has continued to boom—both before and after the collapse of the stock bubble. Residential housing prices continue to appreciate and residential construction is still soaring—after many years of underlying growth. US authorities must be careful that they do not oversee a fourth bubble in property a fourth bubble in property in order to offset the vibrations in the stock and foreign exchange markets.

Global investors have also fled from the US dollar bubble and into Euros, Yen and other high yielding currencies. Investors act like wild herds roaming the earth, seeking higher rates of return—partly as a result of cunning business calculus and partly because of fear—for not obeying a herd mentality is to miss out. Greenspan has had to balance the two expanding bubbles of bonds and property against the two deflating bubbles of stocks and the dollar—or a mixture thereof. Perhaps this is his strategy of insurance being revealed once again?

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What of currency instability?

There is an important currency issue to address before we embark on the prospect of a stock market revival. Recent currency 'misalignments' will count for much as investors reorient their global portfolio according to relative growth, interest rate and rate of return prospects. History teaches us that whenever the US dollar is weak and is aggressively sold off so the price of gold tends to rise—and this is exactly what happened in early 2004—gold sold for around $425 an ounce. Not only have the 'other' major currencies such as the Euro and Yen soared on the back of dollar weakness but also high yielding currencies such as the Canadian dollar, the Australian dollar, the New Zealand dollar and the South African Rand. It then becomes a question of whether massive currency realignments are more a function of investors wanting to get out of the US dollar or wanting to get into other currencies that are strong and more attractive in the short term. In 2002–4 there is no clear indication that the European economy is unambiguously stronger than the US economy or European companies more profitable than their US counterparts. This portrays the image of global investors preferring to rid themselves of US dollars and flee into other foreign assets and currencies—a case of US dollar weakness and not Euro strength. In this era, both economies are relatively weak and it becomes a question of investors deciding on relative weakness rather than relative strength.

One key reason for the persistent sell-off in the US dollar is the prolonged and extended eight-year boom in the United States that lured many investors into stocking US dollars as a reserve asset. Not only was the US dollar held and stored for investment purposes but for trade purposes as well. Given the long time span of foreign US dollar accumulation there is now a perceived desire to unwind such long-term positions—portfolio readjustment. Second, rate of return disappointment from major US corporations and poor investments overhanging future cash flows caused foreign investors to reduce their holdings of US dollar stocks. A third reason for the sell-off is the US administration's apparent nonchalance towards the 'strong dollar' policy. It has not publicly committed to a strong dollar either explicitly or implicitly. It is true, however, that President Bush at the G8 summit in France did utter words of support for a 'strong dollar' but without much justification or rationale. Foreign exchange markets normally tend to look at capital flows and fundamentals and not listen to the soothing words of politicians. Fourth, the widening current account deficit is unnerving to many investors as it has to be financed by foreigners who may not wish to support US consumption at a time of low interest rates. Fifth, to the extent the US authorities have pumped the money supply faster than their OECD counterparts the 'excess supply' of dollars finds its way into foreign exchange markets and so lowers its price.

We should appreciate that currency realignments play a major role in determining which stock markets of the world will rise (or fall) faster than others. Massive capital flows from one major economic block to another generates a

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self-fulfilling strategy of driving up asset prices in the recipient region. This is one reason why Japanese stocks have rallied aggressively in 2003–4 as global investors are attracted by future Yen strength over the US dollar.

The liberation of Iraq

Regardless of the politics involved over the invasion of Iraq, global investors expressed their fears of economic, physical and financial damage to both the United States and world economies. How long would the war last? What would the war cost? How would it be paid for? Would there be long-term disruption to Iraq's oil supplies? Would Iraq's future oil sales be sufficient to fund its rebuilding program? How would the price of oil behave both during the war and after? What US companies would profit from the war?

The answer to these questions is mainly positive from a US and free world perspective. The war proper only lasted a few weeks and not months—and Sadam Hussein himself was captured. Pre war, the estimated cost was around $75 billion, was funded by the United States and was not greeted as being too 'excessive' by investors—even though extended guerrilla warfare has pushed all costs higher. At least the major cost became known and so unbounded uncertainty largely removed. Alas, the liberation period after the direct conflict has dragged on and will waste further resources—but not enough to alter investor sentiment. The price of oil did soar during the midst of the war to around $36. Postwar, the trading range for oil was between the high 20s and $40 a barrel more recently in 2004—a surprise to some analysts. Analysts are divided on the near-term price of oil—as geopolitical events and Iraq's failure to reach high production levels creates an air of uncertainty. The prospect of world recovery also provides support. On the other hand, once uncertainty subsides the old trading range of below $30 a barrel may emerge.

As far as US companies gaining business from the war itself and profiting from the reconstruction of Iraq—the answer is most likely yes. Time will tell. Just as America bore the brunt of war funding it will enjoy the fruits of victory—as US multinationals win large contracts in the rebuilding phase, that is, unless France can find a way of appointing itself as the postwar reconstruction co-ordinator without prewar contribution? Perhaps the billions spent on the war can be recouped via a lower price of oil for many years to come as Iraq steams ahead to full production capacity—albeit with delay? Such increased oil revenue opens up even more opportunities for American companies as world demand picks up for consumption goods initially and capital goods eventually. On the issue of dividing the 'spoils' of victory—US construction companies should do well.

As far as the finance markets are concerned the war went about as well as it could. It was short, the price of oil came off its highs, oil fields were not destroyed and a substantial slice of uncertainty was lifted from the valuation calculus. However, as of mid-2004 the price of oil has surged to 13 year highs and the war in Iraq still lingers on—causing a degree of uncertainty to return to

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the valuation calculus. Inflationary fears are on the rise. The saving grace for world stock markets is the on-going low interest rate strategy of the Fed that has more than compensated for high gas prices at the pump.

Geopolitical forces

For many years the languishing Japanese economy acted as a drag on global recovery. Japan's modest growth rate was pumped along by exports and less so by domestic demand. Export opportunities to Japan were thwarted by sluggish growth and recessionary fears. Deflation, of both asset and goods prices, suffocated any prospect of economic revival. Deflation more importantly destroyed financial, corporate and household balance sheets and choking domestic spending as a result. How can US stock markets produce a sustained rally in the face of Japan's financial turmoil? The answer rests with the ability and will of Japanese authorities to deal with the financial sector's malaise and the non-performing loan problems. Perhaps the sun is rising in the land of the rising sun? The Nikkei has rallied substantially in 2003—from a low of 7,750 points in early 2003 to over 12,000 points in early 2004. This rally was in no small way a by-product of a stronger Yen—a mutually reinforcing relationship—whereby investors chose to switch and substitute into Yen denominated assets. Japan's stock markets may rally further even if US stock markets tread water as global investors believe that a revival in Japanese corporate rates of return will continue.

Germany's economy has been in poor shape. The reunification costs have far exceeded the vision of the early 1990s. The marriage of the high income, high productivity West with the low income, low productivity East was fraught with major transition difficulties. Just as in Japan, the prospect of deflation still looms. Although the Bundesbank, and more recently the Euro Central Bank, is fighting the old enemy of inflation there is now a growing belief that a collapse into deflation will have catastrophic consequences for any prospect for a recovery in Germany or Europe. In fact, the sluggishness of Europe's central bank to lower interest rates was noticed by Greenspan and the US administration. There were two choices—either lower interest rates and follow the US lead or face a steeply rising Euro. A higher Euro was the choice and so a constraint on export growth. Several major economies such as France and Italy are still struggling to generate sustainable growth. The UK economy performed solidly, well supported by a real estate boom, and outperformed a gloomy Europe by early 2004.

Even though most East Asian economies rallied after the 1997–8 crisis the impact of SARS has dampened growth prospects for 2003–4. All forms of travel have the potential to spread the disease and so airlines, hotels and tourist destinations have been hit hard. Within Asian countries there is a great reluctance to travel to work, shops, leisure places, restaurants and public places in general. Some people prefer a more homely existence in such a high-risk

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environment. Hence, the effects on consumption are still working through the system. Not only will retailers be affected but eventually the banks as well. Given the pervasive fear that SARS has instilled into Asian consumers it may take quite a while for confidence to return—even after the actual death of SARS. In fact, lower economic activity can only spell lower GDP growth and less profits for some Asian companies. Moreover, US companies have declared the possibility of SARS damaging their bottom line—as significant percentages of their sales originate from the Asian region.

We know that stock markets are forward-looking and valuations are often based on an *expected* earnings-profit ratio and not just past earnings. Hence, as economic growth prospects picked up in the United States so too did they in Europe, Japan and the rest of Asia—causing company profit forecasts to be revised upwards. By mid-2004 there are signs of economic revival and a world recovery as commodity prices, and metal prices in particular, have roared. Some have touted the Yen as a barometer for world recovery. In fact, China has surged ahead in 2003–4 causing quite a boom in commodity and energy prices-acting as the engine room of world growth. A lower $US has indirectly spurred commodity and energy prices along with world demand for final goods. Perhaps low US interest rates and a low $US are the linchpins of a broad based world economic recovery?

Synchronization and integrated markets

It is well known by investors that prices for all commodities, stocks and money are determined in US markets. It is here that many players trade in deep markets and price outcomes are by and large driven by the forces of supply and demand—and so by volume. Other nations, and their markets, 'follow' the US lead. This is to say that major stock markets are correlated in movement—or are co-integrated. The correlation is not one but in the case of European exchanges quite close to one. In the case of Asian markets they are quite sensitive to changes in the technology laden NASDAQ, metal and semiconductor prices set in the United States. Deviations can and do take place from US closing prices but the deviations—percentage changes—are relatively small and often return to the US closing prices *before* the US markets open the next day. This was particularly true in the post Cold War era up until the 1990s. This era created an air of investor fear—particularly over the weekends—and investors preferred US denominated assets over any other. The United States was seen as a safe haven storage centre during the height of the Cold War. And it was not just the bond market where investors parked their funds but in stocks also—in preference to European stocks or bonds.

Even today, European stock markets keep a close eye daily on the US futures market—with a closer watch on Friday morning. Any hint of a sell-off in US stocks on Friday and the European markets hedge their bets by selling in anticipation of a lousy Monday morning. Even if there is only some doubt on

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Fridays—the Europeans will often close their positions in Europe and remain neutral for the weekend. Since the end of the Cold War, investors in the United States also tend to exit stocks on Friday and switch to the safe haven of bond market for the weekend. Or if there is extreme caution, bypass the bond market and sit in money market accounts. After all, who knows what kind of war or terrorist crisis might occur over the weekend? Besides, why not accumulate interest safely on the weekend without taking a risk? We know that investors shun uncertainty and nowadays post September 11 there is always the threat of terrorism severely disrupting a region or an economy

What may be true of percentage changes in world stock markets—following the US lead—is not true of levels. European and Asian stock markets can underperform for several years due to a whole host of domestic factors including interest rate structures, inflation rates, productivity, capital flows, dollar strength, etc. There are stock cycles—the United States versus the rest—whereby global investors substitute out of US markets and into other prospective markets—driven in part by currency realignments. Therefore, previously underperforming markets can catchup and register annual percentage gains above that of their US counterpart.

In the current period of 2004 the safe haven status of US stocks and bonds—relative to the rest of the world—has lost some of its 'safety' because of the slide in the US dollar. Although world stock markets move in tandem with US stock markets they do not move in perfect unison. Global investors are sensitive to relative interest rates, rates of return and exchange rate fluctuations. Just as major stock markets do not move in unison (at least in percentage terms) neither do major economies. As discussed earlier, Japan has been trapped in recession for many years and Germany experienced a serious downturn itself—while the US economy roared along for eight straight years. This lack of synchronization of major economy growth rates has been a key driving force of US stock prices. However, as the OECD converges on a more common growth rate so will global investors substitute out of US assets and diversify into other major economy stock markets. Hence, US stock markets may only provide a general lead for other stock markets to follow.

Given that world stock markets move in tandem and are partially integrated, it then follows that policy coordination—both monetary and fiscal—by the G8 nations becomes essential. How can interest rates differ widely between nations and regions? How can the availability of credit be loose in some regions and not others? How can money supply growth be explosive in some regions and not others? How can one region indulge in an expansionary fiscal policy and another major region 'watch'—or remain fiscal policy neutral? There are significant implications for exports, inflation and the respective current account deficits of these nations.

If a world recovery is to take place then we can do without 'beggar thy neighbour' devaluation strategies or free riders exploiting the policy expansion of others. Perhaps the US economy has pulled along world economic growth for

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long enough and now the time has come for a more synchronized world expansion? A more broad based expansion will favour higher stock prices in other major countries such as Japan, China, Korea, Australia, South Africa and Europe.

Why the US stock rally?

Post the Iraqi War the US stock market rallied immediately. It is even more precise to say that it rallied on the expectation that the war was won and all but over and also on the belief that Iraqi oil supplies were not severely disrupted. The Dow rallied from a pre war low of around 7,350 to 10,400 points by mid-2004—a rise of more than 30 per cent—in just 10 months. Despite these rallies being very impressive one has to acknowledge that extreme pessimism and doom was factored into the US stock markets prewar, that is, in all probability the markets were extremely oversold. Hence, a rapid and persistent comeback in US stock indices should not come as a surprise.

Another key factor in driving the postwar rally was the solid results from the first quarter reporting season. Many US companies 'beat the street' estimates and revealed some optimism about near-term future profits. Investors liked what they heard and aggressively bought stocks. Even the strength of the 'buy recommendations' was visible in that investors bought on 'temporary' dips and pullbacks and so displayed their renewed hunger to own stocks. The months of April and May witnessed very strong and aggressive buying (mainly by institutions) of big name stocks and another wave of buying later in the year. Both second and third quarter earnings results were good and the S&P held its ground from the euphoria earlier in the year. However, eager investors purchased stocks in advance of these results and felt justified in holding them. Bidding up stock prices from here is based on the possibility of *accelerated* earnings growth and not just a high level of satisfactory earnings. This expectation of an acceleration in earnings was largely justified as stocks enjoyed a good rally in the 1st quarter of 2004 and corporate earnings growth was solid.

The importance of the sizable US dollar fall should not be forgotten. There is an empirical issue here as to whether US stocks rise with a rising dollar and fall with a falling dollar? In theory, a foreigner wishes to purchase a US stock when the market is weak and desires a weak US dollar as well—in the hope that she will acquire a double layered gain—after both stocks and the dollar rises. The converse also appears true— the foreigner should sell when both US stocks and the US dollar are on highs. In 2001–2 there appears some evidence that US stock markets and the US dollar collapsed together. Foreigners wanted to get out of US dollar denominated assets as they feared a stampede would rob them of existing profits. However, during the months of March-May 2003 the US dollar continued to collapse and yet the US stock markets rallied strongly. Perhaps US residents felt more confident in buying US stocks than foreigners and were justified a few weeks later as the US dollar rallied against the Euro dollar—from

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119 to around 109 by mid-2003. Earnings reports also encouraged the finance markets. However, a second wave of dollar selling in late 2003 and early 2004—to 128 Euro and 105 Yen—made would-be investors in US assets very nervous and acted as a brake on the rise in US stock prices. The question remains as to how well US stocks can perform in a weak dollar environment?

What of a dollar collapse from here? A fall to 100 Yen and to 132 Euro will make many foreign investors nervous and create selling pressure on many US stocks—but not necessarily the exporters or global hunters. This is the substitution effect spoken of earlier—global investors may reorientate their portfolios towards Europe and Asia— holding less of a percentage in US stocks. This does not necessarily imply that US stock prices will collapse amidst this substitution effect but that other stock markets will rise faster and catchup to US stock levels and valuations. It should also be noted that in this scenario of global recovery it is unlikely that US stock prices will weaken in any substantial manner (the dollar not withstanding) as foreign economies and stock markets rally. As the world economic recovery becomes more synchronised so the US economy stands to gain.

The powerful policy stimulus

The Fed has long embarked on an expansionary monetary policy in order to create a cheap credit environment and so stimulate economy activity. As discussed earlier, the Fed funds rate has reached historic lows and yet the recovery in private sector investment has been tentative. Sales of interest-sensitive consumer durables did pick up but that was very much a function of aggressive marketing strategies and motor vehicle manufacturers seeking to clear existing stock immediately after September 11. Households took advantage of low and declining mortgage interest rates to refinance their homes. Extra liquidity could be easily tapped in a rising market and used to purchase home-related items and/or general consumption goods. There are also other channels through which lower interest rates have been effective—by reducing net interest payments made by US corporations to banks and by reducing the spread between corporate bond and government bond yields. Before Greenspan's aggressive interest rate cuts corporate bond yields were dangerously high—partly because investors demanded a higher premium for risk and were also worried about unfunded superannuation liabilities of several big US corporations. Hence, the cost of raising capital was excessively high in 2000–1. No wonder US corporations were unwilling to undertake major investments. Not only were expected rates of return poor and not 'Visible' but the cost of raising funds in the post-bubble era was also prohibitive.

Although the effects, mentioned earlier of lower interest rates were quite significant for consumption, the response of private sector investment remained sluggish. Growth theory highlights the importance of modern, fresh vintage capital and high capital-labour ratio that drives medium term growth. The longer

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additions to the capital stock are delayed the less potent that stock becomes. Technological progress drives long-run growth but even that is often embodied in capital goods in some way. Analysts often point to past economic recoveries and to the central role played by a revival in capital goods spending—for the multiplier effects and chain reaction sent throughout the economy. *Why should this recovery be any different?* In fact, a subdued pick-up in private sector investment is the achilles heal of any potential economic recovery in the United States. The immediate future does not look bright either as excess capacity remains high in manufacturing and job destruction is rampant. Why should corporations invest in new capacity when existing capacity is plentiful and quite capable of quenching any sizable rise in final good demand?

Moreover, the supply-side excesses of the 1990s included both over-investment and mis-investment—in that too much money was placed in so-called investment areas that were never going to yield rates of return in line with expectations—if at all. Large portions of investment—particularly during the technology and telecommunications craze—were nothing short of wasted. Ambitions were over zealous and/or obscelence set in quickly. Projects soon became lemons. How does such misinvestment affect US corporations today? It has shaken their confidence, their balance sheet, their angry shareholders and their ability to borrow from banks. CFOs of major companies have become tight fisted as a result of the bubble era. Not only will the excesses of past take time to work off but also finding new, profitable investment opportunities in a challenging economic environment become more difficult—a legacy of mal-investment. There is the added cumulative constraint of major companies waiting for other major companies to flag intent to outlay more on investment— a game of 'wait and see' before becoming more aggressive on the capital outlay front. Such pessimism and delay was mainly confined to the 2000–2 era but as corporate-government bond yields have narrowed and stock prices risen, so too have US corporations become less hesitant concerning future commitments.

On the fiscal front, the US administration passed an aggressive lower tax and pro-spending bill through Congress. The main features of this Economic Growth and Tax Reform Reconciliation Act are as follows:

- Lower marginal income tax rates
- Child tax credit
- Married joint return relief
- Accelerated depreciation
- Increased expensing for small business
- Capital gain rate reduction for individuals
- Lower taxes of dividends.

The major objective of this 'Economic Growth' package is to reduce taxes and increase the potential to spend. It is both pro-consumer and pro-business. For example, lower marginal tax brackets fell from 15, 28, 31, 36 and 39.6 per cent

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to 10, 15, 25 and 33 per cent. Those eligible for the 10 per cent threshold have been given additional leeway with increased limits. Those with families were given higher allowances under the child credit scheme and the money was paid to them swiftly. Married people filing joint returns were granted higher thresholds and other benefits. For investors, the reduction the capital gains tax rates from the existing 20 and 10 per cent to 15 and 5 per cent respectively will encourage the buying and selling of more stocks. Likewise, the abolition of the double taxation of dividends is long overdue and will encourage a 'buy and hold' strategy towards stocks. However, some eligibility rules apply to holding periods. Not only are these initiatives valid now but most extend for much of the remaining decade and so can be considered semi 'permanent'. The business community gained relief through accelerated depreciation allowances mainly aimed at 2003–5 period—reducing inventory levels now in order that new durable goods orders would rise. The size of this stimulus must not be underestimated—it is huge by any modern day standard. However, as stated many times in this book—taking monetary and fiscal action to remedy income and spending *flows* may not be enough to offset serious damage to asset price *levels*. Moreover, *over- and mis-investment* can take many years to wear off before new investment springs to life—as past *over-capacity* still hangs over the reviving economy. Hence, economic revival may take longer than normal after a crash of an asset price bubble than a common excess inventory and demand flow slump.

Could the US post-bubble era be compared to that of Japan in the early 1990s? The answer is in some ways yes. As asset prices fell in Japan so did capital spending shrink for most years between 1991 and 2003. Private sector investment languished, as did construction spending that got caught in the down draught of the collapse in commercial real estate and the residential housing market. Consumption remained subdued for most of this period without collapsing. At least the sale of non-durables (daily items) held up while the sale of consumer durables remained patchy. Consumption was never going to be able to cover for the massive declines in investment spending. Japan attempted several fiscal stimuli but these also failed—both wasted and misdirected public investment and tax cuts that failed for reasons of fear. Hence, government spending did not offset the collapse in private investment either. As discussed earlier, exports did make a contribution to Japan staying afloat and current account surpluses with the United States were most welcome. Again, export success and current account surpluses were not enough to counteract the massive contraction in investment spending. Such is the devastation of asset price deflation. Modest changes in flows could not offset the huge damage in levels. The United States was in a similar position in 2003—it too faces little prospect of an investment revival—and so additional reliance on consumption, government spending/tax cuts—and now under the unofficial 'weak dollar policy' a revival of export growth. It is here that we should note that Japan's export growth and healthy current account surplus were not enough to engineer an economic revival. So how can the United

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States expect the next boom to be underpinned by a weak dollar? We are left with the dilemma from history—how can there be a recovery without a significant rise in investment? We shall now examine the pros and cons of a continued US recovery into 2005–6.

The US economic recovery: where from here?

We have outlined the massive policy stimuli given to the US economy in terms of exceptionally low interest rates, money supply acceleration, tax cuts and a lower US dollar—all of which should raise the GDP growth rate over the medium term. By how much and for how long is the question? If these policy initiatives are short-lived or lack impact then GDP growth for the next five years may still be below that of the boom era (4 per cent) of the 1990s—at around 3 per cent. We know from earlier work that EPS growth is very much dependent on GDP growth. In 2004, 'looking forward' (apologies to Squark Box) investors are looking to justify a 7–8 per cent rise in EPS which implies a GDP growth of rate 4–5 per cent in the near term. Over the medium term—say five years—both growth rates should roughly converge. There are no free lunches here. As we discussed earlier, the very, very low Fed funds rate is putting a fairly safe *floor* on stock valuations in 2004 but the *ceiling* on stock valuations is determined by the *acceleration* in EPS justified by an *acceleration* in GDP growth. If sales and economic activity do not continue to rise through 2005–6—the upswing of the cycle—then EPS will stagnate and so stock valuations will have to be revised downward. There are reasons to be cautious concerning a 'prolonged' recovery as there are forces at work that may choke a fledgling revival.

Reasons for caution

- Pricing power of US companies
- Capacity utilization
- Sluggish labour market
- Structural weakness—manufacturing
- Growing current account deficits
- Growing budget deficits
- Long end of yield curve
- Deflationary aftermath
- Earnings acceleration—limited?

All of these reasons for caution focus directly or indirectly on profitability. US markets have already priced in a recovery and next year's profit growth. Any hint that corporate profits will decelerate will also trigger a significant sell-off. America's structural imbalances may come home to roost and tap the over-optimistic investor on the shoulder. Massive monetary and fiscal expansion now implies contraction at some future time.

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Reasons for optimism

- World recovery—synchronization
- Japan's revival?
- A weaker dollar
- Real estate boom
- China's explosion
- Lower world interest rates
- Fiscal expansions.

The quick actions of the Fed and its aggressiveness in pump priming the economy has been effective to date. Renshaw (1995) reminds us of the historical evidence in the US—that a positive real growth in the money supply and a budget deficit of 3.5% or more of GDP—are both highly related to a rise in stocks—in the pre 1990 era. Thus, the twin prong attack of monetary and fiscal policies have proved effective in the past. The current era should prove no different. After all, Greenspan made it clear around the debacle of September 11 that he would push people out of cash into assets. And that he did! The whole thrust of this book is that 'money matters' and post-bubble we are witnessing another wave of liquidity revitalizing the economy in tandem with real forces. Balance sheet damage and the threat of asset price deflation requires the Fed's aggression. All of this is good news for the US economy but that does not imply that 'bargains' exist in US stocks in 2004–5. Why? Because the stock markets are forward-looking and have extrapolated and factored in much of the good news. So, be careful!

Lessons from the movie: Wall Street

We should not listen to Gordon Gecko—greed is bad, greed is wrong and greed does not work! Greed traps our own ego and causes us to bend our trading rules and to abolish previously set limits. Greed causes us never to be satisfied regardless of our percentage gain. Greed causes us to become irrational and expedient when we should be calculating and exact. Greed biases us towards short-term and not long-term gain. We become too impatient too quickly. This book favours trading and riding various parts of the business cycle—with a balanced portfolio—and with patience. One does not have to 'buy and hold' forever, there are times when switching between asset classes is both wise and prudent. Therefore, 'Lou' out of 'Wall Street'—the fundamental and patient investor—has something to offer us here.

Conclusion

When evaluating the likelihood of a recovery in the US economy are there reasons to be optimistic? Consumption levels and consumer confidence have

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doggedly hung in there during some fairly uncertain times and in some ways defied the trend of a 'normal' recession. Although consumption was adversely affected by stock price declines—it has been positively supported by low interest rates, easy credit and easy home refinancing. Hence, the ongoing building boom is stimulating consumption on a broad front. The Bush administration initiatives on the fiscal front have been aggressive, substantial and effective in maintaining consumer spending and confidence. However, the impact on investment spending has been minor as of late 2003. A lower US dollar will assist export growth, and probably for some time to come as well, and so shrink the size of the current account deficit as a percentage of GDP.

Nevertheless, looking forward, there are also reasons to be pessimistic concerning any sustainable economic recovery in the United States. For example, China remains a threat to all manufacturing sectors throughout the world and not just the United States. Hence, the erosion of jobs in US manufacturing will be the norm for years to come. The recovery so far is jobless—companies have laid off workers in the quest for productivity. Creating jobs for the unskilled in America remains a great challenge for the policy-maker. There is also no reason to assume that China and Japan will continue to buy US bonds and so indirectly support US consumption and budget deficits. A weak dollar will eventually lead Chinese and Japanese investors to demand higher interest rates in the United States and this can only choke off an ongoing recovery in America. Although government forecasts for budget deficits over the next few years are optimistic—these should be viewed with skepticism—deficits may persist for years if GDP growth does not persist above a 3.5 per cent clip over those same years. More government and current account deficits may force interest rates higher despite Greenspan's efforts at the short end of the yield curve.

When evaluating the likelihood of a recovery in US stock prices we need to remind ourselves of *new trend line* debate highlighted earlier. If US stock *P/E* ratios have to revert to their long-run average of 14.5 then the S&P may have to retreat to 800 points or the Dow to 7,000 points. If so, this reversion to the long-run mean would entail huge capital losses for some and bankruptcies across the board. The real economy would collapse into recession. An adjustment of this magnitude is not likely. The reason is that this old trend line and mean is probably obsolete and a 'new' more recent trend line has appeared. An increase in productivity offers a partial explanation. The incentive biases covered in Chapter 1 provides some of the rest. Given that the excesses of the boom era have been mostly tamed it seems likely that a correction in *P/E* ratios should fall between the historic highs of 3 5 and long-term average of 14.5. A higher and established plateau of productivity growth combined with the recent massive tax incentives should underpin high *P/E* ratios and thus valuations—probably in the low-20s. Higher valuations may be justified with sustained GDP growth above 3. 5 per cent and with the ten-year bond hovering around 4.5 per cent. Lower stock

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valuations and *P/E* ratios will stem from lower GDP growth and the possible rise in the ten-year bond to 5.5 per cent in 2004–5.

Perhaps we should respect what history teaches us and not pay *P/E* ratios of thirty or more for the S&P and conversely buy when this same ratio is around 15. This book has warned of the likelihood of mean reversion of EPS and *P/E* ratios based on historical evidence. There are channels and corridors to be respected—even though they may expand and contract over time due to technological waves and government policies. We now appear to be at the upper end of this corridor or band as large tax cuts have favoured financial investment. Therefore, the 'new' trend line for US *P/E* ratios could be around 20 but a retracement to the low teens is ever possible as it is still within the 'new' long-term trading range.

However, as the world recovery picks up ahead of steam then US corporations should do well as the OECD growth train becomes more synchronized with a self-fulfilling momentum. If so, the US stock markets—and the Dow multinationals in particular—should perform well in the light of increased world income. If the world recovery flounders and the structural weaknesses in the US economy are exposed (e.g. current account and budget deficits) then US stock prices will remain at the bottom end of the trading corridor. The optimal outcome for global investors is a synchronized world economic recovery and relative exchange rate stability— whereby economic momentum and demand is more evenly shared among the major world economies.

On a personal note, the investor needs to heed the lessons of diversification and corridor trading. It pays to diversify and that includes not only stocks but also real estate, bonds, gold, foreign stocks and a minor share in cash. US stocks will not always be a 'one-way street'. Second, while past *P/E* ratios may only serve as a loose guide, they do contain predictive content. It is not wise to pay and keep paying *P/E* ratios of thirty five and above for any length of time. It does pay to take profits from time to time and be content. When stocks rally 25 per cent or more within a short time frame—months—it is often wise to realize those gains within the confines of tax constraints and be satisfied. As stated before it also pays to keep an eye on your age—the closer you approach your retirement age so should your portfolio become more conservative and defensive in nature. If your retirement funds are disproportionately tied to the stock market at a mature age then you should improve your financial knowledge and monitor managed fund performance more closely—as well as the markets. The alternative is to seek greater diversification in your portfolio—stocks and other assets. Above all, watch out for the scissors—that of rising interest rates and decelerating profit growth that cuts and squeezes investors out of stocks and into bonds. Looking forward, the rise or fall of US stocks in 2005–6 will be determined by the relative acceleration of corporate earnings and interest rates—with the former rising faster than the latter if stocks are to rise. This also implies that GDP growth has to remain solid, the dollar not fall through the floor and the price of oil to retreat from $40 a barrel to the low 30s. Therefore, listening to

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Greenspan or the next ‘span’ at the Fed is an essential exercise in any investor’s walk down Wall Street—even though terrorists and external threats may cloud the walk along the way.

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