

Golden Era or Gilded Age?

Inflation and Mean Regression in Australian Stock and Bond Markets, 1965-2006 – and Some Base Rates for 2007-2011

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The boom produces impoverishment. But still more disastrous are its moral ravages. It makes people despondent and dispirited. The more optimistic they were under the illusory prosperity of the boom, the greater is their despair and their feeling of frustration. The individual is always ready to ascribe his good luck to his own efficiency and to take it as a well-deserved reward for his talent, application and probity. But reverses of fortune he always charges to other people, and most of all to the absurdity of social and political institutions. He does not blame the authorities for having fostered the boom. He reviles them for the inevitable collapse. In the opinion of the public, more inflation and more credit expansion are the only remedy against the evils which inflation and credit expansion have brought about.

Ludwig von Mises
Human Action (1949)

The next Federal Budget is not far away. Unfortunately, there is little evidence that the Government will use it as a means of fundamentally changing economic policy. Events day by day are painfully demonstrating that neither the domestic problem of inflation nor the external problem of our balance of payments is making much progress towards a solution. Perhaps the Government will produce a masterstroke, but the long absence of the Prime Minister, Mr Menzies, [who enjoys gallivanting overseas, hobnobbing with the great and powerful and deluding himself that he can help to resolve grave international crises], does not encourage optimism on that score. The absolute bankruptcy and sterility of the Opposition when economic questions are under discussion is already a byword of our national life.

“We Need Fresh Economic Thinking”
Jobson’s Investment Digest (9 August 1956)

What we do is look for extremes in markets: very undervalued or very overvalued. Austrian theory has certainly given us an edge. When you have a theory to work from, you avoid the problem that comes with stumbling around in the dark over chairs and nightstands. At least you can begin to visualise in the dark, which is where we all work. The future is always unlit. But with a body of theory, you can anticipate where the structures might lie. It allows you to step out of the way every once in a while. In a false prosperity, good economic ideas are marginalised. That’s why Austrians should prepare right now to offer the best explanation when the tide turns, as it always does ...

James Grant
The Austrian Economics Newsletter (1996)

ABSTRACT

This paper dissents vigorously from the cheery and confident consensus that for the past several years has pervaded Australian financial markets. I doubt, as a prominent finance journalist expressed it on 14 May, that Australians are enjoying “a golden era of prosperity.” Because it is built upon the unsound foundations of high inflation and rising debt, I wonder whether this prosperity is more superficial and transient than genuine and enduring. As a result, I suspect that Australians have experienced – and are perhaps concluding – a gilded age.

Section 1 shows why investors should properly understand inflation, its sole cause and its various consequences. They should also incorporate the possibility of “stagflation” (the simultaneous occurrence of stagnation and recession, and rising consumer prices and interest rates) into their investment plans.

Sections 2 and 3 review a cornerstone of value investing. To investors who understand “regression to the mean,” the present obsession about the prices of commodities and the rising prominence of China and India – and conjectures about the strength and duration of the mining boom – are at best distractions and at worst delusions.

Analysing data for the period 1965-2006 and using a five-year investment horizon, **Section 4** shows that the yields of 5-year Commonwealth Government bonds have regressed towards their overall (41-year) mean. If they continue to do so during the next five years, then Australians can expect yields to rise. The rate of growth of EPS of major Australian banks, mining companies and retailers also exhibits a strong mean-reverting tendency. So too do price-to-earnings ratios and 5-year total investment returns. These results provide no reason to expect that the stellar results of the past 2-3 years will continue during 2007-2011.

Further analysing the period 1965-2006, **Section 5** shows the impact of changes in bond yields upon growth of EPS and investment returns. The good news is that during these years rising yields did not greatly crimp EPS growth; the bad news is that they did significantly cruel investment returns.

Applying these results, **Section 6** sets out a series of “base rates” and uses them to derive a cautious estimate of the value of BHP Billiton shares. It also confirms another foundation of value investing: the strong long-term linkage between the achievement of superior results and the purchase of shares at low P/E ratios.

Sections 7 and 8 outline the consequences of these results for investors. Most importantly, the steadily falling and (I believe artificially) low interest rates of the past 15 years, and the moral hazards they have spawned, have accustomed investors to think that “Goldilocks” conditions are normal and permanent. They have also eroded the memory of – and respect for – Grahamite principles that, since the 1930s in a range of countries, have generated decent investment returns during trying times.

Leithner & Co. Pty Ltd is a private investment company that adheres strictly to the Graham-and-Buffett “value” approach to investment. Its goal is its method: to undertake investment operations which are based upon thorough research and justifiable assumptions; to provide reasonable safety of principal and offer an adequate return; and to inform shareholders regularly, fully and in plain language about these investment operations. Like most Australian corporations, its financial year begins on 1 July and ends on 30 June. The arrival of winter is therefore an appropriate time to conduct two exercises. The first is to contemplate the twists and turns, triumphs, trials and tribulations of the recent past; and the second is to subsume these events under principles, revisit them, learn one’s lessons and adjust one’s sails for the more distant future.

As it has for years, so it remains today: my appraisal of economic and financial developments is unfashionably severe, and my assessment of the road ahead is correspondingly sceptical.¹ In retrospect, this dour outlook has been overstated; but it has also been vindicated. Caution has helped Leithner & Co. to avoid the foolish behaviour that exuberance (and its twin, overconfidence) always breed. But disbelief has not crimped its fortunes. Quite the contrary: it has helped it to generate reasonable (both relative to others and in an absolute sense) results since its inception in 1999. Further, and notwithstanding its hefty cash weighting and conservative method of tallying its results (unrealised capital gains, for example, are not counted), a generally disbelieving disposition has enabled the Company to extend these reasonable results into the 2005-2006 financial year.

But these days, few others seem to be doubters. The tragedy is that, regardless of their rhetoric, most Australians are complacent statist. Businesses generally look to government for guidance and support; similarly, consumers figuratively scurry to Canberra whenever anything is economically the matter; and worst of all, most people generally believe what their rulers tell them. Hence satisfaction greeted the upbeat assessment the Treasurer delivered in his Budget Speech on 10 May. “Australia’s impressive economic performance of the last decade,” said Mr Costello, “is set to continue. The outlook is for ongoing solid economic growth coupled with low unemployment and moderate inflation. GDP is expected to grow by 3% in 2006-07, following more modest growth in 2005-06. Economic growth will continue to be supported by strong global demand for Australia’s commodities. This is generating robust growth in business investment and should lead to an increase in export growth.”

One of the country’s most prominent financial journalists goes further. “Australia is in the midst of a golden era of prosperity,” said Alan Kolher on *Inside Business* (14 May). “Average after-tax incomes have risen at double the rate of consumer prices over the past five years – a total of 28% versus 14% – which has allowed household debt to increase 2.5 times whilst the official interest rate has gone up from 5% to 5.75%. The previous two times this sort of thing was on offer, at the beginning and end of the 1980s, it was blown up by inflation caused by wages

breakouts or the threat of it.” But this time, he reckons, things really are different. “Over the past ten years, the Government’s pact with the Reserve Bank for independence and a fixed inflation target has entrenched pre-emption into monetary policy. So last week’s interest rate increase was to head off the possibility of future inflation.”

Kohler likes the recent past, and is confident that in the near future there is more and better to come. “Wages growth is a bit more than 4% and although productivity has fallen, it is still keeping inflation to below 3%. And whatever you think about the new IR reforms, they will totally remove the chances of a union-initiated wages blowout like the ones that ruined previous bouts of prosperity. China and India will prolong the commodities boom, and John Howard’s and Peter Costello’s overall model of Government based on repeated tax cuts to lift net wages in place of pay rises will prolong Australia’s enjoyment of it.”

These sentiments, whose buoyancy most businessmen and participants in financial markets share, encapsulate the distemper of our times.² What comprises it? The primary element is the laughable conviction that politicians in general and central bankers in particular are benevolent and prescient. Another is the preposterous contention that private and government expenditure is not just a cause – it is the most important cause – of prosperity. A third is the dangerous ignorance of the nature and consequences of inflation. And finally, there is the self-assurance bordering upon certainty that the Antipodian Prometheus has broken his chains and evaded his punishment, and therefore that Australians’ past is no longer their prologue. In particular, it is relentlessly alleged that inflation was a thing of the distant past but figures in neither the present nor the future; and Australians’ heavy reliance upon the extraction and export of minerals, which was not so long ago regarded as a rather embarrassing burden, has now become an enviable badge of honour.

I dissent on all counts. Government is always and everywhere incompetent, predatory and malevolent. Consumer expenditure is a consequence and not a cause of prosperity (which, in turn, results from diligent saving and prudent investment). Like firebugs who join the bush fire brigade, central bankers create the very thing they allegedly combat. Indeed, only they can create inflation: neither you nor I, nor trades unions, oil companies or anybody else (except governments in cahoots with accommodating central banks) do so; and over the past decade, inflation has raged in Australia. Because the laws of human action can sometimes be temporarily suspended but never permanently repealed, the past continues to tell us as much about our future as it always has. Accordingly, today’s obsession about the prices of commodities and the rising prominence of China and India, and conjectures about the strength and duration of the commodities boom, are (from the point of view of an investor as opposed to a speculator) at best distractions and at worst delusions. These multiple points of dissent culminate in a single, overarching doubt: because they are not in the midst of genuine prosperity, Australians are not enjoying a golden era. Instead, they have experienced and may be concluding a gilded age.

Section 1: Stagflation, Here We Come?

Intelligent investors keep firmly in mind that mainstream economics, which is a bizarre mix of mathematical fetishism and Keynesian socialism, is not remotely like physics. It is not, in other words, a quantitative science whose practitioners can measure and forecast accurately. The trouble is that the typical economist cannot shake his intense envy of the physicist. Consequently, when this economist looks at the real world he embarrasses himself with model-based forecasts that are no more accurate than the tosses of a coin. More generally, for every economist, “market strategist” and the like there will be usually be an equal and opposed forecaster – and the prophecies of both will, more often than not, be incorrect. Seers, it is imperative to remember, are typically confident but usually wrong.³

What, then, to do? Investors recognise that the inability to divine the future with any useful degree of accuracy is no reason to ignore it. They also realise that although Austrian School economics is not a quantitative science, it is nevertheless a science. Properly conceived, in other words, the laws of human action provide a reliable guide that can roughly navigate – but not precisely predict – the future.⁴ Investors cope with the future’s inherent uncertainty by considering scenarios, and by focussing upon pessimistic scenarios, of what *might plausibly* happen. Thus armed, they can ignore confident predictions of what (allegedly) *will likely* happen. Investors then take these scenarios, use them to create a “margin of safety” and inform their decisions and structure their portfolios accordingly.

With this attitude in mind, Figure 1 (p. 8) and Table 1 (p. 12) summarise key long-term developments and imply a sobering possibility that Australian investors might consider during the next several years. In particular, they might factor the prospect of “stagflation” (a term coined in the 1970s in order to denote the simultaneous occurrence of economic stagnation or recession, as well as rising consumer prices and interest rates) into their investment plans.

Conventional economists, politicians and journalists invariably use the word “inflation” to refer to increases in the prices of raw materials, finished products and wages. The mainstream thus defines inflation not in terms of what it actually is (as classical economists did and Austrians still do), but in terms of several of its possible consequences. Inflation, in other words, never denotes an increase in the supply of money.⁵ Conveniently, therefore, the mainstream’s conception distracts attention from monetary interventionism, the damage it causes and central banks’ sole responsibility for it.

Inflation’s consequences include galloping prices of commodities, capital goods, consumer goods and services, wages and financial assets (or some combination of these things); overweening and overbearing government; redistribution from poor to rich; miscalculation and malinvestment; rising interest rates and – eventually – recession. Market participants usually rejoice when the prices of securities climb, and homeowners swell with confidence when the price of their dwellings levitates.

But few realise that these things result as much from central banks' debasement of money as from investment acumen. As a result, nobody points at the ASX's levitation, deplures what he sees and links it to the RBA's policy of inflation.

Similarly, few realise that over time the river of inflation runs in different channels: sometimes it begets rising asset prices and other times ignites the prices of goods, services and wages. In Gough Whitlam's and Malcolm Fraser's day, the RBA's inflation produced relatively high food prices and low stock prices; in John Howard's day, on the other hand, it has produced comparatively low food prices and high stock prices. The problem is that a torrent of money not backed by savings, which only central banks can create and unleash, underwrites government and private recklessness. Hedonism, in turn, eventually begets hangovers; and the morning-after sometimes includes stagnation and other times severe recession.

Mainstream economists should know better – but alas don't, or at least give an excellent impression that they don't – than to define inflation and deflation as changes (increases for inflation, decreases for deflation) in the general level of prices. Elementary economics tells us that this is a very unsatisfactory conception. Prices respond to many different causal factors. Three are most important:⁶

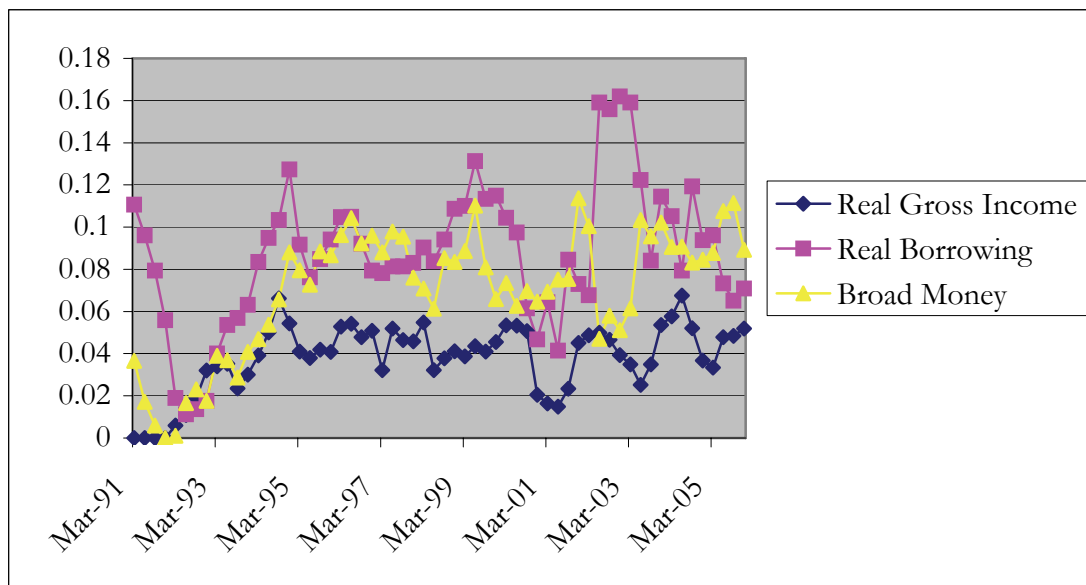
1. Prices may change because the supply of goods changes. All else equal, an increase in the supply of goods places downward pressure upon the overall level of these goods' prices.
2. Prices may change in response to a change in the demand for money. Other things equal, an increase in the demand for money places downward pressure upon the overall level of prices; conversely, a decreased demand for money lifts prices.
3. Prices may rise or fall as a result of a change in the supply of money. All else equal, an increase in the supply of money raises the overall level of prices.

To lump all these causes together obfuscates their separate influences and risks drawing misleading inferences. For example, (i) central and commercial banks may be (as they almost always are) conniving to increase the supply of money whilst at the same time (ii) the demand for money and (iii) the overall supply of goods and services are increasing. The second and third factors may largely offset the first, such that relatively little increase of overall prices occurs. Yet each of these three processes is distinct, and each has separate consequences. Most importantly for investors, inflation prompts many market participants to misallocate capital. The trouble with the RBA and its counterparts in other countries, in short, is that their inflation ignites and subsidises booms; and the trouble with bull markets is that they cause – often whilst lulling the unwary into dismissing the possibility of – busts and bear markets.

The lesson for investors, then, is that inflation – which is always and everywhere a monetary phenomenon that only the central bank can generate – invariably sets in train a cycle of boom and bust. It is therefore vital to recognise that central banks

do not attenuate the business cycle: they aggravate it. Although various tendencies may obscure its consequences, inflation always creates trouble. Confusions about inflation and deflation lead virtually everybody – including journalists, analysts, market participants and policymakers – to flatter themselves and declare that all is well *because* the overall level of prices is rising at a modest (by the standards of, say, the 1970s) rate.⁷ But given justifiable premises, it is obvious that in a high-inflation environment consumer prices can rise slowly because other forces – most notably an increase in the supply of goods and services and a strong demand for money – can temporarily offset inflation’s eventual upward impact upon prices. But these countervailing factors do not repeal the central bank’s cycle of boom and bust. Accordingly, it is not just muddle-headed – it is irresponsible – to define inflation as a general rise of prices and deflation as a decline of the price level.⁸

Figure 1: Annualised Growth of Inflation, Borrowing and Gross Income



Source: Analysis of data in Reserve Bank of Australia Files D03, D05, G04 and G10

Figure 1 shows that the rate of inflation in Australia increased from 0% in 1992 to 10% in 1996, and that thereafter it has fluctuated at an average rate of 8-9% per annum. This measure of inflation, broad money, comprises currency in circulation and at-call in banks (“M1”), term and other bank deposits (“M3”) and net deposits of non-bank financial institutions.⁹ Yes, Virginia: inflation in Australia has long been dramatically higher than journalists, economists, politicians and investors have understood – and central bankers have admitted.¹⁰

So why, despite such high inflation, has the Consumer Price Index been relatively quiescent? These days they have to be pushed, often kicking and screaming, into discussions about the money supply and its components; but if you stand your ground, mainstream economists (even ones employed by central banks!)¹¹ will concede a general relationship between the quantity of money and prices. They will tend to agree that other things being equal (i.e., the supply of goods and the demand for money remaining constant), an increase of the money supply decreases the value of money and hence boosts prices. Unlike the mainstream,

however, Austrians recognise and emphasise that inflation need not – and usually will not – influence all prices uniformly.

Inflation initially affects only some prices, or some more than others, and only over longer periods of time will it change prices generally. In any given situation, inflation's effects depend upon (1) how and where the new money enters the structure of production and (2) the initial recipients' objects of expenditure. In plain English, the first owners of the new money ginned by the central bank and laundered by commercial banks are able to increase their demand for the goods, services and assets that they wish to purchase, and will thereby tend to bid up these prices. The sellers of those goods then receive this money, second-hand as it were, and find themselves in a position to demand more of the goods and services they desire, and so forth. In the words of Ludwig von Mises, "variations in the value of money always start from a given point and gradually spread out from this point through the whole community."

Figure 1 shows that the RBA's policy of inflation has manifested itself forcefully in the market for loans. The demand for credit, which has increased at an average of 7.1% per year since 1990, has grown almost as strongly as inflation (9.1%). During the early 1990s, and reacting first to massive increases of mortgage rates and then recession, the annualised rate of growth of real borrowing collapsed from 11.5% to 1.6%. It then rose to 12.9% in the December quarter of 1994 and averaged 9.8% per annum during the rest of the decade. This rising and cresting tide of borrowing placed mammoth amounts of credit in the hands of individuals (the lion's share of the growth of borrowing was to individuals rather than businesses), and they used it above all to purchase residential and "investment" real estate. And lo, first in Sydney, then in Melbourne and eventually the rest of the country, this exuberant and sometimes manic demand for housing lit a bonfire under its price. But note that during the past three years the demand for loans has risen ever more slowly; and during this interval, except in Perth and Darwin (where the mining boom has supported prices), so too have the prices of houses. Indeed, since early 2004 in Sydney, where prices rose most vertiginously during the boom, average prices have fallen.

After a sharp deceleration of growth in 2000-2001, the next wave of credit – by far the biggest during the years under consideration – helped to ignite a boom on the ASX. The growth of real borrowing skyrocketed to 16.4% per annum in June 2002, remained above 16% until the March quarter of 2003, and has fallen erratically ever since. Judging from anecdotal evidence accumulating since 2003 (namely breathless articles and advertisements in the financial media, and the increasingly bright and breezy spirits of analysts and funds managers), margin loans have comprised a rising and cumulatively significant portion of this tsunami; these loans, in turn, have greatly increased the demand for stocks (particularly mining stocks) and have thereby helped to levitate their prices.¹²

More recently, the RBA's inflation has begun to place upward pressure upon the prices of producer goods, and the Austrian conception of inflation tells us that the

RBA's past and present inflation will eventually place upward pressure upon wages and the prices of consumer goods and services. Current conditions in Australia corroborate this expectation. We live in a country where (not least, it is important to emphasise, as a result of inflation) stocks, bonds and real estate are very dear. Having flooded the housing and stock markets, through which channel might the torrent of inflation flow next? The RBA's aggressively inflationist monetary policy is thus pressuring producer and consumer prices (including wages). And as these prices rise, so too does the pressure upon interest rates. And lo, since 2004 the CPI has approached the RBA's upper bound of acceptability; the RBA has raised its overnight cash rate (OCR) by 75 basis points; and futures markets tell us that during the next year another 25-50 bp of rises (taking the OCR to 6.25%) are possible.

It is revealing, given Australians' unprecedented addiction to debt, to observe the rough correlation since 1990 between the rates of growth of real gross income (which, by the way, has averaged only 3.8% per year since 1990) and real lending. During these years, businesses have relied ever more heavily upon consumers' growing indebtedness to generate income. Some businesses, particularly banks and financial engineers, do so directly; and others, such as retailers (who depend increasingly upon ever more debt-ridden consumers), do so indirectly. Similarly, consumers have depended upon the acquisition and refinancing of debt in order to supplement their stagnating pre-tax income and thereby to buy the goods they can't otherwise afford. Accordingly, the slower the growth of income the lower is the demand for credit – which, in turn, attenuates the growth of income. In 1991-92, lending's rate of growth fell precipitously and that of gross income ground to a halt. In 1992-95, lending soared to manic levels and income rebounded strongly; during the remainder of the decade, each rate of growth remained constant; both fell steeply in 2000-2001, and so on. Does this state of affairs imply anything about economic conditions and the RBA's behaviour going forward?

The key is that central banks in countries such as Australia, Britain, Canada, New Zealand and above all the U.S. now find themselves in binds of their own making. In each country, their aggressive inflation of the past 15 years greatly boosted the demand for loans; and aided by vast quantities of ever-cheaper loans, borrowers bid the prices of real estate, stocks and bonds to unattractive levels. But now that so many are so bloated with so much debt, and interest and mortgage payments swallow one-third of many households' incomes, Australians (and Americans, Brits, etc.) are less able to maintain their hitherto-insatiable appetite for loans. It is hardly surprising, then, that Figure 1 shows that since 2004 lending has been growing ever less rapidly.¹³ *But it also shows that the RBA has continued to inflate at its average rate of the past decade. Why?* Probably because the average household's unprecedented burden of debt, and thus its growing vulnerability to stagnant and falling asset prices, are compelling the RBA to maintain its inflation.

The RBA's decade-long policy of inflation is finally placing upward pressure upon consumer prices and interest rates; and rising expectations of more price rises to come are reinforcing these pressures. Albeit for different reasons, mainstream and

Austrian economists agree that inflation (each using his own definition of the term) begets higher interest rates. But there the agreement ends. The choice, it seems to me, is between either (a) bitter medicine today or (b) more jam today and even less palatable medicine tomorrow. Option (a) means an end to the inflation, consumption and debt-driven bacchanalia. It means higher rates; a retrenchment of government and private spending; a recession that purges the malinvestments that accumulated during the boom; and the prospect of sound (i.e., savings- rather than debt-financed) growth thereafter. Option (b) extends the RBA's party. It means a continuation of artificially low rates, even more bloated government and lavish private expenditure, the accumulation of more and bigger malinvestments – and, eventually, stagnation and perhaps a severe recession.

Caught within this pincer, it seems to me that the RBA, skilled politicians that they are, will do what skilled politicians always do: fudge. Given the emerging seepage of inflation into consumer prices and wages, the pressure to impose higher overnight cash rates upon commercial banks will remain firmly in place.¹⁴ At the same time, it will also continue its core policy of inflation and thereby enable commercial banks to furnish generous amounts of (albeit dearer) credit to ever less creditworthy businesses and individuals. The RBA, in other words, will not remove the punchbowl from Australia's noisy party. Quite the contrary: it will serve stronger drinks to ever more inebriated merrymakers.

Whether with a whimper or a bang, all parties eventually end. Investors should therefore consider a scenario that mainstream economists couldn't fathom in the 1970s – and which will probably baffle and frustrate them if it recurs. What is this scenario? Stagflation. During the 1970s, conventional economists' mood became sour because things that John Meynard Keynes said could never occur together nonetheless appeared simultaneously. There was not just stagnation and recession and rising unemployment, but also interest rates and a Consumer Price Index soaring into double digits. In partial recognition of the shock these events delivered to the mainstream – and of the ability of Austrian School economists to subsume them within justifiable laws of human action – in 1974 Friedrich Hayek, whose insights had been marginalised, ridiculed or ignored since the 1930s, when he clashed with Keynes, was awarded [The Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel](#). (But this recognition was grudging: to Hayek's intense irritation, he shared the prize with the unrepentant Swedish socialist Gunnar Myrdal.)

Turning to interest rates, Table 1 summarises short-, medium- and long-term rates on an annual basis in 2002 and 2003, semi-annually in 2004, quarterly in 2005 and monthly in 2006. The 90-day bank bill rate is the “coupon” of bills of exchange accepted or endorsed by major Australian banks. The yields of 5-year and 10-year Commonwealth bonds express their annualised “coupons” as a percentage of their purchase price at a given point in time. A yield curve is a chart that plots interest rates on its vertical axis and bonds' time-to-maturity on its horizontal axis. It represents the returns of bills/bonds whose maturities differ but whose risk is comparable. During 2002 and 2003 and the first three quarters of 2004, 90-day

yields were lower than 5-year yields, and 5-year yields were lower than 10-year yields. The longer the duration of otherwise comparable bonds, in other words, the higher their yields. Under these conditions the yield curve slopes upwards; and under a regime of fiat money and fractional-reserve banking, an upward slope is the norm.¹⁵

Table 1: Australia's Stubbornly Inverted Yield Curve

	90-Day Bank Bill Rate (%)	Yield of 5-Year Commonwealth Bond (%)	Yield of 10-Year Commonwealth Bond (%)
2002	4.75	5.53	5.83
2003	4.90	5.10	5.36
Jan-Jun 2004	5.53	5.60	5.76
Jul-Dec 2004	5.43	5.35	5.47
Jan-Mar 2005	5.62	5.53	5.54
Apr-Jun 2005	5.70	5.19	5.20
Jul-Sep 2005	5.63	5.16	5.18
Oct-Dec 2005	5.63	5.32	5.35
Jan 2006	5.63	5.29	5.35
Feb 2006	5.61	5.26	5.29
Mar 2006	5.61	5.37	5.41
Apr 2006	5.69	5.49	5.56
May 2006	5.89	5.70	5.70

Source: Reserve Bank of Australia, Data Files F01 and F02

So why, beginning in the first quarter of 2004 (more precisely, since October 2004) and as shown in the bold font of Table 1, has the Australian curve flattened and inverted such that 90-day yields are higher than their 10-year counterparts? Why should investors care – or even notice? Because since the Second World War in most Western countries including Australia, the yield curve has tended to invert roughly 6-18 months before the onset of recession (for a recent summary of this literature, see Paul Cwik, [An Investigation of Inverted Yield Curves and Economic Downturns](#), Ph.D. Thesis, Auburn University, May 2004). An inversion today does not necessarily mean recession tomorrow; but a recession is almost always preceded by an inversion.

An inverted curve is usually but not invariably an early manifestation of two variants of recession: a credit crunch and a resource crunch. A credit crunch occurs when a borrower (say a real estate developer drawn into the game by the rapid rise of house prices in the past few years) cannot obtain a loan on what he regards as normal (i.e., easy) terms, and in order to complete a project is obliged to accept stricter terms (i.e., more collateral, a shorter term and a higher rate). A

resource crunch occurs when a producer (say a miner who needs tyres, petrol and project engineers) cannot obtain the inputs he requires on the usual terms, and must therefore pay unusually high prices for them. Each of these developments places upward pressure upon shorter-term relative to longer-term interest rates.

Before and perhaps during the “crunch” phase of the business cycle, central bankers begin to fear incipient price rises and therefore tend to decelerate the pace of monetary expansion and raise the OCR. Also before and during the crunch, the prices of inputs (such as building materials and iron ore) tend to rise more quickly than prices of outputs (such as houses and motor cars). During the bust caused by the central bank’s boom and which generally follows the inversion, the market mechanism liquidates the poor investments that accumulated during the boom, and – given the heroic assumption that governments do not continue to intervene – sets the stage for recovery and sound long-term growth.

The minor defect of this theory, of course, is that no recession has yet occurred in Australia. Why not? My guess (or is it simply an *ad hoc* and *post hoc* rationale?) is that the biggest mining and commodity price boom in decades, ignited by developments overseas, has saved the country’s bacon. Ross Garnaut agrees. “The resources boom has saved Australia from a potential recession, says one of the nation’s leading economists ... What would otherwise have been the recessionary consequences of [the dangerous imbalances generated by an unsustainable housing and consumption boom] was relieved by the strength of the resources boom” (*The Australian* 18 May). Yet it is also worth noting that for more than a year New South Wales has skirted close to a mild recession, with Victoria not far behind, and the country’s manufacturing sector has experienced conditions that can most charitably be described as sluggish. Economic conditions (including the prices of commercial and residential real estate) in Queensland, the Northern Territory and especially Western Australia have outpaced those in the other states, and they have done so almost solely because people overseas have been prepared to pay high and rising prices for the dirt located within the mining states’ borders.

A year ago, in Leithner Letter 66, I wrote, “only a dummy would automatically conclude that Australia has entered or will shortly succumb to recession. Forecasters, it bears repeating, are seldom in doubt but usually in error. The contents of this newsletter are not a forecast: they constitute no more than a cautious scenario that investors might incorporate into their plans. Yet modern yield curves do not often invert, and still less often do they invert for eight months [now twenty months] without breaking something. On that basis, only a drongo believes that during the next couple of years Australia will be immune to recession. The fundamental point is not whether Australia is on the verge of a downward leg of the business cycle: much more important are the principles, methods and plans that enable the investor – whatever the current and future conditions – to navigate murky, variable and potentially much more turbulent investment waters.”

Section 2: What Price BHP Billiton?

We turn now to these principles, methods and plans. “Let me start with a summary of my thesis,” wrote Benjamin Graham in “The New Speculation in Common Stocks” (*The Analysts Journal*, June 1958). “In the past, the speculative elements of a common stock resided almost exclusively in the company itself; they were due to uncertainties, or fluctuating elements, or downright weaknesses in the industry, or the corporation’s individual setup. These elements of speculation still exist, of course; but it may be said that they have been sensibly diminished by a number of long-term developments ... But in revenge a new and major element of speculation has been introduced into the common-stock arena from outside the companies. It comes from the attitude and viewpoint of the stock-buying public and their advisers – chiefly us security analysts. This attitude may be described in a phrase: primary emphasis upon future expectations.”

These words are just as wise today as they were on the day Graham wrote them. Alas, they have been utterly forgotten. “According to Goldman Sachs’ JBWere,” reported *The Australian Financial Review* (16 May), if commodity prices don’t fall substantially BHP could earn more than \$20 billion in 2007 and double to \$60 a share, counting itself among the world’s largest corporations.” Accompanying the *AFR*’s report appeared a table listing “BHP Billiton v Dow Jones’ biggest stocks (market cap \$US billion).” Using market capitalisation (which is a company’s number of shares multiplied by their price per share) as the arbiter of size, Exxon-Mobil is the DJIA’s biggest corporation (\$384 billion). The silver medallist is General Electric (\$359 billion) and Citigroup (\$246 billion) takes the bronze. In positions 4 to 10 are companies (including Microsoft and WalMart) whose market caps lie between \$157 and \$237 billion, and in position 11 (if it were a Dow component) would come BHP (\$150 billion).

It is no mystery why BHP presently boasts one the world’s biggest market capitalisations: the prices of the commodities it produces, from copper to iron ore to oil, are going through the roof. But there’s the rub: as *The Weekend Australian* (13-14 May) put it, “putting a price on commodities such as gold and copper is easy – but how do you value the companies that dig them out of the ground? That is the problem troubling some of the world’s biggest broking houses in the midst of the biggest resources boom in history ... Analysts are struggling to come to grips with the effect of the rise in commodity prices, making it difficult for them to value heavyweight resource stocks which play a big part driving the share market.”

The surge of mineral commodities’ prices is putting analysts into a quandary. What prices should they use – today and during the next several years – in order to estimate a mining company’s earnings? “If you just went with spot prices, the valuations for [companies like BHP Billiton and Rio Tinto] would be roaring,” said one, who continued “many analysts prefer to use historical prices but this still makes BHP and Rio look very cheap. You can’t predict commodity prices, but you can get a feel.” Using the prices of major commodities prevailing in early May,

another analyst said that many mining companies' earnings could more than double by 2008. Another asked, "do our [significantly upwardly] revised long-term price assumptions stretch credibility? We hope not."

How, then, to estimate the value of a major mining company's shares? Judging from these and many other recent quotations in the Australian financial media, the crowd follows a four-step sequence:

1. Make a confident prediction: thanks to the continuation for years and perhaps decades of voracious Chinese demand, the prices of minerals will remain "stronger for longer."
2. Now make another confident prediction: these higher prices will enable mining companies to generate greatly higher earnings and dividends per share. Turn a blind eye, in other words, to the inconvenient reality that miners' costs are also escalating. Predict, in other words, that miners' revenues will rise more quickly than their costs.
3. Next, cross your fingers that these expectations of much higher EPS and DPS do not only materialise, but also they prompt market participants to maintain and perhaps increase these stocks' price-to-earnings ratios.
4. Finally, buy the stock today; pocket its dividends whilst you own it; sell it (presumably at a much higher price) at some point in the future; add the dividends received to the amount received from the stock's sale, and compare the total proceeds to the initial outlay of cash.

Using BHP Billiton as an example, in the financial year ending on 30 June 2002 what was once called "the Big Australian" and is now apparently "the Behemoth Multinational" earned \$0.519 per share and paid dividends totalling \$0.215 per share. In the year ending on 30 June 2005, its earnings per share (EPS) zoomed to \$1.28 and its DPS to \$0.367; and taking the average of five major broking houses as a "consensus" estimate, in the year ending 30 June 2006 BHP will earn \$2.12 per share and pay dividends of \$0.468 per share. If so, then from 2002 to 2006 its EPS will have grown at a compound rate of 42.5% per annum and its DPS at 21.4% per annum.

Given these stellar results and the crowd's expectations of more to come, the projections in Table 2 seem to be cautious. They assume that during the next five years BHP's EPS will grow at a compound rate of 10% per annum and that its dividend payout ratio (that is, the DPS expressed as a percentage of the EPS) remains at the level expected in 2006, i.e., $\$0.468/\$2.12 = 22\%$. If so, then by 2011 EPS will increase to \$4.13 and during 2007-2011 the company will pay a total of \$3.12 of dividends per share. If we purchase BHP at \$30 per share (the average prevailing during the first half of May), which equates to a P/E ratio of 18, and if we assume that this ratio will prevail in 2011, then in five years BHP Billiton will sell for \$61.20 per share. Adding the dividends received en route, we have \$64.32; and comparing these proceeds to the \$30 of capital expended equates to a compound return of 16.8% per annum.

Table 2: A Preliminary Evaluation of BHP Billiton

Year	Projected EPS	Projected DPS
2007	\$2.32	\$0.515
2008	\$2.61	\$0.574
2009	\$2.93	\$0.645
2010	\$3.67	\$0.807
2011	\$4.13	\$0.909

Given these seemingly modest predictions and the respectable return they are expected to generate, surely the price of BHP's shares is reasonable? Brokers agree: my survey of multinational American, multinational European, Australian and Canadian brokers, undertaken on 30 May, uncovered 12 "buys," no "holds" and no "sells." More generally, people who concur that \$30 per BHP share is reasonable seem to comprise a very large and confident majority of market strategists, journalists and participants. And surely there is strength in numbers, particularly when the majority's ranks include virtually all of the "experts"?

The trouble is that this confident majority is speculating, not investing, and that speculation almost always ends in tears. As Ben Graham cautioned long ago, the trouble is that this majority is transfixed by the exuberant *present* (namely the very strong prices of commodities) and convinced about an even brighter *future* (particularly the role that China is allegedly certain to play). In contrast, the crowd does not seem to know or care about what has happened during the *past* ten, twenty, thirty and forty years. The trouble is that these days, most people who think that they are investors – including and perhaps especially funds managers at major financial institutions – are actually speculators; and their misperception turns the fundamental advantage enjoyed by an investor into the insuperable disadvantage suffered by the speculator.¹⁶ It thus feels like the '90s all over again.

Section 3: You Say "Mining Boom," I Think "Mean Regression"

Today's mining and commodities boom bears more than a passing similarity to the telecoms and Internet crazes of 1997-2000 – and, indeed, to all other manias. As Stephen Roach put in "Commodity Bubble" (16 May), "asset bubbles have dominated financial market experience over the past six years. First equities, then bonds, property, and spread assets. Like clockwork, liquidity-driven investors have migrated from asset to asset, desperately in search of yield. In my opinion, the world is now in the midst of another bubble – this one in commodities. It, too, will burst. The only question is when."¹⁷

All bubbles, Roach emphasises, are based upon plausible but flawed rationales:

China is widely thought to be the key driver that keeps pushing lofty commodity prices even higher. Yet the super-cycle theory of ever-rising commodity prices is based on the false premise that China stays the same course it has been on for the past 27

years – suggesting that China is expected to grab an ever-greater share of world commodity consumption. Similarly, the New Paradigm crowd of the late 1990s presumed the US was on a path of ever-accelerating productivity growth. Just as that presumption ultimately turned out to be unfounded, I suspect the coming rebalancing of the Chinese economy will succeed in reducing its commodity-intensity – thereby lowering its global demand for industrial materials. Like NASDAQ, irrationally exuberant commodity markets will also be taken by surprise.

Like Roach, Robert Shiller, author of *Irrational Exuberance* (Princeton University Press, 2000), stresses that a plausible “story” accompanies every market mania. Whether implicitly or otherwise, phrases like “new era” and “it’s different this time” and “you just don’t ‘get it’” are used passionately – and as rhetorical weapons against skeptics – in order to justify confidence about the “sustainability” of the sharply appreciating price in question. “From tulips to dot-com, with plenty in between,” says Roach, “the believers are convinced they have a credible and sustainable story. That’s very much the case with the commodity bubble. Globalisation is its story – and China is its poster child.”

Roach does not use the phrase or even allude to it, but underlying his contention is a phenomenon called “regression to the mean.” What is it? Sir Francis Galton (1822-1911), a cousin of Charles Darwin, was keenly interested in heredity and not at all in business and finance. Yet his studies of “the average ancestral type” uncovered a regularity that provides a basis for value investing. In an analysis of the heights of parents and their children, Sir Francis found that tall parents tended to bear tall children and that short parents tended to breed short children. Heredity clearly matters. But it matters in a counterintuitive way: on average, the offspring of tall parents were not as tall as their parents; and the offspring of short parents were not as short as their parents. These and other experiments led Sir Francis to formulate a principle that has become known as *reversion (or regression) to the mean*. According to Galton, “reversion is the tendency of the ideal mean filial type to depart from the parental type, reverting to what may be roughly and perhaps fairly described as the average ancestral type.” If this process did not exist – if, for example, large pea plants (which Galton also studied) produced ever-larger peas and small ones produced ever-smaller offspring – the world would before long comprise nought but midgets and giants. With each generation, nature would produce fewer average and more extreme specimens.¹⁸

Regression to the mean occurs in financial markets.¹⁹ It occurs at both individual and aggregate levels, i.e., with respect to both individual securities and markets as a whole. In a pioneering study using data for the period 1926-1982, Werner De Bondt and Richard Thaler studied the securities of American companies whose prices over a three-year interval had either increased or decreased more than the market average. They found that significant movements in the opposite direction subsequently followed these extreme movements of price. If investors are either unduly optimistic or pessimistic about a particular company’s securities, and if that company’s fundamentals remain unchanged, then after some decent interval their stance is likely to reverse.²⁰

“Hot” stocks and market segments thus fall from grace, and highly unfashionable ones emerge from the doghouse. “Many shall be restored that are now fallen, and many shall fall that are now in honour.” This insight, from the Roman poet Horace’s *Ars Poetica*, appeared opposite the title page of Benjamin Graham’s seminal text *Security Analysis*. Graham gave it such a prominent place, I believe, because the crowd’s exaggerated reactions to transient developments occasionally offer tremendous opportunities to people prepared to think and act independently of the crowd. If the price of a sound company’s stock is savaged by pessimists such that it falls considerably below a cautious estimate of its value, then – *as long as the company’s operations and prospects remain sound* – the price will tend eventually to rise towards its value. Conversely, if optimists bid a company’s shares well above a reasonable estimate of their value, then – *even when its operations and prospects remain unchanged* – at some point they will fall from their exalted status. As with children and peas in a pod, so too with companies: it cannot be otherwise. If it were, then the economic and financial landscape would comprise companies with colossal and microscopic market capitalisations, but virtually no medium-sized enterprises.

Section 4: Mean Regression in Australian Bond and Stock Markets, 1965-2006

Bond Yields

To illustrate the fundamental importance of this concept, let us first consider a foundation stone of security analysis: the yield of a “risk-free” security such as five-year Commonwealth Government bond.²¹ Let us record this bond’s average yield on a monthly basis from January 1965 until March 2006. And for each month, let us also record its average yield exactly five years later. We thus have a list of paired observations of the form

“Starting Yield”	“Yield 5 Years Later”
avg yield Jan 1965	avg yield Jan 1970
avg yield Feb 1965	avg yield Feb 1970
.	.
.	.
.	.
avg yield Mar 2001	avg yield Mar 2006

Next, let us sort this list of 435 pairs of yields (12 for each year for the 36 years from 1965 to 2000, plus the first three months of 2001) from highest to lowest according to the “starting yield;” let us then divide this sorted list into five “quintiles,” each containing 87 pairs of observations; and finally, for each quintile, let us compute the average starting yield and the average yield 5 years later.²² The results of this exercise, which appear in Table 3, uncover a strong tendency for the monthly yields of these bonds regress to the overall mean of the period under examination. The higher the initial yield, in other words, the lower the yield five years later (and vice versa).

To see this, look at the group of months during which starting yields were highest, namely the 87 months of Quintile A when they averaged 14.5%. Comparing the yields in each of these months to those prevailing five years later, we see that they fell to an average of 7.5%. In percentage terms, the average yield of observations within this quintile subsequently halved; that is to say, $(7.5-14.5)/14.5 = -48.3\%$. During the 87 months in which starting yields were next highest, namely the months of Quintile B when they averaged 12.9%, yields five years later also fell, but by not as much: i.e., $(7.7-12.9)/12.9 = -40.3\%$. During the 87 months when average yields were closest to their overall average for the entire period, namely the months in Quintile C when they averaged 10.7%, yields five years later were virtually unchanged, i.e., $(10.8-10.5)/10.8 = 2.9\%$. During the next group of months, when the average yield was a bit *below* the overall average, namely in the 87 months of Quintile D when they averaged 9.0%, yields five years later *rose* significantly, i.e., $(10.6-9.0)/9.0 = 17.8\%$. And finally, in the quintile of months with the lowest average starting yield, namely in Quintile E when they averaged 6.8%, the average yield five years later rose even more significantly, i.e., $(9.8-6.8)/6.8 = 44\%$.

Table 3:
5-Year Bond Yields Regress Towards the Mean

Quintile	Starting Yield	Yield 5 Years Later
A	14.5%	7.5%
B	12.9%	7.7%
C	10.5%	10.8%
D	9.0%	10.6%
E	6.8%	9.8%
Overall Average (Jan 1965-Mar 2006)	9.31%	

Source: Analysis of Reserve Bank of Australia Data File F02

At any point in time during this interval, the higher the bond yield the more it subsequently tended to fall, and vice versa. Of what possible use is this result? Recall that we cannot predict the future, including bonds yields five years hence, with precision. We do, however, have laws of human action, as well as past and present data. In March 2006, yields of five-year Commonwealth bonds averaged 5.37%. Notice that this yield is extremely low by historical (1965-2006) standards. What will this bond yield in March 2011?

We cannot make a precise quantitative prediction, but the results of Table 3 help us to make a rough qualitative projection. We cannot foretell the *magnitude* of the change, but we can draw an inference about its *direction*. Knowing (a) the yield in March 2006, (b) that it is very low by historical standards and (c) that 5-year Commonwealth Government bond yields tend to revert to their long-term mean,

we can hazard an educated guess about the direction of any change between March 2006 and March 2011. This direction is more likely to be up than down.²³

Rates of EPS Growth

Across the board and within major market sectors, the growth of earnings per share of selected major corporations listed on the ASX also exhibits a strong tendency to regress to their long-term historical means. We can adapt to the analysis of EPS growth the method we used to analyse bond yields. Let us record, for each financial year from 1965 to 2005, the earnings per share of what today are Australia's four largest banks, two largest mining companies and two biggest retailers. For example, we record the EPS of the Bank of New South Wales from 1965 to 1981, the Commercial Bank of Australia from 1965 until 1979 (when the Wales acquired it), and Westpac Banking Corp. (to which the Wales changed its name) since 1982. Where multiple "ancestors" exist, in other words, their EPS are recorded separately. Details of these companies (which comprise roughly 40% of the present market capitalisation of the ASX) and their various predecessors appear in the Appendix.²⁴

Next, let us compute each company's compound rate of EPS growth per year over the previous five years ("Retrospective EPS Growth"), and compare it to the compound rate over the next five years ("Prospective EPS Growth"). For each company we thus have a list of paired observations of the form

"Retro EPS Growth "	"Prosp EPS Growth"
1965-1970	1970-1975
1966-1971	1971-1976
.	.
.	.
1995-2000	2000-2005

We now combine each company's list into one long list, and sort this list from highest to lowest according to the rate of retrospective EPS growth. Let us then divide this sorted list into five "quintiles," each of which contains an equal (apart from rounding) number of paired observations; and finally, for each quintile, let us compute the average "retrospective" and "prospective" compound rates of EPS growth.

The results of this exercise, which appear in Tables 4a and 4b, uncover a strong tendency for the compound rates of EPS growth to regress to the overall mean of the period under examination. The higher the growth of EPS during the previous five years, in other words, the lower is the growth during the next five years (and vice versa). Neither in the forest nor in the land of corporate profits, in other words, do trees grow to the heavens. Instead, and to use another metaphor, a kind of poetic justice reigns: what has gone up subsequently comes down, and what has been punished is eventually rehabilitated.

Table 4a:
The Rate of Growth of EPS Regresses Towards the Mean (Across Sectors)

Quintile	EPS Growth During Previous 5 Yrs	EPS Growth During Subsequent 5 Yrs
A	39.0%	6.2%
B	11.0%	7.4%
C	6.0%	1.2%
D	0.0%	6.0%
E	-18.2%	20.6%
Overall Avg (1965-70 to 2000-05)	7.9%	

Table 4a shows the results for all companies (i.e., regardless of their market sector) in the Appendix. Over all five-year periods from 1965-70 to 2000-2005, EPS grew at an average compound rate of 7.9% per annum. But sometimes they grew much more quickly – and at other times they fell. Look first at the five-year periods during which retrospective earnings grew most quickly, namely those in Quintile A where they rocketed at an average compound rate of 39%. Comparing EPS growth in each of these “retrospective” five-year periods to that prevailing during the “prospective” period, we see that growth in the latter period collapsed to an average of 6.2%. Conversely, in the five-year periods during which retrospective earnings grew least (indeed, they fell at a compound rate of 18.2% per year), they subsequently zoomed. Table 4a shows that “retrospective hares” become “prospective tortoises” and vice versa.

Table 4b:
The Rate of Growth of EPS Regresses Towards the Mean (Within Sectors)

	Banks		Miners		Retailers	
	Growth (Previous 5 Yrs)	Growth (Subseq 5 Yrs)	Growth (Previous 5 Yrs)	Growth (Subseq 5 Yrs)	Growth (Previous 5 Yrs)	Growth (Subseq 5 Yrs)
A	27.4%	11.7%	72.1%	-1.2%	18.9%	5.4%
B	11.6%	7.3%	13.1%	-4.5%	9.3%	8.1%
C	7.7%	3.7%	1.5%	5.5%	5.9%	3.3%
D	2.9%	7.7%	-7.6%	13.2%	1.7%	7.2%
E	-10.0%	2.0%	-34.8%	51.6%	-5.6%	8.3%
Avg	7.2%		10.9%		6.1%	

Table 4b stratifies the data according to major market segment: that is, it conducts the same analysis for the major banks, major miners and major retailers. It confirms that, regardless of sector, the growth of earnings per share of the selected major corporations and their predecessors exhibits a strong tendency to regress towards the relevant long-term mean. Note in particular the results for miners, whose earnings are most variable and regress most strongly: from one

five-year period to the next, princes become relative paupers and ugly ducklings become belles of the ball. For today's buyers of BHP and Rio Tinto, it had bloody well better be different this time: for if it is not, and all else equal, Table 4b augurs very poorly for the stellar growth of their earnings in 2007-2011.

P/E Ratios

Across the board and within two market sectors, the price-to-earnings ratios of selected major corporations listed on the ASX also regress towards their long-term mean. A high P/E today tends to become a lower one five years later, and vice versa. For some reason (don't ask me why), major retailers are an exception.²⁵ We can adapt to the analysis of P/Es the method we used to analyse bond yields. Accordingly, let us record, for each financial year from 1965 to 2005, the EPS and average market price per share of what today are Australia's four largest banks, two largest mining companies and two biggest retailers (and their ancestors). Where multiple ancestors exist, we continue to record their EPS and share prices separately. We then take each price and divide by its corresponding EPS. Let us also record its P/E exactly five years later. For each company, we thus have a list of paired observations of the form

"Today's P/E"	"P/E 5 Years Later"
1965	1970
1966	1971
.	.
.	.
.	.
2000	2005

Next, let us combine each company's list into a single list; sort it from highest to lowest according to present P/E; divide this sorted list into five "quintiles" containing equal (apart from rounding error) number of paired observations; and finally, for the observations in each quintile, compute the average of "today's P/E" and "P/E 5 years later." The results of this exercise appear in Tables 5a and 5b.

**Table 5a:
The Price-to-Earnings Ratio Regresses Towards the Mean (Across Sectors)**

Quintile	Present P/E	P/E 5 Yrs Later
A	35.6	19.2
B	15.8	14.2
C	11.9	16.6
D	8.1	14.2
E	4.8	10.4
Average 1965-2000	15.1	

Note that the average P/E for the entire period (1965-2000) is not significantly different from the one prevailing in May 2006. But also note the figures in Quintile B. And note carefully that since 1965 P/Es have varied widely. The observations in Quintile A are stuffed with the P/Es of mining companies during exuberant periods, and banks and retailers at the market's nadir in the mid- and late 1970s figure prominently in Quintile E.

Table 5b:
The Price-to-Earnings Ratio Regresses Towards the Mean (Within Sectors)

	Banks		Miners		Retailers	
	Present P/E	P/E 5 Yrs Later	Present P/E	P/E 5 Yrs Later	Present P/E	P/E 5 Yrs Later
A	30.8	15.8	54.7	15.3	17.9	17.9
B	14.4	11.6	22.6	20.9	12.6	12.9
C	11.6	12.2	16.2	15.6	8.5	7.4
D	8.1	9.5	11.8	29.4	6.4	5.6
E	4.8	7.5	7.0	34.4	3.9	7.5
Avg	12.6		22.8		10.1	

Table 5b shows that the average P/Es of major banks and retailers for the entire period are significantly lower than the ones prevailing in May 2006. ANZ's, for example, is presently 15, Commonwealth Bank's 14, National Australia Bank's 17 and Westpac's 15. Coles-Myer and Woolworths, whose ratios are presently 21 and 23 respectively, are roughly double their historical averages. BHP Billiton's and Rio Tinto's P/Es, on the other hand, are presently significantly below their long-term average.

Five-Year Investment Returns

Finally, across the board and within all three sectors, the five-year returns of selected major corporations listed on the ASX regress towards their long-term averages. Let us define a company's five-year return in conventional terms. As an example, say that on 1 January 2000 we buy a single share of X Ltd for \$1.00. We then collect dividends of \$0.10 during 2000, \$0.11 during 2001, \$0.121 during 2002, \$0.133 during 2003 and \$0.146 during 2004, and on 31 December 2004 we sell our share for \$1.50. Ignoring taxes, brokerage and other immaterial details, our gross proceeds from the ownership of X Ltd are \$1.50 plus the stream of dividends of \$0.61, making a total of \$2.11. Net of the \$1.00 purchase price, these proceeds generate a compound return of 16.1% per year. With this measurement, we can adapt to the analysis of stock-market returns the method we used to analyse the compound rate of growth of EPS. The results appear in Tables 6a and 6b.

The average total five-year compound return of these companies for the entire period is 12.2% per year. "Retrospective" returns have varied widely, from an average of almost 32% in Quartile A to -5.5% in Quartile E. Ponder these figures

carefully: Since the mid-1960s, the average five-year return from the ownership of major Australian banks, miners and retailers has been a bit more than 12%. The good news is that your chances are one-in-five that during any given five-year period you might have achieved brag-to-your-spouse-and-neighbours results above 30% per annum. The bad news is that your chances of losing money are also 1-in-5. Indeed, according to Table 6a, almost 40% of the time (i.e., the average of Quartiles D and E) your five-year results would have averaged a whopping $(3.2 - 5.5)/2 = -1.15\%$. Are you aware of those odds? Have you told your spouse?

**Table 6a:
5-Year Investment Returns Regress Towards the Mean (Across Sectors)**

Quintile	Return (Prev 5-Yr Period)	Return (Subseq 5-Yr Period)
A	31.9%	14.9%
B	18.3%	15.5%
C	9.9%	11.0%
D	3.2%	8.0%
E	-5.5%	15.1%
Avg 1965-70 to 2000-05	12.2%	

Fortunately, however, time favours the resolute: the negative returns in the poorest five-year intervals, those in Quintile E, tend to be followed by above-average returns during the subsequent five years. Similarly, the mediocre results in Quintile D tend to be followed by better (but still a bit below average) results during the subsequent five years. The “retrospective” results in Quintile A subsequently fall by more than one-half; and the above-average returns in Quintile B subsequently fall but remain above average. Table 6b shows the gist of these results also apply (albeit with a few minor caveats) within the banking, mining and retailing sectors.

**Table 6b:
5-Year Investment Returns Regress Towards the Mean (Within Sectors)**

	Banks		Miners		Retailers	
	Prev 5Years	Subseq 5 Years	Prev 5Years	Subseq 5 Years	Prev 5Years	Subseq 5 Years
A	30.0%	15.6%	35.4%	13.5%	30.8%	13.4%
B	19.1%	17.0%	15.4%	6.8%	15.5%	12.8%
C	10.6%	10.3%	7.1%	9.9%	13.3%	19.2%
D	4.6%	7.4%	-3.1%	16.9%	5.5%	13.0%
E	0.1%	12.0%	-9.4%	12.9%	-2.9%	12.2%
Avg	12.7%		10.5%		13.3%	

Section 5: Eating Enough Veggies? Paying Enough Attention to Bond Yields?

It is important at this point to make explicit something that Figure 1 (p. 8) merely implied. Australian investors should regard the Reserve Bank of Australia in precisely the same way that teenage boys regard *Playboy* magazine. They should, in other words, ignore its words and fixate upon its eye-popping figures. Further, they must never forget that the RBA does not set *rates*; instead, it fixes a single *rate*, namely the Overnight Cash Rate. (The OCR is the rate that commercial banks charge when they borrow and lend reserves to one another). The trouble from central banks' point of view, and much as they might wish otherwise, is that the longer the duration of the interest rate in question (e.g., 90-day, 180-day, 3-year, 5-year and 10-year), the less influence upon it the central bank exerts. Accordingly, the RBA can affect but cannot set the five-year bond rate; and it influences this rate through (1) its various actions such as the inflation of the money supply that apparently everybody except Chris ignores, and (2) the various speeches and "jawboning" activities that virtually everybody (if only second-hand through journalists and "strategists") but Chris reads.

Why my fixation upon 5-year (as opposed to 3-year or 10-year) yields? A subjective reason is that five years corresponds to my conception of the investor's minimum time frame. That is, the investor conducts his research and buys a share or bond of X Ltd today; and he has a strong but not inflexible intention to retain it at least five years. Another reason, which is much more objective, is that changes of "risk free" bond yields impact significantly upon companies' earnings and investors' returns.

Changes of Bond Yields and EPS Growth

To see how, let us return to our 5-year bond yield and 5-year compound rate of growth of EPS data. Let us use the bond yields to construct a new variable called "percentage change in yield over five years." Let us take the average yield for the year to June 1970 and compute its percentage change compared to the year to June 1965. We then compute the percentage change from 1966 to 1971, from 1967 to 1971, ... and from June 2000 to June 2005. For each company, we then match this new variable with the EPS variable. We thus have a list of paired observations of the form

"%Δ Bond Yield"	"EPS Growth"
1965-1970	1965-1970
1966-1971	1966-1971
.	.
.	.
.	.
2000-2005	2000-2005

Next, we combine each company's list of pairs into one long list and sort this list from highest to lowest according to the bond yield's percentage change. Let us then divide this sorted list into five "quintiles," each of which contains an equal (apart from rounding) number of paired observations; and finally, for each quintile, let us compute the average percentage change of bond yield and compound rate of EPS growth.

These data enable us to describe the results of an important thought experiment. Imagine that you buy a share of a major bank, or a major miner or a major retailer. You hold it for five years, and during this interval its EPS grows (or shrinks!) at some annualised compound rate. Similarly, during this five-year period bond yields change by some percentage. Is the change of 5-year yields associated with the rate of growth of EPS? The results of this exercise appear in Tables 7a and 7b. Across the three sectors, strongly rising yields (Quintiles A and B) crimp earnings growth. Stable and gently falling yields (Quintiles C and D), on the other hand, provide very fertile ground for earnings growth; and (probably because they tend to occur during and immediately after recessions) steeply falling yields tend to be associated with very low rates of growth.

In two respects, this result is bad news. It implies that the generally buoyant and relatively constant rates of EPS growth enjoyed by major Australian corporations since the mid-1990s are to no small degree a consequence of the falling bond yields (and thus lower costs of borrowing) that also marked these years. Second (and in conjunction with today's very low yields and their tendency to regress towards their very long-term mean), it reinforces the view that rates of growth of EPS going forward may well be more modest than investors presently expect.

It is important to understand the figures in the tables' middle column. In Quintile A, a rise of yield of 52.0% does *not* mean that yields rose from (say) 6.0% to 58.0%: it means that they rose from (say) 6.0% to 9.12% (i.e., $0.06 \times 1.58 = 9.12\%$). Conversely, the fall of yields of 26.7% in Quintile E means that they fell from (say) 9.12% to 6.68%. Hence the overall average change for the entire period from 1965-70 to 2000-2005 means that they rose from (say) 7.5% to 8.1%.

**Table 7a:
Changes of Bond Yields and the Rate of Growth of EPS (Across Sectors)**

Quintile	Change of Bond Yield During 5-Year Period	EPS Growth During 5-Year Period
A	52.0%	6.6%
B	23.7%	5.0%
C	2.6%	10.1%
D	-8.5%	16.1%
E	-26.7%	2.7%
Avg for 1965-70 to 2000-05	8.62%	8.0%

Within two of the three sectors, however, slightly better news appears. Regardless of the percentage change of yields during 5-year periods, the major banks' and retailers' rates of EPS growth during those periods are surprisingly constant. Within these sectors, in other words, rising yields are not associated with sharply lower rates of growth of EPS. Further, more detailed investigation of Quintile E within each of the three sectors reveals that the observations it contains tend to include intervals during which Australia was either mired in, or emerging from, recession. On the basis of the historical record, then, if interest rates rise during the next five years but stagnation rather than recession results, we have no strong grounds to expect that earnings growth will suffer unduly.

Table 7b:
Changes of Bond Yields and the Rate of Growth of EPS (Within Sectors)

	Banks		Miners		Retailers	
	Change of Bond Yield	EPS Growth	Change of Bond Yield	EPS Growth	Change of Bond Yield	EPS Growth
A	50.2%	8.7%	50.9%	3.6%	56.0%	5.8%
B	19.7%	10.3%	20.7%	-0.6%	30.0%	3.6%
C	-0.2%	7.1%	0.1%	11.1%	10.6%	7.4%
D	-9.4%	7.5%	-9.3%	41.5%	-3.8%	9.7%
E	-27.6%	4.9%	-27.9%	-0.4%	-23.5%	2.7%
Avg		7.7%		11.0%		5.9%

Changes of Bond Yields and EPS Growth

Having constructed the “percentage change in yield over five years” variable, we can also pair it with the five-year investment return variable described in Section 4. The results, which appear in Tables 8a and 8b, show how changes of bond yields affect investors' total five-year rates of compound return.

Table 8a:
Changes of Bond Yields and Investment Returns (Across Sectors)

Quintile	Change of Bond Yield During 5-Year Period	Investment Return During 5-Year Period
A	52.0%	8.0%
B	23.7%	8.4%
C	2.6%	14.0%
D	-8.5%	16.2%
E	-26.7%	14.8%
Average	8.6%	12.3%

Imagine that you buy a share of X Ltd today and hold it for five years. During that interval, bond yields change by some percentage. Does the change of yields affect

the return on your investment? Yes: strongly rising yields (Quintiles A and B) are associated with below-average returns; stable yields (Quintile C) beget average returns; and falling yields (Quintiles D and E) are associated with above-average rates of return. Considered in conjunction with Tables 7a and 7b, these results imply that rising yields *per se* do not dramatically crimp EPS and DPS; but they do significantly depress estimates of value and ultimately share prices. Table 8b shows that this bad news afflicts major banks most and major miners least.

**Table 8b:
Changes of Bond Yields and Investment Returns (Within Sectors)**

	Banks		Miners		Retailers	
	Change of Bond Yield	Invest Return	Change of Bond Yield	Invest Return	Change of Bond Yield	Invest Return
A	50.2%	5.1%	50.9%	8.9%	56.0%	10.1%
B	19.7%	10.2%	20.7%	10.9%	30.0%	6.4%
C	-0.2%	9.6%	0.1%	16.8%	10.6%	14.5%
D	-9.4%	19.4%	-9.3%	9.7%	-3.8%	21.2%
E	-27.6%	18.2%	-27.9%	10.7%	-23.5%	15.4%
Average	6.5%	12.5%	6.9%	11.4%	13.9%	13.5%

Section 6: Some Base Rates and an Illustration

Investors can use the concept of mean regression and the results in Section 5 to derive a series of expectations (“base rates”) to assist their investment operations today and their plans for 2007-2011. The first set of base rates is summarised in Table 9.

How to justify them? The analysis in Section 1 provided theoretical grounds (and the analysis in Section 4 added empirical grounds) to expect that bond yields will rise during the next several years. By how much? You’re asking me? The answer, of course, is that neither I nor you nor anybody else knows. Clearly, however, the 5-year yields prevailing in May 2006 (5.7%) are very low by historical standards: indeed, they are well below the average of Quintile E in Table 3. On average since 1965, yields in this quintile have subsequently risen by 44%; accordingly, Table 9 assumes that yields will by rise this percentage during the next five years. If so, then today’s yield of 5.7% will increase to 8.2% by May 2011. Does that sound farfetched? Yields last stood at this level (actually, at 8.6%) in June 1996.

What about rates of growth of EPS? Historically since 1965, compound rates have averaged almost 8% per annum overall (and somewhat higher for major miners and lower for major retailers). During the most recent five-year period, from 2000 to 2005, they exceeded this rate by a significant margin: the Commonwealth Bank’s EPS, for example, grew 8.5% per annum, Rio Tinto’s 17.0% and Woolworths’ 13.3%. What rates to expect during the next five years? Again, I do not know and neither do you; but Tables 4a-b and 7a-b, which provide some

baselines, imply that they will fall. For the banks, I note the “subsequent” rate of growth in Quintile B of Table 4b (which corresponds most closely to banks’ rate of EPS growth during the past five years). I also note from Table 7b that when bond yields rise steeply, banks’ rate of EPS growth subsequently tends to average 8.2% per annum. On that basis, I have settled on the range of 7-8% in Table 9, and so on with the miners and retailers.

Table 9: Some “Base Rates” for 2007-2011

	Overall	Banks	Miners	Retailers
Δ Bond Yield	+44%	N.A.	N.A.	N.A.
Growth of EPS	5-8%	7-8%	2-7%	6-7%
P/E Ratio	11-13x	11-13x	15-17x	11-13x

Finally, what about companies’ P/E ratios? Historically since 1965, a multiple of 15 times (more for miners and less for banks and retailers) has been the norm. What to expect during the next five years? You guessed it: I do not know and neither do you; but Tables 5a-b (and, indirectly, Tables 8a-b) imply that P/E ratios will fall. For the banks, for example, I note the “P/E 5 Yrs Later” entry in Quintile B of Table 5b (which corresponds most closely to banks’ P/Es at the moment) is approximately 12. At the foot of Table 5b I also note that the historical mean to which banks’ P/Es regress is almost 13. Bearing in mind the base rate of bond rates, I have therefore selected a multiple of 11-13 times for Table 9, and so on with the miners and retailers.

It is vital to recognise that these base rates are not predictions. They are, of course, probably incorrect. It is highly unlikely that bond yields, etc., will closely approximate these figures in five years’ time. But no matter: recall that investors cope with the future’s inherent uncertainty by considering scenarios – and by focussing upon rather pessimistic scenarios – of what *might plausibly* happen. Thus armed, they can safely ignore confident (and in all likelihood, inaccurate) predictions of what *will likely* happen. Investors then take these cautious scenarios, use them to create a “margin of safety” and protect the “downside,” and thereby inform their investment operations and structure their portfolios accordingly.

Using “Base Rates” to Assess Particular Securities

As an illustration, let us assume that you have the choice of buying either (a) a share of BHP Billiton at \$30.00 or (b) a hypothetical five-year Commonwealth Government bond selling for \$30.00 and yielding 5.7% (which is the average yield of these bonds during May 2006). Accept the obvious: neither you nor your broker or the newsletter to which you subscribe or anybody else has an accurate crystal ball, and so cannot correctly predict (except by sheer good luck) what will transpire during the next five years. Assume nonetheless that whether you choose

the share or the bond, you are a “long term” investor and will retain your choice until at least May 2011.

You cannot foresee the future with any reliable degree of accuracy; but you have the historical record that illuminates the past, can help to navigate through the present and might thereby provide rough guidelines about the future. You know that no Commonwealth Government bond has ever defaulted. Accordingly, you have very strong grounds to expect that if you choose option (a) then by May 2011 you will receive total interest payments of \$8.55 (i.e., $\$30 \cdot 0.057 = \1.71 per year for five years) and that at the end of the five years you will receive precisely \$30 of principal.

Clearly, if the “risky” BHP share is going to be a better investment than the “risk free” Commonwealth bond, then it must return to you at least $\$30 + \$8.55 = \$38.55$ in five years’ time. Given that today’s “buzz” about BHP’s operations and the Chinese appetite for its output, etc., is very favourable, this amount apparently seems to many people to be a very easy hurdle to jump. But when you look at cold numbers rather than warm words, and adopt the perspective of an investor (who owns a share of a business) rather than a speculator (who owns an interest in a wager), this hurdle becomes more formidable.

Table 10: A “Risk Free” Bond versus a “Risky” Share

Year	Bond Interest	BHP EPS	BHP DPS
2007	\$1.71	\$2.12	\$0.466
2008	\$1.71	\$2.22	\$0.480
2009	\$1.71	\$2.32	\$0.504
2010	\$1.71	\$2.42	\$0.524
2011	\$1.71	\$2.53	\$0.546
Total Interest or Dividend	\$8.55		\$2.52
Proceeds from Sale	\$30.00	\$43.01	
Total Proceeds (Capital + Income)	\$38.55	\$45.53	
Compound RR p.a.	5.6%	8.9%	

Table 10 applies the base rates in Table 9 to BHP Billiton. It assumes that in 2007 it will generate EPS of \$2.12, which is the “consensus” of analysts’ present estimates, and that in the four years thereafter its EPS will grow at a compound rate of 4.5% (which is the mid-point of the base rate in Table 9). It also assumes that in each year BHP’s dividend payout ratio will be 22% (i.e., its average during the past five years), that BHP’s DPS in 2007 will be \$0.466 (i.e., $\$2.12 \cdot 0.22$) and so on for the subsequent years. Finally, assume that in 2011 BHP’s P/E ratio will be 17 (also the mid-point in Table 9). If so, then in 2011 the share will sell for $17 \cdot \$2.53 = \43.01 , and the total proceeds (that is, total dividends plus the return of “principal”) will be $\$2.52 + \$43.01 = \$45.53$.

The “risk free” bond’s total *guaranteed* proceeds are thus \$38.55 and the “risky” share’s *prospective* proceeds are \$45.53. Expressed in dollars, the share’s “risk premium” vis-à-vis the bond (that is, the share’s total proceeds net of the bond’s) is thus $\$45.53 - \$38.55 = \$6.98$. Does this prospective premium compensate you sufficiently for the risks that inhere in holding BHP for five years? Comparing these proceeds to the initial outlay, the bond generates an annualised compound rate of return of 5.6%, and the share 8.9%. Expressed as a “prospective excess return,” BHP’s risk premium vis-à-vis the bond is $8.9\% - 5.6\% = 3.3\%$. Does it reward you adequately for its risks? If you answer “yes” to these questions, then in the absence of more compelling opportunities you might decide to buy the BHP share for \$30.

Clearly, the answers to these questions are subjective; that is, they will vary from one person to another. To answer them in your own mind, ask yourself: what, precisely, are the risks? The first is that BHP’s earnings and dividends will not grow as quickly as Table 10 projects; and the second is that its P/E ratio will be lower than the table assumes. Either or both of these possibilities will reduce the share’s total proceeds and annualised compound rate of return.

We cannot overstate that we are assuming rather than predicting. We are making very strong and objective assumptions about the bond, but much weaker and more subjective assumptions about the stock. Clearly, many people (including people who know much more about BHP’s operations than I do) will be more confident about its prospects and thereby be prepared to assume that its earnings will grow more rapidly; further, many people who know less than I do about BHP will also be more confident about its prospects. And because they are more confident, both groups of confident people will be more willing than me to assign a higher P/E ratio to BHP in 2011. If either or both of these things transpire, then the share’s total proceeds and its rate of return will rise above those posited in Table 10.

These differences of opinion are fine. Indeed, they provide a moral basis for markets: each person who seeks to cast his “vote” about BHP is free to do so; and she who wishes to abstain can also do so. Clearly, everyone is entitled to his own opinion. But make no mistake: nobody is entitled to his own historical record, and it seems to me that the historical evidence supporting these more confident opinions is rather thin on the ground.

Let us say that you are prepared to accept the assumptions in Table 10 but find the prospective return from purchasing BHP at \$30 unappetising. What do you do? Decide the minimum compound rate of return that you are prepared to accept, and then calculate the present share price that (if the assumptions unfold) that will generate that return. If you require a rate of return of 15% per annum, for example, then – given the assumptions in Table 10 – you will be prepared to pay no more than \$22.65 per BHP share. Then sit tight until this price eventuates.

Using “Base Rates” to Look for Securities

Despite its massive size and prominence, BHP Billiton is but one of roughly 2,000 securities listed on the ASX. Clearly, nobody (not even the biggest broker) can validly claim to be able to estimate the value of every listed security. No doubt there are software packages that will enter masses of data into a black box and disgorge reams of “values.” But as we have just seen, valuation is an inherently subjective matter. It incorporates laws of human action, historical data and base rates, subjective assumptions about the future and thus individual judgements in the present. Investment, in short, is as much a subjective art as it is an objective science; accordingly, no machine or software package can claim to do it on your behalf. Investment is bloody hard work and mistakes are inevitable. Accept this fact. If you have better things to do with your time (as many people do), then hire somebody who approaches it like you would if you had the inclination.

How, then, to limit the candidates for investment to a manageable number? One way is to focus upon companies that exceed some threshold of market cap (i.e., the top 20 or 50 biggest companies on the ASX). Another approach, suggested by Benjamin Graham’s most famous student and employee, Warren Buffett, is to develop a “circle of competence.” Concentrate upon a group of securities about which you have or wish to develop specialised knowledge. To cite but one of a huge number of possibilities, a geologist or mining engineer is probably in a much better position than a layman to assess small gold mining companies.

A third method, which should be used in conjunction with the first and/or second, is to concentrate one’s attention upon securities that at first glance appear to be inexpensive relative to their earnings. Using this method to locate a manageable number of candidates, one can then subject them to more detailed scrutiny. To see this, let us revisit two variables derived from our data for the period 1965-2005 and introduced in Section 4. We take the “today’s P/E” variable and pair it with the “prospective EPS growth” variable. These data enable us to undertake what for value investors is perhaps the most fundamental base rate of them all. Imagine that at some point during these years you bought a share of some major bank, mining company or retailer (call it X Ltd) at some P/E ratio (call it Y). You hold the share for five years, and during this interval its EPS grows (or shrinks!) at some annualised compound rate. You also collect dividends if X Ltd pays them. After five years, you compute the investment’s annualised compound rate of return. Does this return tend to depend upon X Ltd’s P/E ratio at the time of purchase? The answer to this question, which appears in Tables 11a and 11b, is an emphatic “yes.”

Considering these major companies as a group (Table 11a), results are very systematic: *the higher the P/E ratio prevailing at the time of purchase – that is, the higher the price paid for a company’s EPS – the lower is the subsequent return.* Quintile A, which summarises results when these companies’ shares were selling at nose-bleed prices of 33 times earnings (which is twice the historical average), confirms that “high P/E” investing is, generally speaking, a reliable road to mediocre long-term

results. Conversely, Quintile E, which summarises results when these companies' shares were selling at bargain-basement prices of less than 5 times earnings (which is one-third the historical average), confirms that "low P/E" investing is, generally speaking, a dependable path to excellent long-term results. Quintile B is associated with slightly below-average results, and Quintiles C and D with above-average results.

Table 11a:
Some More "Base Rates" for 2007-2011 and Beyond –
P/E Ratios and Prospective Investment Returns (Across Sectors)

Quintile	P/E at Time of Purchase	Subsequent 5-Year Return
A	33.3	5.0%
B	15.6	10.2%
C	11.8	14.7%
D	8.0	13.0%
E	4.8	18.7%
Average	14.7	12.3%

Table 11b, which disaggregates the data into the three market segments, shows somewhat less systematic results (remember that neither economics nor investing are physics). Yet within each of the sectors the basic point holds: buying shares of major companies at above-average P/E ratios begets below-average returns; and buying them at below-average P/Es generates above-average returns.

Table 11b:
P/E Ratios and Prospective Investment Returns (Within Sectors)

	Banks		Miners		Retailers	
	P/E at Time of Purchase	Subseq 5-Year Return	P/E at Time of Purchase	Subseq 5-Year Return	P/E at Time of Purchase	Subseq 5-Year Return
A	29.8	6.2%	47.1	3.0%	18.7	12.2%
B	14.3	9.7%	21.2	5.5%	12.3	9.2%
C	11.5	12.1%	15.3	9.4%	8.2	12.9%
D	7.9	13.9%	11.0	25.3%	5.6	12.1%
E	5.2	20.6%	6.4	13.5%	3.3	25.5%
Avg	13.7	12.5%	20.2	11.3%	9.6	14.3%

Section 7: Conclusions and Implications for the General Investment Environment in 2007-2011

This paper has provided the logic and described the evidence that prompt me to incorporate the possibility of "stagflation" into Leithner & Co.'s investment plans. The psychological implication of stagflation, if it appears, is momentous. It would

weaken one of the foundations of what I have dubbed the distemper of our times: namely the faith, which I believe is as dangerous as it is laughable, that politicians in general and central bankers in particular are competent and benevolent.

To grasp this implication (and to use a term the former Fed Chairman, Alan Greenspan, has popularised), consider an amazing conundrum. *Central planning in its broadest sense* has been utterly discredited, such that few people seriously believe that governments should own or run factories, roads, schools and hospitals, or fix the prices of Vegemite, train fares, surgical procedures and insurance premiums. Yet virtually everybody – particularly the featherbedded élites within governments, universities and big financial institutions – fervently and even fanatically supports *central planning by central banks*. Hardly anybody questions that the central bank should fix the OCR, and so hardly anybody proposes that all interference be removed (i.e., that a gold standard be returned) and that interest rates find their level from the actions in the free market of savers and borrowers. Next, consider the fantastic claim that emerges from this paradox. Imposing the OCR, and encouraged by their vocal and powerful cheer squad, central bankers implicitly contend that they can tame the business cycle. During the past decade they have grown more cocky: they now imply, in effect, that they can maintain the economic room temperature at a figurative 18-22C – not too cool and not too warm – simply by manipulating the OCR (or the federal funds rate in the U.S., etc.)!

This “Goldilocks Standard” is the implicit claim to fame of Alan Greenspan and Ian Macfarlane – and, since 1 February, of Benjamin Bernanke. If things become a bit chilly or a cold front is on the horizon, then a timely clockwise twist of the monetary policy dial will promptly put things right; conversely, if it is too warm, or if warmer temperatures are expected, then a deft anticlockwise adjustment will do the trick. In either case, trust them: they know when, in which direction and how far to turn the knob. The assertions, in other words, are that central bankers can accurately measure the current economic temperature; they can anticipate the direction and magnitude of any changes of temperature; and, most fantastic of all, they possess tools that can reliably equilibrate desired and actual economic conditions within some desired band.

A simple thought experiment, described by James Grant,²⁶ demonstrates the utter absurdity of these contentions. Let us imagine that a certain central banker’s field of expertise (call him X to maintain his anonymity and therefore his dignity) is not just the price of overnight loans of reserves among major banks: it is also the price of petrol. Let’s also say that for this reason X also heads the Petrol Board. If X then offered a long-term – or even a short-term – forecast of the price of petrol, would anybody act upon it? Would anybody even pay particular attention to it? Most importantly, would anybody have enough confidence in X’s forecast to allow him to fix the price of petrol and then adjust it whenever he chose?

Anybody who answers “yes” to these questions, if he is honest, would have to confess that he advocates central planning and price-fixing. And if he understood the implications of this position, he would have to justify it. In particular, he

would have to explain how one man, X, assisted by one institution, the Petrol Board, can from one minute to the next know better than many buyers and sellers the market-clearing price of fuel. Further, he must not only divine present prices: because buyers and sellers routinely exchange contracts for future delivery, he must also accurately anticipate the future level and direction of prices. This proponent of price control would thereby be obliged to explain why this episode, directed by X and the Petrol Board, would end less comically or tragically than the countless others (beginning in Antiquity) that have preceded it. Expressed in these terms, and in Grant's words, "the world would laugh. Yet we seem to accept, and even desire, such ludicrous claims of foresight from a Fed chairman. It follows that anyone who is willing to take the job as Fed chief is, by that reason, unqualified to hold it."

Interestingly, central bankers disclaim any particular or superior knowledge about the market-clearing price of petrol – or, indeed, of other producer or consumer goods. Conveniently, given the mammoth bubbles they have repeatedly inflated during the past decade, they also disavow any ability to detect asset price bubbles in advance – or even after the fact! "Moreover," says Prof Bernanke, "if a bubble does exist, there is no guarantee that an attempt to 'pop' it won't lead to violent and undesired adjustments in both markets and the economy." So targeting the *price level of financial assets* is a no-no because the central bank has no special aptitude for it, and because these targets may lead to various upsets. But targeting the *price level of producer and consumer goods* is core business: "the central bank should focus the use of its single macroeconomic instrument, the short-term interest rate, on price and output stability."²⁷

Central bankers tell us with a straight face that they have neither artificially depressed interest rates nor unnaturally boosted the prices of real estate, stocks and bonds. Astonishingly, hardly anybody laughs uproariously at this assertion. And virtually nobody shouts the blindingly obvious from the rooftops: no matter how intelligent and diligent the central banker, and no matter how able his support, no single person or Board of Governors, etc., can know better than the many actors in markets the present and future prices of assets, goods and services – *including the appropriate price, tonight, tomorrow and every day thereafter, of overnight loans of reserves among commercial banks*. To acknowledge this limitation and simultaneously to plead on central banks' behalf is thus implicitly to admit that they will routinely fix an OCR that does not tell the truth about time.

But virtually nobody draws this conclusion. And as a result, market participants allow central bankers to bamboozle them. Indeed, the former seem to *demand* that the latter pull the wool over their eyes. These days, most people willingly and even enthusiastically succumb to the fallacy that the employees of certain organisations possess vastly more or better financial information, or systematically better powers of prophesy, than everybody else. Central bankers are perhaps most vulnerable to it. Because they tend to be faithful exponents of Keynesianism, and also Ivy League or Oxbridge graduates, these "insiders" are susceptible not just to the applause of market participants but also to their own hubris. Behind closed

doors, the best and the brightest reassure themselves that the world is theirs to command. And therein lies a great danger not just to your standard of living, but also to your liberty.

Central bankers truly believe they can and should domesticate the economic calculations of numerous (and sometimes unruly) buyers and sellers. They think they can tame this behaviour because their training tells them that they are able to model and measure it. This, given the subjective basis of economic calculation and the often-arbitrary nature of statistical sampling and compilation, particularly national accounts, is (to put it mildly) a very ambitious belief. I do not dispute that talented university graduates can deploy outstanding brainpower in certain fields. I don't doubt for a minute that central bankers' brains are better than mine. Nor do I, forgiving soul that I am, criticise them because they have regularly fixed what in retrospect has clearly been the wrong OCR. I ridicule them because – and despite all the logic and evidence to the contrary – they stubbornly presume to know the “appropriate” (they usually call it the “neutral”) rate of interest. I distrust them because they allege to know something that no single person or small group can possibly know; I fear them because, armed with this fatal conceit of the socialist, they impose their inflation and its damaging consequences upon me; and I revile them because I suffer inflation's costs whilst they and their featherbedded colleagues escape scot-free to dissemble (and inflate!) another day.

Looking at inflation and interest rates from the perspective of the Austrian School thus has profound implications for investors. The relevant questions to ask about prices and credit relate not so much to their *stability* but to their *integrity*. Stability can and historically has masked distortions introduced by easy money. Hence intelligent investors regularly ask themselves: given central banks' pervasive meddling in credit markets, do the prices of assets and rates of interest convey accurate signals and sensible information? Acting on them, would individuals make reasonable choices? Or would they undertake “malinvestments” that must be liquidated when the boom inevitably ends? These days many crave the soothing vagaries spoken by Ian Macfarlane; but nobody, it seems, recalls the bracing and crystal clear words of the Weimar German central banker Hjalmar Schacht. In 1927, with the clouds of bust already forming, Schacht protested: “don't give me a *low* rate. Give me a *true* rate; and then I shall know how to put my house in order.”

Central Bankers Are Bureaucrats

What, then, to do? First, look through their power, credentials and adulation, and recognise that central bankers are simply glorified bureaucrats. Some bureaucrats are indeed formidably intelligent and admirably diligent; but many others, submitting to institutional imperatives, decline to display these characteristics. Great or small, bureaucrats' major source of income is a government paycheque; and in that respect they are no different from struggling pensioners. To remember that central bankers are government workers is to realise that they have particular incentives and disincentives, that they make (sometimes grievous) mistakes – and like all people, will devise extraordinarily clever strategies to draw attention to

their “successes” and distract attention from their failures. Remind yourself regularly: what on earth can government workers, who suffer not the slightest financial penalty when they make a mess of things, know about the future course of producer prices, consumer prices and credit? Your answer should curb your appetite for their comforting words and the artificially low rates (and therefore unnaturally high asset prices) they strive to deliver.

Bureaucrats’ Reputations Will Fluctuate

Today, Alan Greenspan is revered and the Fed trades, figuratively, at a lofty P/E ratio. It also commands a sharp premium to its book value and need not stoop to pay a dividend. Albeit not to the same degree, Ben Bernanke is also widely respected. But a quarter of a century ago, a very different situation prevailed. Paul Volcker, who had just commenced a long campaign to repair the damage wrought by his predecessors’ decades of inflation, enjoyed no such lofty reputation. Nor did the central bank he headed. In those days, it “traded” figuratively at a single-digit multiple, below its metaphorical book value and at an allegorical double-digit dividend yield (which matched Treasury yields at the time). Many people doubted Mr Volcker, others reviled him, and the Fed was widely regarded as either evil or incompetent or impotent (and perhaps all three). He truly sat in the doghouse.

But many shall be restored that were once fallen. It is not just bond yields, P/E ratios and investment returns that regress to their long-term means: so too do institutions. Today, Mr Volcker gets a very good press. What does his resurrection imply for Dr Greenspan’s reputation? The omens are not positive: many shall fall that are now in honour. According to James Grant (*The New York Times* 31 October), “at home with his wife watching CNBC, the retired chairman may see strange and troubling occurrences: rising interest rates, a falling dollar, a bear market in residential real estate, a rising gold price. And though tempted to interpret these disturbances as the markets’ expression of loss at his exit (he is, of course, only human), Greenspan on reflection may finally see the truth. He was, in fact, no oracle after all.”

Investors Eventually Reap What Bureaucrats Sow

The principal risk that inheres in financial markets is not a crisis-induced loss of confidence. Instead, it is miscalculation borne of overconfidence and reliance upon false prophets. The boldness and even recklessness that today’s crop of central bankers has encouraged, and the artificiality of what these bureaucrats have wrought, is their unwelcome legacy. This inheritance thus includes the possibility of speculative upset, disgust with financial assets and a long overdue – and richly deserved! – loss of faith in central bankers’ stewardship. Investors should look forward to that day, and rejoice if it arrives.

As they buttress their fortifications, investors should also pray that Prof Bernanke and his colleagues really are as intelligent as advertised. In an [interview](#) with the Minneapolis Fed, conducted in 2004, Bernanke reflected “economics is a very

difficult subject. I've compared it to trying to learn how to repair a car when the engine is running. The economy is always changing, our knowledge of it is very incomplete, and our ability to predict it is not impressive." These are surely among the wisest words he or any other Fed Chairman has ever spoken. If he adheres to them, then investors can rejoice because he will have to abandon the Fed's anticipatory and aggressively inflationary monetary policy.

Alas, his next two sentences dispel any such illusion. They tell us all we need to know about the new Fed chairman (and about contemporary central bankers and more generally) and thus provide ample cause for concern. "Nevertheless, I think that having good data, good statistics – and the United States generally has better macroeconomic statistics than most countries – and having good economists to interpret those data and present the policy alternatives, has a substantially beneficial effect on policymaking in the United States, not only in monetary policy but in other areas as well. I think in the end good economic policy research makes a very big difference to the welfare of the average person." So be on your guard: they're from the central bank and (gulp!) they say they're here to help us.

Section 8: Conclusions and Implications for Prudent Investments in 2007-2011

The results presented in Sections 4 and 5, which are drawn upon an analysis of data from the period 1965-2005, provide few grounds to expect that the stellar investment results of the past 3 years will continue during 2007-2011. "It is amazing to reflect," said Ben Graham in 1946, "how little systematic knowledge Wall Street has to draw upon as regards the historical behaviour of securities with defined characteristics. We do, of course, have charts showing the long-term price movements of stock groups and individual stocks. But there is no real classification here, except by type of business. Where is the continuous, ever-growing body of knowledge and technique handed down by the analysts of the past to those of the present and future? When we contrast the annals of medicine with those of finance, the paucity of our recorded and digested experience becomes a reproach."

Much the same situation exists in Australia: what little investment research attempts to draw practical conclusions from the historical record tends, among the clamour of exciting daily events, to fall upon deaf ears. The continuing validity of Graham's reproach is thus good news for investors. It enables them to use valid principles and reliable evidence that the speculating crowd ignores, and it thereby frees them to conduct sound research and make prudent decisions.

Bouquets for Base Rates, Brickbats for Case Rates

To grasp the implications of Section 4-5's results for your investment operations during the next five years, consider the distinction between a "case rate" and a "base rate." Imagine that you have just moved into a suburb close to a large university. You have not yet met your next-door neighbour, Robert, but you have

met others who know him. They tell you that he is 30 years of age and describe him as shy, kind and helpful, fastidious and meticulous. Which is more likely to be Robert's occupation: retail sales or a librarian? When they consider options and make decisions, people often immerse themselves in the details of the particular and present situation. Accordingly, they neglect the general characteristics of large numbers of similar past situations. These attributes help to guide the particular choices made in the present. In practice, however, decision-makers often overlook them.

Accordingly, given the paucity and the unknown accuracy of the information about Robert, what should you do? Discount it, or perhaps even ignore it, and concentrate upon more reliable general information. Most notably, at the 2001 Census there were more than 750,000 people employed in retail sales but only about 8,500 librarians in Australia. The words that a single neighbour uses to describe Robert conform to many people's stereotypical conception of a librarian; and in a range of experiments, most people cue to these words and this label and therefore decide that he is more likely to be a librarian. Statistically, however, an Australian selected at random is *88 times* more likely to work in retail sales than in a library. Given the small amount and unsubstantiated nature of our specific information about him (*the "case rate"*), and the much more reliable generalisation that sales workers are far more numerous than librarians (*"the base rate"*), the base rate should figure very heavily in any decision about Robert's occupation.

Actuarial generalisations (which are akin to base rates) are more reliable than individual human judgements (case rates). Actually, that's not quite right: rather, and probably because they tend to overrate their own abilities, individuals tend either to ignore or to misapply actuarial generalisations. The trouble, it seems to me, is that these generalisations are boring. They never drink too much, make fools of themselves in public and row with their spouses; they don't have delicate egos and don't care when people ignore them; and most importantly, they never tell personalised stories, exciting tales and vivid anecdotes. If they were people, they'd never receive invitations to parties.

People, on the other hand, are endlessly fascinating. They react emotionally and personalise problems; they possess countless peccadilloes, obsessions and fetishes; they are veritable walking bundles of seething inconsistencies. Accordingly, when they conduct investment "research" they adopt many and various approaches – all of which amount basically to the "case rate" method. They analyse an individual company, talk to its management and competitors, perhaps attend its AGM, often talk to other analysts and usually formulate an interesting anecdote from their probings. And behind closed doors, most think that they possess superior insights, intelligence and ability to "pick winners." Like the residents at Camp Woebegone, they tend to regard themselves as above average – and overlook the mathematical certainty that it simply ain't so. Comforted by these self-delusions, most proceed to exult about the latest "hot stock" and "sure thing." More generally, they obsess about the specific and present "case rate" and discount or ignore the general and historical "base rate."

As a result, market participants seldom ask themselves: “to what base rate(s) are the case rates in front of me relevant?” *Hence they seldom adopt the investor’s general policy – namely that, unless there are compelling reasons to do otherwise, the case rate (such as today’s the mining boom, China’s voracious appetite for Aussie dirt, etc.) should be attenuated or ignored, and relevant base rates (i.e., major miners’ historical rates of EPS growth, P/E ratio, etc.) accentuated.* The investor knows that it is pointless to research a candidate for investment exhaustively. It is impossible to collect and analyse all information; further, what is collected will almost certainly include bits that are contradictory, irrelevant, erroneous and difficult to evaluate. In sharp contrast, it is much more feasible – this is not the same thing as easy – to gauge the long-term record of success or failure of situations or courses of action like the one at hand. *For the investor, the policy therefore becomes: rather than collect as much information as possible, collect reliable data that is sufficient to ascertain with reasonable confidence which general past situation encompasses the present particular situation.*

A cousin of the base rate, mean regression, also underpins justifiable investment decisions. And for good reason: there are few situations in which large things continue without interruption to become infinitely large, and few things (the purchasing power of fiat money is a major exception) that become infinitesimally small. Trees grow upwards but never reach the heavens. Accordingly, when we are tempted to extrapolate trends from the recent past into the indefinite future, we should recall Horace’s epic poem and Sir Francis’s humble sweet peas. Yet a strong dose of prudence is also necessary. If reversion to the mean is so pervasive in Australian bond and stock markets, then why is forecasting such a frustrating and ultimately useless activity? The forces at work in nature are not the same as the forces at work between people’s ears. The accuracy of most financial forecasts depends more upon decisions made by people other than Mother Nature; and nature, with all its vagaries, is much more steady than Mr Market.

More specifically, there are three reasons why regression to the mean is over the very long term a roughly reliable but over shorter intervals usually a fallible and sometimes a bloody frustrating guide to investment decisions. First, regression can proceed at an unexpectedly and unpredictably slow pace. Second, it may be so forceful that – major Australian mining stocks are an excellent example – matters do not come to rest once they revert to the mean; rather, they “overshoot” before eventually fluctuating erratically around the historical average. Finally, and perhaps most importantly, the mean itself may be subject to slow (evolutionary) or sudden (revolutionary) change. A new base rate that we cannot anticipate and hence presently know little or nothing about, in other words, may (whether suddenly or gradually) supplant the old one. We can doubt but cannot eliminate the possibility, for example, that China’s appetite for dirt might really detach Australia’s future from its present.

Caution is also necessary in another sense. When applied to financial markets, knowledge of base rates and regression to the mean tells you what to expect from a certain *category of events* (i.e., the purchase of stocks at high P/E ratios, or whose

EPS has grown rapidly during the past five years). Critically, base rates tell you relatively little about how an *individual member of this class* (such as the purchase of BHP today) will behave. It is therefore imperative to interpret the results presented in sections 4 and 5 cautiously. They are strongly suggestive but hardly carved precisely into stone. Investing, remember, is not physics. Tables 11a and 11b, for example, do not imply (and so we must not infer) that one should *never* purchase shares with high P/Es and *always* buy them at low P/Es. There always have been and always will be exceptions to this general rule of thumb.

Indeed, a third set of cautions is appropriate. Major Australian corporations have rarely been available at the P/Es in Quintiles D and E, and the observations within these quintiles derived overwhelmingly from the 1970s. If the slavish adherence to rules of thumb takes the form of waiting for epochal bargain basement P/Es to reappear, then it potentially means waiting a very long time. Further, it is important to reiterate that within each quartile there are exceptions to the rule: in a few instances, shares purchased at high P/Es have managed to generate reasonable returns, and shares bought at low ratios nonetheless bore mediocre results.

These tables tell us that, generally speaking, the lower the P/E at the time of purchase the better the subsequent investment return. Accordingly, they tell us that stocks with low P/Es are candidates for further analysis rather than candidates for automatic purchase. A final and fundamental caveat to – and possible limitation of – these results is their “external validity.” Recall that the data used to generate these results measure the EPS, P/E ratios, etc., of major banks, miners and retailers from 1965 to 2005. Do the results that emerge from these data extend to other large caps like media and telecoms companies? To mid and small caps? Will they extend seamlessly into the future? I suspect that they do and will, if only roughly, but that is not the point. The point is that this inference requires that one extrapolate from the data; and the lengthier the extrapolation, the more likely is the error.

Ignore the Mainstream Media’s Headlines and Keep in Mind the Ultimate Headlines

Time, said Pericles, is the wisest of all counsellors; Benjamin Disraeli, the cynical Tory, added that what we learn from history is that we do not learn from history; and H.L. Mencken, the great paleolibertarian myth buster, quipped “what ails the truth is that it is mainly uncomfortable, and often dull. The human mind seeks something more amusing, and more caressing.” To what implications do these insights point? They underscore the necessity that you look towards the long term and discount the short term. To do so, you must discipline yourself either to look beyond – or preferably ignore – today’s headlines. They’re all the news that’s mostly pointless to print; and they’re largely news you can’t use.

To read general business and specialist trade publications, the daily newspaper and so on is occasionally to discern a valuable insight or uncover a useful nugget of information. Accumulating them, adding them to one’s own ideas and using

justifiable principles to sift and subsume them into coherence will – over time – provide a firm basis for decisions. At any given point in time, however, few of the reports, articles, e-mail messages and other ephemera that typically clutter one’s desk should be taken seriously. Mostly, it’s a waste of paper. The vast bulk of the stuff that an investor peruses, in short, is not worth reading. What does repay painstaking study are the principles and methods that over the decades have helped to identify sound businesses whose prices are lower than their values. Benjamin Graham and Austrian School economists, it seems to me, provide just such a moral and logical radar system for investors.

Alas, and like a pack of wild dogs attacking a fresh carcass, most participants in financial markets habitually overestimate the significance of – and thus pounce instinctively upon – every scrap of “news.” They also try to act in anticipation of various short-term events. But macroeconomic aggregates are often revised, sometimes significantly, and for this and many other reasons it is dangerous to take them seriously. What is “good news” today might be “bad news” when the revision appears a few months down the track. But no matter: virtually all market participants fixate upon the short-term “performance” of particular securities or the ASX as a whole. Their constant temptation is thereby to extrapolate the recent past and present into the more distant future.

This obsession about the present and future obscures the only headlines that ultimately matter. Probably because they are so fundamental, these banners have never (to my knowledge) led any news broadcast or blazed across the front page of any newspaper. Since 1965, numerous crises and mega-events have demanded our attention. Political upheavals and assassinations punctuated the late 1960s; in 1970s came the collapse of Bretton Woods and U.S. Government’s effective repudiation of its debt, the Watergate scandal, the defeat in Vietnam, the 1975 Crisis, OPEC embargo and stagflation; in the 1980s came the float of the \$A and a partial deregulation of Australian banks, Reaganomics (and thus an era of ever widening budget and trade deficits in the U.S.), the Accord in Australia, the Plaza Accord in the rest of the world and the 1987 Crash; the 1990s saw the collapse of the Soviet Empire, the EU and Asian currency crises and the LTCM debacle; and the new millennium has witnessed the bursting of the Great Bubble, the attacks on 11 September 2001, the “war on terror” and unprovoked aggression upon civilians in Iraq and Afghanistan. In almost every instance, these events and crises supposedly marked a financial or economic watershed. Each event generated frenzied headlines. Yet today, I cannot recall any of these alleged watersheds.

To obsess about today’s or this month’s or even this year’s “news,” and to regard it as something other than merely the latest point in a lengthy time-series, is to overlook the Ultimate Headlines. What are they? *The Laws of Human Action Eventually Prevail* and *Base Rates Trump Case Rates*. So avoid the crowd and ignore their occasional manias and funks. Also mind Mises and other Austrians, respect “base rates,” eschew speculation, think for yourself and keep your own counsel. If you do these things, then, whether we live in a gilded or a golden age, the odds are that in the years to come you’ll do just fine.

APPENDIX 1:

A Summary of Banking, Mining and Retailing Stocks' Data, 1965-2005

Sector	Present Company	Predecessors, Mergers and Takeovers
Major Banks	ANZ Banking Group	Australia and New Zealand Bank (1965-); English, Scottish and Australian Bank (1965-68)
	Commonwealth Bank of Australia	Commonwealth Bank of Australia (1993-)
	National Australia Bank	National Bank of Australasia (1965-); Commercial Banking Co. of Sydney (1965-79)
	Westpac Banking Corp.	Bank of New South Wales (1965-); Commercial Bank of Australia (1965-79)
Major Miners	BHP Billiton	Broken Hill Proprietary Co. (1965-); Western Mining Corp. (1965-2004)
	Rio Tinto	Conzinc Riotinto Australia (1965-80); CRA (1980-); Comalco (1965-96); Coal & Allied Industries (1965-96)
Major Retailers	Coles Myer	GJ Coles & Co. (1965-); Grace Bros. Holdings (1965-82); Myer Emporium (1965-83)
	Woolworths	Woolworths (1965-87, 1993-)

NOTES

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- ¹ For last year's review, see Leithner Letter 66 (dated 26 June 2005). Go to www.leithner.com.au and then click on "Archived Newsletters."
- ² A few, however, are occasionally prepared to ponder a future that is not quite as rosy as the recent past. See, for example, Alan Wood, "End to Goldilocks Years Could Set Bears Loose on Asset Yields" (*The Weekend Australian* 27-28 May 2006).
- ³ An overview of studies demonstrating that economists – and brokers, funds managers and self-appointed stock market gurus! – are unable to predict the CPI, GDP, exchange rates, stock prices, earnings and God knows what else with any useful degree of accuracy appears in Chris Leithner, *The Intelligent Australian Investor: Timeless Principles and Fresh Applications* (John Wiley & Sons Australia, 2005), Chap. 7.
- ⁴ Intelligent investing presupposes a solid knowledge of – and healthy respect for – the laws of economics. If you have never studied the dismal science, rejoice – it is less likely that you will have to unlearn the myths, obscurantism and nonsense that pervade the contemporary mainstream. You can also exult because Austrian School economics is grounded in clarity, common sense and verbal logic rather than mathematical mumbo-jumbo. Essential sources, in ascending order of difficulty, are Gene Callahan, *Economics for Real People: An Introduction to the Austrian School* (Ludwig von Mises Institute, 2002); Henry Hazlitt, *Economics in One Lesson* (Laissez Faire Books 50th Anniversary Edition, 1996); Murray Rothbard, *Man, Economy and State: A Treatise on Economic Principles* (Ludwig von Mises Institute, 1993); and Ludwig von Mises, *Human Action: A Treatise on Economics* (Fox & Wilkes, 4th rev. ed., 1996).
- ⁵ See in particular Mises, *Human Action*, pp. 422-24, 466-71, and Rothbard, *Man, Economy and State*, pp. 940-942. "The semantic revolution which is one of the characteristic features of our day," said Mises, "has also changed the traditional connotation of the terms inflation and deflation. What many people today call inflation or deflation is no longer the great increase or decrease in the supply of money, but its inexorable consequences, the general tendency toward a rise or a fall in commodity prices and wage rates. This innovation is by no means harmless. It plays an important role in fomenting the popular tendencies toward inflationism." The trouble is that one cannot easily fight something that has no name. As a result, the "war against inflation" is like the "war against terror" a futile tilting at symptoms and consequences. For this reason, concludes Mises, "it is obvious that this new-fangled connotation of the terms inflation and deflation is utterly confusing and misleading and must be unconditionally rejected."
- ⁶ For full details, see Leithner Letter 68 (26 August 2005)
- ⁷ Even a few mainstream economists – employed, no less, by central banks! – are beginning to recognise that an interventionist monetary policy that aims to stabilise consumer prices in the short-term may well generate damaging "imbalances" and "disequilibria" in the medium- and long term. See in particular William White, "Is Price Stability Enough?" (Bank of International Settlements Working Paper No. 205, April 2006).
- ⁸ In an excellent blog entitled "Inflation: What the Heck Is It?" (<http://globeconomicanalysis.blogspot.com/> 2 February 2006), Mike Shedlock concludes that inflation is best defined "as a net expansion of money supply and credit" by central banks. Accordingly, "deflation is logically the opposite, a net contraction of money supply and credit."

In a passage as witty as it is insightful, Shedlock notes "if you are looking for a source of inflation, there is no doubt that [Alan] Greenspan, the Fed and government policies are all a huge part of the problem. What is interesting is that Greenspan is now [on the eve of his retirement on 1 February 2006] finally starting to make sense for the first time in his entire career with his recent warnings about ... government spending and trade deficits. For 18 years

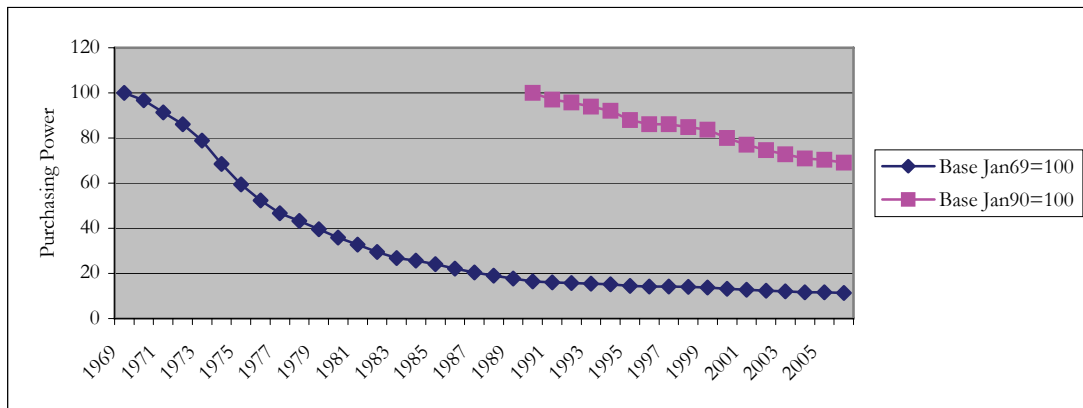
everyone listened to ‘The Maestro’ even though most of what he said was totally unintelligible. Now the ultimate irony is that no one is paying attention just as he is finally starting to make some sense.”

Among the conclusions of Shedlock’s blog:

- Government-mandated “solutions” to problems that were originally caused by government intervention, and which are best left to the free market, provide the ultimate demand for inflation.
- Absent an enforcement mechanism such as a gold standard to keep the bastards honest, and with no desire to raise taxes in order to finance their boondoggles, governments (particularly in the U.S.) have used inflation as a cloak to disguise a vast increase of the size of the state.
- The conventional definition of inflation is so arbitrary that it serves nobody except a government that seeks to defraud its creditors. In particular, changes in the “purchasing power” required to buy a particular basket of goods and services cannot be reliably measured. Why? Because of the continuous need to add new goods to and drop obsolete ones from the basket; because the measurement of the improved quality of existing products is arbitrary; and because what constitutes a “representative” and “properly-weighted” basket of goods and services is a subjective matter.
- CPI-targeting by central banks – a hobbyhorse of the Fed’s new Chairman – is doomed to failure.
- Ludwig von Mises accurately described the endgame of a reckless expansion of credit: “there is no means of avoiding the final collapse of a boom brought about by credit (debt) expansion. The alternative is only whether the crisis should come sooner as the result of a voluntary abandonment of further credit (debt) expansion, or later as a final and total catastrophe of the currency system involved.”
- Alas, central bankers have ignored Mises and Austrian School economists more generally. Instead, they have put their faith in “productivity miracles,” “new paradigms,” and above all their own hubris. These actions have accomplished nothing other than the delay of an eventual – and quite possibly very painful – day of reckoning.

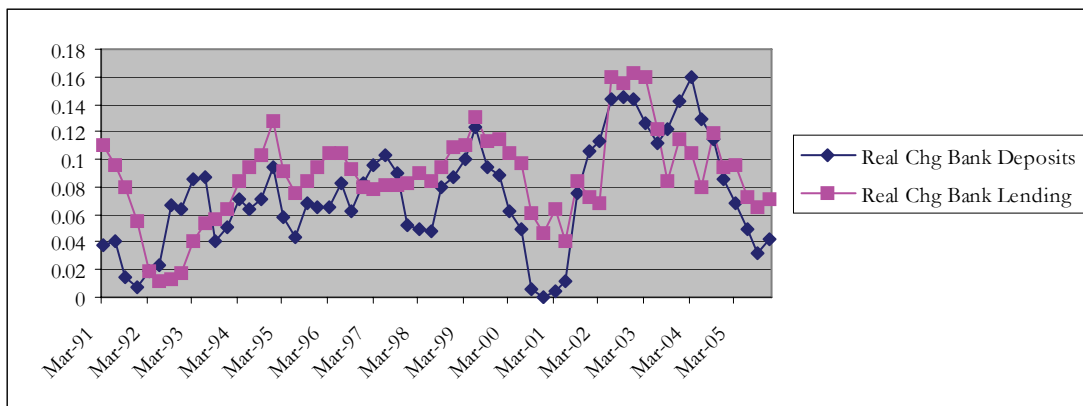
⁹ Two articles by Murray Rothbard provide the most readable and rigorous definitions of the supply of money: “Austrian Definitions of the Money Supply,” in *New Directions in Austrian Economics* (Sheed, Andrews & McMeel, 1978), pp. 143-156; and “The Austrian Theory of Money,” in *The Logic of Action One: Method, Money and the Austrian School* (Edward Elgar, 1997), pp. 297-320.

¹⁰ By conventional standards – namely, the rate of growth of the Consumer Price Index – it is also false to assert that Australia is a “low inflation” country. The chart at the top of p. 46 expresses the CPI’s relentless march in terms of the cumulative destruction of the \$A. The currency’s purchasing power fell from the beginning base of 100 cents to the dollar in 1969 to \$0.11 in March 2006. Since 1969, in other words, the RBA’s inflation has destroyed 88% of the \$A’s value. Accordingly (and bearing in mind the caveat in Note 8), the good or service that cost \$A1.00 in 1966 cost \$A8.62 in 2006. The RBA’s record since 1990 is not quite so abysmal: from a base of 100 cents, the \$A’s purchasing power has fallen to \$0.69 – i.e., by a mere 31%. For investors, the lesson could not be clearer: whenever you hear somebody say with a straight face that inflation in Australia has been low and remains low, the appropriate response is simply to laugh. See also Leithner Letter 72-73 (26 December 2005-26 January 2006).



Source: Analysis of data in RBA File G1

- 11 See for example T.J. Fitzgerald, “Money Growth and Inflation: How Long is the Long-Run?” Federal Reserve Bank of Cleveland, 1 August 1999.
- 12 Clearly, these developments are not the only ones that have boosted stock prices. Australia’s terms of trade and the share of profits as a percentage of GDP, both of which have reached highs not seen in many years, have also played important roles. But prices on the ASX, as everywhere else, are formed by marginal buyers and sellers. Equally clearly, margin lenders have given many market participants the wherewithal to bid confidently and hence aggressively.
- 13 The rate of growth of lending is also decelerating because its foundation (namely bank liabilities, particularly deposits) has braked very sharply since early 2004. Lending, as the figures below show, lags deposits by ca. 6-9 months. And as the figures also show, the real growth of deposits has recently decelerated more drastically than at any time since the aborted recession of 1999-2000 – and to a rate of growth as sluggish as the one that prevailed during the recession of the early 1990s.



Source: Analysis of data in RBA Files D03, D05, G04 and G10

- 14 Albeit for very different reasons, the RBA’s Deputy Governor seems to agree. In a speech entitled “Risk and the Macroeconomy” delivered on 27 May, Glenn Stevens said “for those of us whose economics awareness dates from some time in the 1970s or later, it certainly seems that long-term interest rates globally have in recent years been unusually low ... While I believe central banks will continue to control inflation over the years ahead, this does require short-term rates to move: they cannot stay low and steady permanently. Market action around the world over recent weeks reflects, in part, some adjustment to previous assumptions about the likely degree of short-term rate variation in major countries which were overly sanguine.”
- 15 For definitions and analyses, see Leithner Letters 66 and 67 (26 June and 26 July 2005).

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- 16 See in particular *The Intelligent Australian Investor*, Chap. 2.
- 17 See also Lazard Asset Management's report, dated May 2006, entitled "Australian Resources: It Isn't *That* Different This Time;" David Bassanese, "Same Old Cycles Driving Commodities" (*The Australian Financial Review* 5 Jun 2006); and Chris Leithner, "Some Reflections on the Philosophy of Mining."
- 18 An extended discussion of reversion (or regression) to the mean appears in *The Intelligent Australian Investor*, Chap. 10. It refers to an inverse correlation among roughly normally distributed observations that are made repeatedly over time. An extreme observation at one point in time ("outlier") tends to be followed by a less extreme observation. See also Peter Bernstein, *Against the Gods: The Remarkable Story of Risk* (John Wiley & Sons, 1996), Chaps. 9-11.
- 19 It is important to distinguish mean regression and the "gambler's fallacy." This latter phrase connotes the tendency to impute patterns from random occurrences. It manifests itself in the mistaken belief that because (say) five tosses of a coin have produced five heads, the next toss is likely to produce something other than 50:50 odds of a head. Some people will say a tail is "due" and so will expect one on the next loss; others might say the flipper has a "hot hand" and so will expect another head. The laws of probability give us a long-term base rate: if you flip a fair coin five times and repeat this "experiment" a very large number of times, the average number of heads will regress towards 2.5.
- 20 Werner De Bondt and Richard Thaler, "Does the Stock Market Overreact?" *Journal of Finance* 40, (1985): 793-805.
- 21 For discussion and examples of the use of the five-year Commonwealth Government bond yield as a foundation stone of equity analysis, despite the fact that these bonds can be "loss guaranteed" rather than "risk free," see *The Intelligent Australian Investor* (Chaps. 5, 6 and 11).
- 22 For further details of this method, which has a rather long history in financial analysis, see Francis Nicholson, "Price-Earnings Ratios in Relation to Investment Results," *Financial Analysts Journal* (January-February 1968); David Dreman, *Contrarian Investment Strategies: The Next Generation* (Simon & Schuster, 1998), and James P. O'Shaughnessy, *What Works on Wall Street* (McGraw-Hill, 1998).
- 23 See also James Grant's superb "Why Rates Will Go Up" (*Forbes* 5 July 2004).
- 24 The companies described in the Appendix are components of the S&P/ASX-20 Index. As a group they comprised 38% of the ASX's market cap on 19 May 2006. The major omission is the media sector. I omitted it because (1) the sheer complexity of News Corp.'s accounts beginning in the late 1980s baffles me; and (2) PBL's major ancestor (Consolidated Press Ltd) was, relative to the others, a microcap in 1965-1975.
- 25 On several occasions, Charles Munger has chastised Berkshire Hathaway's shareholders. If done well, investing can make you financially secure. So why, he asks, should it be easy? Similarly, why should a principle of sensible investment have no exceptions? If economics is not physics, then the same point applies to investment.
- 26 James Grant, "[Future Shock at the Fed](#)" (*The New York Times* 26 October 2005).
- 27 Prof Bernanke's view on this matter appears to be changing. In a letter to a Congressman released on 25 May, the Fed chairman said that central banks "cannot ignore movements in stock prices, home values and other asset prices." But still absent is even the slightest recognition that central banks' inflation causes asset bubbles.