Leithner Letter No. 200-204: 26 July-26 October 2016

… But perhaps the greatest casualty of the announcement [earlier in March 2016, when it reduced the four expected 2016 quarter-point hikes, suggested back in December, to just two] was the Fed's own credibility, which is now being stretched to the limit. At [Chairman Janet] Yellen's press conference last Wednesday, CNBC reporter Steve Liesman, who has perhaps been one of the most reliable supporters of the Fed's policies, seemed to indicate that even he had grown weary of the Fed's prevarications, saying to Chairman Yellen: "Does the Fed have a credibility problem in the sense that it says it will do one thing under certain conditions, but doesn't end up doing it? And … if the current conditions are not sufficient for the Fed to raise rates, … what would those conditions ever look like?"

Yellen's response … boiled down to … "Steve, why have you taken our prior forecasts at face value? We never actually offered firm commitments on anything. Nor did we specifically endorse the things that we seemed to have said. And just so you know, you should expect that the things we are saying now will 'fully evolve' over time as well." Or in plain English: "Steve, don't you know by now that we have no idea what we are talking about, that our forecasts are just guesses, and since we normally guess wrong, why should you expect greater accuracy now? If anything, it should be obvious that our guesses are biased in favour of stronger growth, as the intention is for those rosy forecasts to positively influence sentiment, thereby helping to obscure the problems that, for political reasons, we are hesitant to acknowledge".

… The growing chasm between what the Fed says it is going to do and what it is actually doing is getting increasingly hard for the mainstream to swallow. When it stops going down at all, a market shift of considerable proportions could begin in earnest.

Peter Schiff
Two Down – Two to Go
(24 March 2016)

Credible Nobel Laureates and the World's Greatest Investor Reckon Markets Are Greatly Overvalued: Are You Listening?

A year ago, in the wakes of ructions in China, Greece and elsewhere, Australian investors and speculators asked themselves: "are stocks attractively cheap, reasonably priced or unduly dear? Are prospective returns good, fair or poor?" As they virtually always do, "experts" advised that all was well and that the crowd should buy. "Four Reasons Why It's Time to Buy Shares Now" (*The Australian Financial Review*, 15 May 2015) typified their mantra:

> Savvy investors should start buying up shares, according to Deutsche Bank and AMP Capital, with the recent dip in the market [during April-June the ASX/S&P 200 Index fell from almost 6,000 to 5,400] presenting some good buying opportunities. … The four reasons [to buy shares] are: the dip [during April-June] was due; valuations are reasonable; earnings momentum looks OK; and the current lack of investor sentiment is actually positively correlated to market performance. … Deutsche added that its [one-year prospective] price-earnings ratio model suggested that fair value was a PE ratio of 15.7. The current market [has] a ratio of 16 [see also Figure 5]. "Valuations have dropped to reasonable levels," said Deutsche. "[They are] justified given record low interest rates.

AMP Capital's Shane Oliver, whom the article cited, was equally upbeat:

> Recent volatility represents just another correction. We remain of the view that we are still a long way from the peak of the investment cycle. Most threats look to be manageable at this stage, and unlikely to threaten the broader cyclical bull market in shares. … [We] see recent moves as healthy and as setting up investment opportunities.

The mainstream's ebullience about the present and complacency regarding the future continued into the 2015-2016 financial year. According to "Bulls, Bears Predict Market Extremes, Most Reckon 6,000" (*The Australian Financial Review*, 1 July 2015), for example,

> There's a wide spread of predictions for how the Australian share market – currently around 5,450 – will perform over the next year, with the bulls saying 6,500 and the bears 5,750. But most are playing it safe and saying 6,000 or thereabouts (see also "Second-Half Rebound Tipped for Equities," *The Australian*, 6 July 2015).

Got that? In July of last year, NO "expert" polled by the AFR prophesied that the ASX might decrease during the 2015-2016 financial year – and certainly nobody foresaw that the S&P/ASX 200 index would, albeit briefly, plunge below 4,900. Instead, without exception everybody expected that it would rise (Table 1). The most optimistic seer – Credit Suisse – predicted that during the six months to 31 December 2015 it'd zoom 19%; the least optimistic, RBS Morgans, reckoned it'd lift 4%; and the average ("safe") prediction was an increase of 10%. During the year to 30 June 2016, the average prediction was a lift of 12%.

Table 1: Experts' Predictions of S&P/ASX 200, December 2015 and June 2016

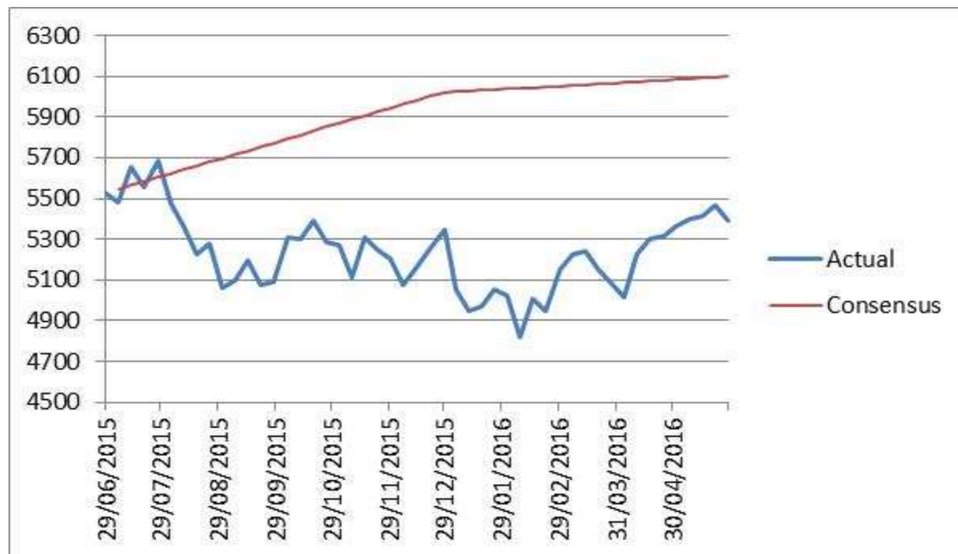
Institution	**Prediction for 31-12-15**	**Prediction for 30-06-16**
RBS Morgans	5,650	5,750
St George Bank	5,800	6,000
CommSec	6,000	6,100
AMP Capital	6,000	6,100
CitiGroup Australia	6,000	6,300
HSBC Australia	6,000	N.A.
Macquarie Bank	31-03-16: 6,068	
Deutsche Bank Australia	6,200	6,350
Credit Suisse Australia	6,500	N.A.
MEAN	**6,019**	**6100**

Source: *The Australian Financial Review* (1 July 2015)

Figure 1 plots these alleged experts' average ("consensus") forecasts against the actual course of the S&P/ASX 200 index during the year to 1 June 2016. It's hardly a surprise that they haven't been unable to predict with any reasonable degree of accuracy (see Letter 196-197); equally predictably, their forecasts have been overly optimistic (see Letter 198-199). The professionals reckoned, on

average, that during the six months to 31 December 2015 the index would rise to 6,019; in fact, it fell to 5,415. And in the six months to 30 June, they predicted that it would rise further (albeit marginally) to 6,100; instead, early it 2016 it plunged below 4,900 before partly recovering to 5,400.

Figure 1: Experts' Consensus Predictions on 1 July 2015 versus the S&P/ASX 200 (June 2015-June 2016)



In sharp contrast, during the past year Leithner & Co.'s communications to its shareholders have been cautious. Its scepticism wouldn't have impressed the ex-Treasurer (see Doubters Are Clowns, Says Hockey, *The Australian*, 4 June 2015 and "Talk of Recession Irrational: Hockey," *The Weekend Australian*, 5-6 September 2015).[1] No matter; its directors have long been reprobates. As it's been since the Company's inception in 1999, our concern remains today: the overall level of major market indices such as the S&P 500, which is at or near all-time records, is very – and perhaps dangerously – elevated. So, by implication, is the ASX/S&P 200. If, a year ago, they had chosen to open their eyes and use their brains, "experts" might have discerned these risks (see, for example, "Stock

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[1] In London in April 2012 – he flew, ate and slept there entirely at taxpayers' expense – Joe Hockey had the hide to state that Western countries must reduce their subjects' sense of entitlement. The era of entitlement certainly hasn't ended for him: today he continues to live lavishly from the public purse as Australia's Ambassador in Washington.

Index Loaded with Risks," *The Australian Financial Review*, 27 May 2015). Alas, it's in their interest – but not in yours – virtually always to remain thoughtlessly optimistic. There were and are, of course, some exceptions to this rule. Alan Kohler, the avuncular face of ABC1's nightly finance report, for example, wasn't blind. "It's clear," he belatedly confessed to *Business Spectator* on 30 August 2015, "that the Australian economy of the first decade and a bit of this century was built on a [consumption, interest rate and real estate] bubble."

Today's prices and tomorrow's returns are inversely related; moreover, returns have always – eventually – regressed to their historical means. "Eventually," however, can take a long time to arrive: indeed, and as we'll see below, since the mid-1990s stocks have generally been unduly dear; moreover, in an effort to curry the crowd's favour, experts have spread spurious and even risible ideas that "justify" stocks' high prices. What, then, to do? Be alert for extremes in markets – very undervalued or overvalued. When you possess a roughly valid and reliable means to detect such extremes, you avoid the problem that arises when, figuratively speaking, you stumble around in the dark over chairs and night stands. Given these means, you can begin to visualise in the dark – which is where investors must necessarily tread. Almost 20 years ago James Grant said: "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." The three measures that I detail below are all (to use another analogy) flashing amber – and perhaps red – warning lights; all indicate that stocks are significantly and perhaps greatly overvalued. Further, they possess the ability – at least roughly – to foretell poor long-term returns. Price is what you pay today; value is what you get tomorrow. *Today's high valuations thus portend – for those who don't prepare themselves – poor returns and perhaps hefty losses in the future.*

Shiller's "CAPE"

Robert James "Bob" Shiller (born 29 March 1946) is an American economist, academic and best-selling author.[2] He is currently Sterling Professor of

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[2] His books include *Finance and the Good Society* (Princeton University Press 2012); *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism* (with George Akerlof, Princeton University Press, 2009); *The Subprime Solution: How Today's Global Financial Crisis*

Economics at Yale University and a fellow at the Yale School of Management's International Center for Finance. He is also co-founder and chief economist at the investment management firm MacroMarkets LLC. According to IDEAS (an academic citation counting and weighting service), the number and prominence of the citations of Shiller's research have since the mid-1990s ranked him among the world's 100 most influential economists (in recent years he's usually been among the top 25). For more than a decade, Bloomberg has listed him among its (alphabetically ranked) "50 Most Influential People in Global Finance."

Shiller's book *Irrational Exuberance*[3] was published in March 2000 – the apex of the Dot Com mania – and became a *New York Times* bestseller. The phrase "irrational exuberance" has since entered investors' lexicon; the book warned that the stock market of the late 1990s had become a "bubble" that was vulnerable to "pop." And so it transpired: within a couple of years of the book's publication, the S&P 500 fell by a quarter; and the National Association of Securities Dealers Automated Quotation Index, best-known by its acronym (NASDAQ), collapsed by more than half. NASDAQ has taken 15 years to revisit the summit (namely a level of 5,000) it first scaled in 2000.

In 2003, Shiller co-authored a research paper, published by the Brookings Institution, entitled Is There a Bubble in the Housing Market? In the 2nd edition of *Irrational Exuberance* (2005) he refined its contention:

> … further rises in [stock and housing] markets could lead, eventually, to even more significant declines. … A long-run consequence could be … another, possibly worldwide, recession. This extreme outcome … is

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Happened, and What to Do about It (Princeton University Press, 2008); *The New Financial Order: Risk in the 21st Century* (Princeton University Press, 2003); *Irrational Exuberance* (Princeton University Press, 1st ed., 2000); *Macro Markets: Creating Institutions for Managing Society's Largest Economic Risks* (Clarendon Press, 1993); and *Market Volatility* (MIT Press (1990).

[3] On 5 December 1996, in a speech entitled "The Challenge of Central Banking in a Democratic Society," Alan Greenspan, at the time the Fed's Chairman, declared: "Clearly, sustained low inflation implies less uncertainty about the future, and lower risk premiums imply higher prices of stocks and other earning assets. … But how do we know when irrational exuberance has unduly escalated asset values, which then become subject to unexpected and prolonged contractions as they have in Japan over the past decade?" Shiller was reportedly Greenspan's source for the phrase (see Barry Ritholtz, Did Greenspan Steal the Phrase 'Irrational Exuberance'? 28 January 2013).

> not inevitable, but it is a much more serious risk than is widely acknowledged.

In mid-2005, on the CNBC program "How to Profit from the Real Estate Boom," Shiller cautioned that the nationwide and very strong increase of the price of residential real estate in the U.S. could not continue indefinitely; specifically, it could not outstrip the rate of increase of the Consumer Price Index (CPI). The price of a house, he said, must eventually tend towards its cost of construction (and, over time, replacement) plus "normal economic profit." Another guest, David Lereah, at the time the chief economist at the National Association of Realtors,[4] mocked Shiller and ridiculed his caution: the prices of houses, he insisted, "simply couldn't" fall on a nationwide basis. Later in 2005, also on CNBC, Ben Bernanke also waxed bullish – and dismissed bears' concerns. "There's been a lot of talk about a housing bubble," CNBC asked him, "can you give us your view as to whether or not there is a housing bubble out there?" Bernanke replied:

> Well, unquestionably, housing prices are up quite a bit; [but] I think it's important to note that fundamentals are also very strong. We've got a growing economy, lots of jobs, incomes. We've got very low mortgage rates. We've got demographics supporting housing growth. We've got restricted supply in some places. So it's certainly understandable that prices would go up some. I don't know whether prices are exactly where they should be, but I think it's fair to say that much of what's happened [in the housing market] is supported by the strength of the economy.

The interviewer tried one more time:

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[4] Lereah reliably gets things diametrically wrong. For example, his book *The Rules for Growing Rich: Making Money in the New Information Economy* (Crown Business, 2000) touted technology stocks. It was published in June 2000 – just after the collapse of the dot-com bubble had commenced. *Are You Missing the Real Estate Boom? Why Home Values and Other Real Estate Investments Will Climb Through the End of the Decade—And How to Profit from Them* (Currency, 2005), on the other hand, saw the light of day just as the real estate bubble crested. For good measure, it was re-released in February 2006 under the new title *Why the Real Estate Boom Will Not Bust — And How You Can Profit from It.*

> What is the worst-case scenario? We have so many economists coming out and saying, "Oh, this is a bubble, and it's going to burst, and this is going to be a real issue for the economy." Some say it could cause a recession at some point. What is the worst-case scenario, if in fact we were to see prices to come down substantially across the country?

In response, Our Ben again declined the opportunity to temper his confidence:

> Well, I guess I don't buy your premise. It's a pretty unlikely possibility. We've never had a decline [of] house prices on a nationwide basis. So what I think is more likely is that [the rise of] house prices will slow, maybe stabilise: might slow consumption spending a bit. I don't think it's going to drive the economy from its full employment path, though (see Daniel Sanchez, Ben Bernanke Was Incredibly, Uncannily Wrong, Ludwig von Mises Institute, 28 July 2009).

Undeterred by the ridicule of shills for the real estate industry and the disapprobation of central bankers, in 2006 Shiller warned "there is significant risk of a very bad period [in residential real estate], with slow sales, slim commissions, falling prices, rising default and foreclosures, serious trouble in financial markets, and a possible recession sooner than most of us expected" (see Carl Case and Robert Shiller, "Full House," *The Wall Street Journal*, 30 August 2006). Finally, in September 2007 – exactly a year before the collapse of Lehman Brothers and Washington Mutual, *et al.* – Shiller reiterated his "bearish long-term view, which many challenged" (see Bubble Trouble, *Project Syndicate*, 17 September 2007).

Shiller has observed three epochal levitations of asset prices: the "Dot Com" bubble of 1996-2000, the housing and stock market bubble of 2003-2007 and today's "bubbles"[5] in real estate and stock markets. From this grist he has refined

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[5] On 1 June 2015, in Shiller: We Need a Rate Hike Soon to Pop 'New-Normal' Bubbles, *MarketWatch* reported: "There's only one way to deal with the speculative bubbles that exist in the housing and asset markets: a Federal Reserve [needle]. That's the advice of Nobel Prize-winning economist Robert Shiller, who told CNBC on Monday that an early interest-rate hike is needed to stop the booms. 'There are places in the United States that are really in bubble territory,' he said. The

his ideas regarding assets' valuations. In recognition of these contributions, in 2013 the Swedish Royal Academy of Sciences jointly awarded to Shiller, Eugene Fama and Lars Peter Hansen The Sveriges Riksbank [Swedish central bank] Prize in Economic Sciences in Memory of Alfred Nobel[6] "for their empirical analysis of asset prices." The press release which accompanied the Academy's announcement stated:

> *There is no way to predict the price of stocks and bonds over the next few days or weeks. But it is quite possible to foresee the broad course of these prices over longer periods, such as the next three to five years.* These findings, which might seem both surprising and contradictory, were made and analysed by this year's Laureates … [italics added]
>
> … If prices are nearly impossible to predict over days or weeks, then shouldn't they be even harder to predict over several years? The answer is no, as Robert Shiller discovered in the early 1980s. He found that stock prices fluctuate much more than corporate dividends, and that the ratio of prices to dividends tends to fall when it is high, and to increase when it is low. This pattern holds not only for stocks, but also for bonds and other assets. [These three] Laureates have laid the foundation for the current understanding of asset prices. It relies in part on fluctuations in risk and risk attitudes, and in part on behavioural biases and market frictions.

Among stock market investors, Shiller is best known as the architect of the "cyclically adjusted price-to-earnings ratio," which is commonly known as

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problem with central banks like the Fed is that they tend to 'ignore speculative bubbles until it's too late, and that may be the case now,' said Shiller."

6 It's important to note (I've done so repeatedly), no matter how stridently and smugly mainstream economists strive to deny it, that there's simply no such thing as a "Nobel Prize in Economics." Their false insistence otherwise reflects the desire to cloak themselves in the rigour of the hard sciences and ethical standards of medicine. The immutable fact (which economists can't assume out of existence) is that, since the beginning of the 20th century, the Nobel Foundation has endowed prizes in Chemistry, Medicine, Literature, Peace and Physics; only since 1969 has Sweden's central bank awarded its prize "in memory of Alfred Nobel." The Nobel Foundation endows the true prize; Sweden's central bank subsidises the pretender.

CAPE, Shiller P/E or P/E 10 ratio. CAPE is a measure of valuation that's usually applied to an index like the S&P 500. It's basically a fraction: its numerator is a price (that is, the level of the S&P 500 at a given point – typically month – in time) and its denominator is the month-by-month moving ten-year average of the CPI-adjusted earnings of the corporations that comprise the S&P 500. The higher (lower) is the ratio, the dearer (cheaper), generally speaking, are stocks.

CAPE's underpinnings and pedigree are impeccable. Moreover, it overcomes the fatal flaw of the conventional – i.e., one-year – price-to-earnings ratio (which the bulls use to tout shares; see also Figure 5). CAPE's denominator uses the average of earnings from ten years rather than just the current year. This long-term horizon helps to minimise random and ephemeral effects; it also enables the comparison of what long-term investors (versus short-term speculators) seek: valid and reliable long-term valuations.[7] In order to estimate the value of a company's stock, Benjamin Graham and his co-author, David Dodd, smoothed its earnings for the past five and preferably ten years. In their classic text, *Security Analysis: Principles and Technique* (McGraw-Hill, 1st ed., 1934), they noted that one year's earnings were too volatile to offer a good estimate of long-term earning power – and, by inference, that one-year PEs are useless as tools with which to value individual companies or overall markets.

In a research program that culminated in 1988,[8] Shiller and John Campbell of Harvard University corroborated Graham and Dodd: "a long moving average of real earnings helps to forecast future real dividends" – which in turn underlie stocks' returns. (Elsewhere, Shiller showed that dividends are the most important determinants of stocks' long-term values.) The key insight is that the long-term average of earnings, adjusted for CPI, eliminates short-term volatility of earnings; it also mitigates medium-term volatility from business cycles. Both Graham and Dodd on the one hand and Campbell and Shiller on the other concluded that a long-term average provides, theoretically and empirically, a far

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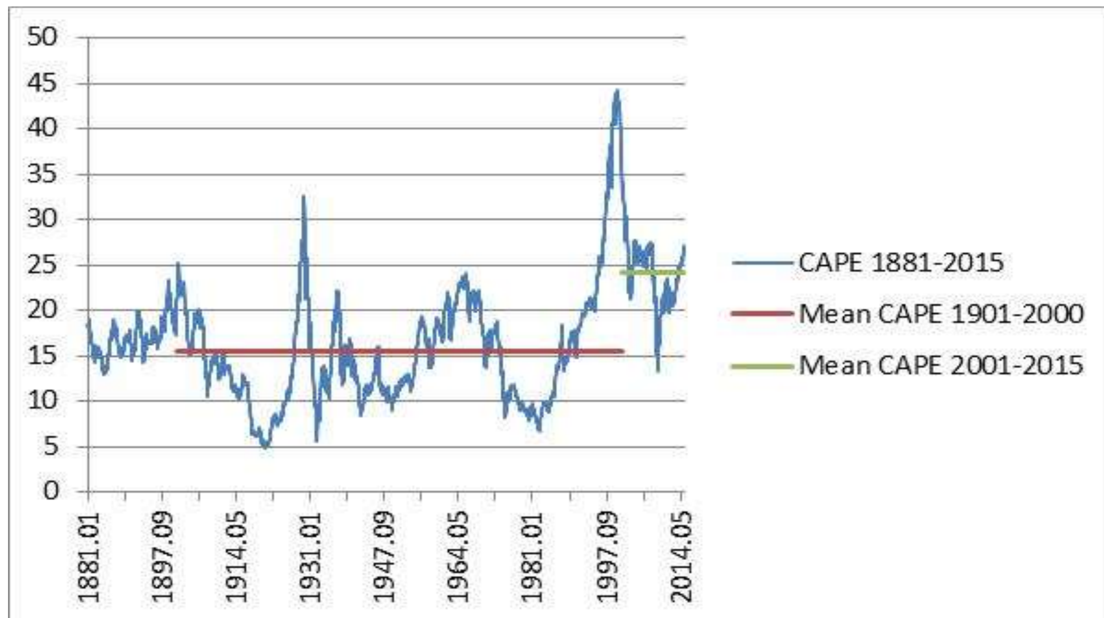
[7] Many people have criticised CAPE, but it's withstood these criticisms. For a readable and rigorous defence, see William Hester, Does the CAPE Still Work? (Hussman Funds, December 2013).

[8] John Y. Campbell and Robert J. Shiller, "Stock Prices, Earnings, and Expected Dividends," *The Journal of Finance*, vol. 43, no. 3 (July 1988), pp. 661-676.

better reflection of a firm's long term earning power than a short-term (i.e., one year) measure.

Figure 2: Cyclically-Adjusted Price Earnings Ratio, S&P 500 Index, 1881-2015



Using Shiller's data, Figure 2 plots CAPE from January 1881 to June 2015. Its average value for the entire period is 16.6; the average for the 20th century was 15.5; and the average since the beginning of the 21st century is 24. CAPE's extremes over time corroborate common sense: it soared highest during the "New Era" of the late 1920s, the "Go-Go" years of the 1960s, the "Dot Com" mania of the late 1990s – and most of the years of the 21st century. It plunged lowest during the Depression of 1920-21,[9] the Great Depression of 1929-1946 and

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[9] Never heard of it? That's probably because, although it was one of the century's severest depressions, it was also among the briefest. Why was it so short? As Chris showed in Chap. 10 of *The Evil Princes of Martin Place* (CreateSpace, 2011), immediately after the First World War the U.S. Government slashed its revenue and expenditure (both by more than half), quickly converted into large surpluses what had been the largest budget deficits in U.S. history up to that point, and stood aside and let interest rates rise. These actions simultaneously triggered (which is not the same as caused) the downturn, and – by purging the rottenness that had accumulated during the War – quickly set the stage for an exceptionally strong recovery. See also James Grant, *The Forgotten Depression 1921: The Crash That Cured Itself* (Simon & Schuster, 2014) and Ronald Radosh, Rethinking Warren G. Harding, *The New York Times* (27 August 2015).

the Great Malaise of the late-1970s-early-1980s. Notice that stocks didn't become cheap in 2007-2009: valuations merely fell to an average (historically speaking) level.

On 30 June 2015, CAPE's value was 27.22 (in mid-June 2016 it was 26.2). That's 63% higher than the average for 1881-2015, 76% higher than the average for the 20th century and 12% above its average since 2001. In only 4.5% of the months since January 1881 has CAPE's value been greater than it was in mid-2015. *If the means since 1881 or for 1901-2000 reasonably approximate "fair value," then the S&P 500 remains 60-75% "overvalued" – that is, compared to its current level (ca. 2,100), "fair value" lies roughly in the range 525-850.* Bulls, of course, sneer – but recall that they also scoffed in 2007.

Hitherto, CAPE has reliably regressed to its mean. To which mean will it subsequently regress? Shiller and many others, who are sceptical about today's prices, suspect – and fear – that CAPE will continue to regress to its "historical" means (that is, 1881-2015 or 1901-2000). If so, then the S&P 500 will either crash 60-75% in one go, or stagnate for the next 20 years or more, or some combination of the two. It's not surprising that bulls, who are sanguine about the present and complacent about the future, typically ignore or criticise CAPE. To the limited extent that they even acknowledge its existence, they imply (and sometime brashly assert) "this time it's different." Specifically, they allege, it's been different since the "Dot Com" mania burst; hence, they reassure us, the downside is limited to a mere 10-15% (see also Figure 5).

Shiller didn't devise – and has never regarded – CAPE as a short-term warning indicator of major market crashes; nonetheless, such events have repeatedly occurred not long after CAPE has risen to extreme levels. CAPE skyrocketed above 30 during the late 1920s – and stocks crashed in 1929-1932. Alan Greenspan uttered the phrase "irrational exuberance" late in 1996. Few heeded his caution, CAPE reached an all-time high in 1999-2000 – and then the "Dot Com" bubble popped. CAPE also reached an historical extreme in 2007 – months before the eruption of the Global Financial Crisis and onset of the Great Recession. In 2014, in the aforementioned article in *The New York Times*, Shiller warned that a CAPE above 25 was "a level that has been surpassed since 1881 in only three previous periods: the years clustered around 1929, 1999 and 2007. Major market drops followed those peaks."

Elsewhere he elaborated (italics added):

> In the last century, CAPE has fluctuated greatly, yet it has consistently reverted to its historical mean – sometimes taking a while to do so. Periods of high valuation have tended to be followed eventually by stock-price declines. Still, the ratio has been a very imprecise timing indicator: It's been relatively high – above 20 – for almost all the last 20 years, with the exception of 20 months, mostly in the recession of 2007-2009, when prices tumbled and it fell as low as 13.32. *In other words, the ratio is saying the stock market has been relatively expensive for years.* And that raises a question: Are there legitimate factors behind high stock prices that might keep them elevated for decades more?
>
> Such a question has been addressed before. [In 1929], Professor Irving Fisher of Yale … explained why there were "sound reasons" for high valuations. He couldn't have been more wrong. [Today's] valuations remain high, and it would be comforting if they made sense. So I've been trying to come up with a theory to explain today's elevated stock prices — and maybe convince myself that they could remain lofty for some time. One factor to consider is that bond prices are high, too. Inflation [sic] is running at only around 2%, and 10-year Treasury notes yield less than 2.5%, a very low level. Bond prices move in the opposite direction as interest rates, and high bond prices may account for the high valuations in stocks.
>
> … It's possible that bond prices account for today's stock market valuations. But that raises another question: Why are bond prices so high? There are short-term explanations: the role of central banks, for example. But is there a compelling reason for prices of stocks and bonds (and maybe houses, too) to remain high indefinitely? … *So nothing I've come up with is a slam-dunk explanation for the continuing high level of valuations. I suspect that the real answers lie largely in the realm of sociology and social psychology – in phenomena like irrational exuberance, which, eventually, has always faded before. If the mood changes again, stock market investments may disappoint us* (The Mystery of Lofty Stock Market Elevations, *The New York Times*, 16 August 2014; italics added).

The higher above its long-term mean CAPE rises, the more likely it is that it'll subsequently fall, and vice versa. In other words, CAPE exhibits a strong tendency to regress from short-term peaks and troughs towards its long-term mean. *The implications of this regression towards the mean are vital: Campbell and Shiller first found (and in subsequent publications Shiller has elaborated) that the lower the CAPE at a given point in time, the higher would be stocks' subsequent long-term return, and vice versa.* The average value of CAPE during the 20th century implies an annual return over the next 20 years of around 6.6%. Higher valuations – like those prevailing today – imply correspondingly lower subsequent returns; *specifically, on the three previous occasions since 1881 when CAPE has risen to 27 or more, the S&P 500 has subsequently generated shocking losses.*

Table 2: CPI-Adjusted Ten-Year Returns (Compounded per Annum), S&P 500, Ranked Shiller PEs, 1926-2015

Decile	Starting CAPE		Avg Subseq 10-Yr Return	Worst Subseq 10-Yr Return	Best Subseq 10-Yr Return	Std Dev
	Low	High				
1	5.2	9.6	10.3%	4.8%	17.5%	2.5%
2	9.6	10.8	10.4%	3.8%	17.0%	3.5%
3	10.8	11.9	10.4%	2.8%	15.1%	3.3%
4	11.9	13.8	9.1%	1.2%	14.3%	3.8%
5	13.8	15.7	8.0%	-0.9%	15.1%	4.5%
6	15.7	17.3	5.6%	-2.3%	15.0%	5.1%
7	17.3	18.9	5.3%	-3.9%	13.8%	5.1%
8	18.9	21.1	3.9%	-3.3%	9.9%	3.9%
9	21.1	25.1	0.9%	-4.4%	8.2%	3.8%
10	**25.1**	**46.1**	**0.5%**	**-6.1%**	**6.3%**	**3.6%**

"By many measures, such as CAPE …, stock markets are expensive, but those metrics are horrible timing mechanisms for the 18-24 months period," one chief investment officer and portfolio manager told *MarketWatch* (How Wall Street Is Explaining High Stock Valuations, 2 June 2015). That's not completely wrong. "[CAPE has] little explanatory power for holding periods up to 10 years," added another analyst. That, as Table 2 demonstrates, is flatly incorrect. It sorts the S&P

500's CPI-adjusted returns during every possible rolling ten-year period since 1926 (i.e., January 1926-January 1936, February 1926-February 1936, … June 2005-June 2015) into deciles (that is, ten groups with equal numbers of observations) ranked by their starting CAPEs. June 2015's value of CAPE is in the 10th – that is, the highest, dearest and most extreme – decile. *As the starting CAPE increases, the S&P 500's subsequent ten-year average CPI-adjusted return falls nearly in lock-step.*

Also, as starting Shiller PEs increase the best-case returns weaken and the worst-case returns become ever more negative. *The tenth decile, which describes conditions during the past year, is not pretty. It implies that during the next decade the average real rate of return will be less than 1% per annum.* If it prevails, then he who invests $US100 in an S&P 500 index fund and collects dividends during the next decade will, ten years from now, possess (net of CPI) $105.11. That's the "base case." The worst case is a rate of return of minus 6.1% real return per annum: if it transpires, he who invests $US100 today and collects dividends would, after 10 years, have (net of CPI) $53.29.

A year ago, traders-speculators disregarded Table 2. Investors should use it to temper their expectations. Specifically, and given today's CAPE, those whose long-term plans assume a 10% nominal (or ca. 7-8% net of CPI or "real") return from American stocks are – whether they realise it or not – assuming a return that exceeds the "best case" (i.e., 6.3% per annum in the tenth decile of Table 2) will prevail.[10] They're also ignoring the worst-case and base-case scenarios. *In*

[10] On 21 May 2015, in John Bogle Stands Pat on Wall Street Bet, *MarketWatch* wrote: "Asked to explain his retirement investing philosophy to young people, Vanguard Group founder John Bogle summed it up very simply: 'Expect a 7% return from the growth of American business and nothing more, and never, ever speculate.' The U.S. stock market rides on the productivity of American business, Bogle told CNBC. 'Corporations pay a dividend yield of about 2%, and long-term earnings growth is about 5%. Add those two numbers together and you get a solid, repeatable 7% return, so long as you don't blow it by trying to reach for more,' Bogle warned." In Australia, the mainstream sings a similar tune. "Economist Has Skin in the Game" (*The Weekend Australian Financial Review*, 23-24 May 2015) reported that Shane Oliver "knows that after several decades of high returns it will be difficult for investors to achieve the sort of double-digit returns that were common leading up to the markets slump in 2007. Oliver reckons that we are heading into a prolonged period of returns of around 7.0-7.5% [per annum]." CommSec, however, is unfazed: its chief economist has predicted that the ASX's returns in 2015-2016 would be 10-12% (see "ASX Tipped for Better Year Ahead," *Business Spectator*, 22 June 2015). A year later, it's clear that both of these "analysts" were overly optimistic.

plain English, and no thanks to "experts," most Americans' – and Australians' – expectations in 2014-2015 greatly exceeded what, historically speaking, has been reasonable to expect. Bluntly, they ignored history and insisted "this time it'll be different." Perhaps they'll be right. But Bob Shiller's sceptical, and we think he's more credible (and possesses far fewer conflicts of interest) than the bulls.

Tobin's "q"

James Tobin (1918-2002) was an American economist who taught at Harvard and Yale universities. He was also a member on the Council of Economic Advisors (an agency within the Executive Office of the President that provides advice on economic policy) and the Board of Governors of the Federal Reserve System. His academic work included pioneering contributions to the study of investment, monetary and fiscal policy. In recognition of his contributions, in 1981 the Swedish Royal Academy of Sciences awarded to him that year's Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel.

Tobin is best known to stock market investors as the formulator of "q." He and William Brainard introduced the concept in 1968; the use of the letter "q" didn't appear until 1969.[11] In the latter year, Tobin wrote of q's two components:

> One, the numerator, is the market valuation: the going price in the market for exchanging existing assets. The other, the denominator, is the replacement or reproduction cost: the price in the market for the newly produced commodities. We believe that this ratio has considerable macroeconomic significance and usefulness, as the nexus between financial markets and markets for goods and services.

A shortcoming of Tobin's q is that replacement values of companies' assets cannot normally be observed and are difficult to estimate. Accordingly, and

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[11] See William Brainard and James Tobin, "Pitfalls in Financial Model Building," *The American Economic Review*, vol. 58, no. 2 (1968), pp. 99–122; and James Tobin, "A General Equilibrium Approach to Monetary Theory," *The Journal of Money, Credit and Banking*, vol. 1, no. 1 (1969), pp. 15–29.

although it's not the exact equivalent of q, it's become common practice in the finance literature and among investors to calculate the ratio by comparing the market value of a company's assets and liabilities (which appear via prices of companies' net assets – that is, equity – on the stock market) with their corresponding book values (as they appear on companies' balance sheets). It's conventional to assume that Tobin's q ≈ (capitalisation of a listed corporation's equity) ÷ (its book value). A major – and for investors, the major – use of q is to draw inferences about the stock market's valuation. This aggregated version of the formula is: q ≈ (total capitalisation of corporate equity listed on the stock market) ÷ (total book value of listed corporate equity).[12]

If prices on the stock market mirrored the book values of listed corporations' assets, then Tobin's q = 1. Under these circumstances, buyers would on average pay $1 for each dollar of a corporation's equity. If q > 1, then the imputed values of listed corporations' equity exceeds the recorded (on their balance sheets) value of their equity. Buyers, in other words, would willingly pay more than $1 for each dollar of a corporation's equity. Why would they do that? Perhaps market participants foresee that in the next few years corporations will generate higher profits and dividends than they have during the past few years. On the other hand, they probably don't: according to Shiller, the most likely possibility is that they simply overpay; that is, they regularly become illogically and occasionally irrationally exuberant. Finally, if q < 1, then buyers on average pay less than $1 for each dollar of a corporation's equity. How can that happen? Perhaps market participants expect that in the next few years corporations will generate lower profits net of CPI (perhaps because CPI will rise more rapidly, eroding profits' purchasing power and thus the value of the assets that generate them) than they have hitherto; if so, then it's sensible to pay lower prices for that less-profitable equity.

Using data compiled from the FRED database at the Federal Reserve Bank of St Louis, Figure 3 plots Tobin's q – i.e., the ratio of the capitalisation of U.S. stock markets to the net assets of listed entities at replacement cost. Albeit over a

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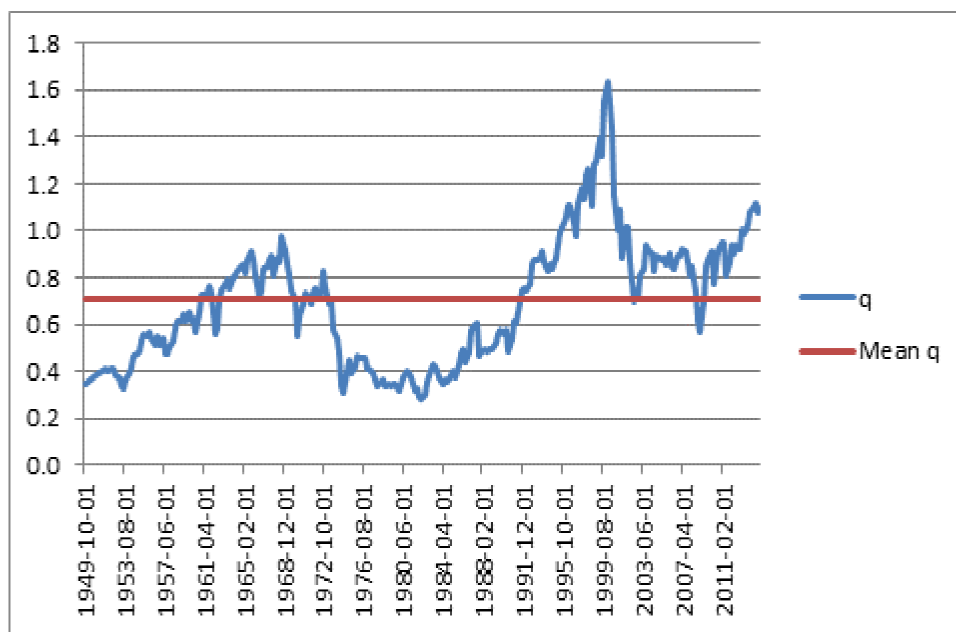
[12] See Kee H. Chung and Stephen W. Pruitt, "A Simple Approximation of Tobin's q," *Financial Management*, vol., 23, no. 3 (Autumn 1994), pp. 70-74, and Andrew Smithers and Stephen Wright, *Valuing Wall Street: Protecting Wealth in Turbulent Markets* (1st ed., McGraw-Hill 2000).

shorter interval of time, Figure 3 tells much the same story as Figure 2: above-average valuations prevailed during (1) the "Go-Go" years of the 1960s, (2) the "Dot Com" mania of the late-1990s and early-2000s and (3) since 2009; and below-average valuations prevailed during the Great Malaise of the late-1970s and early 1980s. And as in Figure 2, so too in Figure 3: valuations fell merely to an average – but not historically cheap – level during the GFC. The mean of q since 1949 is 0.71. Its value (1.11) in June 2015 was 54% above this mean – and higher than at any time since 1949 except the Dot Com mania (see also "Nobel Winner's Math Is Showing S&P 500 Unhinged from Reality," Bloomberg, 18 May 2015). In order to return to q's average since 1949, stock markets must fall by 50% (or GDP must double). In that fundamental sense, Tobin's q parallels Shiller's CAPE.

Figure 3: Tobin's "q," S&P 500, 1949-2015



Buffett's Ratio of Market Capitalisation to GDP

Warren Edward Buffett (born 30 August 1930) is an American business magnate, investor and philanthropist. He is the chairman, CEO and largest shareholder of Berkshire Hathaway, Inc. Since the early 1960s, Buffett has transformed it from a tiny, loss-making manufacturer of textiles based at New Bedford, Massachusetts

(total assets of ca. $9m and market capitalisation of ca. $6m) into an enormous, diversified and profitable conglomerate, headquartered at Omaha, specialising in insurance and reinsurance. Today, Berkshire is one of America's largest corporations: on 31 December 2014 its total assets exceeded $US525 billion, its revenue for 2014 approached $US48 billion and its net profit after tax was $US5.15 billion. In June 2015 its market capitalisation exceeded $US360 billion.

In the early 1960s, Buffett purchased half of Berkshire's shares at an average price below $10 per share; in mid-2015, the price exceeded $215,000 per share. That's a compound rate of growth of more than 20% per year for more than 50 years. As a result, for more than a decade Buffett has consistently ranked among the world's wealthiest people. *Forbes* (11 March 2009) ranked him as the world's richest person; since then, he's been one the world's three wealthiest people. In mid-2015 his estimated net worth exceeded $US72 billion. *Time* (18 April 2012) ranked him among its "100 Most Influential People in the World."

Buffett has been dubbed the "Oracle of Omaha" and "Sage of Omaha," etc., and lauded for his adherence to principles of investing which he inherited from Benjamin Graham and then extended and elaborated. Finally, Buffet is one of history's biggest philanthropists. He's pledged to donate 99% of his fortune to the Bill and Melinda Gates Foundation. For these reasons, he has routinely – and rightly – been hailed as the greatest and most influential investor of the 20th century.

When Buffett talks, it behoves investors to listen; and in July 1999, at Allen & Co.'s annual retreat at Sun Valley, Idaho, he discussed whether the overall stock market indices were attractively low, sensible or unreasonably high. *Fortune* published those remarks ("Mr Buffett on the Stock Market," 22 November 1999). In July 2000, at Allen & Co.'s annual retreat, Buffett extended and elaborated them (see Warren Buffett on the Stock Market, *Fortune*, 10 December 2001):

> On a macro basis, quantification doesn't have to be complicated at all. Below is a chart, starting almost 80 years ago and really quite fundamental in what it says. The chart shows the market value of all publicly traded securities as a percentage of the country's business – that is, as a percentage of GNP. *The ratio has certain limitations in telling*

> *you what you need to know. Still, it is probably the best single measure of where valuations stand at any given moment.* And as you can see, nearly two years ago the ratio rose to an unprecedented level. That should have been a very strong warning signal.
>
> *… For me, the message of that chart is this: If the percentage relationship falls [well below its historical average then] buying stocks is likely to work very well for you. If the ratio [rises greatly above this average] – as it did in 1999 and a part of 2000 – you are playing with fire* [italics added].

Hence what's subsequently become known as the "Buffett market indicator" – that is, the ratio of market capitalisation to Gross Domestic Product (GDP).[13] Note that its numerator is identical to q's; hence the two indicators' values will tend to be similar. Notice as well Buffett's sage observation that his recommended measure "has certain limitations." These limitations concern the ratio's denominator. Chris Casey (How GDP Metrics Distort Our View of the Economy, Ludwig von Mises Institute Daily Article, 15 May 2015) provides a very recent and very readable overview of GDP's critical shortcomings. He writes:

> GDP purports to measure economic activity while divorcing itself from the quality, profitability, depth, breadth, improvement, advancement, and rationalization of goods and services provided. For example, even if a ship – built at great expense – cruised without passengers, fished without success, or ferried without cargo; it nevertheless contributed to GDP. Profitable for investors or stranded in the sand; it added to GDP. Plying the seas or rusting into an orange honeycomb shell; the nation's GDP grew. Stated alternatively, GDP fails to accurately assess the

[13] These days, Gross Domestic Product (GDP) is much more commonly used than GNP. GDP purports to measure the total market value of goods and services produced within a country's borders. GNP, on the other hand, attempts to quantify the total market value of goods and services produced by the residents of a country – even if they live abroad. If, for example, a person or corporation domiciled in the U.S. earns income overseas, GNP would include that income but GDP wouldn't. Conceptually, these two concepts measure somewhat different things; empirically, however, the actual difference between them is not great.

> value of goods and services provided or estimate a society's standard of living. It is a ruler with irregular hash marks and a clock with erratic ticks. As proof, observe this absurdity: in 1990, Soviet GDP equalled half of US GDP, according to the 1991 *CIA Factbook*. No one visiting the Soviet Union in 1990 would believe their economy came close to 50 percent of the quality and quantity of the goods and services produced in America. GDP-defined production may have been strong, but laying roads to nowhere, smelting unusable steel, and baking barely edible breads stretches the definition of "production."

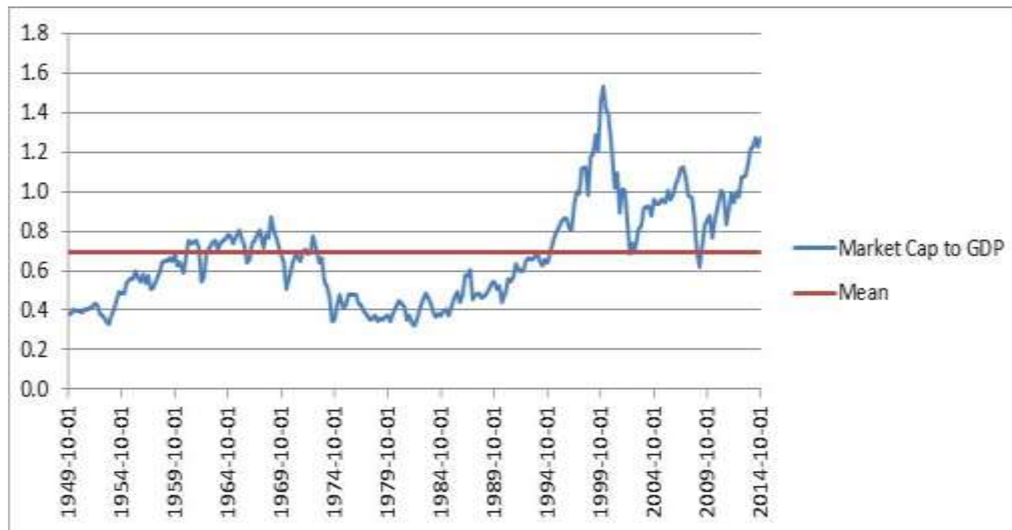
As you assess the ratio, bear in mind (a) GDP's critical weaknesses and (b) Buffett's undoubted acumen. If I understand him aright, Buffett is saying that a country's total economic output and its companies' overall valuation should over long stretches of time bear some relationship to one another. This relationship is mean-reverting rather than lock-step; hence sometimes it makes sense to exchange cash for securities and at others it's wise to exchange securities for cash.

Using data compiled from the FRED database at the Federal Reserve Bank of St Louis, Figure 4 plots the ratio of the capitalisation of U.S. stock markets to GDP since 1949. Its average is 69%. In the mid-1960s, at the height of the "Go-Go" era, the ratio exceeded 80%; in January 2000, immediately before the "Dot Com" bubble popped, it reached 155%; and in July 2007, just as the housing bubble was bursting, it touched 116%. Buffett's ratio corroborates what Shiller's CAPE and Tobin's q have already indicated: during these three times, prices in stock markets flashed "overvalued" signals. In sharp contrast, for a decade after 1974 the ratio was less than 50% and occasionally less than 40% – definitely a signal to buy. Figure 4 also reconfirms what Figure 2 and Figure 3 told us about the Global Financial Crisis: in 2008-2009, valuations didn't reach "cheap" levels; they merely returned to the historic average.

As in Figure 3, so in Figure 4: in June 2015, the ratio was 127% (it's much the same today) – higher than at any time since 1949 except the Dot Dom bubble, higher than in 2007 and 84% above its mean (see also Buffett Indicator Flares, *The Wall Street Journal*, 14 June 2015). Curiously, however, Buffett is unperturbed. Indeed, he's dissembled and perhaps even repudiated his own indicator! On 23

April 2014, CNBC reported:

Figure 4: Ratio of Stock Market Capitalisation to U.S. GDP, 1949-2015



Warren Buffett rejected the suggestion the U.S. stock market is "too frothy" right now as the major indexes re-approach their all-time highs. "I think we're in a range, and it's a big zone always, of reasonableness. But stocks ought to be higher every 10 years. There's a plough-back of earnings that goes back year after year. Stocks will become worth more decade after decade, not in any precise manner, not in an even manner or anything of the sort. But 10 years, 20 years, 30 years, stocks will be worth more than they are today."

Asked if he agreed with [funds manager] David Einhorn's warning that "we are witnessing our second tech bubble in 15 years," Buffett said he doesn't always understand tech valuations, but it's not like the period before 2001 when "you could almost sell anything and capitalize eyeballs and all of that. I don't think it's reached that point and certainly I don't think the general market level is going to bubble up."[14]

It seems to us that, when considered together with Shiller's CAPE and Tobin's q, Buffett's ratio makes much more sense than his recent comments. In Robert Lenzner's words (Buffett Wary If Ratio Market Value of Stocks Greater Than 100% of GDP, *Forbes*, 22 February 2014),

> Most stock market peaks have coincided with an elevated level for the stock market to GDP ratio. It was the way to see the dot-com bubble arriving as well as the approaching storm of the housing and credit bubble in 2008, which severely damaged the infrastructure of Wall Street. As Buffett has said, "The ratio has certain limitations in telling you what you need to know. Still, it is probably the best single measure of where valuations stand at any given moment."

The Bulls' Favourite – Because It's Overly Optimistic – Yardstick

For years, I have – sometimes in sadness, other times in anger, but mostly in glee – lampooned, mocked and lambasted academics and universities. This is because all but a doughty few denizens of arts, business and social science faculties have long championed babble and derided logic and evidence.[15] My criticism is hardly iconoclastic: Adam Smith, Dwight Eisenhower and Charles Munger, among others, have also lifted the lid on the *libido dominandi* which most academics seek to indulge.[16] Above all, and like Lew Rockwell, I regard contemporary

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[14] On 3 May 2015, in Warren Buffett Says US Interest Rates Key to Sharemarket Bubble, *The Australian Financial Review* reported "the Berkshire chairman … was asked [at Berkshire's AGM] if the US stock market to GDP ratio of around 125 per cent – a level he has expressed concern about in previous cycles … signaled the market was heading for a crash. "Stocks are selling at high prices historically, but you need to look at them in the context of rates," Mr Buffett said. "The question is how long will these rates prevail? Will we be like Japan? "At normal interest rates, stocks at these prices will look very high. But if we continue with these low interest rates stocks will look very cheap."

[15] See, for example, Allan Bloom, *The Closing of the American Mind* (Simon & Schuster, 1987); Paul Johnson, *Intellectuals*, Weidenfeld & Nicholson, 1988); and Roger Kimball, *Tenured Radicals: How Politics Has Corrupted Our Higher Education* (3rd ed., Ivan R. Dee, 2008).

[16] In *The Wealth of Nations* (1776), Adam Smith wrote:

mainstream economics and finance as a "madhouse" (see *Speaking of Liberty*, Ludwig von Mises Institute, 2003, p. 152). At the same time, however, I recognise that the mainstream's vast outpouring of dross contains a few undoubted diamonds. CAPE, it seems to me, is the most valid and reliable measure of a stock market's valuation. As such, it's the best of the three measures I've detailed here. Tobin's q is equally valid but not (because it's more difficult to estimate) as reliable; and given the severe flaws of its denominator (GDP), Buffet's is the least valid of the three. Yet Buffett's ratio – whose implications CAPE and q corroborate – is far more valid and reliable than the bulls' and the crowd's standard measure of valuation (see Figure 5).

The critical point is that three reputable measures flashed warning signals throughout 2014-2015. Each indicated that, in order to return to "fair value," major market indices must decrease – whether all at once via a sudden crash or over time through an extended bear market – by 50% or more. Alas, the crowd, abetted by "experts," ignored or ridiculed these warnings. Has the S&P 500 inflated into a "bubble"? Is it now

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"In the University of Oxford, the greater part of the publick professors have, for these many years, given up altogether even the pretence of teaching. … [More generally, English universities have] become sanctuaries in which exploded systems and obsolete prejudices found shelter and protection, after they had been hunted out of every other corner of the world. In general, the richest and best endowed universities have been the slowest in adopting those improvements, and the most averse to permit any considerable change in the established plan of education. Those improvements were more easily introduced into some of the poorer universities, in which the teachers, depending upon their reputation for the greater part of their subsistence, were obliged to pay more attention to the current opinions of the world."

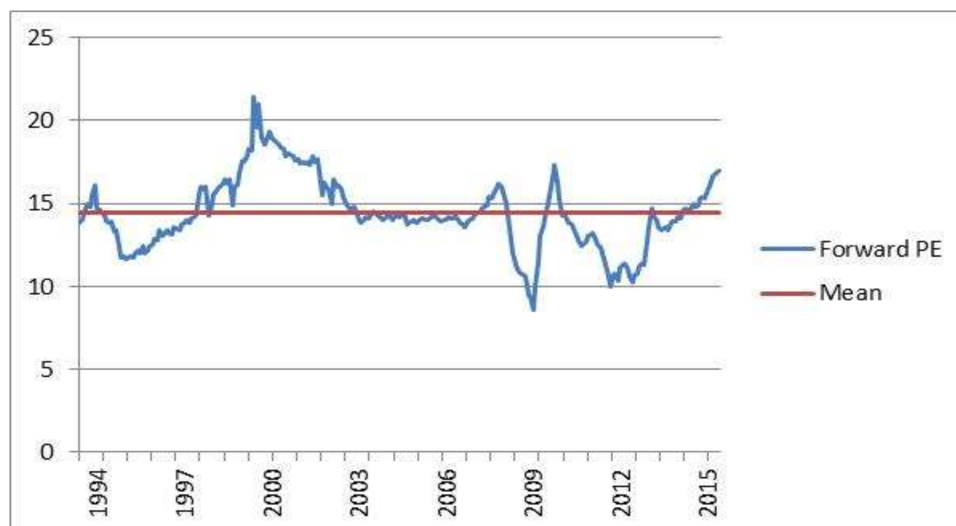
In his *Farewell Address to the Nation* (17 January 1961), which coined the phrase "military-industrial complex," U.S. President Dwight Eisenhower said: "The free university, historically the fountainhead of free ideas and scientific discovery, has experienced a revolution in the conduct of research. Partly because of the huge costs involved, a government contract becomes virtually a substitute for intellectual curiosity. … The prospect of domination of the nation's scholars by Federal employment, project allocations, and the power of money is ever present – and is gravely to be regarded. In holding scientific research and discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific-technological elite."

Charles Munger, Vice-Chairman of Berkshire Hathaway, Inc., stated in 2002: "There's a lot wrong [with American universities]. I'd remove ¾ of the faculty – everything but the hard sciences. But nobody's going to do that, so we'll have to live with the defects. It's amazing how wrong-headed [the teaching is]. There is fatal disconnectedness. You have these squirrelly people in each department who don't see the big picture."

bursting? Although plenty of people pretend that they know, nobody – myself included – does. Clearly, however, on only three occasions during the past century have valuations stretched further than they did in mid-2015 (and, broadly speaking, remain in mid-2016); further, it's uncontroversial to regard each of these three occasions (namely the New Era of the 1920s, Dot Com mania of the late 1990s and debt frenzy that began to burst in 2007) as "bubbles."

From the point of view of the financial services industry, this conclusion is anathema and therefore Shiller's CAPE, Tobin's q and Buffett's ratio are irrelevant. Never forget that, with some honourable exceptions, the financial mainstream doesn't strive to serve you: it seeks to fleece you. Financial services simply isn't like law and medicine. Attorneys and physicians strive to provide – and normally do provide – sober and sound service; in sharp contrast (and again, with some honourable exceptions), financial services' *raison d'être* is sales, and confident marketing provides their primary means. From the point of view of a salesman, it's *always* a good time for him to sell and for you to buy.

Figure 5: "Forward-Looking" One-Year PE Ratio, Australia, 1994-2015



This, I believe, is why mainstream "analysts" rely so heavily upon the one-year "forward" PE ratio. Like all PE ratios, this one has a numerator (a measure of price) and a dominator (an estimate of earnings). The "forward" ratio uses today's price (of an individual stock or level of a market index like the S&P 500,

etc.) and "forward estimates" (i.e., forecasts) of earnings during the next twelve months. Who forecasts these earnings? None other than the "experts" employed by major financial services firms! The problem isn't that economic and financial experts, considered as a whole, are very bad forecasters: *all* human beings – myself included – lack reliable crystal balls. The problem is that major financial institutions' "market economists" are hardly dispassionate: quite the contrary, they're heavily incentivised to sell their employers' products.

Unsurprisingly, market economists' forecasts of earnings are usually much too optimistic.[17] The "E" in the forward PE ratio thus tends to be too large – and the ratio too small. *Reliance upon the one-year "forward" PE, in other words, encourages market participants to overlook overvaluation, pay too much for stocks – and thus to receive much lower returns than mainstream financial salespeople lead them to expect.*[18]

Using data compiled by Bloomberg, Figure 5 plots the "forward" PE ratio in Australia since 1994. To the limited extent that they bother to justify their refrain that stocks in Australia are reasonably priced, bulls cite data such as these. Whilst perusing it, bear four points uppermost in mind:

1. Before 1994 in Australia, "consensus" estimates didn't exist because nobody compiled them. *Hence bulls, who usually comprise a majority of market*

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[17] See, for example, Robert H. Ashton and Anna M. Cianci, "Motivational and Cognitive Determinants of Buy-Side and Sell Side Analyst Earnings Forecasts," *The Journal of Behavioral Finance*, vol. 8, no. 1 (2007), pp. 9-19; Werner F.M. De Bondt and Richard H. Thaler, "Do Security Analysts Overreact?," *The American Economic Review*, vol. 80, no. 2 (1990), pp. 52-57; Lawrence D. Brown, "Analyst Forecasting Errors: Additional Evidence," *Financial Analysts Journal*, vol. 53, no. 6 (1997), pp. 81-88; and Rafael LaPorta, "Expectations and the Cross-Section of Stock Returns," *The Journal of Finance*, vol. 51, no. 5 (1996), pp. 1715-1742.

[18] According to Ted Berg (Quicksilver Markets, *OFR Briefs*, Series 15-2, 17 March 2015, published by the Office of Financial Research, a branch of the U.S. Department of the Treasury), "one-year forward" PE ratios "are potentially misleading for several reasons. First, forward one-year earnings are derived from equity analyst projections, which tend to have an upward bias. During boom periods, analysts often project high levels of earnings far into the future. As a result, forward PE ratios often appear cheap. Second, one-year earnings are highly volatile and may not necessarily reflect a company's sustainable earnings capacity. Third, profit margins typically revert toward a longer-term average over a business cycle. The risk of mean reversion is particularly relevant today, because profit margins are at historic highs and analysts forecast this trend to continue."

participants, ignore virtually all (i.e., pre-1994) financial history: it's as alien to them as the dark side of the moon. Instead, they obsess about the past 20 years – which, as Figures 1-3 demonstrate, is among the least representative and most overvalued periods in modern financial history!

2. The Australian forward PE did rise greatly during the "Dot Com" bubble of the late 1990s. *But because the series began in 1994, the egregiousness of this increase was obvious only retrospectively. At the time, "analysts" didn't perceive the resultant overvaluation; accordingly, most of them ignored or overlooked it* – and during the bust of 2000-2003 many of their clients lost much money.
3. *Those who relied upon the forward PE and ignored CAPE, q and Buffett's ratio were utterly oblivious to the approach of the GFC.* In 2005-2007, for the second time in a decade, few "analysts" in Australia perceived that anything was amiss. Quite the contrary: they babbled their usual bullish mantra that "the fundamentals" were sound, valuations were fine and hence markets would rise.[19] As a result, during the bust of 2008-2009 many of their clients lost huge amounts of money; almost a decade later, many have not yet recouped these losses.

A fourth point is that since mid-2015 the "forward" PE has been ca. 16 (versus its average of 14.8). This apparently small degree of overvaluation reassures the bulls. Shane Oliver (Where Are We in the Investment Cycle? *Oliver's Insights*, 28 April 2015), for example, reckons

> While corrections are inevitable, we still appear to be a long way from the peak in the investment cycle. Shares are not unambiguously overvalued and on some measures are still cheap, uneven and below trend global and Australian growth is extending the economic recovery cycle, monetary conditions look set to remain easy and investors are far from euphoric. So the big question is: are we at or near

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[19] Consider the ever-bullish Shane Oliver's opinion ("Economic Outlook 2008: Cautious Optimism," *Business Spectator*, 31 December 2007) about the "likely performance" of the Australian share market in 2008: "The ASX 200 [sic] share index [which closed the year at 6,342] is likely to rise to around 7,300 by the end of 2008 thanks to combination of reasonable valuations, okay profit growth and solid fund inflows. The normal signs of a major market top are still not present." Alas, Oliver – like the mainstream as a whole – was utterly blind to the GFC: the S&P/ASX 200 ended 2008 at 3,700 points – roughly half his predicted level.

> "exhaustion" for the cyclical bull market in shares? The best way to look at this is to [use the "forward" PE ratio] to assess market [valuations]. … Share market valuations [in Australia and the U.S.] are mostly okay.

Oliver drew two conclusions:

> First, while corrections should be anticipated – with Greece and the Fed being potential triggers – we appear to be a long way from the peak in the investment cycle. Second, while U.S. shares register as expensive on some metrics, this is not like 2000 when all markets were expensive. … Finally, while Australian shares should do okay this year better opportunities still lie abroad where the slump in commodity prices is not a drag on growth but rather a positive (see also "Where Will Returns Come From? The Constrained Mid-Term Outlook," *Oliver's Insights*, 20 May 2015).

Compared to Adam Carr, Shane Oliver is a paragon of prudence. In Bond Market Sends Strong Signal That Equities Retain Value (*The Australian*, 20 May 2015) Carr enthused:

> Even after the recent market slump, bonds still send a strong signal that equities retain value. That hasn't changed. *Australian stocks are still running at a 50% discount to bonds (on a bond yield/earnings yield basis), which is about double the average discount of the last decade. Not just cheap, but very cheap.* Bond yields at home — 3% on the 10-year paper — would have to rise another 3 [percentage points] before they even got close to signalling fair value in the equity market.
>
> … It's hard to see how a sustained lift in bond yields could drive a sizeable outflow from equites. It's also hard to see how lift in bond yields could be sustained. Anyway, in that unlikely event, it's more probable that any outflow would come from cash, not equities. To that extent, the recent spike in bond yields probably sends a much more important signal to investors. … [It] might best be viewed as a positive signal for corporate earnings, rather than a negative signal for

> valuations (italics added; see also Greg Ip, "It's Bonds That Are Expensive, Not Stocks," *The Wall Street Journal*, 9 May 2015).

Got that? Carr reckoned that even if Australian stocks were twice as dear as they were in mid-June – that is, if the S&P/ASX 200 index instantly doubled from 5,750 to 11,500 – they'd STILL NOT be prohibitively expensive; indeed, anything short of that, stocks are "not just cheap, but very cheap."[20] Just as in 2000 the Dot Com bulls couldn't see how the prices of tech stocks could possibly do anything other than rise, and just as in 2006 Fed Chairman Ben Bernanke couldn't see how the price of residential real estate in the U.S. could possibly fall, in May of last year Carr – and many others in the mainstream – couldn't see how microscopic rates of interest could possibly increase (see also "Bond Bulls Say World Can't Take Higher Rates," *The Australian Financial Review*, 22 May 2015). Is that because there's nothing to see – or because the mainstream's assumptions, methods and self-interest blind its adherents? *Those who accepted "expert" assurances during the late 1990s, and again in the mid-2000s, subsequently suffered grievous losses. I fear that ere long they will again do so* (refer again to Table 1).

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[20] In "It's All Relative: Australian Shares Remain Cheap" (*The Weekend Australian*, 27-28 June 2015), Carr adds: "If you're of the view that central bank pump-priming is driving up the value of all assets, and fundamentals are of less relevance, it's very clear that Australian equities … are relatively cheap [compared to] … bonds, foreign equities, gold and [real estate]." If, on the other hand you're of the view that price is what you pay and value is what you get, it's clear that central banks have greatly inflated the *prices* – but not the *values* – of most financial assets, and thereby rendered their prices prohibitively dear. Carr asks: "Investors live in a world of prolific currency debasement … So how is an investor to ascribe value to anything?" The answer is simple: by reference to venerable and absolute standards of value such as CAPE, q and Buffett's ratio. Yet Carr dismisses such standards: "on traditional metrics most assets are already at, or close to, record prices. … Yet what information content does that hold? Not a great deal … Indeed the general point that [in an absolute sense] equities, bonds and residential property are expensive is meaningless … [Under these conditions] relative value … becomes so much more important. … [Hence relative to] bonds, Australian stocks are extremely cheap."

It's easy to demonstrate that Carr's "logic" is utterly risible. Consider my ability at rugby and hockey. In an absolute sense, it's always been very poor. These days, however, it is – relative to that of my 85 year-old neighbour – superb. Does that mean that the Wallabies, Canadien de Montréal and others will seek to recruit me? Carr also conveniently forgets to mention that, despite (by his criterion) being cheaper in 2000 than since the 1980s, Australian stocks shortly thereafter (i.e., during the Dot Com bust) fell into a hole.

Booms Spawn Absurd Ideas as Well as Excessive Prices

Letter 184-187 observed: "At extreme junctures, the crowd is most prone to extrapolate the unrepresentative present into the indefinite future. The result is that the more intense is craze, the more prominent are the intellects that insist it'll last." Shiller's *Irrational Exuberance* is a notable exception to this rule. The norm is that booms tempt academics to tell punters what both want to hear; that is, just as they still for the welfare-warfare state, dons rationalise the boom. During the bust that inevitably follows the boom, the benighted return to their senses – and repudiate the silly ideas the anointed routinely champion. Thomas Piketty, *Capital in the Twenty-first Century* (Harvard University Press, 2014), is the latest example. It's been called this generation's *Wealth of Nations* (referring to Adam Smith's magnum opus), its *General Theory* (John Maynard Keynes) and today's *Das Kapital* (Karl Marx). I don't dispute the latter two characterisations – then again, I regard Keynes and Marx very poorly.

In one vital sense, I liken Piketty to James Glassman and Kevin Hassett. In particular, *Capital in the Twenty-first Century* bears more than a passing likeness to Glassman's and Hassett's book *Dow 36,000: The New Strategy for Profiting from the Coming Rise in the Stock Market* (Three Rivers Press, 2000). That book mistakenly characterised as equivalent the risks of stocks and fixed income securities, and predicted – at the top of the Dot Com mania! – that the Dow Jones Industrial Average (DJIA) would before long treble to 36,000. In its introduction, Glassman and Hassett wrote that *Dow 36,000*

> will convince you of the single most important fact about stocks at the dawn of the twenty-first century: They are cheap … If you are worried about missing the market's big move upward [since the mid-1990s], you will discover that it is not too late. Stocks are now in the midst of a one-time-only rise to much higher ground – to the neighbourhood of 36,000 on the Dow Jones Industrial Average.[21]

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[21] The Dow reached a record high of 11,750 in January 2000 and reached a low of 7,286 in October 2002. It then recovered to a new record high of 14,164 in October 2007 – and crashed below 6,500 during the first quarter of 2009. In the January 2000 issue of *The Atlantic Monthly*, Glassman and Hassett replied to a critic: "if the Dow is closer to 10,000 than to 36,000 ten years from now, we will

In what sense is Piketty's best-seller the heir to this infamous bible of the late-1990s Dot Com bubble? *Like Glassman and Hassett, Piketty depends heavily upon heroically optimistic assumptions about the return on capital that will prevail into the indefinite future.* Most importantly, he concludes that this return always exceeds the overall rate of growth of income; accordingly, he says, the incomes and wealth of owners of capital will constantly rise faster than those of the general population – and therefore that over time inequality will inevitably widen. Specifically, Piketty regards a "risk-free" rate of return of 5% on government bonds as if it were a physical constant.[22] A mass of research has revealed a very different reality: rates of return vary greatly over time and can fall well below zero; and at any given point in time, they vary across sectors, firms and households.

Early in the 19th century, British investors earned a "real" (net of CPI) return of ca. 5% from perpetual British government bonds. By the end of the century, these "Consols" yielded ca. 2%. Today's equivalent is the U.S. Treasury Income-Protected Security. Currently, TIPS yield less than 1% in real terms. *Piketty simply ignores the current landscape of real returns from stocks and bonds, and presumes – as he falsely states they've always done – that the affluent can readily find real returns of 5% on passive investments.* If only it were so! Today in North America, Europe and Japan, a conventional portfolio's stream of annual income, net of CPI, seldom exceeds 2-3% of its principal.

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each give $1,000 to the charity of your choice." Ten years later, Dow hadn't reached even half of their predicted level (its highest close in January 2010 was 10,725). Early in 2010, they conceded that they had lost their bet and donated $1,000 each to the Salvation Army.

[22] Piketty purports to identify what he calls "the first fundamental law of capitalism." The return on capital, he asserts, is a function of its value. The opposite is actually the case: a business doesn't become valuable if you pay a fortune for it; instead, if it produces high profits and dividends it becomes valuable. See also Gregory Mankiw, "Yes, r > g. So What?" *The American Economic Review*, vol. 105, No. 5 (May 2015), pp. 43-47. Piketty is flatly wrong in another sense: "capital" isn't some single, massive, homogenous blob which a parameter in an econometric equation can validly and reliably represent. "Capital" as an economy-wide whole doesn't earn a rate of return. The capital of individual companies, households and other entities, on the other hand, varies greatly over time and from one place to another; accordingly, so too, do their returns.

To put this another way, if you remove the "bubble" or paper inflation of stocks and bonds since the early 1980s, and focus upon the rise of their "real" (net of CPI) value, today's picture of capital looks quite different from the one that Piketty has painted. *In particular, if in June 2015 stocks in the U.S. traded at the same Shiller P/E ratio as they did in 1982, then the S&P 500 Index would have been ca. 600 – not its actual level of ca. 2,100, and the inequality of wealth which Piketty bemoans would (since the wealthier is the person, the more stocks she tends to own) be correspondingly less egregious.* Clearly, disagreements will permeate any discussion of inequality. What's unquestionable, however, is something that we've emphasised time and again: today's high asset prices must, as a simple matter of mathematics, diminish tomorrow's returns. Hence anybody who believes that Dow 18,000 in 2015 will produce the same long-term returns as Dow 1,000 did after 1982 is imbibing a heady mixture of heroic assumption and heady delusion.

Robin Winks (1930-2003) of Yale University has been remembered for the adage "what is most important in the study of history is what people believe to be true — that's far more important than what the good, grey historian may later prove the truth to have been." Financial markets, as Ben Graham learnt in the 1920s and Bob Shiller rediscovered in the late 1990s, reflect investors' hopes, fears and delusions. All bubbles, therefore, are partly psychological. In 2000, people eagerly bought the stock of Cisco Systems at 150 times its forecast earnings in 2001 –as well as hundreds of other stocks which had no earnings and confessed that they likely never would. People bought greedily not just because they thought these stocks actually *were* worth so much, but *because they believed other people thought so too* – and could therefore pass each hot potato to the next speculator.

What mattered about *Dow 36,000* was not so much that "conservative" economists James Glassman and Kevin Hassett (that's what they called themselves) stated that the stock market was going to treble over the next few years; *what mattered was that so many people concurred that "everybody" believed this*. Today, the success of the "progressive" (he answers to that description) economist Thomas Piketty's book suggests not merely that most people readily accept that the extraordinary bull market since the early 1980s remains securely in place, but also that tomorrow's returns will remain exceptional. Indeed, *that*

Piketty's assumptions about the future have been so widely accepted tells us that, once again, the crowd has embraced hyper-optimistic beliefs – much like the super-upbeat assumptions behind Dow 36,000 in the late-1990s. Maybe today's crowd is right. On the other hand, in retrospect Glassman and Hassett clearly weren't. And if Shiller's, Tobin's and Buffett's measures of valuation are correct, then the bulls – and Piketty – aren't.

It's Your Decision: Whom Do YOU Believe?

Table 3 summarises the conclusions I draw from these analyses. Like the bulls, I haven't received (and won't be awarded) prizes from the Royal Swedish Academy of Sciences. Unlike the crowd, however, I take relevant laureates seriously. Similarly, and like the typical bull, I'm not a billionaire and won't be fêted as the world's greatest investor. Apparently unlike most market participants, however, I consider carefully, strive to understand and faithfully practice what Warren Buffett has professed since the 1960s. (Indeed, my desire to study his thoughts and actions leads me to wonder why in key respects he has recently changed his tune).[23] Major stock indices such as the S&P 500 – and, I believe, its Australian counterpart – remain very and perhaps dangerously expensive. A year ago, had they conducted analyses such as the one in this Newsletter, the talking heads whom the media routinely calls "experts" could and should have drawn more cautious conclusions. But they didn't. A year later, their tune hasn't changed.[24]

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[23] Buffett's mostly-bullish comments on CNBC since 2013 strike me as uncharacteristically (for him) wishful thinking. They contrast strongly – even diametrically – to a passage in Mr Buffett on the Stock Market (*Fortune*, 22 November 1999): "Today, staring fixedly back at the road they just travelled, most investors have rosy expectations. … Even those who have invested for more than 20 years are expecting 12.9%. Now, I'd like to argue that we can't come even remotely close to that 12.9% … In my opinion, you have to be wildly optimistic to believe that corporate profits as a percent of GDP can, for any sustained period, hold much above 6%. … Maybe you'd like to argue a different case. Fair enough. But give me your assumptions. If you think the American public is going to make 12% a year in stocks, I think you have to say, for example, "Well, that's because I expect GDP to grow at 10% a year, dividends to add two percentage points to returns, and interest rates to stay at a constant level." Or you've got to rearrange these key variables in some other manner. The Tinker Bell approach – clap if you believe – just won't cut it."

[24] "After decent gains in shares and other growth assets since February," Shane Oliver wrote in The Outlook for Shares and Growth Assets – Short-Term Risks but 7 Reasons for Optimism (2 June

The Wall Street Journal (Stock Prices: Is "Quite High" Too High? 15 May 2015) encapsulated my stance:

> Investors are probably on solid ground if they lower their expectations for the potential returns on their stock investments when [Robert Shiller's CAPE] ratio is well above average, as it is now. Under these circumstances, it might be sensible to increase your saving rate. You also might want to build up a larger cash cushion—or make sure you can pare back your expenses temporarily … That way, you won't have to liquidate your holdings in the event of a sharp pullback. But it is riskier to look at the CAPE ratio or similar measures and conclude that stocks are so richly valued that you should sell stocks and flee to cash before prices fall … The [ability to time purchases and sales] is extraordinarily elusive. Chances are you'll get it wrong (see also Don't Count on Happy Returns for U.S. Stocks, *The Wall Street Journal*, 25 May 2015).

To select among two evil options is necessarily to choose evil. Investors across the Western world have for years occupied such an invidious position: between Scylla (namely governments' colossal, growing and untenable deficits and debt, and central banks' unprecedented efforts to supress rates of interest) and Charybdis (stocks and bonds whose prices these policies have inflated). Generations of economic and financial chickens are, I fear, coming home to roost. In response, the mainstream readily agrees that governments must balance their bloated budgets and trim their massive debts – *eventually*. They also concur, grudgingly, that major central banks must abandon their extreme experiments (NIRP, ZIRP, QE, etc.) – *sometime*. Growing numbers even concede not just that these frenzied interventions haven't worked: they also accept that such crazed measures have merely deferred large and growing reckonings into the future.

2016), "we could have a short term rough patch given risks around the Fed, Brexit, elections, etc. However, with most share markets offering reasonable value, global monetary conditions remaining easy and no sign of the much feared recession … the trend is likely to remain up"(see also "Australian shares Due for Turnaround: AMP," *The Australian Financial Review*, 4 May 2016).

Table 3: A Summary of Conclusions

Indicator	Devised/Used by	Timespan	Currently Tells Us
CAPE	Father of value investing, Nobel Laureate, successful long-term investors	1881-2015	Stocks greatly overvalued
"q"	Nobel Laureate, successful long-term investors	1949-2015	Stocks greatly overvalued
Ratio of Market Cap to GDP	One of world's richest men and greatest investor; successful long-term investors	1949-2015	Stocks greatly overvalued
1-Year "Forward" PE Ratio	Salesmen, fools, shills, people who really should know better	1993-2015	Don't fret; valuations OK

Meanwhile, they ignore or deride CAPE, Tobin's q and Buffett's ratio. That's because, deep down, they cannot admit to themselves that central banks have inflated stock and bond markets to dangerous levels.

The mainstream's wilful blindness is timeless. More than 1,500 years ago, St Augustine pleaded to God: "grant me chastity, but not yet." Today, the crowd begs to its idols (i.e., central bankers and other politicians): "let rates of interest tell the truth about time, but not now; for the 'foreseeable future,' ply us with falsely low rates and artificially high asset prices!" The mainstream insists that the bacchanalia simply *must* continue because the alternative – living within one's chastened means – is too heretical ("unfair") for the secular religion to contemplate. The majority continues strenuously to deny the truth: to receive forgiveness for our economic and financial sins, we must first confess and repent them; and to confess the sober reality of the present is to renounce the drunken fantasy of the past. *In particular, investors worthy of the name must disavow the*

destructive falsehood that massive deficits, growing debts and near-zero rates of interest are cures – and admit the plain truth that they're curses.

The American playwright, Arthur Miller, sagely wrote: "An era can be said to end when its basic illusions are exhausted." His compatriot, the legal scholar, Robert Bork, added: "One of the uses of history is to free us of a falsely imagined past." The mainstream's market "experts" and their acolytes will eventually – and, I fear, painfully – acknowledge the truth that extreme policies have caused financial markets to rise to untenable levels. To renounce the cause (poor policy) is thereby to reject the consequence (excessive valuation). Is today's uneasy calm deceptive? I believe it is. When will the storm resume? I wish I knew. What's clear, from analytical as well as historical points of view, are today's extremes of overvaluation – as well as governments' and central banks' increasingly overt, unapologetic and frenzied attempts to maintain an indefensible *status quo*. In response to these extremes, I've tempered my expectations but – because sanity must eventually return – refuse to lower either my standards or spirits. This stance recalls G.K. Chesterton. A cynic once remarked to the British novelist and essayist: "Blessed is he who expecteth nothing, for he shall not be disappointed." Chesterton retorted: "Blessed is he who expecteth nothing, for he shall enjoy everything."

Chris Leithner