

INTRODUCTION

During the last two decades of the twentieth century the economies of the West generally, and the United States particularly, saw significant reductions in inflation and economic volatility, a phenomenon that has been labeled the Long Boom.¹ That decline in the cost of capital caused a one-time increase in the real value of assets. Households responded to the windfall by spending more and saving less, since the more each dollar of savings appreciates the less one needs to save to grow one's net worth.

The Long Boom glided to an end in 2000, at roughly the zenith of the great equity bubble. Even if equity markets had been reasonably priced at the time, the waning of the Long Boom meant that we would have had to reconcile ourselves to lower expectations for future asset returns. As it was, the end of the Long Boom coincided with a tremendous correction in the equity markets. This could have been a wake-up call to a Baby Boomer generation whose retirement had been predicated on unsustainably high asset returns. And indeed, there was a tentative tick upwards in the savings rate in response to plunging equity returns. However, even as the stock market crashed, a strong housing market became a full-fledged bubble thanks to a final push lower in interest rates, allowing people to resume their dis-saving behavior. In the United States, the result is a negative savings rate even as personal wealth stands at all-time highs.

But in 2007 the housing bubble is deflating, and we have begun a post-Long Boom phase that can be called the Long Goodbye. In this new phase, although a cautious optimist can hope that the gains of the Long Boom will be consolidated, it is unrealistic to believe that interest rates and economic volatility will fall further from their current low rates. It is also unlikely that the rate of increase of corporate profits and global growth, which are at all time highs and push against demographic, political, and inflationary barriers, will grow further. Since prices on stocks and property fully reflect the expectation that all these factors will continue their positive trajectory, returns during the Long Goodbye will be lower – perhaps half as much – than those of the Long Boom.

Faced with these facts, people must choose some combination of working longer, consuming less, and compensating for lower expected returns with greater leverage. It would be prudent to lower our expectations for returns and accept the need to work longer and consume less. But the reaction so far has instead been to increase financial leverage significantly. The market thus grows increasingly vulnerable to exogenous shocks that would require a painful de-levering and consequent reduction in liquidity.

¹ The phenomenon has also been called the “Great Moderation.” The term “Long Boom” is taken from John Taylor, *e.g.*, “The International Implications of October 1979: Toward a Long Boom on a Global Scale.” For ease of exposition, much of the analysis in this quarterly letter will focus on the US economy, though the general points hold across most developed economies, subject to the usual complexities and nuances.

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This is not a story about the end of low interest rates and low economic volatility. It is a story about the end of the Long Boom of lower interest rates and lower economic volatility, and the choices that are entailed. If the world chooses to increase risk instead of accepting lower returns, then macro managers must position themselves accordingly.

THE LONG BOOM

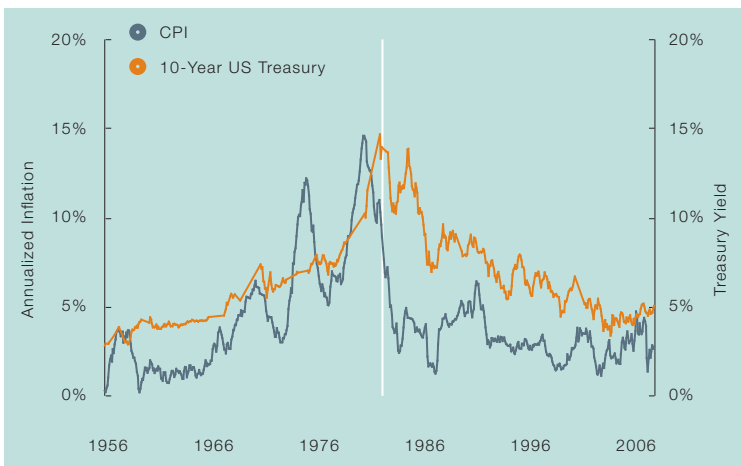
They say every good story begins *in medias res*, in the middle of things. Our story begins in 1982. From the perspective of that time, what beliefs would one have held about the US economy, inflation, and growth?

On the inflation front, an optimist might have predicted that the Volcker Fed would succeed in reducing inflation to the levels of the 1950s and 1960s. But a less sanguine view would have been that we had entered a “new era” of structurally higher inflation. Indeed, this was the view of the bond market at the time as evidenced by long-term interest rates.

From a growth perspective, one would have expected that the economy would soon cycle out of recession. But at the same time, long historical experience would have suggested that such recovery would be followed by another recession in five years or so, with the economy contracting a percent or two before staging another recovery. The business cycle was just one of the facts of life.

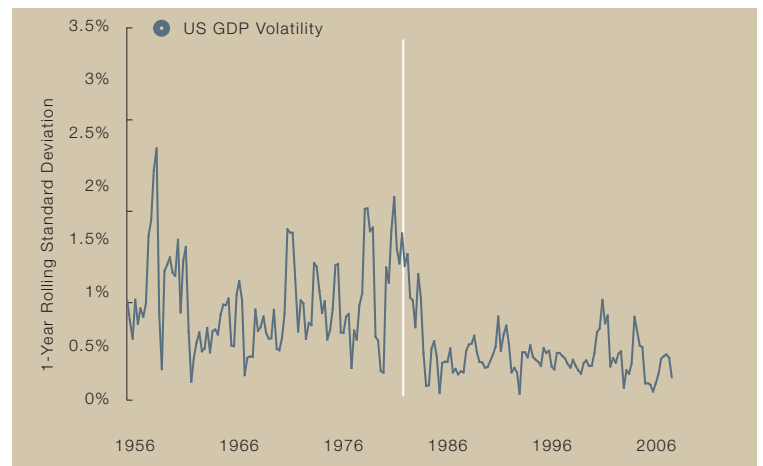
What followed was far better than the market expected.

Fig. 1a Inflation In Check



Source: Bloomberg

Fig. 1b US GDP Volatility Has Waned



Source: Bloomberg

A full analysis of the Long Boom phenomenon would require another essay, but in brief we can highlight two main causal factors that have been cited:

1. Monetary policy improved substantially. Inflation was kept in check, and keeping it in check over time lowered inflation expectations. Not only did this reduce the level of inflation, it also reduced its variability.
2. Output variability declined substantially. Among the reasons for this were better monetary policy (allowing for more stable planning), improved technology (leading to, *e.g.*, better inventory management), and a shift away from the more volatile manufacturing sector towards the more stable services sector.

While the benefits of the Long Boom have persisted, the rate of improvement has been essentially zero since the end of the last decade. Inflation fell to a point beyond which further declines would have risked *deflation* – which percent for percent carries the greater risk.² And while economic volatility could theoretically have declined further, it could not have gotten substantially closer to zero, as a certain amount of volatility seems to be as inherent in the macroeconomy as it is in life generally. These constraints mean that while things are staying good, they have not been getting better.

Nevertheless, it is the nature of markets to project the present into the future. When things were bad in the 1970s, markets expected them to stay bad or even get worse. As things got better in the 1980s and '90s, markets extrapolated the gains forward into the future. Eventually, the euphoria culminated in a massive equity market bubble.

Now, five years into a rally, many equity markets have surpassed their bubble-era peaks and the temptation is to conclude that the very good times will continue. But it is crucial to understand the broader context of how the shift in the macroeconomic environment from “bad” to “good” during the last two decades of the twentieth century caused an enormous gain in the value of all assets that will not be repeated, even if the current benign environment persists indefinitely.

EFFECT OF LONG BOOM ON ASSET VALUES AND MARKETS

The fundamental value of any cash-generating asset is the sum of all the cash that its owner will receive discounted back to the present. To value any particular asset (*e.g.*, a particular stock or a particular piece of property), its specific future prospects must be analyzed in detail.

² Indeed, as inflation was hitting its nadir in 2002, Ben Bernanke offered his famous “helicopter money” speech, suggesting how the Federal Reserve he would ultimately govern could avert the sort of dangerous deflation that had gripped, for example, Japan. [Deflation, Making Sure “It” Doesn’t Happen Here.](#)

But when analyzing the value of an entire asset class (e.g., all stocks in an index or all commercial property in a region), the calculation can be simplified into a perpetuity with the following form:

$$\frac{CF}{r - g}$$

where: CF = Cash Flow
 g = Growth
 r = Discount Rate

And each of the variables can be analyzed as follows:

» CASH FLOW

Is the current level of profits or cash flow normal? If we are at a cyclical low or high then the current level must be normalized.

» GROWTH

What long-term, sustainable growth rate of cash is to be expected? This can be disaggregated into two factors:

- GDP growth rate
- Profit share of GDP

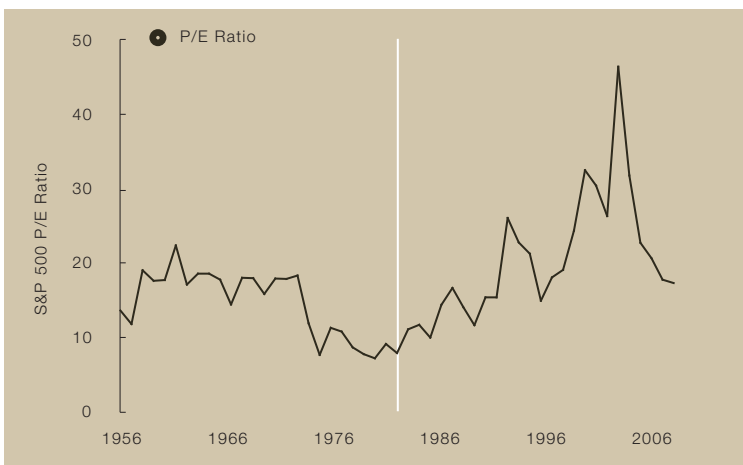
» DISCOUNT RATE

What discount rate should be applied to all future profits? This can be disaggregated into three factors:

- Opportunity Cost – the foregone real returns from a readily available safe asset (e.g., TIPS)
- Inflation – the rate at which the value of money decreases over time
- Risk – the compensation required for the uncertainty associated with the expected variance of returns³

The Long Boom lowered the discount rate substantially by reducing both the future rate of expected inflation and the expected variability of output, i.e., the length and depth of recessions. The effect can be seen by comparing the valuation expansion of bonds, stocks, and property over the time period. Because future cash flows were discounted at a lower rate, the real value of assets increased, creating a windfall gain for investors.

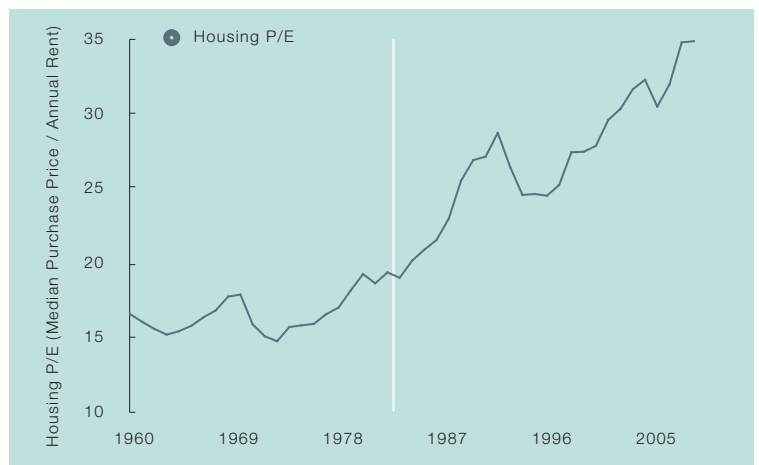
Fig. 2a US Stock Valuations



Source: Bloomberg; OFHEO; BLS

US equity valuations crested in 2000, then fell, although they remain substantially richer than at the start of the Long Boom.

Fig. 2b US Housing Valuations



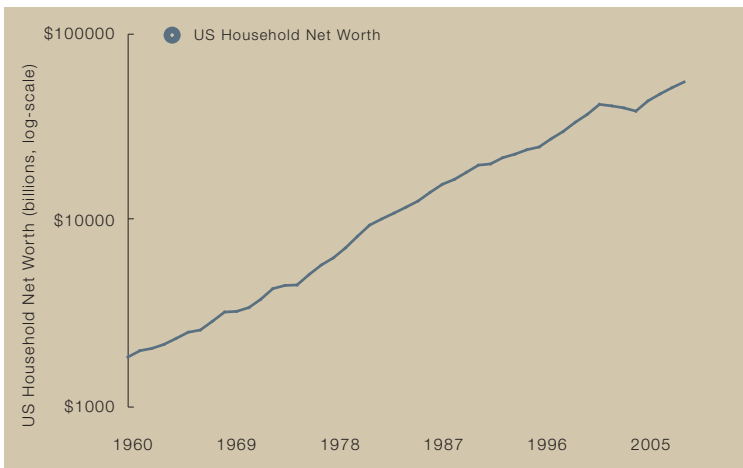
Source: Bloomberg; OFHEO; BLS

US housing valuations, also beneficiaries of the Long Boom, took six years longer to crest and remain at significantly elevated levels.

SAVINGS AND HOUSEHOLD WEALTH

Milton Friedman taught us that the typical household tries to smooth consumption over time by maintaining a “permanent income” within reasonable parameters.⁴ To do this, a household strives to maintain a healthy financial balance sheet over time. When one looks at the rise in household wealth over the last several decades, and then compares this to the savings rate overlaid with the return on assets due to the Long Boom, a striking fact becomes apparent. Households essentially substituted the higher return on assets for savings from current income in order to maintain the same constant rise in net worth.

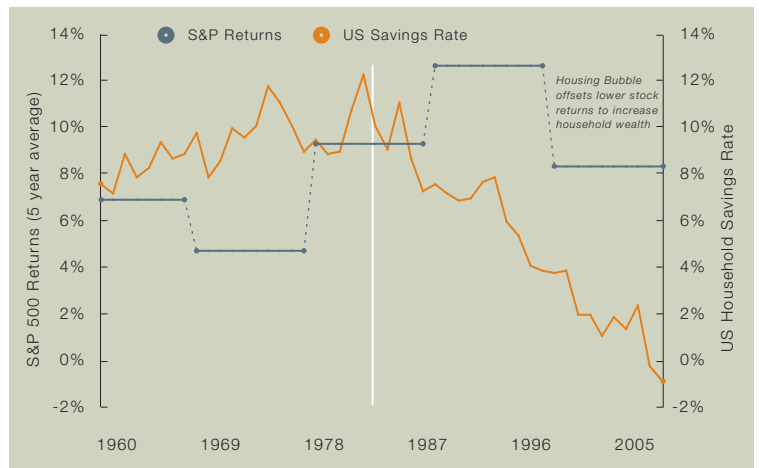
Fig. 3a US Household Net Worth Has Grown Steadily



Source: Bloomberg; Federal Reserve

In this log-scale graph, a constant slope reflects a constant annual percentage increase in net worth. Note the period from 2000-2002; net worth decreased due to the bursting of the equity bubble, then resumed its upward course as the housing bubble inflated.

Fig. 3b US Savings Fell As Returns Rose



Source: Bloomberg; Federal Reserve

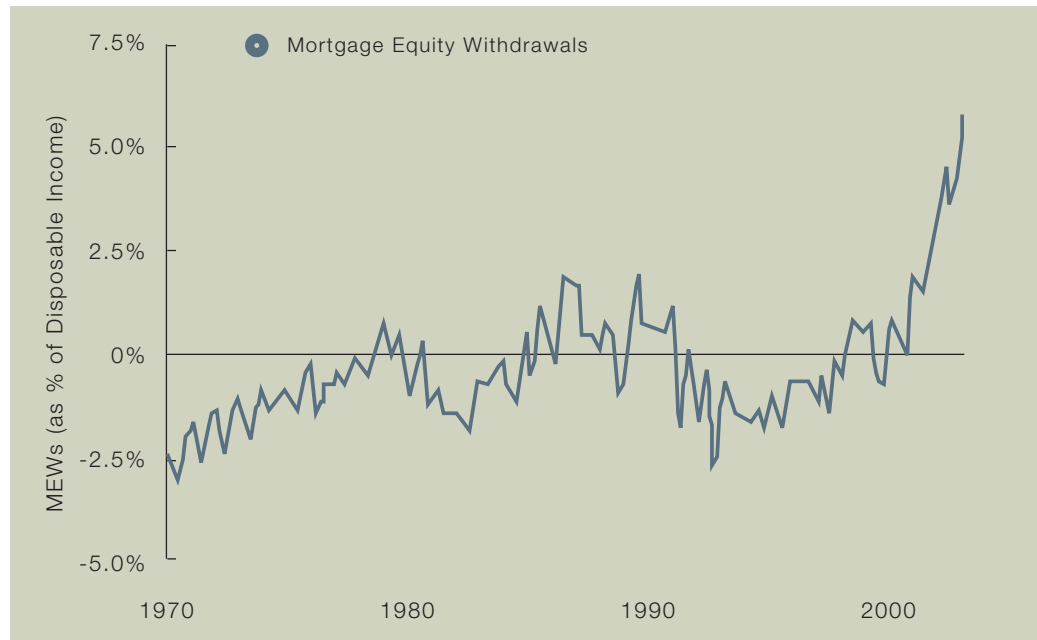
With the end of the Long Boom came the end of the source of windfall profits in assets from the steady reduction in the cost of capital. Thus all things being equal (we will revisit this *ceteris paribus* assumption below) in order for households to maintain the relatively smooth rise in net worth that had been achieved over so many years, one would assume that it would be necessary to start saving a larger proportion of current income.

Look closely at the graph of the savings rate and you can see that the savings rate appears to start to stabilize and even increase slightly at around the same time the Long Boom ended in 2000. But then it plunges firmly into negative territory! What can explain this? The answer is simple: houses saw an extraordinary rise in value, fueled by the ultra-low interest rates during 2002-2004. This allowed people to tap into their houses as a source of funding in an unprecedented manner.

³ This is a simplification of what drives financial risk for either an individual asset or an asset class. To be more precise, the amount of compensation required for risk depends on the degree to which returns are expected to co-vary with the opportunity cost associated with the market return; any future cash that an asset returns when cash is easier to come by should be discounted more heavily at a higher rate (*i.e.*, is worth less) than cash returned by an asset when cash is harder to come by.

⁴ Friedman, Milton, *A Theory of the Consumption Function Princeton*; Princeton University Press, 1957.

Fig. 4 US Mortgage Equity Withdrawals As A Percentage of Disposable Income



Source: Federal Reserve

At this time of writing it is common knowledge that the housing bull market became a bubble, and that the bubble has since burst. Less commonly appreciated is the extent to which the housing bubble substituted for savings as a source of consumption.⁵ Yet once one understands the historical context in which housing substituted for savings early in the decade, it becomes clear that the housing bubble was a temporary means to stave off the transition from the Long Boom of windfall gains to the Long Goodbye of lower expectations.

WHITHER FUTURE PROFITS?

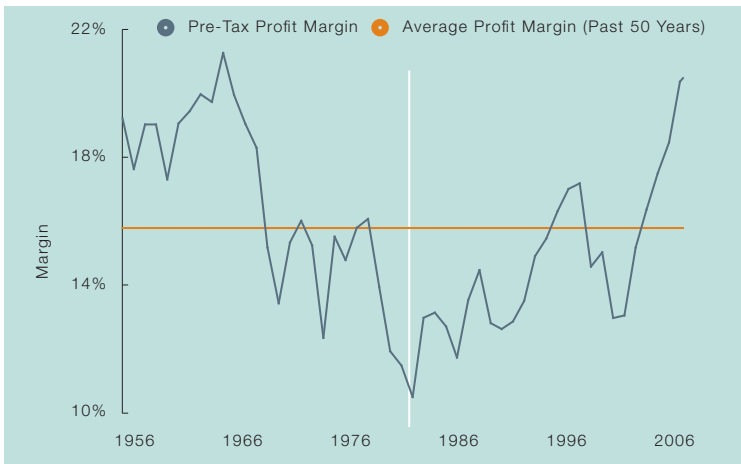
We have so far left out a crucial part of the analysis. Perhaps future profits will be even higher than current expectations, enabling the windfall gains to continue. Regarding stocks, for example, although the discount rate is unlikely to go any lower, perhaps current valuations can still expand due to growth? For this to be the case, at least one of the following must be true:

- » Current profits are at a cyclical low (and thus can be expected to revert to a higher level)
- » Profit margin growth will accelerate to a sustainably higher level
- » Economic growth will accelerate to a sustainably higher level under benign conditions

⁵ The point was not lost on Alan Greenspan, however. [Remarks by Chairman Alan Greenspan at a Symposium Sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming.](#)

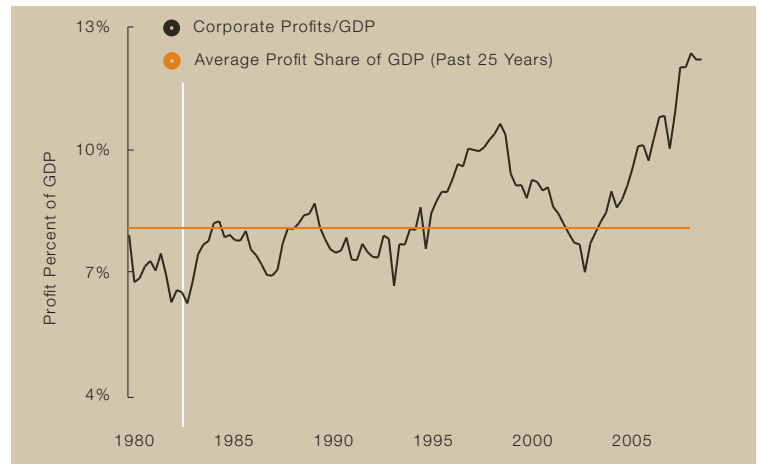
With respect to corporate profits, they are certainly not at a cyclical low; rather, they are at an all-time high both as a percentage of GDP and of revenues. Whatever the future prospect of profits, they cannot be expected to mean revert to a higher level.

Fig. 5a US Corporate Profit Margins Are At Historic Highs



Source: Bloomberg; Federal Reserve

Fig. 5b US Corporate Profit Margins As % of GDP Are Also At Historic Highs



Source: Bloomberg; Federal Reserve

Can corporations maintain (or even expand) their historically high profit margins? Perhaps, but it would surely be a very strange world where this occurs. High profits attract the attention of workers and governments. Whenever the political winds shift favorably, labor will bargain for a greater share of corporate profits in the form of wages. If necessary, labor will use the power of government to tax those profits into the public domain.⁶ It would require a sustained repression of the working class to keep profits at their already abnormally high level, let alone to increase their level. Such a world might well be unstable, carrying the seeds of its own destruction.⁷

The last, best hope that future equity returns of the western world can match those achieved during the Long Boom rests with the argument that global growth will maintain its current high level or even accelerate. The argument can be summarized as follows: Emerging market countries for both demographic and policy reasons will be able to maintain their current, high growth rates for many years. In particular as China (and India to a lesser extent) becomes a larger and larger part of the world economy,

⁶ It is worth noting that if labor does succeed in claiming a greater share of profits, this would help offset the additional savings adjustment that would be required by the downward shock in equity returns that would presumably result.

⁷ Warren Buffet has also expressed skepticism that profit margins can remain elevated: "You know, someone once told me that New York has more lawyers than people. I think that's the same fellow who thinks profits will become larger than GDP...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% [its average upper bound from 1929 to 1999]. One thing keeping the percentage down will be competition, which is alive and well. In addition, there is a public-policy point: If corporate investors, in aggregate, are going to eat an ever-growing portion of the American economic pie, some other group will have to settle for a smaller portion. That would justifiably raise political problems – and in my view...just isn't going to happen." *Fortune* (November 22, 1999).

the worldwide growth rate will be sustained or even increase. If one assumes that the companies of the western economies in aggregate will grow revenues roughly in line with worldwide GDP, a faster long-term worldwide growth rate implies a higher deserved multiple.

The argument is seductive, partly because its message is so positive, partly because current conditions are so favorable that it seems plausible to project the present indefinitely into the future. But a closer look reveals two problems with the argument.

First, such top-line expectations will be hard to fulfill. The story of developing economies raising worldwide GDP growth over the long run assumes that the western world maintains its historical growth rates. However, the demographics of the aging Baby Boomer population imply that the western economies will be fighting an uphill battle to maintain the growth rates they attained while the Boomers were in their prime working years. Because fewer people as a percentage of the population will be working over the coming decades, the productivity of a smaller proportionate working class will need to accelerate just to grow at the same pace.⁸ The more likely outcome is that the sustainable growth rate of the western economies will ebb somewhat over the coming years.

Second, there is the very real risk that the high growth of the emerging markets will create inflationary pressures, a possibility that Ben Bernanke, for example, has recently raised.⁹ The growth of the emerging markets requires access to ever larger pools of physical resources that are at best not easy to expand and, in the case of oil, is at risk of contracting;¹⁰ these resource constraints are a source of inflation. China's decision to peg the renminbi at low levels presages another future inflationary force. So far, China's growth has been deflationary in net terms because export prices and (Chinese) purchasing power have been constrained by the peg. But as the renminbi moves closer to its true value, these constraints diminish. Chinese export prices will rise at the same time that Chinese import demand will increase, and China's influence will become more inflationary. We believe that central banks are well aware of these inflationary forces and will vigorously fight against them; the consequence is that long-term global growth is likely to be more constrained over the long term than is widely appreciated.

If the outlook for the future of equity returns matching the past is dubious at best, the outlook for future property returns is decidedly unimpressive. What profits are to stocks, rents are to property. Assuming investor expectations for the cost of capital and future growth do not change, the best long-run return investors can expect from property is the current rental yield plus the growth rate of rents. (Note that this is true even for property that is lived in and not rented; any house that is owned could be rented, and therefore the value of a house as an asset is the present value of the rent it could earn.) Both household and commercial rental yields are at a low level around the world, and many countries find themselves facing the same sort of housing problems afflicting the United States. These facts counsel against high expectations for property returns at this point.

⁸ Over the past twenty-five years, productivity growth has been strong; however, productivity growth in the United States has come under pressure and the IMF has expressed concerns over the impact of decelerating gains to productivity and economic growth. [IMF Survey Vol 36, No. 6](#).

⁹ [Remarks by Chairman Ben S. Bernanke at the Fourth Economic Summit, Stanford Institute For Economic Policy Research](#).

¹⁰ For a discussion of energy supply constraints and their implications, see Clarium's [Crude Approximations](#).

SAVINGS NEEDS OF BOOMERS – NO EASY SOLUTIONS

Lower expected returns from the end of the Long Boom require households to make some difficult decisions about saving that, until now, a massive housing bubble had held in abeyance. Estimating long-term savings needs is a difficult task, as small changes in assumptions can result in very large differences in the final answer. However, the very difficulty of the task gives us a critical clue to how people will react to lower asset returns than they have seen in the past. There is a large body of research that suggests people deal with difficult tasks with simple heuristics.¹¹ Since it is difficult to estimate one's long-term savings needs, it is reasonable to assume that the common heuristic is to decide upon a rate at which to grow one's household net worth and then to manage one's income and savings around that rate, assuming a long-term return on savings derived from historical experience.

If households lower their long-term expectations regarding what they can earn on their savings, we might expect households to shift their long-term behavior accordingly. But high expectations do not die easily, and some have suggested that our current lifestyle can be maintained because our problems will be solved for us. It is important to be clear why the commonly cited “easy solutions” – the depreciation of liabilities through inflation and the search for yield in emerging economies – in fact do not solve the problem at all.

Could western countries improve their net position by allowing higher inflation to depreciate future liabilities? The obvious problem with the inflationary solution is that the assets would depreciate at least as much as the liabilities! If inflation occurs, it will exacerbate the situation, not ameliorate it.

As we have seen, it is unlikely that developing economies can raise the global growth rate, but perhaps investing directly in emerging markets will produce higher returns that will alleviate our future savings needs? There are two problems with this idea. First, while they will surely grow over time, emerging market assets are only a small fraction of the investable universe; for example, emerging market equities account for only about a fifth of the world's stock market capitalization.¹² These markets are simply not large enough to absorb the savings of the western world and given this, even at a fairly high rate of return, what assets they can absorb cannot make a meaningful difference. Second, emerging markets are no longer cheap. For example, if we calculate an average P/E multiple of the stock markets of the so-called “BRIC” countries (Brazil, Russia, India and China) that is weighted by their respective market capitalizations, we get a value of 19.8, which is higher than most western markets.¹³ In the past such emerging markets have traded at a discount to their western counterparts because of their higher risk. It may be true that we have entered a new era of higher growth expectations that overwhelms the higher risk, and certainly that has been the right trade over the past several years. But everything has its price, and the gains to date have been so great that the current cost appears to capture fully the potential benefits.¹⁴

¹¹ See, for example, Tversky & Kahneman, “Judgment Under Uncertainty: Heuristics and Biases,” 185 *Science* at 1124-1131.

¹² [S&P World By Numbers](#).

¹³ Average BRIC P/E was calculated as of July 31, 2007, by dividing the US dollar market capitalization of each index (Bovespa, RTS, Sensex, and Shanghai Composite) by its P/E ratio, and then dividing the resulting total by the summed market capitalizations of the indices.

¹⁴ Nor will interest rates provide further tailwind: with the exception of Brazil, BRIC real interest rates are already quite low.

THE REAL CHOICES

Current savings are inadequate to meet future needs. Fundamentally, there are precisely three ways to deal with this reality, each of which has profound consequences for investors.

Work Longer

Life spans have expanded substantially during the last century and continue to lengthen, yet people's expectations of their retirement age have not changed. One way for society to deal with the lower return on assets, and the lengthening old age those assets must support, is for people to retire later in life. Only time will tell if we collectively decide to push out our retirement; so far there is no evidence that this is occurring.

Save More/Consume Less

If each dollar of savings will earn less, yet people do not want to work longer to earn more dollars, then more dollars will need to be saved from current income. In the US, a return to the post-World War II average savings rate of about 7% would be a shift toward less consumption and more investment on a massive scale. Presumably this shift would occur over a long period of time, since people's consumption patterns are unlikely to change radically over short periods. But over many years, if we consume less of our income we will have more savings. For now, such frugality is nowhere to be seen.

Increase Leverage

It is human nature to want to avoid working more or consuming less. Isn't there some way to have our cake and eat it too? Yes, in fact there is – although the diet could turn out to be distinctly unhealthy. If one's saved assets are destined to earn less, one can simply lever up those assets to garner a higher return.

In a deep sense, this is the logical and tragic consequence of the end of the Long Boom. During the time when inflation and volatility are falling, asset prices gain in value even though the future trajectory of inflation and volatility are difficult to predict. As inflation and volatility maintain lower levels for a long period, market participants gain greater and greater confidence that the rate of change has permanently slowed, and therefore they use more and more leverage.

From the perspective of individual actors, such as households, pension funds, banks, and asset managers, increasing leverage appears rational. However, the collective consequence of the activity increases risk for everybody as each dollar is levered again and again. (The consumer levers the house and hopes the pension fund will take care of retirement, the underfunded pension plan sends the retirement assets to a fund-of-funds that levers the proceeds and invests them in a hedge fund, the hedge fund levers those proceeds and buys subprime debt from a bank, which can then extend more credit to the consumer, and so on.)

The risk from compounding leverage is an erosion of lending standards and a greater chance of a systemic unwind. As lenders compete in an environment of rising leverage, their underwriting requirements often relax (a particularly thorny problem when it comes to illiquid collateral). Watered-down loan covenants preceded the LBO crunch of the 1980s; today, it seems a similar contagion has crept into the market for subprime and other exotic mortgage loans and the debt used to finance private equity deals.

And where leverage is used with liquid assets, trades become “crowded,” because risk controls force all participants to sell simultaneously in the event of greater than expected losses. Structurally, the entire financial system becomes predicated on the ability to absorb more and more leverage in order to function, since a decrease in leverage faster than the increase in real money constitutes a form of forced selling.

Most investors participate in this collective levering up of the financial system without understanding what is happening and why. Successful macro investing therefore requires understanding the limits to the leverage the system can absorb, and what parts of the system are vulnerable to sudden de-levering.

LIMITLESS LEVERAGE?

The following table – which is not meant to be exhaustive – lists some of the major vehicles for transmitting leverage to the financial system and categorizes them by whether their influence appears to be decreasing, steady or increasing:

Ability to Transmit Leverage		
Decreasing	Steady	Increasing
Residential Mortgages	Commercial Mortgages	Basel II
Leveraged Buyouts	Corporate Share Buybacks	Hedge Funds / Funds of Funds
CDOs	Investment Banks	Mutual Fund Shift to “130/30” Structure
	Yen Carry Trades	

Some parts of the leverage system are fading rapidly. The collapse of the housing bubble clearly reduces the ability of consumers to take on risk through the mortgage market. Leveraged buyouts appear to be reaching a zenith as the extremely lax lending standards (*e.g.*, “covenant lite” loans) of the first half of 2007 are beginning to tighten. The mounting losses on subprime loans are leading to a sea-change in the scrutiny of all CDOs, which has greatly reduced the current demand for such structured finance.

Turning to the “steady” column, while the demand for commercial mortgages may wane as a consequence of the intense scrutiny of all CDO products, it is too early to say for sure whether this has happened. Although at this time of writing there is concern about the prospects of a few investment banks, so far as a group they continue to prosper; only time will tell whether they will collectively need to decrease their risk levels or be unable to create new financial instruments. Corporations continue to re-lever their balance sheets and repurchase their own shares, although to the degree that corporate spreads widen (and LBO activity subsides) this activity may wane. Finally, although there have been bumps in the road from time to time, yen carry trades show no permanent sign of abating. Perhaps these vehicles will inject more or less liquidity into the system; for now, one can cautiously say that they appear to be running at a fairly steady rate.

At this time of writing it is unclear whether the credit storm gathering around US mortgages will subside peacefully or gain strength. If we assume that the storm passes uneventfully, then the immediate future of leverage depends on whether there exist means sufficient to offset the very significant de-levering in housing, structured finance, and the LBO cycle. The amount of leverage required to do this is substantial. Net home mortgage debt is poised to grow by about \$600 billion in 2007, some \$300 billion less than 2006's rate.¹⁵ LBOs dealflow of about \$350 billion in the first six months of 2007, also appears set for contraction.¹⁶

Large as such de-levering may be, there is the remarkable possibility that other sources of leverage may be able to offset those losses. The implementation of Basel II could allow a significant gearing up of bank balance sheets by reducing capital requirements an estimated 7-11% for large Western banks, implying a leverage increase of several trillion dollars.¹⁷ Hedge funds continue to increase assets under management (roughly \$2 trillion at last count), which represents a significant gain in share of a more highly leveraged asset class over mutual funds and their ilk. In an effort to compete, many mutual funds are responding by stretching their mandates to create a new "130/30" structure (*i.e.*, 130% long and 30% short), which is up to 1.6x the leverage of a plain-vanilla 100% structure.¹⁸ Given that mutual funds represent some \$12 trillion of assets in the US alone, the potential for this to increase leverage is quite significant.

So far we have only considered the actions of consumers, investors, and corporations. But we must remember that governments control a significant share of the economies of the western world. The Long Goodbye requires difficult choices, yet politics by nature tends to avoid the difficult choices involved in balancing taxing and spending. Trends during the Long Boom helped governments avoid the hardest choices as funding costs fell along with interest rates and rising wealth boosted tax receipts. As these trends wane, governments may rely more heavily on the easy path of deficit financing, pushing off the hard choices as long as possible.

Leverage is not the financial equivalent of the perpetual motion machine. One day there will be a reckoning. Our job is to anticipate how and when the reckoning can occur, and in the meantime to allocate capital to the best risk/reward profiles.

CONCLUSION

The gains of the Long Boom are likely to last; central banks will probably continue to act responsibly, and the favorable economic shifts that have led to a more flexible and less volatile economy appear to be robust. But there are no significant future gains to be had in lowering the cost of capital and good reason to believe that neither growth nor profitability will rise from their current high levels. In the absence of further progress, assets must earn far less in the future on an unlevered basis than they have in the past. Savings are not high enough to meet future needs given the returns one can reasonably

¹⁵ Bloomberg; Federal Reserve; Clarium estimates.

¹⁶ CapitalIQ.

¹⁷ [BIS Results of The Fifth Quantitative Impact Study](#).

¹⁸ In theory, one could argue that a margined long position that is funded by an exactly offsetting short position results in no net leverage. In practice, shorts and longs never exactly offset, and net leverage results.

expect. Some combination of more work, more savings and more leverage will be needed to make up the difference. This macroeconomic context is what we call the Long Goodbye, a time of lower expectations in the western world.

What mental model can we use to conceptualize the long-term implications of this new phase? Consider the following diagram:

Fig. 6 The Shape Of Things To Come



Saving is plotted along the x-axis to represent the degree to which we consume today rather than save for tomorrow; along the y-axis, we plot asset valuations to represent the collective assessment of how well off we are. Intuitively, we understand that there has been some kind of relationship between how much we consume and how prosperous we feel. As saving gives way to consumption, we feel more prosperous, both because we consume more and because the economy expands to provide us the goods we consume. As consumption gives way to saving, we feel poorer, both because we consume less and because the economic resources devoted to satisfying our consumption are idled.

The Long Boom and subsequent housing bubble has pushed us backwards and upwards; we have saved less than we need (the current US savings rate is -1.4%), but we have felt more prosperous. We understand intellectually that in the long run we will be better off if we move forward (to the right) in our savings behavior; yet in the short run, declines in consumption feel like declines in prosperity.

What path will we collectively take? And is it true that our only choices lie along this downwardly sloped line?

We have argued that further leverage lubricates the path of least resistance. We can continue to lever up (and to the left) until an exogenous shock makes us reverse course.

Unfortunately, such a shock will probably be impossible to foresee and until then, it will appear to the untutored eye that things have never been better. Such a world favors looking around corners to anticipate signs of the inevitable reversal. Fading crowded trades where fundamentally justified, along with equity market short positions and the judicious use of options at times when markets are most complacent, must form an integral part of a portfolio strategy.

Less pleasurable in the short term, but more favorable in the long term, is the scenario where we move downward and to the right – *i.e.*, consume less and save more. Absent a major reordering of the economy, this is the path along which we must ultimately travel. If we also collectively work longer, then the slope becomes gentler as we produce more, with years of added labor moderating the sacrifice of consumption to saving, as shown by the heavily dotted line. In this scenario, Western economies will reallocate resources away from discretionary consumption and towards investment and exports, with alert macro investors capitalizing on the shift.

While these represent the range of conventional outcomes, the progress of globalization considerably broadens the possibilities. This was one idea explored in Clarium's most recent essay.¹⁹ If the objections raised to the most optimistic claims of globalization are untrue, and in fact the world can grow faster and longer than it has ever done before, then perhaps the path to virtue will be easy. If globalization proceeds quickly enough, higher savings can be accompanied by the same levels of prosperity to which we have become accustomed, even in the very short run. Although we think it unlikely that we will achieve that combination, we cannot rule it out. In such a case, presumably all growth investments will prosper, and just this once, the Cassandras can safely be disregarded.

Theoretically possible, although terrible to conceive, is a world that occupies the lower left quadrant. A severe deflation – possibly caused by an exogenous catastrophe – causes our savings to become depleted and asset valuations to crash. Perhaps the closest the modern world has seen to this dystopia was the Great Depression, and we know the terrible price that was paid to extricate ourselves.

Finally, it must be acknowledged that over the short run – which could last a few years or longer – we may simply stay in the same spot. For investors with short time horizons and strong stomachs, the consequences of the Long Boom's end can be ignored, and the party can continue. But we would still advise that caution is warranted. It may take some time, but one way or another, in the Long Goodbye the bills must be paid.

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¹⁹ Clarium's The Optimistic Thought Experiment.