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What Signals Worked and What Did Not 1980–2009 Part II

Continuing the series of articles reviewing prediction signals in current market conditions

This column is the second in a series of three columns that review various prediction signals and how they performed for different asset classes, but focusing on the equity markets. In many, but not all, cases the signals, such as the bond-stock earnings yield differential, my T-measure of relative put and call options prices, Buffett's stock market to GDP measure, the January first five days and all of January indicator, sell in May and go away, and the VIX volatility index, were very useful and accurate in predicting subsequent market declines and rises.

Also, some short-term anomaly indicators, such as options expiry, turn-of-the-month and year, holidays, etc., have had predictive value.

As I write this, in June 2009, the S&P 500 has had a slow but steady climb from its March 666 low to the 940 area. Several times the market has reached 950, only to be pushed back each time. But the sense is that there is less bad news, a so-called second derivative effect, and since the stock market is supposed to predict six months ahead, it is rising to forecast better times. Nobel laureate Paul Krugman and others have suggested that the US recession (beginning signaled by two consecutive quarters of negative GDP growth)



will end in the fall of 2009. George Soros said in late June that the worst is over. But the recovery will be slow and painful, as Joe Stiglitz and Nouriel Roubini predict and as articulated in the recent Mauldin (2009a) column. Savings rates have increased dramatically, which, while cutting into spending, is a harbinger of a *new normal*, as also discussed by El-Erian (2008). Oil prices have doubled since their bottom of \$32 in early 2009. The current \$72 is about halfway back to the summer 2008 high of \$147 per barrel. Also as a sign of better growth is the steepening of the yield curve with the 10-year T-bond, now near 4 percent versus 3 percent a month or so ago. The graphs in Figure 1 show this progress.

The usually reliable bond-stock yield model was of no help in 2007–2009, unless you were involved in the Iceland or Chinese markets. In Ziemba and Ziemba (2007), we studied these latter two markets and concluded when we went to press in the fall of 2007 that they were close to the danger zone, thus predicting a stock market crash, but not quite. But in 2008, a further rise in five-year bond rates (the long bond in both of these countries) plus a drop in earnings led to the danger signal and the subsequent crash. Figure 2 shows this. There is more discussion below.

But in the USA and UK there was no such signal because the 2007–2009 crash was credit and confidence related due to massive buildup of derivatives, including those based on toxic assets in real estate. One can argue that the Fed lost control of the interest rates and the long bond was artificially low, so the model could not give the appropriate signal. The endogenous creation of liquidity wiped out the efforts of the Fed to control the interest rates and thereby the money supply.

In all cases, the measure did not signal the coming crash. You need to be about +3 to be in the danger zone. That would take a huge increase in the 10-year bond rate plus a big PE expansion (higher stock prices and/or greatly lower earnings). Neither seems likely. Even now, with earnings dropping dramatically, the measure is still not in the danger zone.

Table 1 shows the bond-stock yield model calculations for February 2006, June 2007, June

Figure 1: Indicators of the improving economic environment

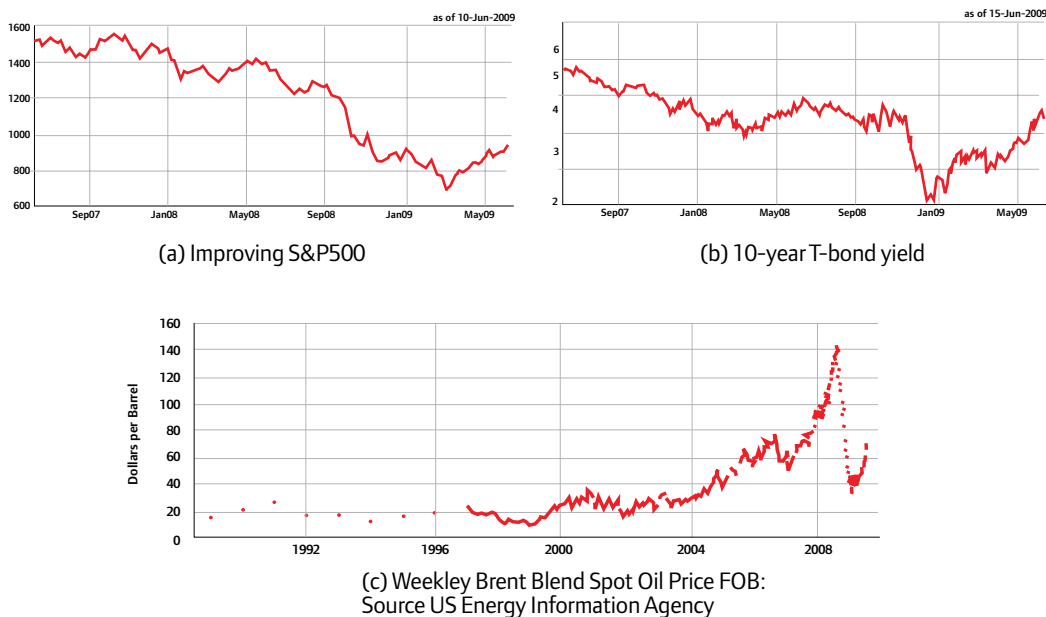
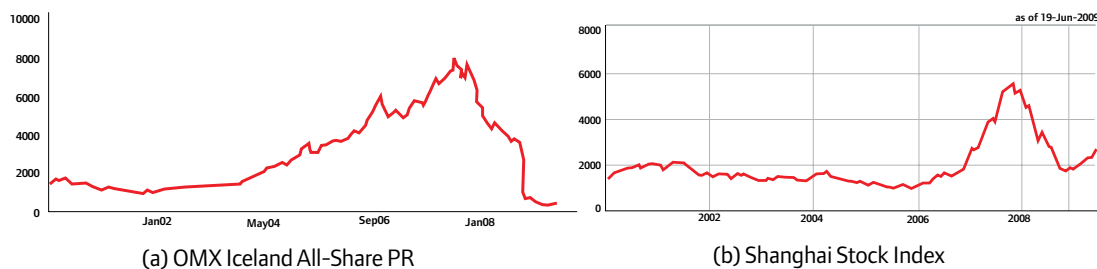


Figure 2: Stock price indices for Iceland and China, January 2000 to June 19, 2009



2008, and May 2009.

In late 2008 and the first few months of 2009, S&P 500 earnings and forecasts for 2008 and 2009 were continually dropping. Table 2, from Mauldin (2009b), shows this dramatic decline. Even with these low earnings, the model is still not in the danger zone. Interest rates have dropped dramatically, with short-term rates near zero. However, access to these low posted rates is not readily available. It is the liquidity crisis that has created a real interest rate that is dramatically high and approaching infinity; as credit for many is totally unavailable, credit card companies are

denying previous credit limits and recalling credit cards.

If we take the current (June 2009) long bond around 3.98 and the April 10, 2009 PE of 28.51

Table 1: Bond-stock yield model calculations leading up to the current crisis

Date	Long Bond (10 years), %	Trailing PE	1/PE, %	$B - Y_{PE}$
February 2006	4.49	20	5	-0.56
June 2007	5.15	17	5.98	-0.74
June 2008	4.14	18	5.55	-1.41
May 2009	3.70	33.3	3.00	0.70

¹ This section utilizes the CNBC TV program hosted by David Faber, called "A House of Cards," for much information on this episode.

with the S&P 500 at 940, the measure is $3.98 - (100 \times 28.51 / 940) = 0.9470$, which is higher than all the values in Table 2 but still out of the danger zone.

What went wrong? It was simply another type of crash. The 2007–2009 crash was not caused by high interest rates relative to earnings. Indeed, we have been in a period of declining interest rates. The decades before the crash and the crash itself were transitional economic times. While consumption spending is normally a large part of GDP, it had become even more significant as people withdrew equity from their homes, treating them as ATMs. This both fueled the economy and at the same time planted the seeds for the crash, as, clearly, this level of spending was unsustainable, especially once housing prices began to soften. During the same period, there was a rapid growth in derivative products that created a huge pool of liquidity – again, unsustainable. The way out of this crisis will be a return to more normal debt instruments that sustain the real economy. Let's look at the history of this crisis.

The subprime crisis and how it evolved¹

"Let's hope we are all wealthy and retired by the time this house of cards falters." –Internal email, Wall Street, 12/15/06

In 2004, an estimated \$900 billion dollars was withdrawn from home equity through refinancing.

In the days following September 11, 2001, with the attacks on US soil and the markets very weak, Fed chairman Alan Greenspan said he was extremely worried about the after effects on the US economy. So, five day later, when the stock

market reopened, the first of a number of interest rate cuts was made. In 2002, President George W. Bush said, "The goal is, everybody who wants to own a home has got a shot at doing so." He also referred to the homeownership gap that "three-quarters of Anglos own their homes, and yet less than 50 percent of African Americans and Hispanics own homes" (at a speech at HUD, June 18, 2002). At the same time, he linked home ownership to national security.

Table 2: Earnings revisions for 2008 and 2009; analysts' estimates of earnings in dollars. Source: Mauldin, 2009a

Falling earnings estimates for the S&P 500 for 2008

Date	Earnings
March 2007	92.00
December 2007	84.00
February 2008	71.20
June 1, 2008	68.93
July 25, 2008	72.01
July 25, 2008	72.01
September 30, 2008	60.00
October 15, 2008	54.82
February 20, 2009	26.23
April 10, 2009	14.88

... and estimates for 2009

March 20, 2008	81.52
April 9, 2008	72.60
June 25, 2008	70.13
August 29, 2008	64.44
September 10, 2008	48.52
February 1, 2009	42.00
February 20, 2009	32.41
April 10, 2009	28.51

Freddie Mac and Fanny Mae created the secondary mortgage market and between them insured about half the mortgages. Originally, these had been made under strict qualifying procedures, but they came under pressure by the industry and government policy to loosen their standards. Orange County entrepreneurs wanted a way to circumvent these rules and create a profitable business that was unregulated. They invented the concept of subprime mortgages, where anyone could get a loan at a time when Freddie and Fanny were in some trouble. Actual incomes and assets were not checked and largely inflated. Bad credit and no assets (or a lot of debt and liabilities) did not matter. What made this work was a great interest from Wall Street firms to package these mortgages and have them AAA rated, so they were investment grade. Then the Wall Street firms could sell these collateralized mortgage obligations (CMOs) around the world. The rating agencies were paid by the firms selling the CMOs, not the purchasers. The rating

agencies were eager to have the business and the repeat business. Since it was assumed that house prices could not fall – they had not fallen since 1991–1992 – this seemed safe. Around the world, investors, a bit greedy to get higher returns were sucked into buying these securities. One example is Narvik, Norway, a small town 150 miles above the Arctic circle. They bought enough of these assets from a representative of Citibank through an Oslo representative to lose 25 percent of the town's assets.

Meanwhile, house prices roared higher and higher around the world, far outstripping income growth. Buyers with no money were able to buy houses then refinance them and cash out the gains to upgrade their homes, or just to spend the money. Indeed, a huge percent of US consumption in 2003–2007 came from this source. Houses were assumed to rise in value by 6–8 percent yearly forever. But a bubble was forming and house prices in the USA peaked in 2005–2006.

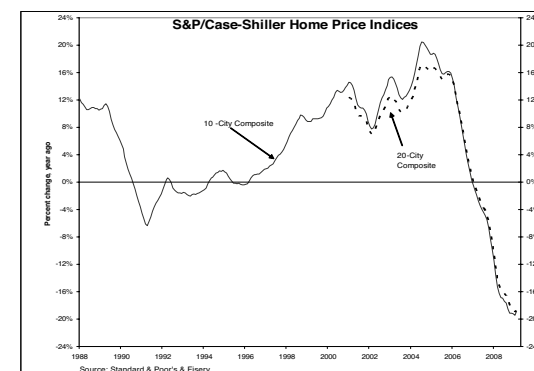
The packaging of the mortgages into AAA-rated CMOs and later collateralized debt obligations (CDOs), which include any asset with a future income stream, continued.

The Standard and Poor's Case-Shiller US Home Price Index measures the index price of 10 and 20 metropolitan areas in the USA. It gives an estimate of the change in home values across the USA. Figure 3a shows the Case-Shiller US house price index year to date for each month and Figure 3b shows the historical price index. In February 2009, housing prices had fallen to their 3rd quarter 2003 levels.

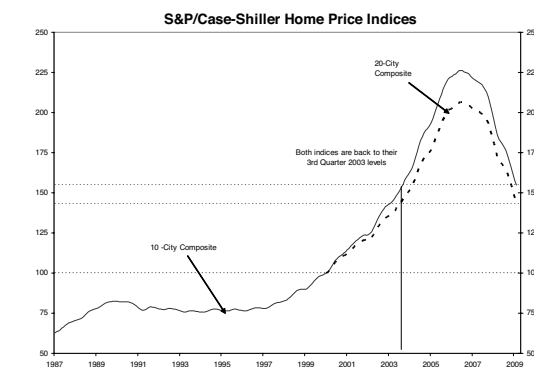
From 2002–2006, as a result of the housing bubble, so many speculators gained by buying extra houses on margin. In 2007–2009, the declines in the USA hurt such speculators hard and many went into receivership. Indeed, over 10 million houses in the USA in January 2009 were under water, in the sense that their mortgages exceeded their current market value.

For the period December 1, 2007 to November 30, 2008, prices in the 20 areas fell a record 18.2 percent, with November 2008 adding a 2.2 percent decline. The housing market continues to suffer from a large supply of unsold homes, tighter lending standards, and a record number of

Figure 3: Case-Shiller Home Price Indices. Source: S&P Press Release, April 28, 2009



(a) Price index change over past year



(b) Price index, 2000 = 100

Table 3: Metropolitan regions with the highest percentage of homes with negative equity in Q1:2009.

Source: Simon and Hagerty, 2009

Region	% Under water
Las Vegas, NV	67.2
Stockton, CA	51.1
Modesto, CA	50.8
Reno, NV	48.5
Vallejo-Fairfield, CA	46.5
Merced, CA	44.4
Port St Lucie, FL	43.5
Riverside, CA	42.8
Phoenix, AZ	41.7
Orlando, FL	41.7
US average	21.9

foreclosures. The 10 metro regions also fell 2.2 percent in November, for a yearly drop of 19.1 percent. The composite 10 and 20 metro regions peaked in mid-2006, and since then (to February 2009) have fallen 32 percent and 30 percent, respectively.

Areas that had large increases had large falls. This includes many cities in California, Nevada, and Florida. From March 2008 to March 2009, for example, San Francisco fell 43 percent. There were similar drops in San Jose and other areas in California.

The housing price declines had left more than 20 percent of US homeowners owing more on their mortgages than their houses were worth by the end of Q1:2009. That represents 20.4 million households, up from 16.3 million in Q4:2008. That is, 21.9 percent of all homeowners, up from 17.6 percent Q4:2008 and 14.3 percent Q3:2008. On the one hand, the falling home prices are making housing more affordable for first-time buyers and others who have had difficulty getting into the market. On the other hand, the fall in home equity has cut off the ability of homeowners to use their homes like an ATM, as refinancing is harder so they cannot take advantage of the low interest rates. The regions with the highest percentage of homes under water are shown in Table 3.

With such a large number of households under water, it will be hard to get a consumer-led recovery. In the UK, the declines are similar, with the year-on-year values down about 20 percent for high-end properties in London during 2008–2009.

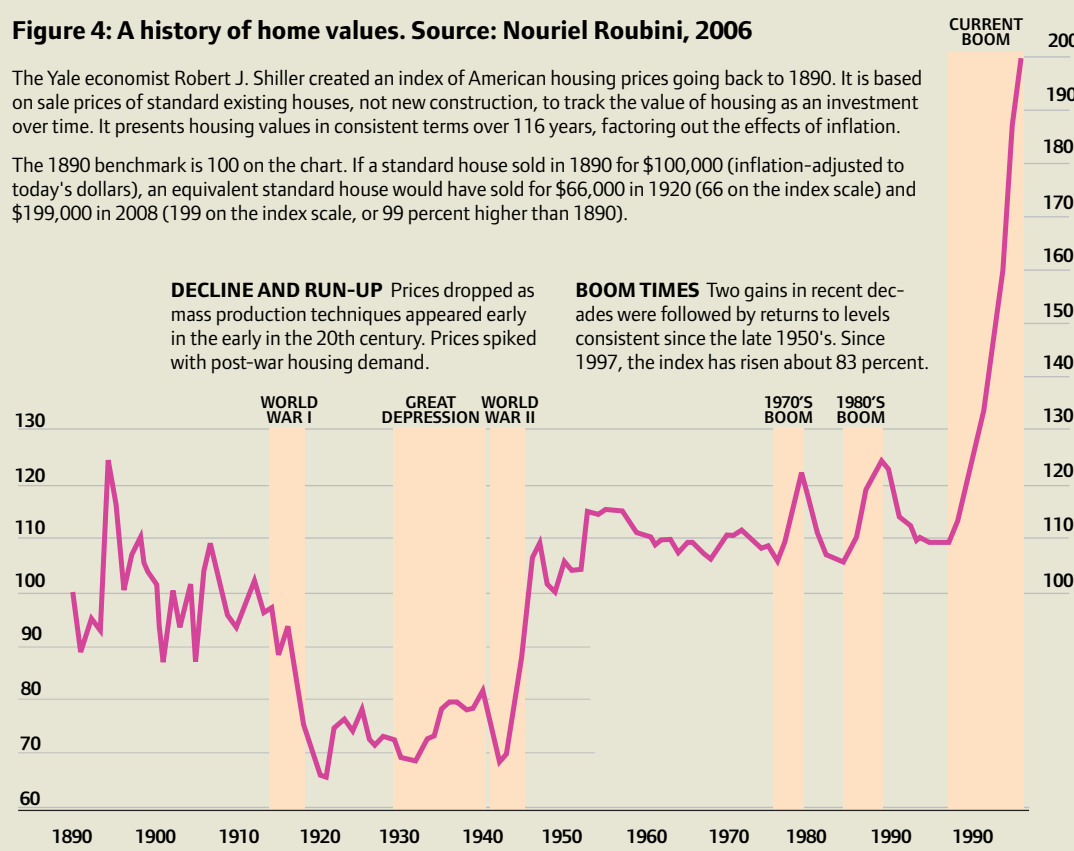
The lending organizations sold off the mortgages and they were cut and diced and bundled into packages like CMOs and CDOs, then sold to others who had trouble figuring out what was in them but looked at the rating agency's stamp of approval. An AAA rating was desirable for sales of these derivative securities.

Figure 4, starting in 1890, shows the buildup to overpriced areas in 2004–2005 that led to the drop now that is shown in Figure 3b. There have been 12 consecutive months of negative returns. The 10-city, 20-city decline and 10-city composite all declined. Case–Shiller and others predict up to a 25–35 percent drop in prices from the peak in 2005–2006 (see Figure 4).

Figure 4: A history of home values. Source: Nouriel Roubini, 2006

The Yale economist Robert J. Shiller created an index of American housing prices going back to 1890. It is based on sale prices of standard existing houses, not new construction, to track the value of housing as an investment over time. It presents housing values in consistent terms over 116 years, factoring out the effects of inflation.

The 1890 benchmark is 100 on the chart. If a standard house sold in 1890 for \$100,000 (inflation-adjusted to today's dollars), an equivalent standard house would have sold for \$66,000 in 1920 (66 on the index scale) and \$199,000 in 2008 (199 on the index scale, or 99 percent higher than 1890).



Business was good. Even pizza deliverers became, with no training, mortgage brokers. There was no license, so no training, involved. Once they started arranging the mortgages, they quickly began earning \$20,000 per month and they were soon buying expensive cars. One Southern California Lebanese immigrant with a third-grade education had a firm selling Mercedes to his loan officers. At the peak in 2005–2006, he was making \$5 million per month. He had money to burn. An example was a movie featuring his girlfriend, in which two Ferraris, one worth \$1/2 million and the other worth a full \$1 million, were destroyed as part of the filming. When the prices of houses and real estate stocks fell, starting in late 2005, the defaults multiplied, and the CMOs and CDOs dropped sharply in value. One hedge fund trader in Texas saw this coming and made 600 percent on his investment, some \$1 billion, by buying insurance on these instruments, which rose sharply in value, and was paid off as

the house prices fell. Of course, John Paulson was a big player in these and related markets in his various funds, making 1,000 percent in 2007 (see Table 4 for some 2008 results).

Another factor fueling this in 2004 was Greenspan saying that the market needs “new products for mortgage loans.” These included adjustable rate mortgages with low or no interest payable in the first year or two, with the interest added to the loan value. Then, with higher interest, higher loans, and declining house values, the situation became more difficult and led to millions of mortgage defaults. This destroyed the American dream of owning a home with other people's money.

Greenspan still insists that such bubbles are just a part of human behavior and will happen again and again, and there was nothing the Fed could have done to prevent it. And it would be bad politics to stop home ownership. He admits now that he was shocked when he learned that

20 percent of all US mortgages were subprime and that he, with some math and economic training and a staff of 200 with many Ph.D.s, could not understand many of the CDO products, which made use of option experts trained at leading math finance and other departments. Wow!!

Yet the issue was that there was a gap in regulations, and application of prudence in lending. In Canada and many other countries, you cannot get these extreme subprime mortgages and consequently there have not been such a fall in house prices, nor as many defaults. Also in Canada, unlike the USA nonrecourse loans, bor-

rowers are at risk on all their assets, not just the property that's being mortgaged.

A brief discussion of Iceland

Both Iceland and China had gigantic stock price rises and falls, which have a number of parallels with Japan in 1990. The difference, though, was that Iceland, like Ireland, had its economy essentially destroyed, while in China the impact was, and will be, much less. The long-term effects remain to be seen. We know Japan has yet to recover!

In the case of Iceland and Ireland (which, along with China, will be discussed in Part III), the entire economy was levered way beyond its capacity to sustain ever higher real estate and stock prices with loans in foreign currency. Aliber (2008) describes it well and his prediction of trouble came to fruition. The krona was rising until the crash because of its high interest rates and the apparent excess return from its investment by locals, and especially foreigners. In euro terms, it started 2008 at 90, was 130 on October 7, 2008, when the stock market was closed, then fell to 340, when trade was suspended, and then 290 in December 2008. The stock market fell 77 percent on October 14, 2008, after being closed since October 6. Before the crisis, the market cap was 120 percent of GDP, and after it was only 20 percent.

The Iceland crash occurred in October 2008. In Ziemba and Ziemba (2007), as of July 12, 2006, we had the results shown in Table 5 for the bond-stock model, with the 16 nonfinancials in the danger zone but the 15 main stocks, which focused on the banks, not in the danger zone until 2008. The rate of increase of property prices was already dropping in mid-2006 but there were no losses yet, with the property index up 4.8 percent in 2006. Short-term interest rates, which

Table 4: Hedge Funds, January to September 2008. Source: Bloomberg

World's best-performing hedge funds

Fund	Management firm	Strategy	Return
Medallion	Jim Simons, Renaissance Technologies	Quantitative	58.0%
Paulson Advantage Plus	John Paulson, Paulson & Co.	Event driven	24.6%
Clive	Christian Levett, Clive Capital	Commodities	19.4%
Comac Global Macro	Colm o'Shea, Comac International	Macro	19.2%
Clarium	Peter Thiel, Clarium Capital Mgt.	Macro	18.9%
Paulson Credit Opportunities	John Paulson, Paulson & Co.	Credit	18.9%
Horseman European Select	Stephen Roberts, Horseman Capital Mgt.	Long/short	18.0%
Horseman Global	John Horseman, Horseman Capital Mgt.	Long/short	17.4%
Paulson Credit Opportunities II	John Paulson, Paulson & Co.	Credit	15.8%
BlueTrend	Michael Platt, Leda Braga, Blue Crest Capital Mgt.	Managed futures	15.7%

World's most-profitable hedge funds

Fund	Management firm	Strategy	Profit, \$mil
Medallion	Jim Simons, Renaissance Technologies	Quantitative	\$1427.7
Paulson Advantage Plus	John Paulson, Paulson & Co.	Event driven	\$617.4
Brevan Howard	Alan Howard, Brevan Howard Asset Mgt.	Macro	\$489.3
BlueTrend	Michael Platt, Leda Braga, Blue Crest Capital Mgt.	Managed futures	\$193.8
Paulson Credit Opportunities	John Paulson, Paulson & Co.	Credit	\$188.2
Clarium	Peter Thiel, Clarium Capital Mgt.	Macro	\$185.2
Quantitative Global Program	Jeffrey Woodriff Quantitative Investment Mgt.	Managed futures	\$148.5
Winton Futures	David Harding, Winton Capital Mgt.	Managed futures	\$146.6
Horseman Global	John Horseman, Horseman Capital Mgt.	Long/short	\$123.5

Table 5: Bond-stock measure calculations in Iceland

Index	16 Nonfinancials	15 In index
A) PE ratio		11.1
B) Stock Return (1/A)	6.13%	9.01%
C) Bond Return (5 year)	11.00%	9.4%
Crash Signal (C-B)	4.87%	0.39%

were 13 percent in July 2006, were 14.25 percent in the fall of 2006 and went to 14.5 percent in December 2006, with projection to 16 percent.

Iceland was in a dangerous, highly levered position. It was all predicated on a continual rise in the currency and asset prices with very high interest rates. They would eventually have had a decline, which might have been gradual, but the onslaught from the US, and especially the UK, economic troubles accelerated at the time of Lehman Brothers' bankruptcy, bringing the problem to a head. Then, everyone rushed for the exits when the market was closed and there was the monumental 77 percent fall on October 15, 2008. The prices of the stocks and real estate had simply gotten way too high and all out of proportion to the real business of Iceland's companies. The economy was mostly financial services controlled by the big banks, which made enormous profits to keep their PE ratios below the danger level, but as profits declined and interest rates rose, the bond-stock model signaled the crash, as did many other ways of looking at the economic health of the country. It was a highly over-levered hedge fund, with Kelly bets way too high. Aliber (2008) argued that because of the skewed nature of Iceland's exports of goods and services – 50 percent fish related – and the small size of the domestic manufacturing sector, each increase of 1 percent of Iceland's exports led to a 1.2 percent + increase in the krona exchange rate. The monies flowing in were borrowed in the wrong currencies – pounds, euros, etc., rather than in krona, whose assumed continual rise would make it easier to pay off. So, rather than matching currency loan to repayment, there was the added speculation in currencies. The same mistake was made by Thailand and other Asian countries in the 1997 currency crisis, borrowing in dollars rather than yen (again, the low interest rate currency). There the dollar rose, while in Iceland the krona fell.

Household savings declined as a share of GDP and household consumption rose, based on apparently higher household wealth in stock and real estate starting from the bottom of the US stock market in March 2003. The rapid real estate price boom led to a large increase in bank credit.

From 2002–2006, bank assets rose sixfold.

In the same period, bank capital rose eightfold, mainly from gains on their stock holdings and the ratio of bank assets to the sum of demand, and savings deposits rose two- to fivefold (Aliber, 2008). New foreign currency debt was required to pay interest on the foreign loans. What was needed, but never achieved, was a trade surplus. Eventually, the currency and stock and land markets had to collapse. There were many investors who had purchased Icelandic stocks with borrowed money that had a negative carry, meaning that their interest payments were larger than their investment income. Some of these investors had to sell stock in the panic decline. Before the collapse, Icelanders had achieved the title of the happiest people on earth – they appeared to have achieved the good life, with lots of savings and assets, but they ignored the toxic debt on which it was based. It was a classic overlevered, nondiversified situation, like the USA and UK, with high risk-taking behavior; see Ziemba and Ziemba (2007), showing that this situation invariably leads to a crash. After this crash, it will be very painful to recover and be a low-risk, low-income country.

Household and government debt

While US house prices surged from 2000 to 2007, household debt was also surging. Household debt went from 60 percent of disposable income (after tax) in 1985 to 80 percent in the early 1990s, and soared to 120 percent in 2007. In the years from 2001 to 2004, about 40 percent rewrote their mortgages, and 25 percent extracted equity in the process. The under-30s and the over-63s extracted lower rates of equity (15 percent and 18 percent, respectively). The funds were used for consumption (10.5 percent), payment of other debt (23.5 percent), home improvement (32.2 percent), and investment, including stock market (33.8 percent). In sum, the value of primary residences increased \$4,164 billion, and \$783 billion was extracted from equity and \$267 billion went into consumption. House values increased another \$6.4 trillion from 2004 to 2006; if the same ratios held, then about \$410 billion went into consumption. For the households that extracted equity and then consumed it, their net worth did not increase,

Table 6: G7 debt to GDP ratios, 2008.
Source: *Globe and Mail*, January 22, 2009

Canada	22%
Britain	33%
France	36%
Germany	43%
US	46%
Italy	87%
Japan	88%

but when the bubble burst, they lost net worth, as their assets declined in value while their debt increased. Up to 2008, those workers near retirement that remortgaged and extracted wealth had lost 14 percent of net worth just from this shift; in addition, they likely lost a lot on their retirement savings. They will have the hardest time recovering retirement savings (Munnell and Soto, 2007).

The US and UK households have very high debt compared to disposable income; this has been steadily rising from 1990 to 2008. This is at the heart of the housing declines in both countries. Canada and the euro zone have much less debt, which is partly a result of much tighter standards for mortgages and other lending. Banks in the USA and UK basically would lend money to anyone for real estate transactions, given their false forecast that prices would continue to rise. Then, the decline in real estate values had a much bigger effect in these countries. Table 6 shows the government debt as a percentage of GDP in 2008. Japan and Italy have the highest debt ratios. But the citizens of Japan have large savings, which tempers the risk there. Italy, like the UK is in serious financial trouble. The USA has one big advantage, with its government debt – in US dollars – in very high demand around the world, so their constant printing of money, while dangerous, is less so than in other countries, which have debt in other currencies and thus must earn foreign currency to repay it.

Some 44 percent of US households were participating in the financial markets in 2007, up from 29 percent in 1994, representing 88 million individual investors.

More than half of these investors are 45 years old or older, and a third of this group (approximately 17.6 million people) are older than 65,

so they have limited opportunities to earn back their retirement savings, given the 2007–2009 declines of about 50 percent in equity markets.

Favoring the financial sector: Evaluating the policy responses

In the past 25 years, the deregulated finance sector has grown as the real production sector has declined in the USA and UK. Profits came to be concentrated in this sector, and, indeed, it was very innovative with securitization, interest-rate swaps, and credit default swaps among other instruments. The effect of this can be seen by the growth in the share of corporate profits going to the financial sector. From 1973 to 1985, this sector earned about 16 percent of the corporate profits. In the 1990s, their profit share ranged from 21 percent to 31 percent, and in the most recent decade this escalated to 41 percent of all corporate profits. Concomitant with this increase in profits came rising incomes. From 1948 to 1982, average compensation in this sector was about average for the economy, between 99 percent and 108 percent of the average for all domestic private industry. But by 2007, it reached 181 percent (see Johnson, 2009).

In the global economic crisis, there have been several phases and various responses by the US Federal Reserve, the US Treasury Department, and the Federal government, and similar bodies in the UK and elsewhere. So far, to early April 2009, these policy responses of monetary easing (open market operations now referred to as quantitative easing) and fiscal spending have had some success, but that has been limited. Unfortunately, the policy response, to a large extent, has been to continue to favor finance over real production. Instead of nationalizing the banks and cleaning them up, money has been allocated to them to shore them up.

In part, this is a reflection of the structure of the Fed, the US central bank. The seven-member board of governors is appointed by the President, with the approval of the Senate. The boards of the 12 independently incorporated regional banks are composed of three members appointed by the Fed board and six elected by the member banks. So, the chairman of, say, the NY Fed owes the position to the banks in the region and routinely consults with them. In May 2007, in a speech to the Atlanta

Fed, Treasury Secretary Timothy Geithner said that the financial innovations had improved the capacity to measure and manage risk and that “the larger global financial institutions are generally stronger in terms of capital relative to risk” (quoted in Becker and Morgenson, 2009). At this point, New Century Financial had already filed for bankruptcy due to subprime losses and by July, Fed chair Ben Bernanke warned that the US subprime crisis could cost up to \$100 billion.

Geithner, encouraged by Citigroup and JPMorgan Chase, was proposing new, looser standards for the banks. The problem, according to Callum McCarthy, a former British regulator, was that “banks overestimated their ability to manage risk, and we believed them” (Becker and Morgenson, 2009).

Nobel Laureate and Columbia University Professor Joseph Stiglitz, among other economists, has expressed the concern that this relationship has led to a regulatory philosophy shaped by and shared with the industry itself. This led to a bailout that was designed to get a lot of money into the banks to shore them up, without necessarily considering the risks to the public at large. (Becker and Morgenson, 2009).

A variety of regulatory changes have been proposed by economists, politicians, journalists, and business leaders to minimize the impact of the current crisis and prevent recurrence. However, as of April 2009, many of the proposed solutions have not yet been implemented. These include (from Wikipedia):

- Ben Bernanke: Establish resolution procedures for closing troubled financial institutions in the shadow banking system, such as investment banks and hedge funds.
- Joseph Stiglitz: Restrict the leverage that financial institutions can assume. Require executive compensation to be more related to long-term performance. Reinstate the separation of commercial (depository) and investment banking established by the Glass–Steagall Act in 1933 and repealed in 1999 by the Gramm–Leach–Bliley Act.
- Simon Johnson: Break up institutions that are “too big to fail” to limit systemic risk.
- Paul Krugman: Regulate institutions that “act like banks” similarly to banks.

- Alan Greenspan: Banks should have a stronger capital cushion, with graduated regulatory capital requirements (i.e., capital ratios that increase with bank size), to “discourage them from becoming too big and to offset their competitive advantage.”
- Warren Buffett: Require minimum down payments for home mortgages of at least 10 percent and income verification.
- Eric Dinallo: Ensure any financial institution has the necessary capital to support its financial commitments. Regulate credit derivatives and ensure they are traded on well-capitalized exchanges to limit counterparty risk.
- Raghuram Rajan: Require financial institutions to maintain sufficient “contingent capital” (i.e., pay insurance premiums to the government during boom periods, in exchange for payments during a downturn).
- A. Michael Spence and Gordon Brown: Establish an early-warning system to help detect systemic risk.
- Niall Ferguson and Jeffrey Sachs: Impose haircuts on bondholders and counterparties prior to using taxpayer money in bailouts.
- Nouriel Roubini: Nationalize insolvent banks.

In Part III, I will look into the results of other signals to assess what worked and what did not.

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