A Modern Day D-process: A Less Traumatic Result Will Result from Increased Dosages of Money

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For the first time in history central banks (most importantly the Fed) are producing enough money to make up for contracting credit as an antidote to the D-process. Theoretically, central banks can create whatever levels of nominal GDP growth that they want to create by plugging credit contracting entities into the money machine so that the amount of money that they draw equals the amount of money they need to offset the credit contraction, which not only has the effect of lowering interest rates but also increases the money supply so that there is more money and credit in existence to go for the purchases of goods and services – e.g., the Fed buying credit instruments (e.g. agency paper) that the private sector would otherwise have had to buy leaves the private sector with more money to spend on nominal GDP. While this is theoretically true, there are no good examples of this being done well or to the same extent that it is now being done. Like pandemics, D-processes come along very infrequently, so we don't have many to look back on and, in those that we have, this antidote was never administered in this dosage.

Specifically, in D-processes that occurred before 1971, when money supply growth was limited by ties to gold and by fixed foreign exchange rates, this could not happen and, when these links with gold and other currencies were broken, reactions were different than one would assume that they might be with these links previously not existing—i.e., it is reasonable to assume that a greater share of nominal GDP growth would go to inflation and capital flight when increased money growth breaks these links than when there are no such links. Similarly, in the D-processes of Latin American emerging countries in the 1980's—where money supply growth was used in this way—the increased money supply growth went disproportionately into inflation and capital flight, more so than it might in the world's most important reserve currency country, especially since the world has a lot of debt denominated in it. The increased money supply that was used to make up for contracting credit in the Japanese D-process was the most analogous example, but it too was significantly different because of a) the smaller dosages, b) what the money was used to buy and c) the fact that this D-process occurred in a growing world economy. So, it is very exciting to observe the effects of this experimental heavy dosage of money.

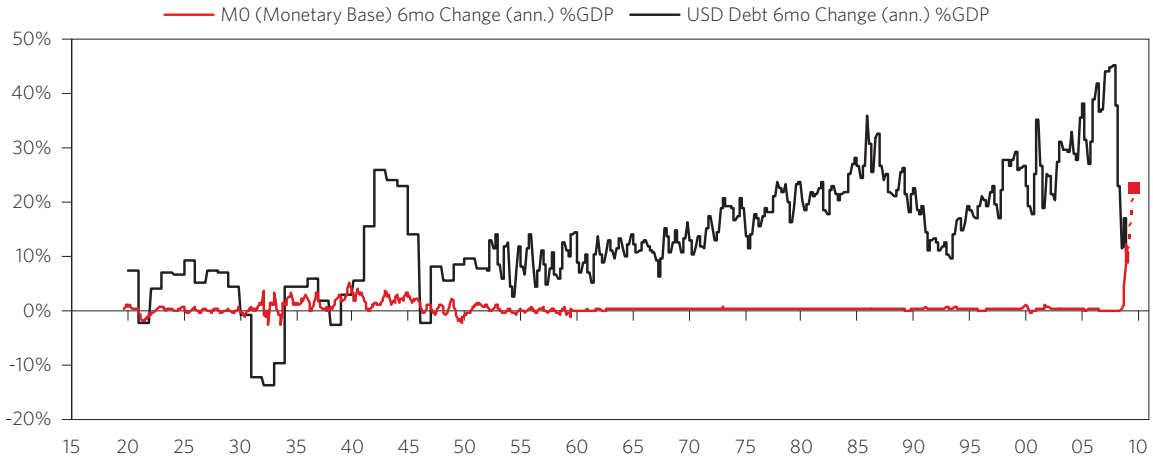
Based on our model of the linkages between money and credit growth and economic growth, there is much doubt that the Fed can cause nominal GDP to grow by about the amounts it targets via the Fed a) buying financial assets in the appropriate quantities and b) financing the government to buy goods and services in appropriate quantities. Then there are two questions—1) what share of this nominal GDP growth will go into real GDP growth and what share will go into inflation, and 2) will the economy look similar to what it was before the D-process began or will it look different, and if it will look different, what will it look like.

- Re #1, to the extent money growth negates credit contraction, it won't be directly inflationary, but it will be bearish for the dollar on the margin (especially down the road) and this can be inflationary down the road (when currency weakness and/or credit growth leads to more purchases of real goods and inflation hedge assets).
- Re #2, the economy will look very different than it looked like before the bubble burst. While the Fed will provide liquidity to viable companies that will allow them to operate more normally, it will also keep more non-viable entities (e.g. the GSEs, insurance companies, banks, etc.) alive making many more "zombie companies". Given the terrible financial conditions of numerous enormous entities, if the Fed provides them with money (e.g. the way the Fed is now virtually the only buyer of agency paper, though these agencies are severely insolvent, keeping them kept operating rather than being

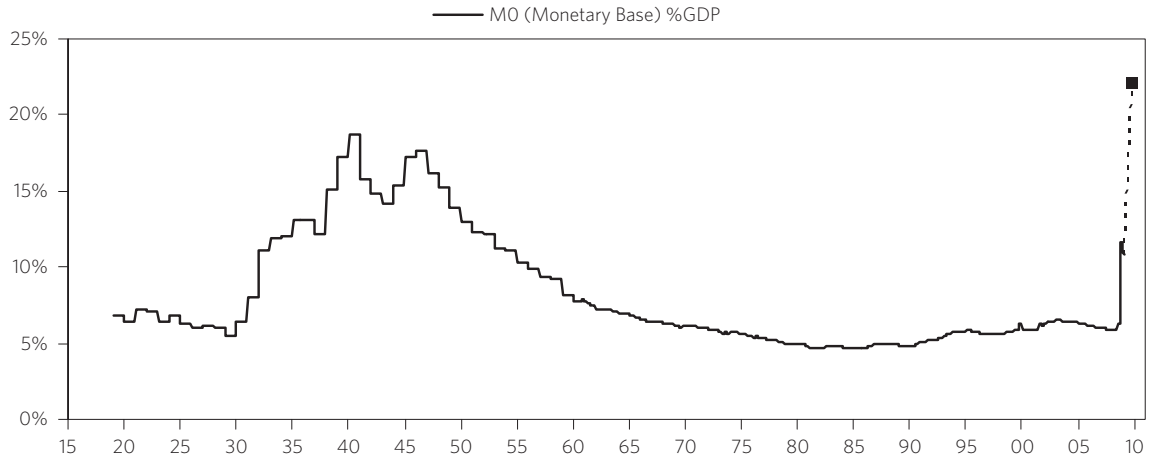
made viable), we can be pretty confident that we will have many zombie companies and an economy in which the government is a much bigger player (i.e., essentially much more socialized).

In our opinion, that's what modern day D-processes are likely to look like and that is most likely what the U.S. economy will look like.

For your reference, the chart below shows changes in money and changes in debt going back to 1920.



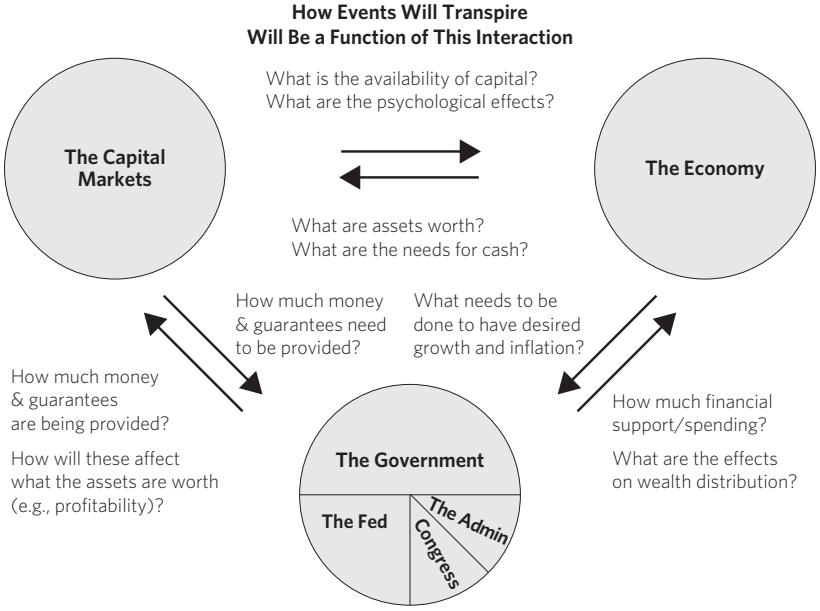
The next chart shows M0/GDP, also going back to 1920, and shows how much faster the increase has been this time around.



But before we look ahead, let's look back on what happened.

The Interactions and Lead/Lag Relationships between the Capital Markets, the Economy and the Government

There is a relatively logical interaction that is going on between the capital markets (stocks and bond markets), the economy and the government in which each is operating in a manner that's relatively understandable given what they're like and given what their circumstances are, so each is both reacting to and causing reactions in the others, thus creating the sequence of events that we are seeing. We try to stay ahead of the markets by understanding these three forces, their likely actions and the effects of these actions, ideally staying about six months ahead actual developments. To convey this template in simple terms, we sketched it out below.



To bring you up to date, the table below shows the highlights of the timeline leading up to the present.

This Interaction Through Time

Pre-2005	Excessive debt growth and global imbalances
2005–2007	Very expensive assets bought with lots of leverage
2008	Asset losses lead to reduced credit worthiness and liquidity crunch
2008–2009	Economy contracts
2008	Government reacts: - Treasury and Congress, too little too late - Fed, aggressively
Jan 2009	Obama takes over – Government administration shift from right of center to left of center
Q1 2009	Economy contracts and capital markets decline
Q1 2009	Government reacts: - Treasury and Congress, aggressively and inefficiently - Fed massively provides money
Q1 2009	Money growth negates credit contraction
Q1 2009	Short-term illiquidity and risk premiums substantially reduced but solvency problems not addressed
Q1 2009	Economic contraction pauses and stock market rallies

While the dynamic highlighted in the previous chart has gone on forever, start our timeline prior to 2005. Debt, debt service and the values of financial assets rose steadily relative to incomes, net worth's and money. This happened globally, but especially in the mature developed countries with enormous imbalances built up with emerging countries, most importantly China. Then, in 2005 to 2007, most people went crazy—i.e. there was a classic mania in which assets were bought at extremely high prices with extremely high leverage. This occurred for reasons that we have described at length and won't bore you with by repeating.

In July 2007, the bubbles burst in the classic ways they burst in D-processes (e.g. in 1929 in the Great Depression globally and in 1990 in Japan)—with cash flows not keeping up with debt service obligations, with asset values falling relative to debt levels and with contracting credit devouring money.

Frankly, from 2005 until recently, placing winning bets in the markets was a lot easier than it is now because a) in 2005–2007 risk premiums were virtually non-existent (prices were very high) at the same time as risks (e.g. hyper-leveraging puny cash flows) were very high, and b) from mid-2007 until recently, investors and the government considered what happened implausible, so investors under-discounted it and the government under-reacted to it. Now, investors are discounting a bad economic/financial outlook and the government is forcefully responding.

Regarding investors discounting a bad economic/financial outlook, take the stock and commercial real estate markets for example. In depressions, they have typically fallen by about 75%-85%. Since July 2007, they fell by about 50%, so, even if one were to assume that we will have a typical depression (which is a reasonable worst case scenario), most of the decline (about 2/3rds) has already occurred.

Regarding the government reacting forcibly, the table shows the amounts of U.S. government purchases and guarantees (2/3rds of all debt!) and the table after it shows the sizes of these purchases and guarantees around the world.

US Government Guarantees, with Expected Fees and Losses ($mln)

Description	Asset Purchases	Hard Guarantee	Implicit Guarantee	Soft Guarantee	Estimated Loss	Fees Earned	Net Gain (Loss)
Agencies	**40,000**	**577,000**	**6,400,891**		**-926,552**	**51,506**	**-875,046**
Fannie Mae	20,000		3,491,169		-507,733	25,142	-482,591
Freddie Mac	20,000		2,740,721		-344,219	21,142	-323,077
Other Agencies		577,000	169,001		-74,600	5,222	-69,378
Banks	**1,080,546**	**8,757,623**	**884,973**	**924,280**	**-460,570**	**65,868**	**-394,702**
Fed Liquidity Programs	570,900					2,763	2,763
Preferred Shares	285,646				-22,250	36,195	13,945
Remaining Capital Necessary	224,000						
TLGP		201,645			-8,161	490	-7,671
Soft Guarantee on Senior Debt				924,280			
FHLB Implicit Guarantee			884,973		-110,622	6,195	-104,427
FDIC Deposit Losses		8,555,978			-319,538	20,255	-299,312
Asset Purchases/Guarantees	**3,684,750**	**415,000**			**-112,156**	**46,299**	**-44,984**
TALF/PPIF	4,700	0			-517	121	-94
Bank Asset Guarantees	0	415,000			-77,532	0	-56,962
Short Term Debt Market	3,255,650	0			-6,464	5,880	-584
Fed Asset Purchases	424,400	0			-27,643	40,298	12,655
Other	**463,285**	**140,193**		**5,700,000**	**-108,787**	**1,781**	**-107,006**
AIG	121,000				-86,000		-86,000
GE Capital	3,500	36,693			-4,544	538	-4,007
Other Financial Institutions	10,000			5,700,000		650	650
Car Makers	19,785	3,500			-10,243	594	-9,649
Foreigners	309,000	100,000			-8,000		-8,000
Total	**5,268,581**	**9,889,816**	**7,285,864**	**6,624,280**	**-1,608,064**	**165,455**	**-1,421,737**
Cumulative Total	**5,268,581**	**15,158,397**	**22,444,261**	**29,068,541**			

2/3rds of debt guaranteed!

Recently Announced Government Programs

	Asset Guarantees	Asset Purchases	Capital Injection	Fiscal Stimulus	Total
North America					
Canada	N/A	**10%**	N/A	**2%**	**12%**
Developed Europe					
Austria	N/A	N/A	**5%**	N/A	**5%**
Finland	**27%**	N/A	N/A	**1%**	**28%**
France	**0%**	N/A	**2%**	**1%**	**4%**
Germany	**15%**	**3%**	**3%**	**3%**	**24%**
Greece	N/A	**3%**	**2%**	N/A	**5%**
Italy	N/A	**1%**	**2%**	N/A	**3%**
Ireland	**218%**	N/A	**5%**	N/A	**223%**
Netherlands	N/A	N/A	**7%**	**1%**	**8%**
Portugal	N/A	N/A	**2%**	**1%**	**3%**
Spain	**8%**	**2%**	N/A	**2%**	**12%**
Euroland	**9%**	**1%**	**2%**	**1%**	**15%**
Denmark	N/A	**1%**	**8%**	N/A	**9%**
Iceland	N/A	N/A	**4%**	N/A	**4%**
Norway	N/A	**12%**	**2%**	**1%**	**15%**
Sweden	N/A	N/A	**2%**	**0%**	**3%**
Switzerland	N/A	**14%**	**1%**	N/A	**15%**
UK	**33%**	**22%**	**2%**	**2%**	**59%**
Developed Other	**0%**	**9%**	**1%**	**4%**	**15%**
Australia	N/A	**1%**	N/A	**3%**	**4%**
New Zealand	N/A	N/A	N/A	N/A	N/A
Hong Kong	**6%**	N/A	N/A	N/A	**6%**
Japan	N/A	**12%**	**1%**	**5%**	**18%**
EM Europe	1%	0%	2%	3%	6%
EM Asia	2%	0%	1%	4%	6%
Latin America	0%	1%	0%	0%	1%
EM Other	0%	1%	8%	0%	9%

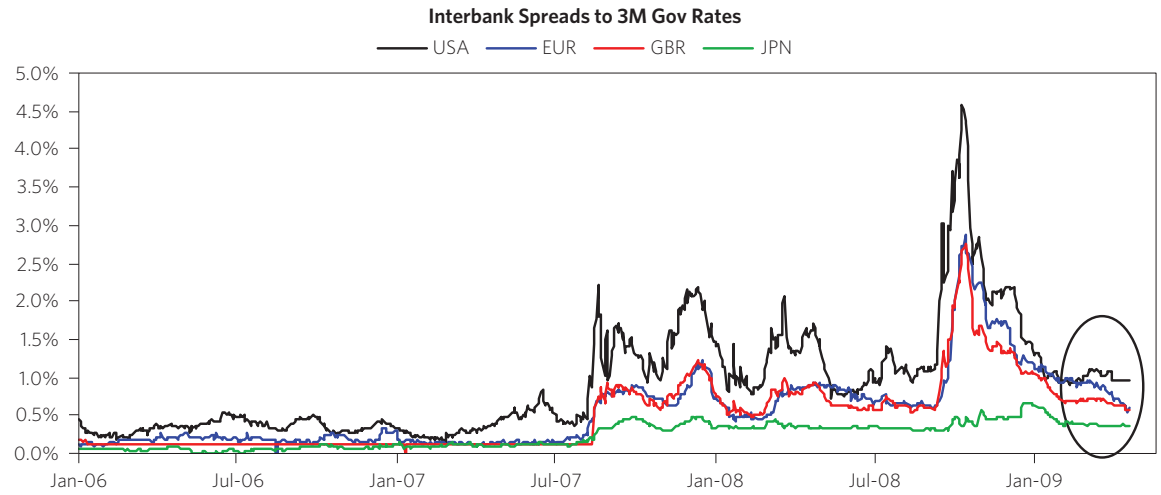
So, in 2005–07 it was fairly easy to see that there was going to be a terrible accident. This accident began in mid-2007 and continued through 2008. It was like an automobile crash in which the bodies were rushed into the emergency ward of a hospital and, to be kept alive, were shot with huge dosages of a stimulant and put on life support by the Fed. By and large the Treasury and Congress were ineffective when the accident occurred because they were initially very slow to catch on to the problems and very slow and ineffective in responding to the problems. But the Fed, which originally made the most important mistakes in causing the accident (by not properly controlling credit), was very responsive from when the accident happened (particularly into the weekend that Lehman Brothers and AIG crashed) until now.

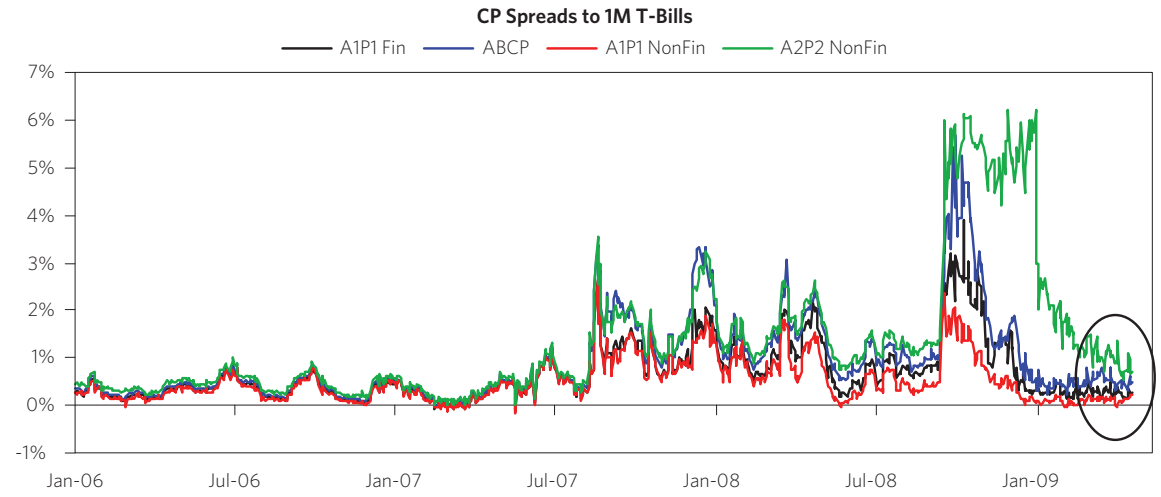
It is now becoming clear that many of the patients have been stabilized and there is some improvement in their vital signs. This is great. But it would be as silly to expect the economy to return to normalcy as it would be to expect a patient that has suffered traumatic damage, is still on life support and has not yet gone through the tests to see what forms of sustained damage exist, to return to normal. This is especially true because we know that there will be major shocks ahead—e.g., we know that there is a big lag between what has happened and the negative ripple effects. For example, the worst of the credit problems lie ahead—they will certainly be very large and their effects on the real economy and the capital markets can not be precisely known.

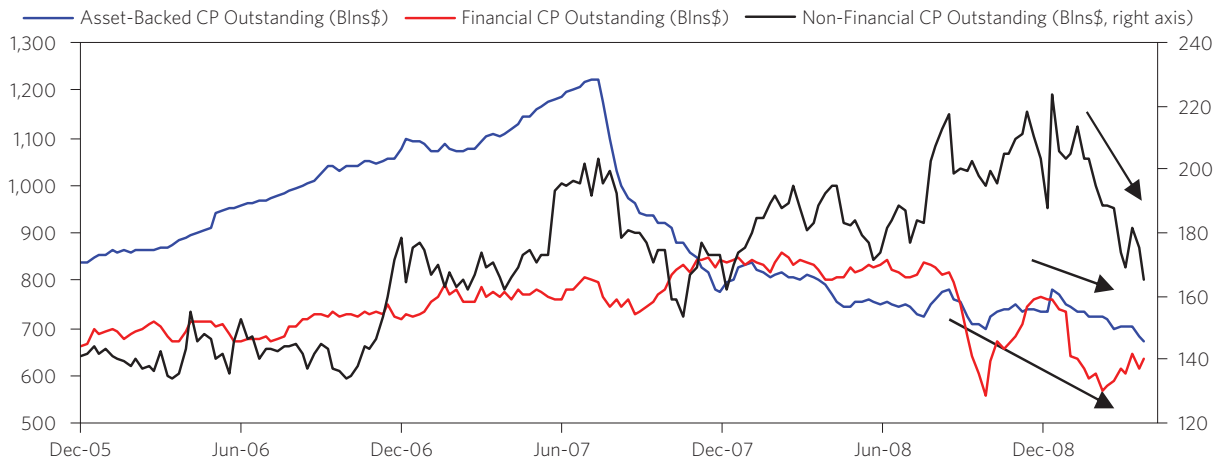
The Improved Vital Signs

To us, the improvements appear as follows:

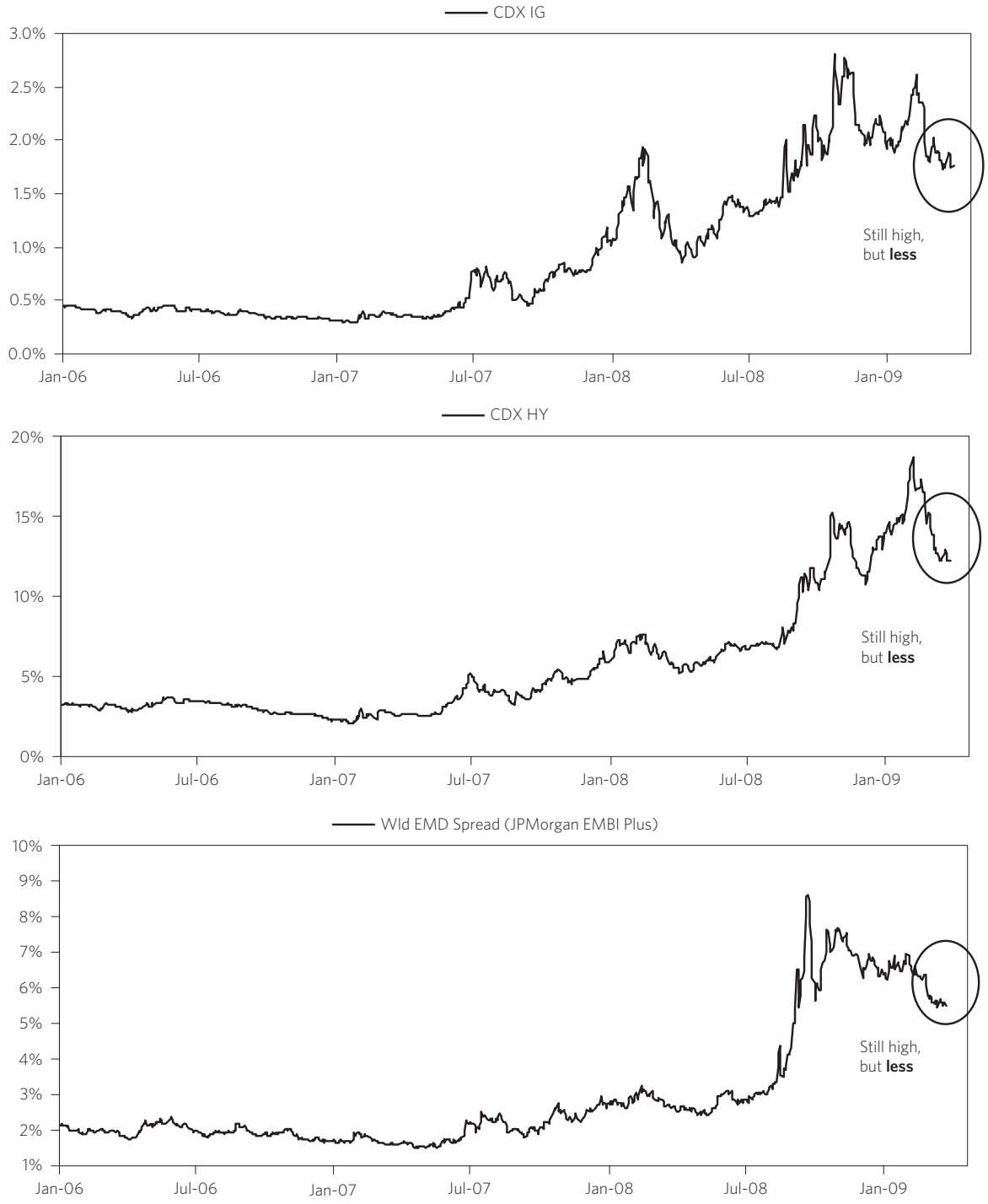
On the short end of the yield curve, particularly in those markets where governments have been active, spreads have almost totally normalized, but normal credit growth has not yet resumed. See the following charts.

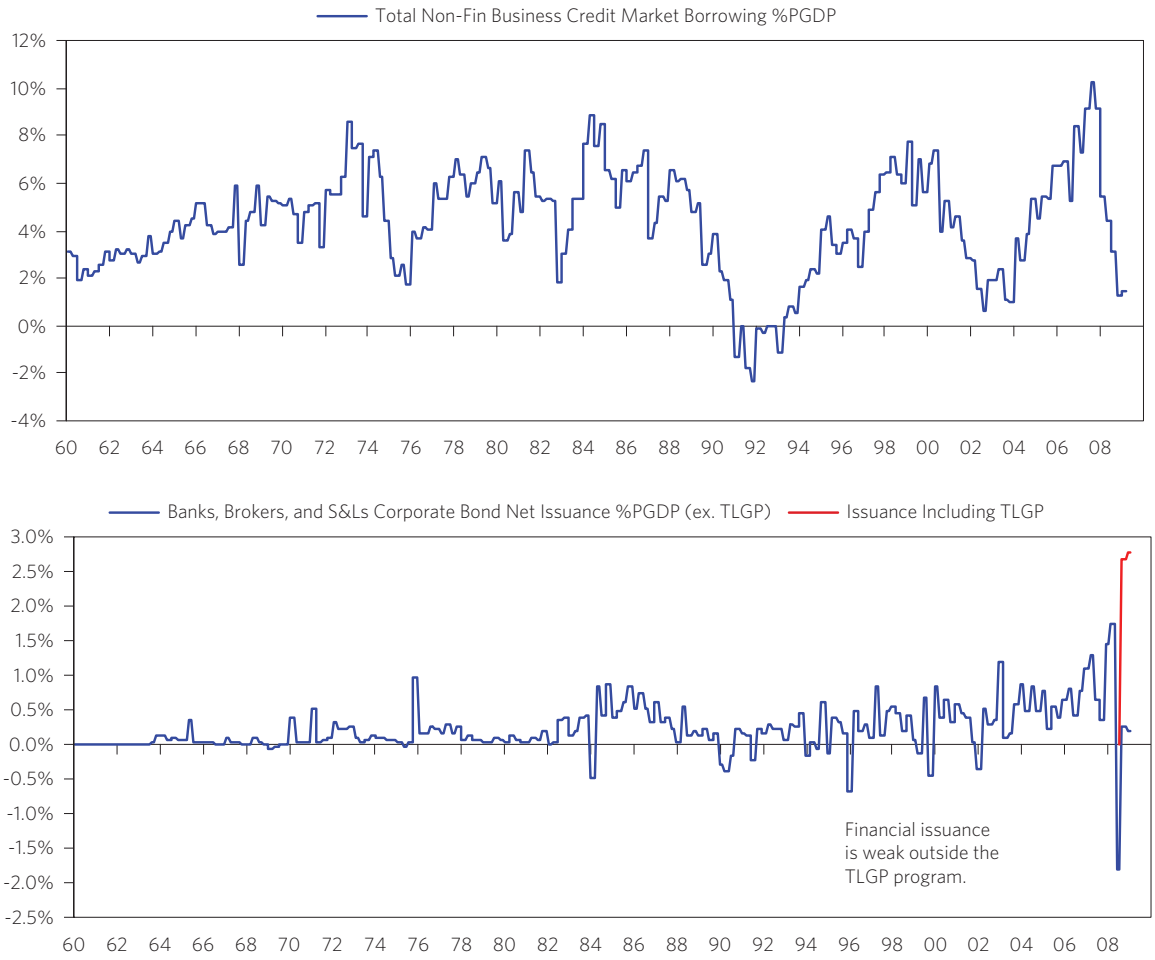




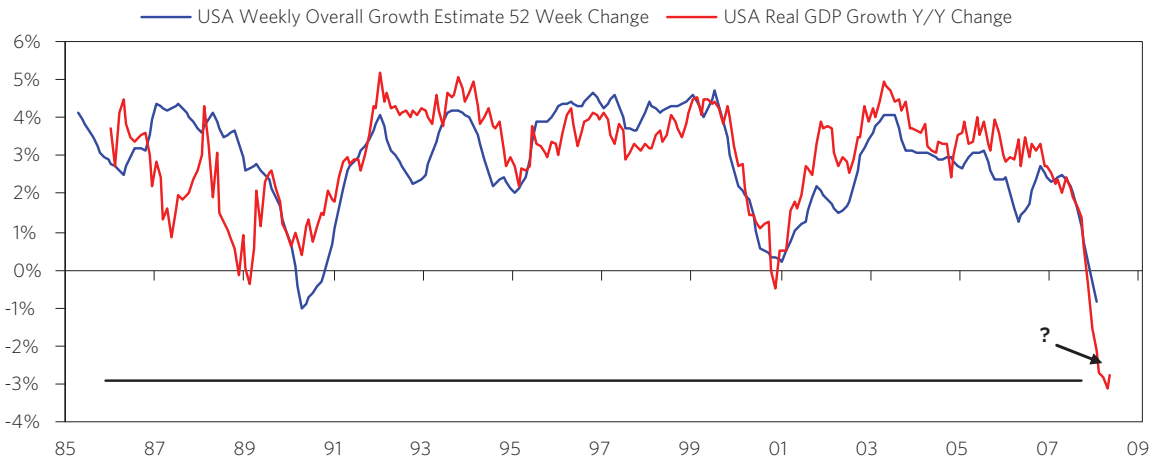


On the long end of the yield curve, while spreads have declined some from their very high levels, they remain extremely high in relation to the past (i.e., they certainly have not normalized) and private credit growth remains stagnant.





Economic activity has stabilized over the past few weeks, but the economy is very volatile on a short term basis, so it would be silly to say that the "green-shoots" are sure to lead to sustained growth. The following chart puts this improvement in perspective on a year-over-year basis.



Still, as mentioned before, we believe that the Fed can produce essentially whatever level of nominal GDP growth it wants via replacing contracting credit growth with increased money growth, and that this will eventually be accompanied by a devaluation of the dollar, especially against China's currency. Though the timing is uncertain, the interests of both the United States (to stimulate its economy and negate deflation) and

of China (to more effectively manage its reserves and its economic conditions) have changed in favor of this move. While in the past (i.e., when China did not care about the value of its reserves because they were small and when exporting to the strong U.S. economy and building up a large savings in U.S. debt made sense) a fixed exchange rate made sense, now (i.e., when the value of its savings is large so the performance of what it owns is important and when the U.S. market to sell exports into is depressed), it makes sense to give the U.S. the currency appreciation that it has long sought, to diversify its asset holdings into more attractive alternatives and to build a more domestically oriented economy.

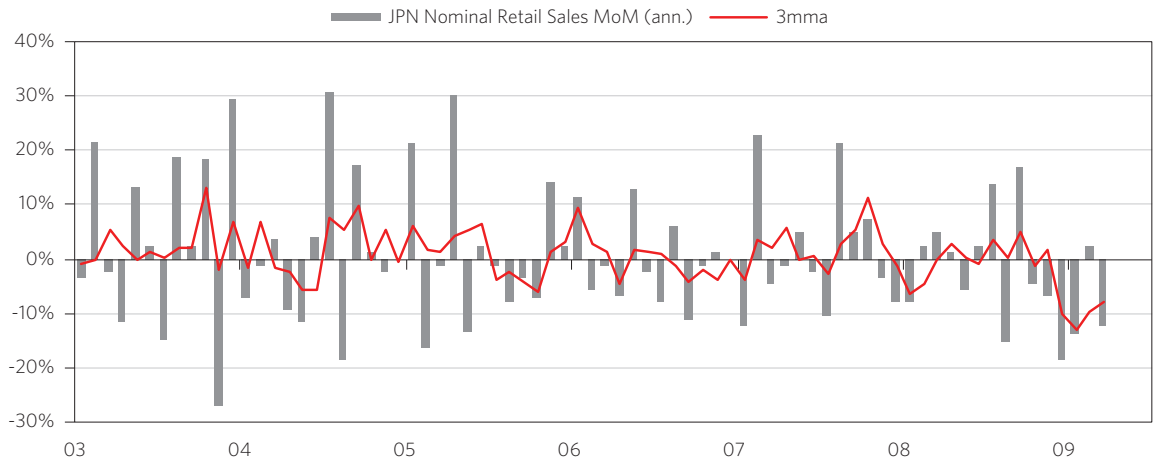
Add to this mix the swine flu and the Chinese curse "May you live in interesting times" takes on special meaning.

Other Industrialized Countries

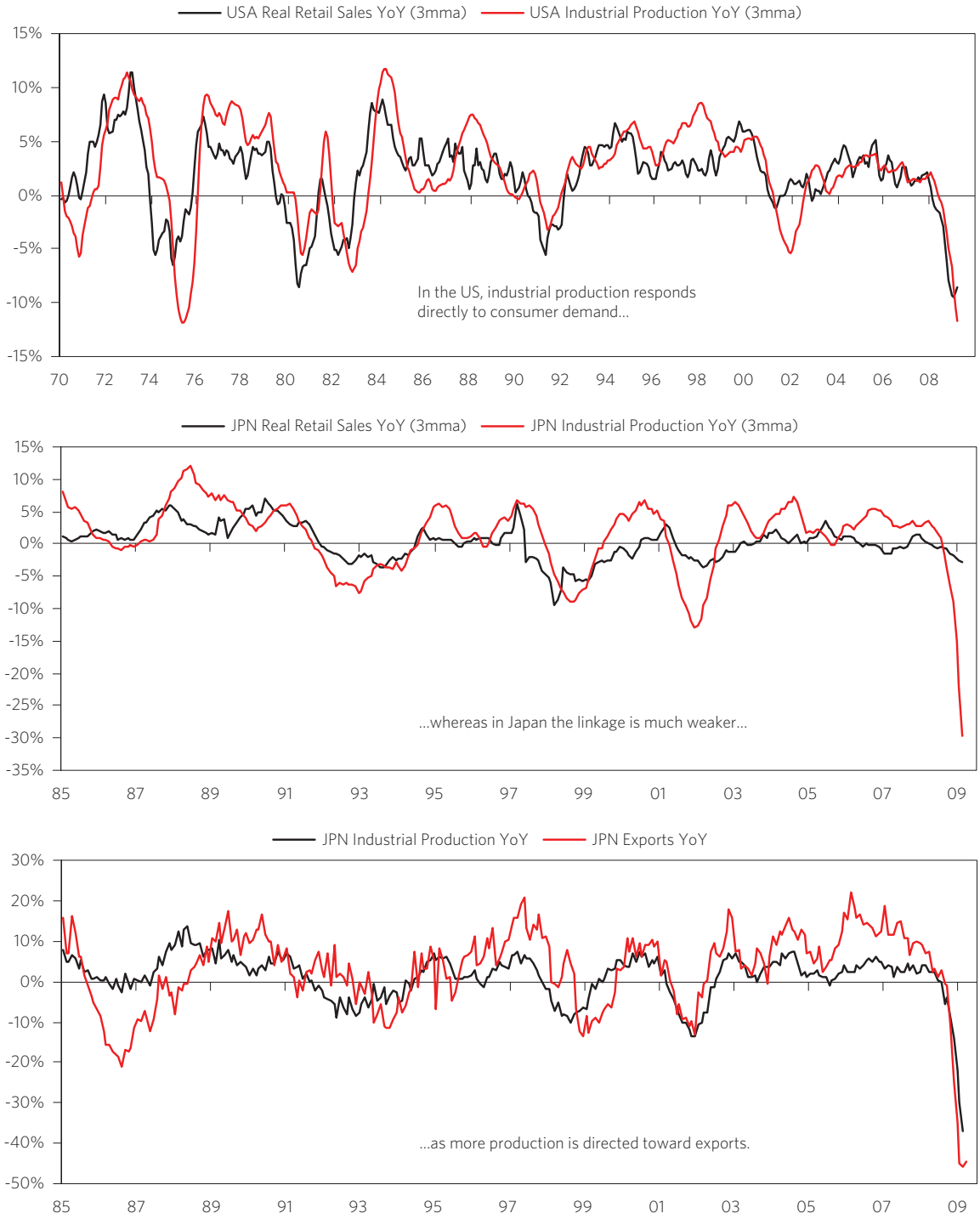
Japan Retail Sales & Employment Conditions

Japanese retail sales contracted 1.1% in March and are down 3.9% compared to a year ago. The demand numbers have started to deteriorate more significantly in the last six months, but it is still milder than at prior times in the last fifteen years. Given how bad the external demand and production numbers are, the domestic demand story is likely to continue to get a lot worse. Exports are down about 45%, production is down by over a third. This drop is increasingly flowing to labor markets, and in turn, should flow to incomes and spending.

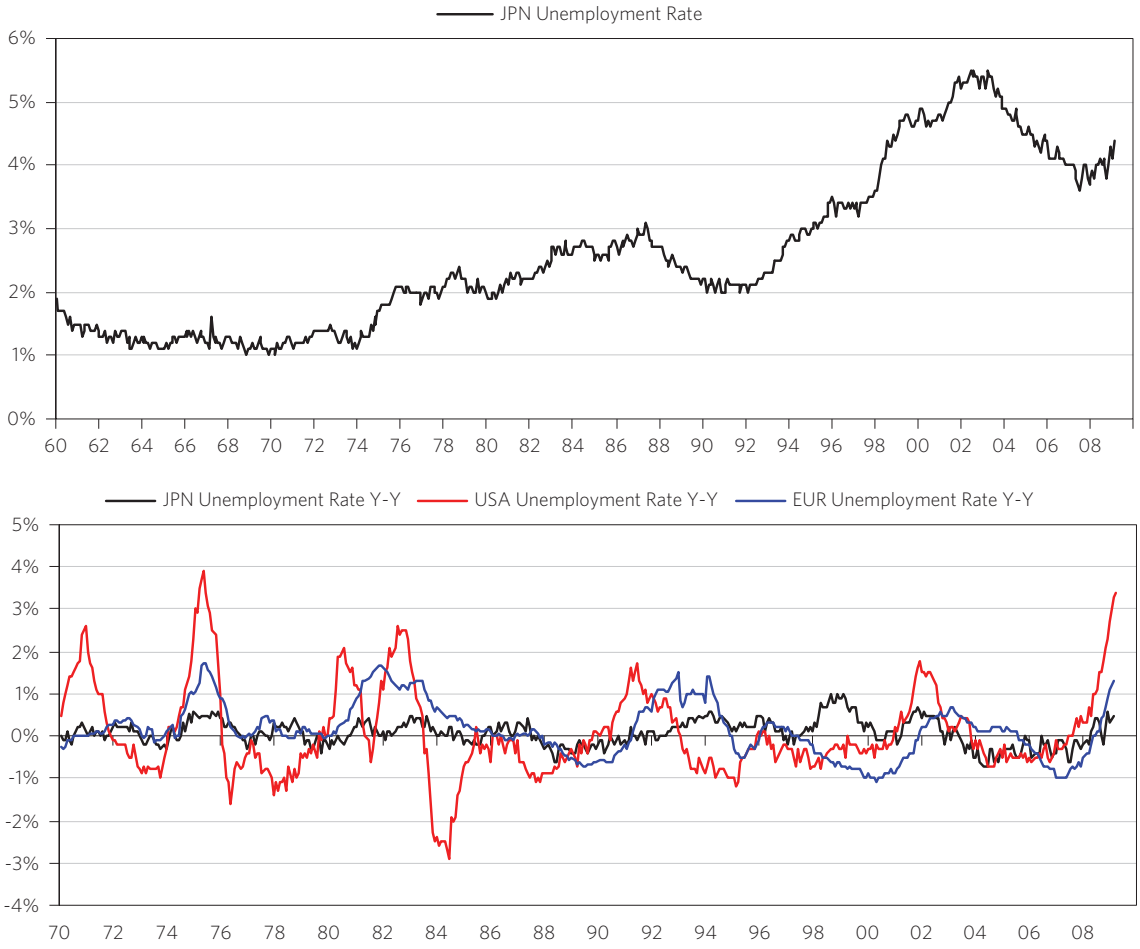
While the Japanese unemployment rate has risen less than 1% from its cyclical lows (compared to more than 4% in the US), companies in Japan have a greater pressure to reduce costs. The difference is that this cost cutting is happening through fewer hours' worked and lower wages. As a result, Japanese households have actually experienced a greater drop in income than households in the US. This should translate into weaker retail sales in the near future. Below we show Japanese retail sales both in a short-term and long-term perspective. The first chart shows monthly changes (annualized) and the three-month average. The second shows a longer-term yearly change in retail sales.



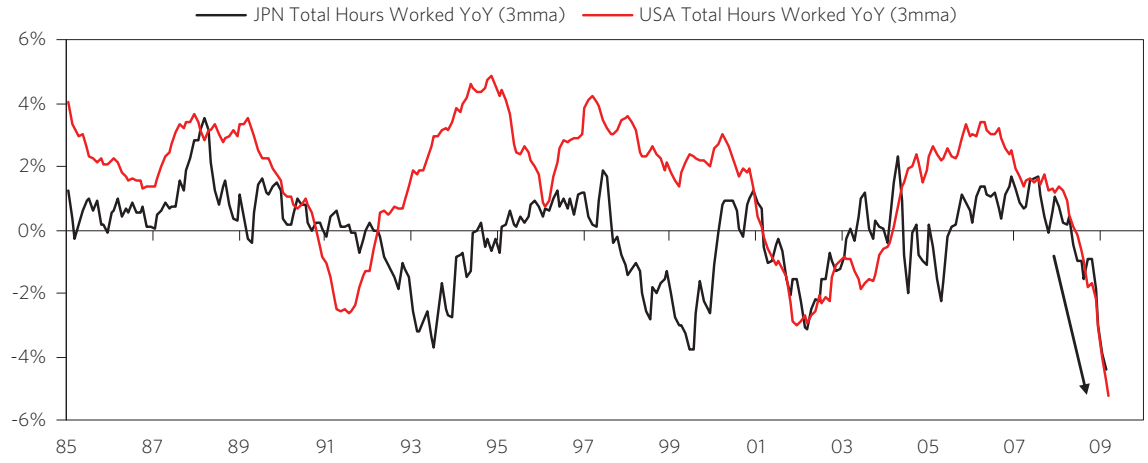
Japanese consumer spending is actually not that bad given the extremely weak conditions. In the US, retail sales tend to lead domestic conditions as businesses generally increase or decrease production in response to swings in domestic consumer demand. This has not been the case in Japan, as swings in external demand have been much greater and therefore much more of a driver of production. As a result, the linkage tends to work in the opposite direction and is not as tight, with increases in export-driven manufacturing leading to higher incomes for Japanese households and ultimately increases in retail spending. With Japanese industrial production and exports both down about three times more than in any recent contraction, and with consumer confidence at an all-time low, retail sales have actually been resilient. The charts below show the relationship between industrial production, retail sales, and exports for the US and Japan.



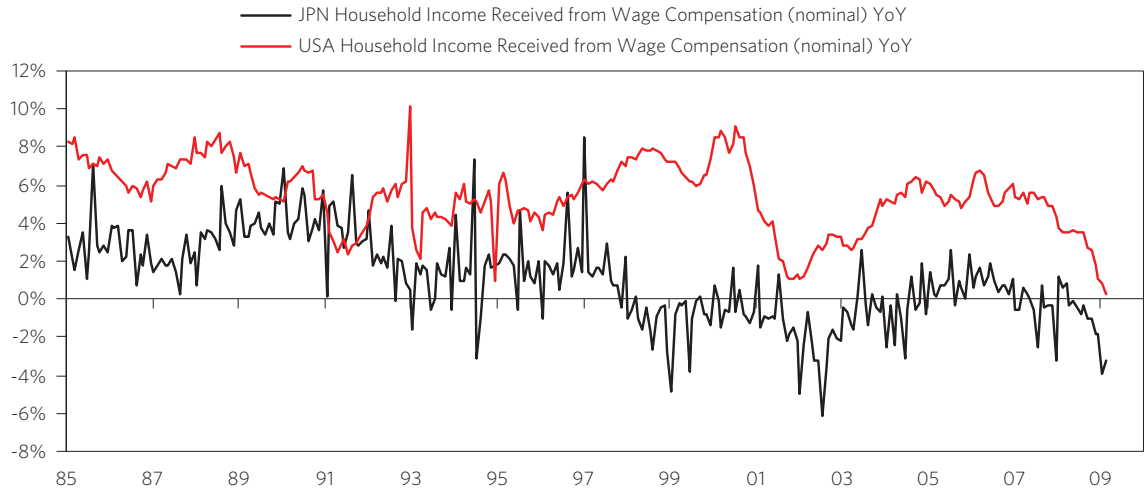
The collapse in domestic production has not yet led to significant job losses in Japan, especially relative to the job losses in other developed countries where conditions are less severe. This difference is mostly due to stricter labor laws in Japan which make it difficult for Japanese businesses to fire workers. The charts below show both the level and change of the unemployment rate in Japan. It is easy to see that the unemployment rate in Japan has historically had smaller cyclical swings than those occurring in the US and even Europe.



For this reason, the headline unemployment rate provides a somewhat misleading picture of labor conditions in Japan. Businesses in Japan are operating way below capacity, putting pressure on profit margins as revenues continue to fall quicker than companies can cut costs. Typically businesses react to these circumstances by eliminating excess capacity, and firing employees is one of the quickest and most effective ways to do this. Japanese businesses lower labor costs by lowering hours worked instead. The first chart below shows the total hours worked by Japanese workers compared to the total hours worked by American workers. While Japanese headline unemployment has risen far less than that in the US, the number of hours worked across the economy is falling at the same pace.



In addition to working fewer hours, Japanese workers are also once again experiencing significant nominal wage deflation, causing household incomes to fall at a pace of 5% YoY whereas incomes in the US have essentially been flat.



Japanese demand numbers have started to contract at a more significant pace in recent months. Given the contraction in external demand, the drop in production, and the reductions in incomes, the decline in demand is far from over. While the translation of lower revenues to incomes is not very evident in the unemployment numbers, it is evident in lower hours worked and compensation. Even more than other developed countries, the drop in revenues has been extreme and there is even more pressure to cut costs. This will continue to flow through to domestic demand in a significant way.

Conclusions

Credit Markets

North America

US Bonds	US Euro$	Canadian Short Rates
Strongly Bullish	Moderately Bullish	Strongly Bullish

Europe

UK Gilts	Euroland Bonds	UK Euro £	Euroland Short Rates
Strongly Bullish	Strongly Bullish	Strongly Bullish	Strongly Bullish

Asia

Japanese Bonds	Australian Bonds	Japanese Euro ¥	Australian Bank Bills
Moderately Bullish	Strongly Bullish	Neutral	Strongly Bullish

Currency Markets

CAD vs USD	EUR vs USD	GBP vs USD	JPY vs USD	AUD vs USD
Neutral	Moderately Bearish	Neutral	Moderately Bullish	Neutral

Equity Markets

US Equities	Japanese Equities	German Equities	UK Equities	French Equities	Canadian Equities	Australian Equities
Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral