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# Addicted to Debt

## The Current State of Debt in the United States and Its Short and Longer Term Impact

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On the heels of the 2008 financial crisis and housing sector meltdown, the world's markets are now juggling the mounting threat of systemic fiscal woes, fears of deflation and a soft job market. In addition, a titanic battle is being waged between austerity measures, trillion dollar bailouts, and heavy doses of government stimulus. As the global economy climbs the rungs of uncertainty, hoards of analysts, policy makers and businesses are gearing up for a lengthy and painful economic recovery. The key question is what is preventing a speedy economic rebound? Unfortunately, there are countless factors that are constraining the path to resurgence. What is clear is that the U.S. economy is caught smack in the middle of this tumultuous environment weighing down the recovery with a mountain of debt and a proclivity to spend by incurring more debt.

It is no secret that the U.S. economy is infatuated with debt. According to the Federal Reserve Board's 2009 year end statistics, individuals in America have amassed \$13.6 trillion of outstanding debt. America is home to approximately 310 million people which means that individual debt averages roughly \$44,800 for every man, woman and child in the country. Contrast that figure with the 2009 per capita disposable income in America of \$36,000<sup>1</sup> and the copious use of consumer leverage comes into focus. Furthermore, corporate America and the U.S. government are fanatical debt addicts. The web of revolving credit lines and the immense commercial paper market paint a clear picture of the reliance of American businesses on financial leverage. Finally, the Fed's balance sheet is bulging with roughly \$7.8 trillion in debt as of the end of 2009 and this does not include unfunded liabilities such as Social Security and Medicare.

Amidst the growing economic uncertainty, many people have turned their focus to the elephant in the room and are coming to the conclusion that the American debt "situation" has reached a critical tipping point. Irrespective of how much Americans have borrowed in the past or how thinly stretched the average American's balance sheet is, consumers in the U.S. are still being encouraged to borrow more. The government is stimulating the economy with generous portions of short-

term borrowing and haphazard spending and businesses are reliant as ever on the commercial paper market to grease the wheels of growth.

### Consumption and its Relation to Economic Growth

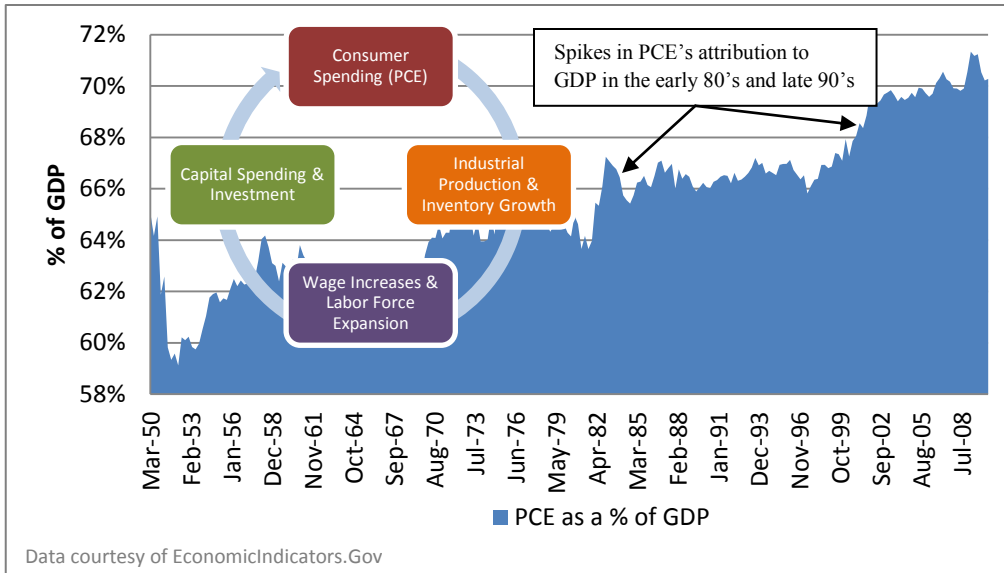
Why has society pushed the debt envelope so far? The simplest answer to this question is that America's economy runs on consumption. All cases of economic contraction can be tied to reduced consumption and all cases of economic growth can be tied to consumption growth. Consumption can take on countless forms in the economic cycle ranging from consumer spending to capital investments to government stimulus packages. Consumer spending (personal consumption expenditures) is one of the best barometers of consumption in the U.S. economy because the dollars that individuals spend on everything from groceries to plasma TVs represent more than 70% of America's gross domestic product (GDP). Figure 1 on page 2 diagrams a simplistic chronology of economic growth and highlights the extensive attribution of personal consumption expenditures (PCE) to America's GDP since 1948. The order of the boxes in Figure 1 is not critical because the growth and contraction of an economy over time is a collection of interconnected feedback loops. The key takeaways are that changes in consumption *lead* economic expansion/contraction and the U.S. economy's reliance on consumption has been in a sustained uptrend since the 1950's with notable spikes upward in the 1980's and 1990's<sup>2</sup>.

It is critical to understand the role of consumer consumption in the economy because consumption drives inventory fluctuations and industrial production of businesses which in turn leads to fluctuations in capital investments and the labor market. Changes in industrial production and capital investment tend to exhibit more volatility than changes in consumption, but their lagging relationship to PCE is fairly consistent over the last 60 years. All of these gyrations translate to changes in

<sup>1</sup> Source: Economic Indicators.Gov

<sup>2</sup> This relationship is far from an absolute, but it has been embraced by countless analysts and economists including top ranked market analyst Joseph Ellis in his book *Ahead of the Curve: A Commonsense Guide to Forecasting Business and Market Cycles*.

**Figure 1: Percentage of Gross Domestic Product (GDP) Attributable to Personal Consumption Expenditures (PCE) from 1960-2010**



However, our focus is on the role debt has played in consumption.

Consumer credit growth is a reasonable measure of how much debt individuals are taking on to fuel their consumption. It is intuitive that a positive relationship would exist between personal consumption expenditure (PCE) growth and consumer credit growth. Consumers may not need to expand their borrowing to buy everyday items, but when consumers want to increase their expenditures it is likely that they will employ some credit to

corporate profits, economic output, and stock market growth. In the simplest terms, if consumers are not spending then businesses have little motivation to expand operations due to depressed earnings, and market returns suffer because of bleak growth prospects.

extend their buying power. What we are interested in is whether there has been a growing relationship between

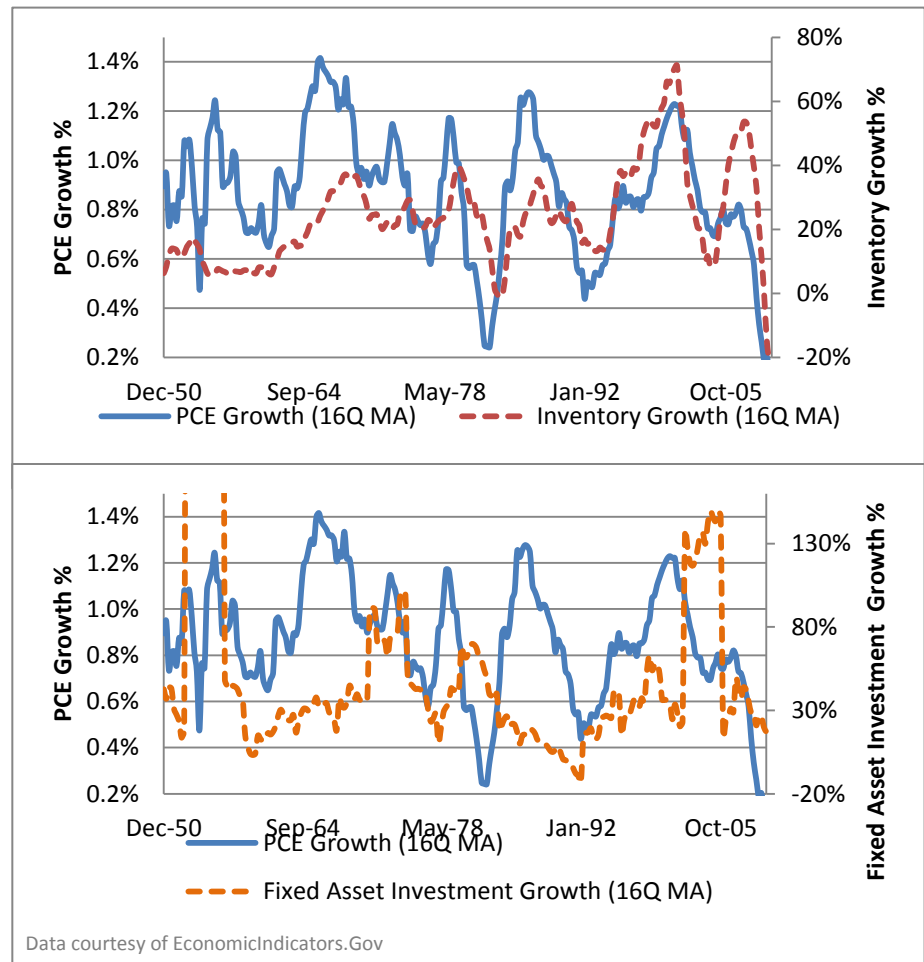
**Relationship between Debt and Consumption**

Now that we have firmed up the cause and effect relationship of consumption and economic growth it is important to understand the link between debt and consumption and how this relationship has an effect on future economic conditions. In the broadest sense, consumption can grow in four ways:

1. Population growth increases the number of consumers
2. Real disposable income growth increases the dollars that can be used for consumption
3. A reduction in real savings increases the dollars that can be used for consumption
4. Debt growth increases the dollars that can be used for consumption

None of these factors are independent of each other and each one of them weighs differently on consumption growth at different stages in an economic cycle.

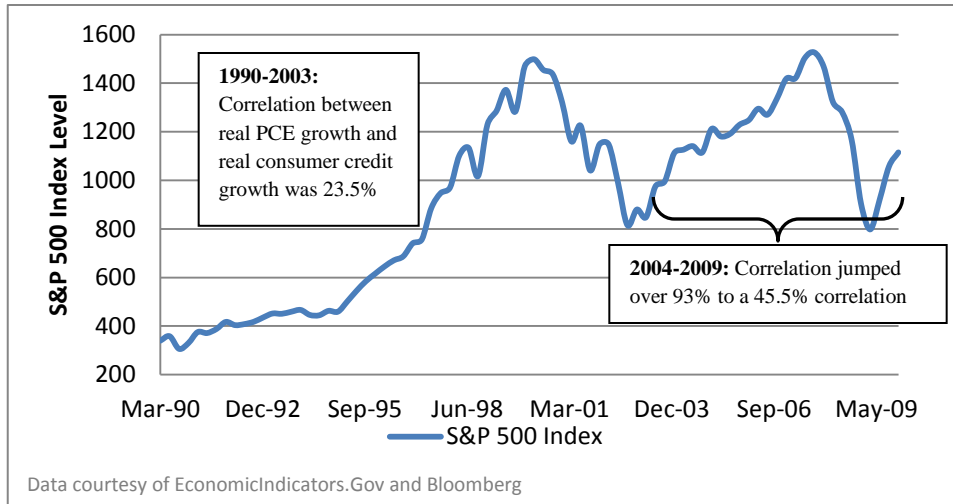
**Figures 2 & 3: PCE Growth as a Leading Indicator of Inventory Growth and Fixed Asset Investment Growth from 1950-2010**



PCE growth and consumer credit growth and if this relationship filters through to the stock market.

During the bull market of the 1990's and the technology bubble of 2001, PCE growth exhibited a weak correlation<sup>3</sup> to consumer credit growth. However, during

**Figure 4: S&P 500 Index Level from 1990-2009 Annotated with Correlations of PCE Growth to Real Consumer Credit Growth**



the bull market from 2004-2007 and the 2008 financial crisis, the correlation between consumer spending and borrowing increased over 93% to 45.5%. A 45.5% correlation is only a moderate positive relationship, but one would not expect consumer spending to perfectly correlate with consumer borrowing because much of an individual's purchasing power is derived from his or her income. Yet the 93% increase in the correlation between personal consumption growth and consumer credit growth during the latest bull market and stock market bubble insinuates that the growth in consumer credit played a much larger role in consumer consumption growth and economic growth than it had in the past.

All of this data raises a pressing question: if personal consumption expenditures are a critical component of economic growth, and consumer credit growth had a strong relationship to consumer spending growth during the last bull market, then what repercussions does the U.S. economy and stock market face if consumer borrowing and debt substantially contract?

<sup>3</sup> Correlations were calculated using the Spearman Rank Correlation Coefficient. PCE growth and consumer credit growth were calculated on a per capita basis in 2010 dollar terms to remove the effects of population growth and inflation on the calculations.

## What Does Debt Really Mean?

Before we delve into the facts behind America's current spend today- pay tomorrow predicament it is important to understand the basic tenets of a balance sheet. We all remember from Accounting 101 that assets minus

liabilities equal owner's equity or net worth. If we buy an asset for \$1 in cash we are exchanging one asset for another and our net worth is unchanged at \$1. Alternatively, if we buy \$2 of an asset for \$1 in cash and \$1 in debt, our net worth still remains unchanged but we now have a liability that must be repaid at some point in the future. This employment of financial leverage is what consumers in the U.S. have embraced to pursue the American dream of owning a house, a car, and every high tech gadget that can be bought on a financing plan. Historically, the largest debt accumulated by domestic investors has been a mortgage

or loan on their primary residence. Coincidentally, the belief was that over time, home prices only *increase* in value which made it worthwhile to borrow to purchase the home or asset. Unfortunately, the last few years have reminded homeowners in all parts of the country that home values can just as easily go down as up, no differently than any other investment or risky asset.

Moving on from our simple example, let's look at debt as the two edged sword that it really is. Many of us bought homes when you were required to come up with at least a 20% down payment in order to qualify for financing the remainder of the purchase price. A bank or other financial institution would then lend you the remaining 80% of the purchase price assuming that they felt you could reasonably afford to make the interest and principal payments. This may sound mundane and obvious but one needs only to go back to the middle of the last decade to see numerous examples of institutions lending to anyone who could fog a mirror.

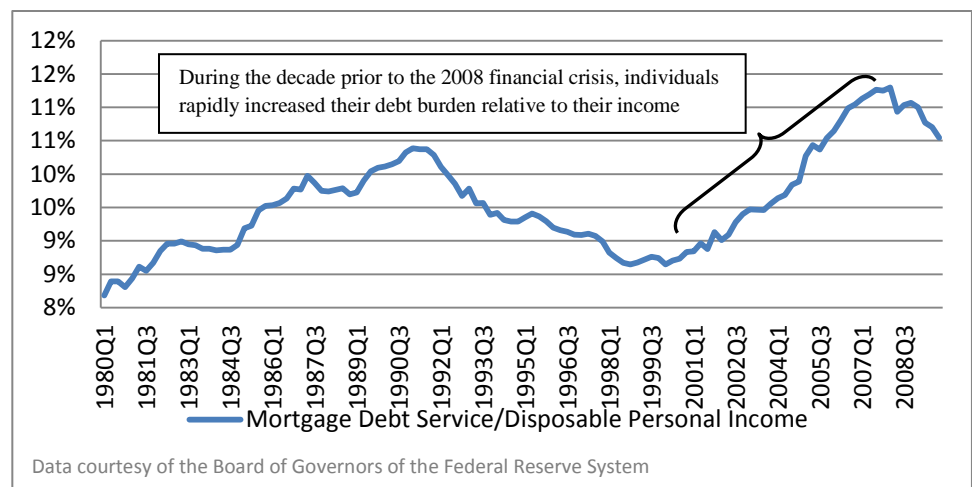
In any case, let's assume that an individual could get somewhat lenient requirements and purchase a \$500,000 home for 10% down. They finance the remaining \$450,000 over 30 years at 6.5% interest rate. Not counting insurance or taxes, the loan itself would result in a monthly payment, including principal and interest of approximately \$2,844 or an annual figure of \$34,131. Assuming that this individual also wants to buy food, clothes, electricity, gas, water, etc. and maybe save some money, they would want to have disposable income (i.e.

income after taxes) of something much greater than \$34,131 per year. According to The Federal Reserve Board, at the end of 2007 (prior to the housing crisis), the average individual in the U.S. had a ratio of annual mortgage payment to disposable income of 11.25% (see Figure 6). This infers that the average person with \$450,000 of 30 year, 6.5% mortgage debt had after tax income in the neighborhood of \$300,000 per year.<sup>4</sup> Interestingly, just eight years earlier, the typical annual mortgage payment to disposable income ratio was 8.65% meaning that this same borrower had income closer to \$400,000. This means that either lending standards had become much looser or home buyers became more aggressive (or complacent depending how you look at it) or both. Regardless, the margin for error, such as a decline in personal income, had decreased dramatically.

Continuing with the same example, let's take a look at how many consumers turned their homes into something similar to an ATM. When the above home was purchased, the homeowner had an asset worth \$500,000, a liability of \$450,000 and equity or net worth of \$50,000. Next we will assume the home appreciates by \$100,000 over the ensuing five years and that \$15,000 of the loan was paid off. Now the balance sheet holds a \$600,000 asset, a \$435,000 liability and equity of \$165,000. The homeowner just tripled his or her net worth in five years. Now assume the homeowner wants to tap some of the equity in the house to make additional lifestyle improvements. The individual refinances the home (probably on multiple occasions), keeps 10% in equity and borrows (yes this equity line has to be paid back some day) \$105,000. The person takes a nice vacation, buys a new car (a depreciating asset), and indulges in a lot of

<sup>4</sup> This comparison is for illustrative purposes only. This measure expresses the debt service obligations of the population as a whole but not necessarily the obligations of the typical household.

**Figure 6: Household Mortgage Debt Service as Percentage of Personal Income**

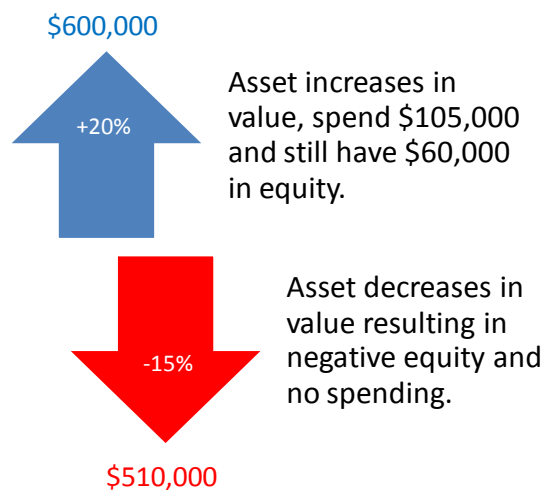


great stuff all the while adding to economic output. Oh yes, and the homeowner's payments go up by some \$800 per month. But the homeowner's income has likely increased too and the individual probably saved a little bit of the money in an equity mutual fund or some other form of investment. In sum, the homeowner's purchasing power went up as did his or her net worth. As long as the person can sell the house for \$600,000, everything is covered.

What happens if a global economic downturn surfaces and home prices tumble like they did during the housing sector meltdown in 2008? Under imperfect conditions, how does our fictional homeowner's net worth and spending power hold up? Assume the homeowner's house falls in value by a mere 15%. Now, instead of the house being worth \$600,000, it is worth \$510,000. Unfortunately, the homeowner's \$540,000 of debt does not fall in value. Therefore, instead of a net worth of \$60,000, the individual has a *negative* net worth of \$30,000 (\$510,000 asset less the \$540,000 liability). At the very least, the home equity ATM is out of order for the near term. Without taking into account the possibility of a lost job or a decrease in hours worked, this person will be incapable of

consuming at the level they were in the past. They will have to reduce their debt or their primary asset (the house) will need to appreciate again in value before they will resume their spending addiction.<sup>5</sup>

<sup>5</sup> Obviously, this is an oversimplification because the addict never completely kicks their habit. Nevertheless, spending will fall even if it doesn't go completely to zero.



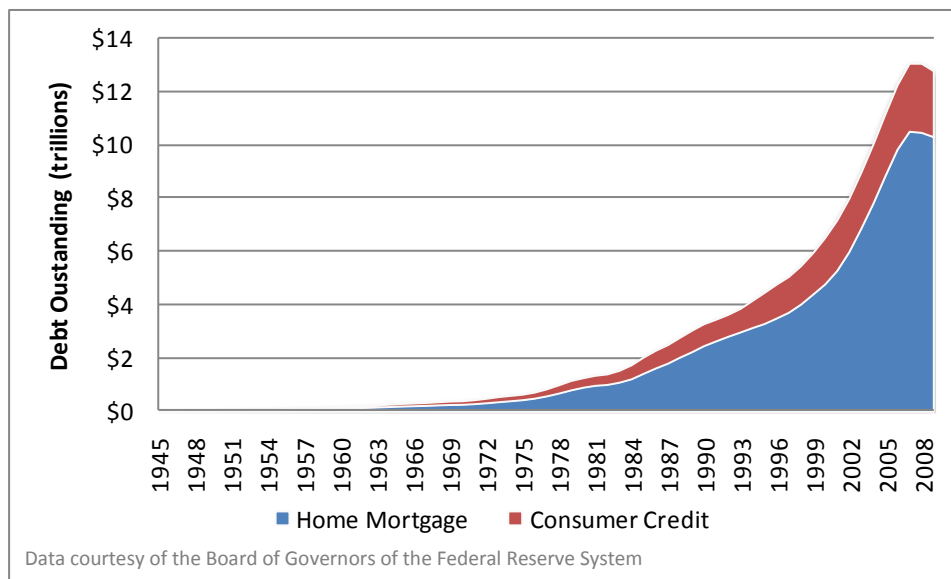
To continue the chain of events, we must analyze spending because spending is what keeps companies in business. Using the classic expenditure approach to calculate gross domestic product (GDP) or economic output we can focus on the critical components of expenditure contributions. In the case of the expenditure approach, GDP is the sum of private consumption, gross investment, government spending and net exports. Net exports subtracts imports from exports and with the huge domestic consumption binge American's have enjoyed for the past few decades, this number is perpetually negative. In addition, private consumption has made up the vast majority of the United States' GDP representing 69.6% of GDP in 2009. With this much of the American economy dependent on the personal spending component of the equation, any decrease in consumption will certainly hurt corporate profits and hence economic growth. Moreover, as we can see from the examples above, debt is an amplifier that multiplies the good times as well as the bad. The real question is how much of the growth in recent U.S. history has been amplified by debt?

### Household Debt

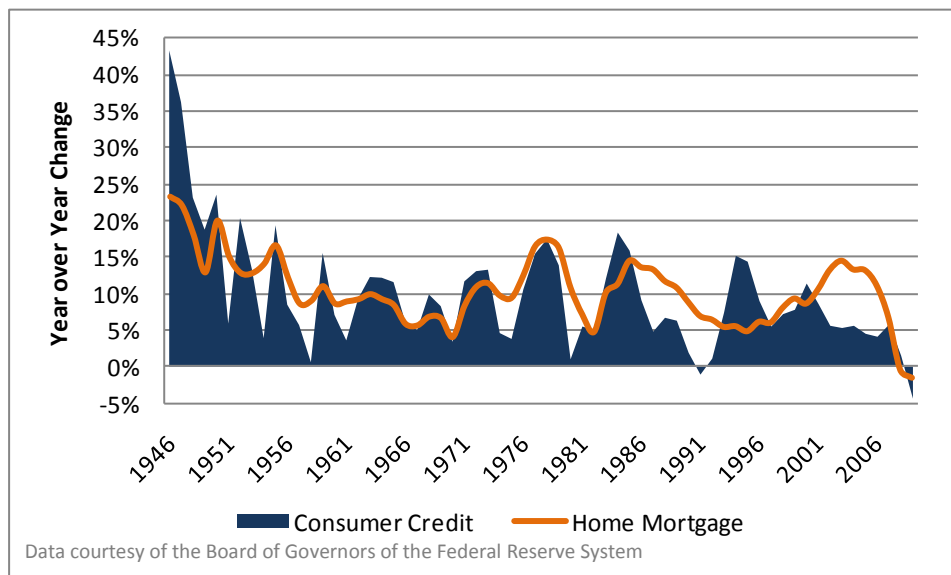
Private consumption is the engine of the U.S. economy and consumption is typically driven by real growth in consumer income. Outside of income growth, the economy can expand, at least temporarily, by an increase in debt or a liquidation of consumer savings. Over the last 20-25 years, many individuals have embraced rampant borrowing to fund their desired lifestyle. Figure 7 illustrates the post World War II growth of consumer debt, fueled in large part by the growth of mortgage debt. At the end of 2009, mortgage debt accounted for \$10.3 trillion of the \$13.6 trillion outstanding. Other consumer credit was a distant second.

Since WW II it has been rare for consumers to reduce debt. In fact, prior to 2008 there has never been a year where consumers reduced mortgage debt and there has only been one year (1991) when consumer credit retrenched. As Figure 8 illustrates, consumers began to reduce debt beginning in 2008 and that trend is continuing. Home mortgage credit contracted at a seasonally adjusted annual rate of 3.8% in the first quarter of 2010, the eighth consecutive quarterly decline. Likewise, consumer credit contracted at the annual rate of 1.6% during the first quarter, representing the sixth consecutive quarterly decline.

**Figure 7: Growth in Consumer Debt from 1945-2009**

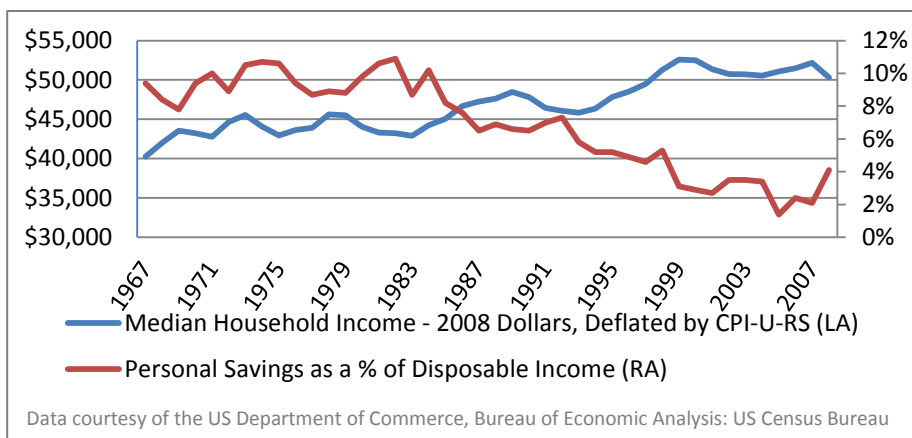


**Figure 8: Annual Growth in Consumer Credit and Home Mortgage Debt from 1945-2009**



Private consumption can also be fueled by consumers liquidating savings. As Figure 9 details, since 2007 there has been a rapid increase in personal savings. More importantly, households have experienced a decrease in real household income (income adjusted for inflation) over the last decade. Therefore, individuals are making less money after inflation and are saving more. Couple this with a contraction in personal debt and it is not hard to understand why the U.S. economy is not growing.

**Figure 9: Household Income and Personal Savings from 1967-2009**



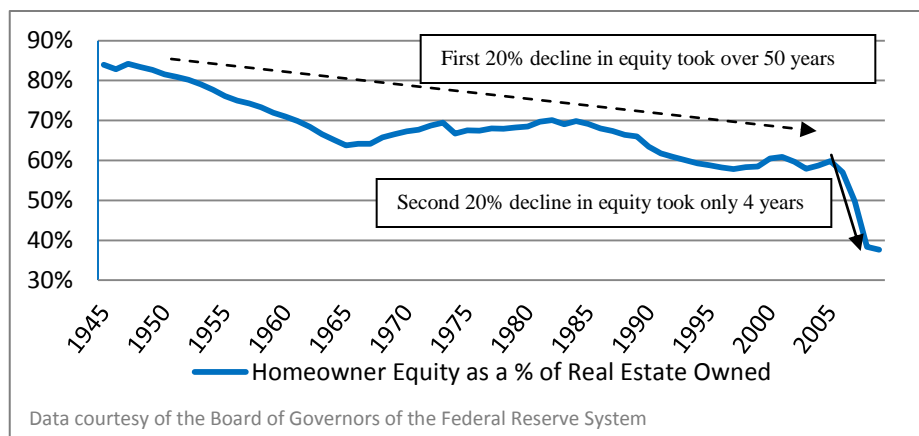
Consumers also tend to spend more when they are feeling wealthy. As one might expect, the bull market of the 1980's and 1990's vastly increased individual wealth. In fact, net worth of households and nonprofit organizations increased nearly threefold between 1982 and 2000<sup>6</sup>. Unfortunately, the last few years have been rough with individual net worth dropping precipitously since 2007. In addition, individuals have felt the pinch of falling home prices coupled with the previously discussed propensity to utilize home equity for spending sprees. The result has been a dramatic reduction in homeowner equity. As we see in Figure 10, homeowner equity dwindled at a steady but slow rate from the end of World War II through 2005. In total, homeowners saw their equity drop by roughly 20 percentage points over this time period (from approximately 80% to 60%). From 2005 through 2009, declining home prices had an even bigger impact on equity with the result being another 20 percentage point drop in a mere four years.

Finally, the number of homeowners with mortgages that are "underwater" (i.e. negative equity) is in excess of 21%<sup>7</sup>. This number is down from 23% a year earlier which is not much of a consolation as it still represents one in every five mortgages. As a result, consumers are in general feeling poorer causing most to curb unnecessary purchases and where possible, substitute lower priced alternatives (for example generic brands).

In addition to feeling poorer, many individuals simply cannot make their mortgage payments. As seen in Figure 11 on page 7, the number of mortgage delinquencies<sup>8</sup> has skyrocketed over the last four years rising from under 3% at the end of Q3 2007 to well over 11% at the end of Q2 2010.

In summary, it appears that the consumer is retrenching from the debt fueled consumption of the past. Specifically, the real and perceived ability of consumers to continue spending above their means has decreased dramatically. This includes a drop in real income and home equity plus an increase in savings and delinquency rates. Economic growth is typically measured as an increase in gross domestic product (GDP). As discussed, the largest portion of GDP is personal consumption expenditures and at the end of the second quarter 2010, expenditures represented over 70% of GDP. With the consumer choosing to save more and spend less, it is difficult to imagine how the consumer will drive economic growth over the coming years.

**Figure 10: Decline in Homeowner's Equity from 1945-2009**

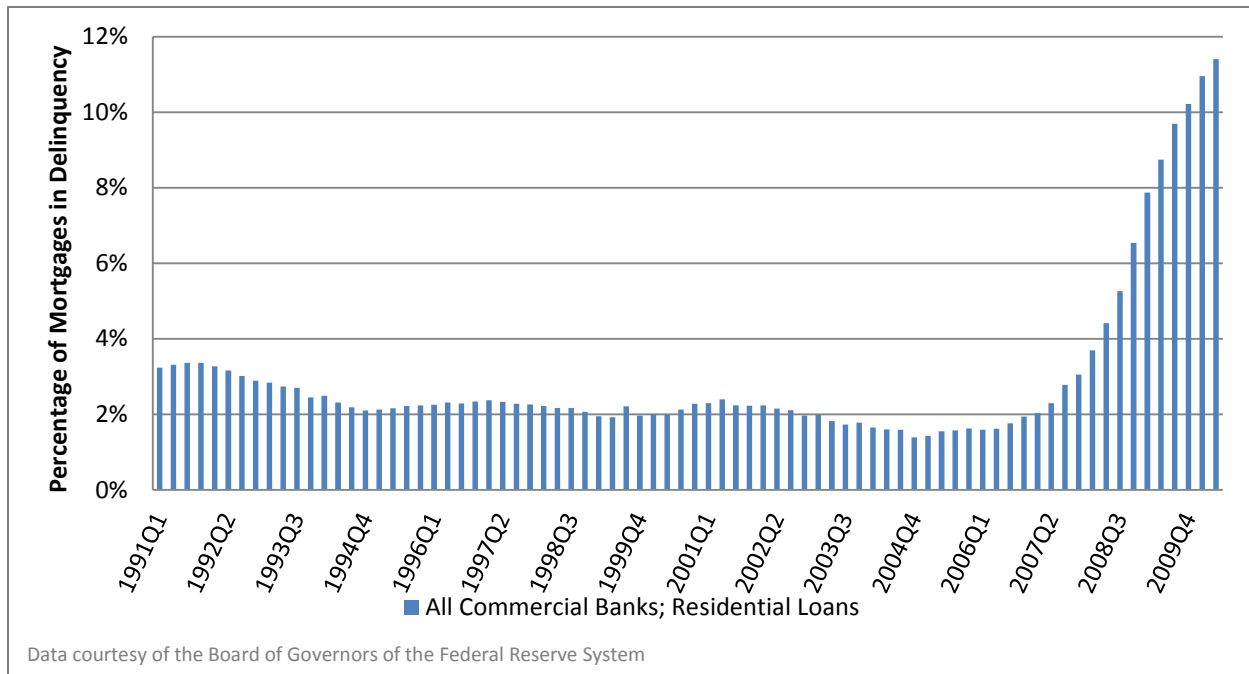


<sup>6</sup> Flow of Funds, Board of Governors of The Federal Reserve Board

<sup>7</sup> "Fewer U.S. Homeowners Have 'Underwater Mortgages'", Msnbc.com, August 9, 2010

<sup>8</sup> Delinquent loans are those past due thirty days or more and still accruing interest as well as those in nonaccrual status. They are measured as a percentage of end-of-period loans.

**Figure 11: Increase in Delinquencies on Single Family Residential Mortgages**



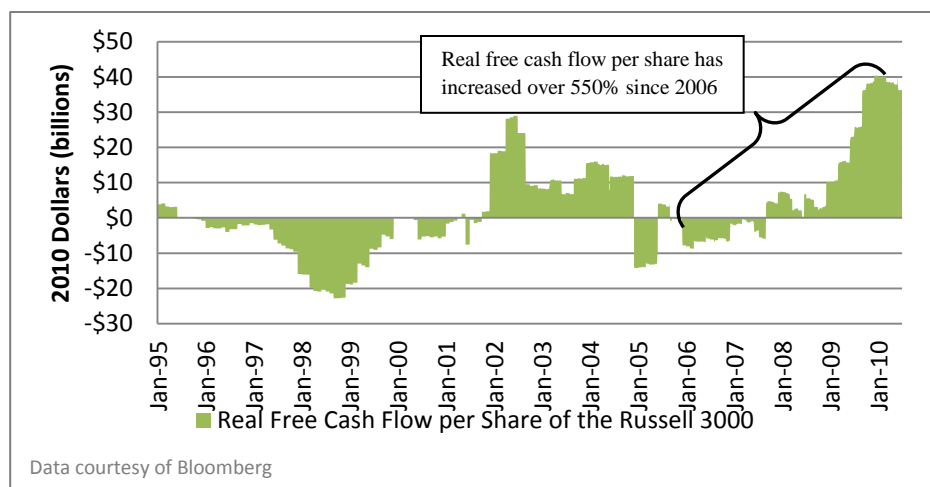
**Business Debt**

The debt crunch that is facing consumers and households is not new news. Americans are already deleveraging, credit standards have severely tightened and the amount of home equity available for loan collateral has substantially diminished. Individuals may be strapped, but what about the status of corporate America? Many Wall Street analysts have been touting the healthy cash positions of companies highlighting that the business sector may not be chained to the same sinking debt ship that the American consumer is. Simply put, the healthier a company's cash position, the better position it is in to weather market down turns, manage maturing liabilities, and make opportune investments in a weak market.

Figure 12 illustrates that the companies in the Russell 3000 index are sitting on the biggest free cash flows per share this market has seen in last 15 years<sup>9</sup>. Because healthy cash positions afford substantial operational flexibility, many market pundits feel that these cash rich businesses will be a catalyst for getting the American economy and stock market back on track. However, the fact that companies

have increased their real free cash flow per share by over 550% in less than four years is very curious. The stock market rewards growth, yet it is obvious that businesses are choosing to hoard their cash at a time when cash is paying next to nothing rather than reinvest in their operations. Our research indicates that businesses are being squeezed by a huge contraction in the commercial paper market and the collateral damage of the consumer debt implosion. These two landmines could greatly hamper a quick rebound in the stock market and the U.S. economy.

**Figure 12: Real Free Cash Flow per Share of Russell 3000 Companies from June 1995 - August 2010**



<sup>9</sup> Some of the growth of free cash flow per share may be attributable to index rollover and share repurchase programs.

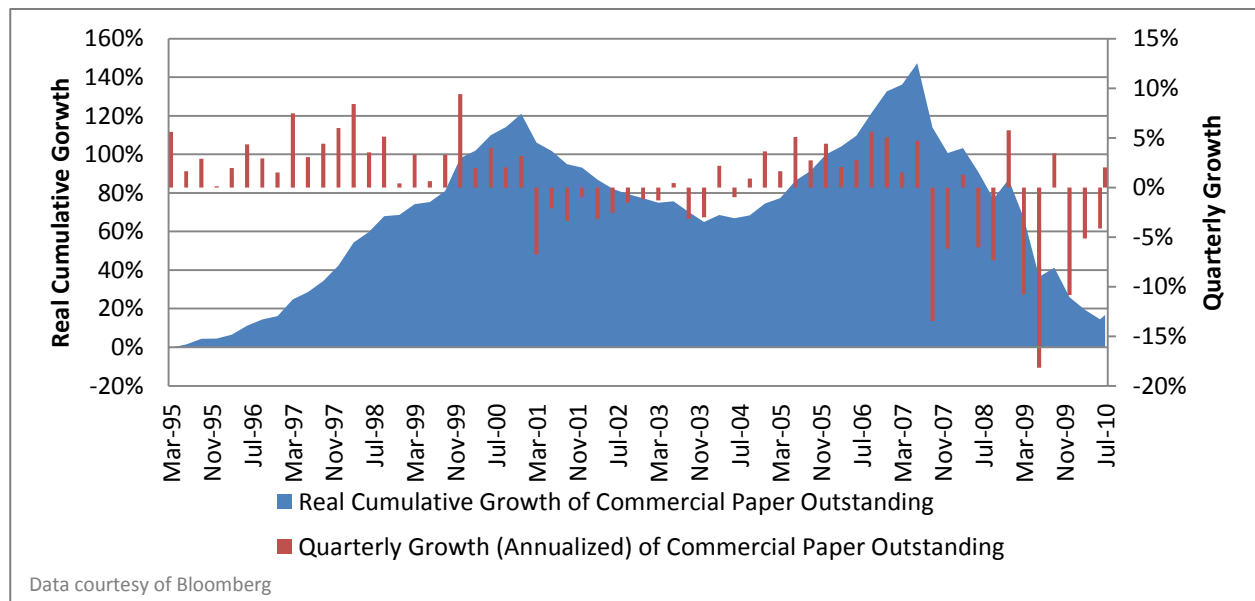
## Commercial Paper Market Contraction

Businesses rely on the massive liquidity pool of the commercial paper market to bridge the short term gap between their accounts payable and their accounts receivable. A business would prefer to be paid immediately in cash for its sales while having the flexibility to delay its liabilities with zero interest accounts payable terms. In reality, the average business must entice customers with attractive payment terms while juggling less attractive payment terms with its suppliers. Just look at all the appliance and furniture stores that are offering 18 month, 0% interest payment plans to attract customers. The only way a business model that has short dated maturing liabilities and longer dated maturing assets can survive without mounds of deadweight cash is by tapping the commercial paper market. The commercial paper market allows a business to establish short term credit lines to cover its day-to-day operating costs while it waits for its accounts receivable to turn into cash. In the past, the commercial paper market has been a near frictionless credit pool that has allowed businesses to maintain lean cash balances. Combine a lean cash balance with multitudes of sales generated by relaxed credit terms and it is easy to see how businesses were able to prosper so immensely in the recent 25 year bull market. However, it is important to recognize that without a free flowing and expanding commercial paper market, businesses would have had to maintain much higher cash balances to cover operational costs. Higher cash balances would have translated into slower growth and lower rates of return because businesses would not have been able to plow such a large portion of their earnings back into their operations. With slower growth and lower rates of return it is doubtful that the stock market would have soared to the highs that it reached in 2000 and 2007.

Figure 13 (below) tells a striking story. The current commercial paper market is not much bigger than it was 15 years ago (in real terms). What we have seen over the last two years is a dizzying contraction of the short term funding available to business. As previously noted, businesses are enjoying the largest amount of free cash flow per share ever. So, in spite of the contraction in commercial paper outstanding, businesses still seem awash in liquidity. Why are businesses carrying so much cash on their balance sheets? It is not because they are delinked from the credit crunch. Rather, one of the major reasons that business are fattening up their cash position is because the source of their short term funding has collapsed and they need the extra cash to keep the lights on while they chase around a consumer that is borrowing less and saving more. Unfortunately, if a shrinking commercial paper market forces businesses to keep more cash on their balance sheets, fewer funds will be available for reinvestment in the economy and countless other businesses and investors will suffer from decreased capital expenditures and abating interest income.

Furthermore, with interest rates as low as they are, many companies are turning to long term debt issuances to bridge the gap between their operational expenses and revenues. Several companies have gone as far as to issue bonds with 100 year maturities. The problem with replacing short term commercial paper with long term debt is that the outstanding debt of U.S. businesses is already \$15.6 trillion (more than twice the size of Federal government's stated debt), and long term debt does not afford a company the same financial flexibility as revolving credit lines. One hundred years is a long time to hold an inflexible liability, especially if your business model experiences a substantial contraction in the near future.

**Figure 13: Real Cumulative Growth of Commercial Paper Outstanding from 1995 to 2010**



## Spillover of the Consumer Debt Implosion to the Business Sector

It is safe to say that many businesses benefited tremendously from the consumption binge over the last thirty years. Consumer spending fueled by rampant borrowing meant that consumer oriented businesses were growing revenues at breakneck speeds. This immense growth in sales enticed these companies to expand operations to leverage this increase in consumption. Consequently, ballooning capital expenditures translated into massive earnings growth for business to business companies which in turn lead to more consumption growth. All of this growth was lavishly rewarded with a booming economy and a soaring stock market (an exception of course was the bursting of the tech bubble in late 2000).

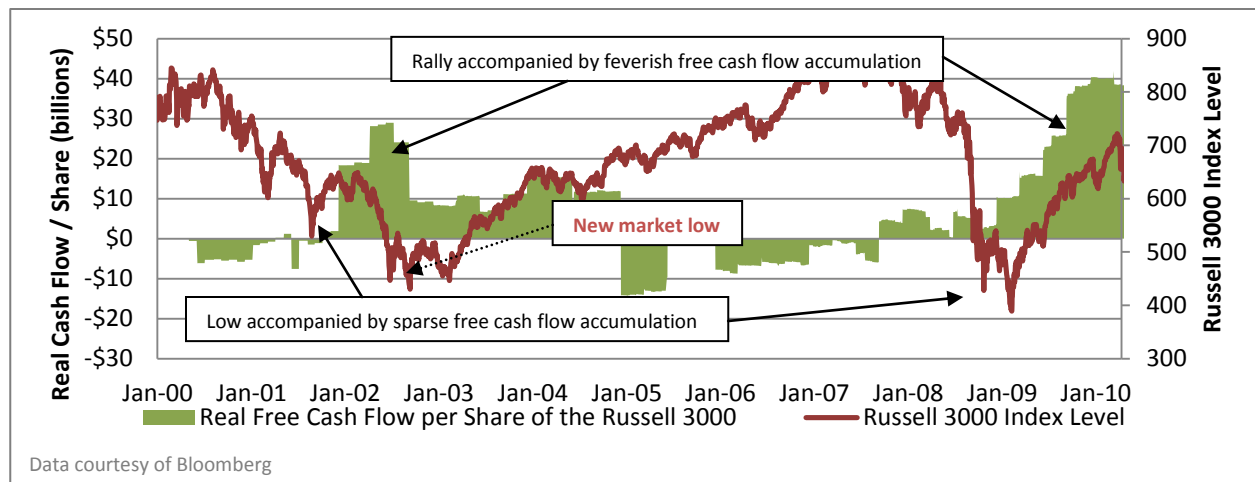
Unfortunately, consumers have severely curbed their borrowing over the last year and it is obvious that businesses have sensed a softening in the market. Businesses are hoarding cash and trimming operations in response to the consumer credit crisis. Because cash is yielding next to nothing and there are tremendous government incentives to jumpstart operations, the exponential growth of cash on business balance sheets makes little sense from a growth perspective. Furthermore, real free cash flow per share spiked in 2001-2003 in conjunction with the bear market and an economic slowdown. Many market pundits insisted that the recession was over when the market rallied more than 22% off of its lows from September 2001 to March 2002.

contraction in consumer borrowing and a near collapse of the commercial paper market. Were the propensity of consumers to borrow and the ability of businesses to extend credit key catalysts that jumpstarted the American economy in 2003?

Additionally, this year's second quarter earnings announcements were characterized by spending cuts and layoffs used to beat recently downgraded earnings projections. Very few businesses experienced substantial revenue growth, which is indicative of the fact that consumers are borrowing and spending less. Regrettably, earnings growth via cost cutting is not sustainable. Rampant budget cuts are actually detrimental to the economy because it means businesses are spending less and consumers are earning less and/or losing their jobs. All in all, it appears that businesses in America have not sidestepped the ramifications of the credit crunch. Analysts are hailing the growing cash balances of corporate America, insisting that the business sector will be the springboard for the economy. However, the recent spike in free cash flow and the incredible implosion of the commercial paper market probably foreshadow a slow road to recovery rather than a quick economic rebound.

As Charles Calomiris<sup>10</sup> noted in a September 7, 2010 interview with Bloomberg, "What typically happens in these kinds of financial crises is that the problem switches from being a private sector leveraging problem to a public-sector leveraging problem. That is the major handoff, and we are in the middle of that handoff right now." Next, we explore the current fiscal condition of state, local and national government.

**Figure 14: Real Free Cash Flow per Share and Index Level of Russell 3000 from 2000-2010**



Yet, at this point businesses were feverishly boosting their free cash flow and the market had another 30% to fall from March 2002 to its lows in September 2002 and March 2003. Two key differences between the 2001-2003 free cash flow spike and the current conditions are that the 2001-2003 spike was not accompanied by a massive

<sup>10</sup> Charles W. Calomiris is Henry Kaufman Professor of Financial Institutions at the Columbia University Graduate School of Business and a Professor at Columbia's School of International and Public Affairs. He is a member of the Shadow Financial Regulatory Committee and the Financial Economists Roundtable, and a Research Associate of the National Bureau of Economic Research.

## State & Local Government Debt

While most of the public sector debate about debt centers on the Federal Government, state and local governments represent a large and growing proportion of the domestic debt problem. The Federal debt outstanding is currently well over \$8 trillion, yet state and local governments are staring at a sizable \$2.4 trillion in debt<sup>11</sup>. As noted, the U.S. consumer has been deleveraging since 2008. At the same time, state and local governments have increased their debt outstanding, which *does not* include the rapid increase in unfunded pension and healthcare liabilities. The latter is one of the most contentious pieces of the puzzle as some insist that liabilities for retirees are beginning to dwarf the stated debt outstanding. At the very least, unfunded liabilities represent an extremely large percentage of state and local governments' outstanding debt.

In February 2010, the Pew Center on States published a report titled "Trillion Dollar Gap" in which they estimate the difference between the assets on hand and the liabilities due for public sector pensions, health care and other retirement benefits was \$1 trillion dollars. If we add this figure to the \$2.4 trillion debt outstanding, we increase state and local debt by nearly 42%. However, the Pew Center on States report uses data for fiscal year 2008 and does not question the rate of return assumptions used by the municipalities in calculating liabilities. If the figures are updated to take into account a) declines in investment values over the time period mentioned and b) increases in liabilities due to declining interest rates, the projected unfunded liability skyrockets.

A recent report by the National Center for Policy Analysis (NCPA)<sup>12</sup> looked at the true unfunded liabilities of state and local governments after adjustments are made for recent investment market conditions as well as more reasonable methods for determining future liabilities. The latter has to do with how actuaries calculate liabilities based on assumed rates at which liabilities will grow. After making adjustments that better reflect current and likely future conditions, the NCPA report concluded that total unfunded liabilities are closer to \$3.1 trillion, some three times more than the Pew Center estimate. This figure has been confirmed by other studies<sup>13</sup> and makes the outlook for public employee retirement seem bleak at best. What is most disconcerting is the fact that the taxpayer will eventually be asked to shoulder the burden. According to Joshua D. Rauh, associate professor of finance at Northwestern University's Kellogg School of Management, "There is no magic bullet as far as policy

<sup>11</sup> Flow of Funds, Board of Governors of The Federal Reserve System, as of March 31, 2010.

<sup>12</sup> "Unfunded Liabilities of State and Local Government Employee Retirement Benefit Plans", Courtney Collins and Andrew J. Rettenmaier, July 2010.

<sup>13</sup> "Pension Cuts Won't cover a \$3 Trillion Bill in U.S.", Study Says", Bloomberg, August 20, 2010

changes are concerned....If unfunded liabilities continue to grow the bailouts could even be larger."

## Federal Government Debt

The Congressional Budget Office (CBO) is a nonpartisan organization designed to help Congress make more informed budgetary decisions<sup>14</sup>. The information they provide is quite good and as one reads many of the well thought out studies, it is hard to believe anything other than the fact that Congress does not pay much attention to the CBO. The following is copied verbatim from a recent brief published by the CBO<sup>15</sup>.

*Over the past few years, U.S. government debt held by the public has grown rapidly—to the point that, compared with the total output of the economy, it is now higher than it has ever been except during the period around World War II....Further increases in federal debt relative to the nation's output (gross domestic product, or GDP) almost certainly lie ahead if current policies remain in place. The aging of the population and rising costs for health care will push federal spending, measured as a percentage of GDP, well above the levels experienced in recent decades. Unless policymakers restrain the growth of spending, increase revenues significantly as a share of GDP, or adopt some combination of those two approaches, growing budget deficits will cause debt to rise to unsupportable levels.*

Deficits incurred and expected to be incurred by the U.S. Government combined with current debt levels are mind numbing to say the least. The key question is how much debt has the government *truly* accumulated? To arrive at an accurate figure requires looking under more than one stone and summing these tidbits into an overall figure.

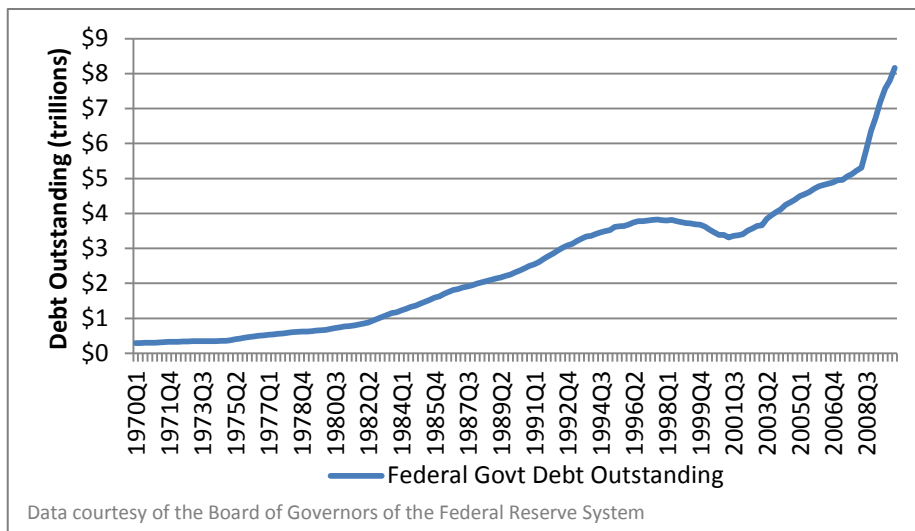
First, we begin with the debt outstanding and held by the public as reported by the Federal Reserve. As of the end of the first quarter 2010, that number stood at approximately \$8.2 trillion. This figure is even more amazing when we review the debt history over the last 40 years.

As the graph on page 11 (Figure 15) clearly shows, the Federal Government was starting to make some headway towards reducing the debt in the late nineties and early 2000's. Unfortunately, the government's proclivity to spend took hold in early 2001 and the stated debt ballooned by some 2 ½ times through the early part of 2010. The CBO blames the latest recession for the nearly meteoric rise seen in the last 2 years. Certainly, enormous

<sup>14</sup> We acknowledge that there is a huge difference between informed and effective decisions.

<sup>15</sup> "Federal Debt and the Risk of a Fiscal Crisis", Congressional Budget Office, July 27, 2010

**Figure 15: Federal Government Debt Outstanding from 1970-2010**



Government wide financial statements<sup>17</sup>.” This basically refers to debt incurred when one part of the Government borrows from another and includes things such as Social Security and Medicare. In fact, these two Government programs make up the bulk of the \$4.4 trillion of unfunded social program liabilities. This figure is up 76% from \$2.5 trillion just 8 years ago. These numbers become even more staggering (or silly depending on how you look at them) when the totals are revealed. According to Shadow Government Statistics, total Federal obligations (liabilities only) stood at \$70.9 trillion as of September 30, 2009 which was up from \$65.6 trillion the year before.

deficit spending has played a major role in the debt explosion. During fiscal 2009, the U.S. ran a deficit of approximately \$1.4 trillion which was nearly \$1 trillion greater than the fiscal 2008 deficit. 2010 looks relatively similar with the budget deficit at \$1.2 trillion for the first 10 months of the fiscal year ending July. The good news is that the CBO estimates that 2010’s budget deficit will come in around 9.2% of GDP, which is smaller than the 9.9% of GDP experienced in 2009. Thank goodness for small miracles.

As we all know, projecting what will happen in the future has only one sure outcome, it will be wrong. Therefore, we can give the CBO prognosticators the benefit of the doubt for being wrong all of the time and definitely optimistic most of the time. Regardless, projections and forecasts are faithfully followed by many market participants and it helps to ponder the future under various outcomes. The CBO projects that one key ingredient, unemployment, will retract to more normal levels over the next few years and flat line around 5-6% from 2015 to 2020. This input is debatable at best and could be very optimistic if the recovery continues to muddle along. Even with optimistic projections<sup>16</sup>, the CBO forecasts Federal debt to grow to approximately \$15 trillion by the year 2020. This figure will represent some 67% of GDP compared to 53% of GDP currently. In their own words, “With such a large increase in debt, plus an expected increase in interest rates as the economic recovery strengthens, interest payments on the debt are poised to skyrocket.”

A second piece of the puzzle is the debt that is “eliminated in the consolidation process for the

<sup>16</sup> A major input into CBO projections is that current laws and policies remain unchanged. As we all know from experience, it’s highly unlikely that future laws and policies will be deficit neutral.

In any case, we are focusing simply on the net liabilities (those in excess of assets) which the Government has outstanding. Taking the sum of the debt held by the public and intra-governmental debt equals total stated Federal debt of approximately \$13 trillion. It is worthwhile to note that Congress has raised the debt ceiling four times over the last two years from \$10.6 trillion in late 2008 to \$14.3 trillion in February 2010. It appears that the caps were more of a guideline than a rule. It also looks like Congress will continue to be busy raising the debt caps as gross federal debt is projected to reach \$21.4 trillion in 2020.

Going forward, the CBO itself admits that the biggest wild card is the growth of federal spending on health care. This will be impacted by the number of Medicare and Medicaid beneficiaries as well as the likelihood that per capita growth in spending per beneficiary will outpace growth in per capita GDP. The U.S. has an aging population and the Census Bureau estimates that the residents aged 65 and older will grow from the current level of approximately 40 million to nearly 90 million by 2050. Regarding spending, current outlays for Medicare and Medicaid combined equal 5.5 percent of GDP. Under current law, the CBO projects that spending for the two programs will grow faster than the economy and reach 6.6 percent of GDP by 2020 and potentially 10 percent of GDP by 2035.

Finally, the third leg of the Federal government debt stool is the off balance sheet financing. Specifically, the government stepped in to bail out Fannie Mae and Freddie Mac and placed the two government sponsored enterprises (GSE’s) into conservatorship. The government purchased just less than 80% of each of the entities which

<sup>17</sup> See “A Citizen’s Guide to the 2009 Financial Report of the U.S. Government”, United States Treasury

allows them to keep the toxic debt of Freddie and Fannie off of their balance sheets. The two GSE's alone have somewhere in the neighborhood of \$1.5 trillion of debt outstanding. In addition, when mortgage guarantees are included, the liability swells to over \$5 trillion or nearly 61% of the amount of Federal debt held by the public. If we add this to the previous two figures, we now see something approaching \$18 trillion in current debt.

The following statement makes one wonder how the U.S. will climb out from beneath the mountain of debt that we have accumulated. "CBO expects that the pace of the economic recovery in the next few years will be slower than might be anticipated on the basis of previous recoveries from deep recessions..."<sup>18</sup>. As noted, the Budget Office's own projections show significant growth rather than any reduction in debt. This coupled with potentially higher interest rates leaves the U.S. in a precarious position when it comes to offering any further stimulus.

## Conclusion

As a turbulent third quarter draws to a close it is hard not to speculate what lies ahead for the U.S. economy and its stock market. Lurking in every crevice of data is another statistic highlighting the financial leverage catastrophe brewing in America. Our research has canvassed three major sectors that the debt crunch has infected. Now it is time to reflect upon what the implosion of consumer borrowing, the contraction of the commercial paper market, and the unchecked debt of the public sector holds in store for the road to recovery.

## Short Term Effects, Potential Solutions and Portfolio Positioning

A key weapon in the Federal government's arsenal for combating a recession is its ability to tweak the money supply and flood a struggling economy with cheap cash. With three month government bill yields hovering below 0.15%, it is worth pondering how much cheaper cash can get. Furthermore, the Fed played just about every card in its hand to jumpstart the economy and save the financial sector from seizing up at the end of 2008. The government's massive stimulus package pulled the stock market off of its lows in 2009, but now it seems that the recovery has stalled out. Monetary growth by nearly any measure has grinded to a halt over the last two years. Regardless of how much money the government floods the economy with, very little seems to trickle through the system to grease the wheels of growth. The harsh reality is that the Federal government is out of stimulus bullets

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<sup>18</sup> "The Budget and Economic Outlook: Fiscal Years 2010 to 2020", Congress of the United States Congressional Budget Office.

and its balance sheet is teetering under a mountain of debt. What is going to act as a catalyst for economic growth if the showering of stimulus dollars has been exhausted?

Historically, consumer spending has been the main thrust behind economic growth in the United States. We devoted the first and largest part of our research to illustrate the strong relationship between consumer spending and borrowing during the late bull market, and highlight the severe contraction of consumer borrowing over the last 24 months. Homeowner's equity represented a substantial portion of individuals' net worth and borrowing power. Now that the housing bubble has burst, the average individual is a lot less wealthy than they use to be. Couple the decline in home equity with the soft job market, stagnate income appreciation, shrinking benefits at work, and more stringent lending guidelines and it is very clear why the American consumer is spending less and saving more.

If the housing market were to experience a major resurgence, individuals would have much of their wealth restored and possibly their hunger to re-leverage would reignite. However, the roadblocks that are constraining housing market resurgence are the fresh scars of the 2008 meltdown and banks unwillingness to lend to under qualified or overleveraged borrowers. Banks cannot afford to make the same mistakes they made in the past because bailouts are no longer a foregone conclusion. Furthermore, the new wave of financial regulation is tightening the screws on the securitization of loans which was one of the driving forces behind the housing boom. The securitized loan calamity was ugly, but the fact of the matter is that securitization allowed people to buy houses on shoe string budgets which kept housing prices artificially high. Finally, banks have stricter lending standards now which have made the 30 year mortgage uneconomical for the banks and unaffordable or unattainable for most home buyers. Without a massive influx of new buyers, a full recovery for the housing market looks highly unlikely in the short term.

Because the housing market plays such a key role in the economy, many people have been pushing for a modernization of the market. Specifically, the U.S. housing market needs to address how mortgages are offered and attempt to find new and innovative ways for individuals to finance their purchases. One potential positive aspect of the Dodd-Frank bill is a study of shared appreciation mortgages<sup>19</sup>. Shared appreciation mortgages would give incentives to lenders to provide more favorable borrowing terms in return for a percentage of future equity increases. This or some other similar innovation will be needed to transfer mortgage lending back to the private sector. Until an innovative lending solution is widely adopted, Fannie Mae and Freddie Mac

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<sup>19</sup> Charles Calomiris, Bloomberg, September 7, 2010

will continue to be the only major low cost provider of mortgage loans, bearing the brunt of defaults while the housing market continues to flounder. Furthermore, without the restoration of mortgage lending and homeowner's equity, it is exceedingly likely that we will see a sustained contraction in consumer spending.

Unfortunately, consumer spending is a main driver of corporate profits. The surging stock market that characterized the past few decades was fueled in large part by market participants' willingness to pay up for the growth and earnings of public companies. A stock's price (P) can be broken down into two components: earnings per share (E) and the multiple that the market is willing to pay for those earnings (M) yielding the equation  $P = E \times M$ . It is safe to assume that if consumer spending contracts then so will the earnings of companies. However, many analysts are hailing the growing free cash flow of companies, highlighting that companies can use their strong cash positions to buy back shares and offset a falling E while they reinvest in their business models in an undervalued market. What these analysts are overlooking is a multiple contraction that is likely to occur because of the collapse of the commercial paper market. Companies are stockpiling cash not so they can repurchase shares and reinvest in their business, but because the commercial paper market has shrunk back to the size it was over 15 years ago. Companies now need more cash on hand to float their operations between the maturation of their short term liabilities and their short term assets. With more cash sitting on their balance sheets, companies will generate a lower rate of return for their shareholders and their future growth will happen at slower rates. Lower rates of return translates to a smaller M because the market will be willing to pay less for stocks that grow slower and return less than they did in the past. Furthermore, without access to a vast commercial paper market, companies will have to curb the credit they offer consumers which will dampen the incentive to "buy now and pay later", and put even more downward pressure on earnings. These consequences could result in a substantial multiple contraction.

During the height of the bull market in 2007 the average earnings multiple of S&P 500 companies reached 17.55. The earnings multiple then contracted to a low of 9.98 at the bottom of the financial crisis selloff in March 2009. Currently the average multiple of S&P 500 companies stands at 14.60<sup>20</sup>. The market seems cheap when you take into account the healthy cash positions of companies, the

<sup>20</sup> Earnings multiples were calculated using trailing earnings per share figures

fact that many companies managed to beat earnings estimates during the second quarter of 2010, and the fact that the market was willing to pay up to an average of 23 times earnings for stocks in the 2009 rally. However, when you factor in why companies are hoarding their cash and consider that many of the earnings estimates were exceeded by the use of cost cutting measures and bottom line manipulation it is not unfathomable to imagine that the multiple the market is willing to pay for stocks could contract to single digit territory in the near future. A contraction down to an 8 or less multiple for example, may be an overreaction to the downside, but history has proven that human emotions often grab the reins of security prices and drive them past points that anyone thought were possible.

During conversations with clients and colleagues we have been asked what events would change our outlook. Clearly there are a number of moving pieces that include

*Simplification of financial regulation and the lending industry is necessary in order to provide relief to consumers and businesses. Until then, uncertainty and fear will dominate the capital markets.*

global as well as local influences. That said, there are a few changes domestically that we believe would have a positive impact. The first change would be a reduction in government spending. A recent Wall Street Journal op-ed piece by Harvard professor Alberto Alesina made a compelling argument for spending cuts<sup>21</sup>. The professor along with a colleague did extensive research on the effect of fiscal policy on the economy. The conclusion was that higher taxes most often resulted in recessions whereas economic expansions came about due to reduced government spending. Reduced spending has been suggested by a number of well known financial experts such as Peter Orszag, former director of the Office of Management and Budget.

In our mind, the issue goes hand in hand with the question of incentives via tax decreases. Why water down the effect of stimulus by filtering demand through the government. It is more effective to remove frictional costs and place money directly in the hand of the consumer. This is the end result of lower taxes. Shorter term, neither of these solutions result in a deficit reduction but there is always a compromise in any solution, especially one that involves some sort of major reform.

Finally, simplification would provide a huge relief to consumers and the capital markets. Uncertainty has ruled the last few years especially in areas such as health care reform, financial reform, taxes, renewable energy and infrastructure. Do we really need a 2,000 page bill to fix the financial system or should we rethink some of the poor decisions of the past? For example, we believe that

<sup>21</sup> "Tax Cuts vs. 'Stimulus': The Evidence Is In", Alberto Alesina, Wall Street Journal, September 15, 2010

FDR had it pegged when he backed the separation of commercial and investment banking. Too big to fail was not an issue prior to the repeal of Glass Steagall. Flash crashes were not a problem prior to the demise of the uptick rule. The heart of Occam's razor or the law of succinctness is that the simplest solution is usually the best one. It would be much easier for businesses to make decisions if we did not have to live in a world where uncertainty was compounded by overly complex laws with unknown future implementation. We believe, like most, that the biggest reason companies are not hiring more workers is due to uncertainty over future regulations and conditions. Certainly, a reduction in structural unemployment from 16% to something much lower would result in more consumption and a healthier economy.

Assuming, at least in the near term, that we do not see a positive shift in policy or sentiment, we believe that markets will remain volatile. This will require a different strategy for managing investment portfolios focusing on more active asset allocation. In addition, volatility will occur both up and down in large swings meaning that investors must have access to vehicles which benefit from declining equity and bond prices as well as increasing prices. More active management can result in other risks so each investor must weigh the risks against the potential benefits. Nevertheless, each cycle presents new opportunities and this one is no different. It simply requires an adjustment in style and thought process which can result in just as much potential as any other economic cycle.

### **Longer Term Effects**

We have also focused on drawing attention to the dire state of the public sector's balance sheet. It is indisputable that the market's rally in the second half of 2009 was largely attributable to the Federal government's willingness to prop up failing banks and flood the economy with cheap money. Unfortunately, the paternal actions of the government came at an incredible expense. The government's balance sheet was already overstretched with mounds of outstanding debt and growing unfunded liabilities before it stepped in to bail out the American economy. Now all levels of the government are trying to balance snowballing liabilities such as pension plans, Social Security, unemployment benefits, and subsidized healthcare costs while servicing other debt obligations. The ramifications of the exponential growth of government debt are currently unclear because the public sector has had success quelling its current liabilities with massive short term debt issuances. However, it is highly unlikely that a lenient fiscal policy will be maintained for an extended period of time. When interest rates do eventually rocket higher, the public sector will face the conundrum of servicing ballooning interest payments, maintaining a feasible

budget, and scrounging up the funding needed to meet the obligations of its defined benefit programs. If these storms collide, it is fairly probable that the public sector will run out of funds and the individual will be left holding the short end of the stick.

Thanks to the amazing advances in medicine and improving living standards, the life expectancy of the average American has grown precipitously since the advent of Social Security and Medicare. Millions of Americans are poised to retire in the next ten years and all levels of the U.S. government have inadequately funded their defined benefit obligations. It is no surprise that the massive growth in public sector debt and volatile stock market conditions have resulted in an underfunding of programs like Social Security and government employee pension plans. In all likelihood, the government will not be able to pay out its defined benefits in full. Over half of the current budget is dedicated to funding entitlement programs. We discussed earlier the need for a reduction in government spending and unfortunately, the biggest impact can come from the largest line items. Eventually individuals will need to come to terms with the fact that they will receive a smaller Social Security benefit (or a smaller pension benefit if they worked for the government) when they retire. This is no different than the realities facing European communities as they deal with their own austerity programs.

When this realization filters through to the American consumer, we will see further contraction of consumer spending and borrowing coupled with higher savings rates. Citizens in China and Japan have faced unreliable government benefit plans for many years and this has translated into much higher saving rates in Japan and China than those witnessed in America over the last 60 years. Higher saving rates and self reliant citizens would alleviate much of the pressure on the U.S. government's balance sheet. Unfortunately, past economic and stock market growth was built on high levels of consumer spending. If the American consumer develops a new habit of spending less, it is very likely that the booming stock markets of the 1990's and early 2000's will become relics of the past.

One major opposition to the idea that the government debt situation will materialize into an unmanageable credit crunch is the U.S. government's ability to collect taxes. If you can collect taxes on the wealthiest individuals and corporations in the world and you can print all the money you need, then how can your debts ever spiral out of control? Without considering the fact that tax hikes cut into disposable income and reduce consumption, taxes will likely be an insufficient source of revenue for the government moving forward. The government deficit is growing at an alarming rate and taxable income is not keeping pace. The American consumer is making less, saving more, and spending less. Slower income growth translates into slower growth of income tax revenue while

reduced spending eats into sales tax revenues and corporate profit taxes. We have mentioned earlier that we believe the revenue side of the government income statement can be bolstered by tax reductions. We realize that this is counterintuitive, but putting money directly in the hands of the consumer is much more efficient than leaving spending decisions to the government. A dollar of revenue collected by the government translates into some form of waste, which results in less than one dollar of benefit to the taxpayer.

Assuming that we do not see decreases in taxes or government spending, the end result will be an American consumer who will be saving more and spending less as well as a business sector that earns less than it did in the past. The U.S. government probably cannot bridge the gap between its assets and its liabilities which will propagate a further reduction in consumer spending. One can never rule out a miracle that will allow America to walk a tightrope to economic resurgence. Yet it would be unwise not to sprinkle in some downside protection into your portfolio to hedge against the U.S. markets succumbing to debt capitulation. Addictions are difficult to shake especially one that favors short term pleasure over long term pain.

In conclusion, the economic outlook is dire although there are potential solutions which could put us on the road to recovery much sooner. In the interim, we are in the midst of a cycle which, not unlike any other cycle, provides opportunities. In fact, this may be an exaggerated form of a winter like cycle and if so, provides even greater opportunities than normal. This requires much more thought and flexibility than the great bull market of the 1980's and 1990's. Yet, with the investment vehicles

available today, there has never been a better time to take advantage of dislocations in the markets. As the old saying goes, if someone gives you lemons, then make lemonade.

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