

## **Thomas M Hoenig: Leverage – the double-edged sword**

Written statement by Mr Thomas M Hoenig, President and Chief Executive Officer of the Federal Reserve Bank of Kansas City, before the House Financial Services Oversight and Investigations Subcommittee, United States House of Representatives, Kansas City, 6 May 2010.

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### **Introduction**

Chairman Moore, ranking member Biggert, and members of the committee. Thank you for the opportunity to testify at this timely hearing.

The financial panic of 2008 created the worst recession since the 1930s, sending unemployment soaring to 10 percent and dramatically changing the landscape of our financial system. While many factors were responsible for creating this crisis, there is no doubt that excessive debt and leverage was a major contributor.

Leverage, the ability to use debt to build assets as a multiple of a firm's capital base, is a double-edged sword. Credit is obviously essential to an economy's growth and prosperity. But when a tower of debt is built on a foundation of weak capital, the inevitable outcome is a collapse and loss of national wealth.

Following this most recent crisis, lawmakers and regulators are examining the issues of debt, leverage and financial strength. We are at a crossroads. The country must again review and define an acceptable leverage profile for our economy and specifically for financial institutions. Defining leverage standards too tightly inhibits growth. Defining them too loosely invites excess risk and crisis.

My views on this topic are based on 36 years of broad experience in the Federal Reserve. As head of bank supervision for the Federal Reserve Bank of Kansas City in the 1980s, I saw the damage caused nationally and locally by excessive leverage and bank failures – both small and large. As President of our Bank over the past 18 years, I've witnessed the anguish of individuals and businesses as they struggled to manage the downside effects of too much leverage.

### **Trends**

Over the past two decades there has been a systematic increase in debt and leverage within the United States, involving all major sectors of the economy. The charts I have included with my statement show asset-capital and debt-income ratios increasing annually across all sectors, rising to levels well above long-run trend lines. In hindsight most agree this build up was excessive and the markets and the regulators should have seen the crisis coming. But they didn't.

There are three components that we must look at in judging the safety of any level of leverage: the quality of assets, the quality of capital and the amount of capital. While asset quality is important, it is the quality and amount of capital that gets a company through unexpected asset problems encountered during the course of business. For that reason, I will focus my attention here on the quality and amount of capital.

Stockholder tangible common equity is the strongest form of capital. It is immediately available to meet creditor obligations and absorb losses. Fundamentally, this is what defines a meaningful measure of leverage. Other measures of capital include different hybrid debt instruments or intangibles that attempt to account for potential value and future earnings. For example, goodwill is an intangible that is not immediately available and evaporates quickly when a firm encounters asset problems. Trust preferred stock is a hybrid-debt instrument

that carries cash flow demands over the life of the instrument. Thus, I measure leverage as a firm's total tangible assets measured against tangible common equity.

The leverage at banking organizations has been rising steadily since the mid-1990s. The increase, however, is not immediately obvious because of the different ways capital and leverage can be measured (Chart 1). For example, in 2007 just before the crisis began, leverage for all banking organizations based on total equity capital, which includes common equity, perpetual preferred stock, and goodwill and other intangible assets, was the same as it was in 1993, \$13 of assets for each dollar of capital.

The story is quite different when you focus on tangible common equity by excluding perpetual preferred stock and goodwill and other intangible assets. Tangible total assets rose from 16 times tangible common equity in 1993 to a multiple of 25 in 2007. The increased reliance on lower quality capital in recent years is clearly seen by the large gap among the various leverage measures in recent years as compared to the early 1990s when all the measures were about the same.

Moreover, a closer examination of the distribution of leverage across firms of different sizes shows that almost all of the increase in leverage is due to the largest banking organizations (Chart 2). For the 10 largest banking companies, leverage based on tangible common equity almost doubled from 18 in 1993 to 34 in 2007, and this doesn't include their off-balance sheet activities. For the rest of the industry, leverage rose from 14 to just 17 (Chart 3). I would also note that for broker-dealers, which are an increasingly important source of credit through the shadow banking system, financial leverage rose from 13 in 1992 to 47 in 2007 (Chart 4).

As a result, with twice as much leverage as all other banking organizations, the 10 largest had much riskier balance sheets at the start of the crisis. The much higher leverage and greater risk exposure of the 10 largest firms clearly indicates that they had a significant funding cost advantage over all other organizations, and their creditors believed they had less exposure to losses.

This increase in financial sector leverage fueled a significant growth of debt in the non financial sector of the economy and, as it turned out, led to a general excess of credit growth over the past 10 years (Chart 5). Bank lending rose from 39 percent of gross domestic product (GDP) in 2004 to 47 percent by the end of 2007, and that figure excludes the rapid growth in credit from the shadow banking sector and the GSEs, Fannie Mae and Freddie Mac. While bank loans relative to GDP have declined since 2008, it remains well above the long-term trend.

The increase in leverage and debt was most prominent in the consumer sector. Consumer debt as a percent of personal income generally has been rising since the 1950s (Chart 6). However, it began a rapid acceleration in 2000, rising from 76 percent to 110 percent by the end of 2007. Non financial business borrowing relative to nominal GDP also has followed an upward trend since the 1950s (Chart 7). During this most recent expansion, it has increased from 77 percent in 2004 to 89 percent at the end of 2007.

Finally, and no less importantly, the federal government deficit is at record levels and the current trend is unsustainable (Chart 8). The increase over the past two years is due partly to the automatic stabilizers that come in to use during a recession and to additional fiscal actions taken to restart the economy. These temporary actions will add to an already heavy burden of various programs that have sharpened the upward trend with no obvious end in sight.

## **Effects**

Given the levels of leverage in the economy, no one should have been surprised at the collapse triggered by the housing bubble bursting in 2006 and the rise in subprime mortgage defaults in 2007.

When housing prices fell, many discovered that they had taken on more financial risk than they previously assumed and more than their capital levels could support. The institutions with the highest leverage suffered the most, and, as it turned out, these were some of the largest institutions in the world. Financial panic quickly followed.

What started as a Wall Street panic soon created regional distress and finally Main Street suffering. And just like the largest institutions, the regional and community banks that were most leveraged, were most likely to fail. The wave of losses, consumer foreclosures and business failures infected every element of the economy.

The deleveraging process commenced as highly-leveraged financial institutions, working with highly-leveraged consumers and business, had insufficient capital to withstand the financial blows. Increasing numbers of homeowners were unable to keep up with their mortgage payments, leading to higher defaults. Mortgage defaults, in turn, sharply lowered the values of mortgage securities held by financial institutions. These losses led banks to attempt to reduce their leverage, which required rebuilding tangible capital and reducing total assets – thus reducing loans. This placed downward pressure on asset values, losses worsened and the vicious cycle of deleveraging worsened. Homes and businesses were lost to foreclosure and liquidation, while unemployment climbed.

The large increases in leverage over the past decade have wrecked havoc on our economy and are responsible for the sluggishness of our recovery. Strong economic growth simply cannot occur if consumers and businesses must focus on rebuilding balance sheets instead of on increasing spending, production and hiring of new workers.

Once again we have learned that the double edged sword of leverage is a pro-cyclical weapon.

## **Constraining leverage**

Today, the largest financial firms are showing a solid recovery. Regional and community banks continue to show stress but problems may have peaked as they have worked to re-establish stable capital and leverage levels. The market appears to be correcting and leverage based on high quality capital is returning to more historic norms. In time credit will once again expand and the economy will improve. But it won't be quick or easy. Therefore, we must now turn to actions that will prevent the impulses of consumers, businesses, and financial institutions from assuming ever more leverage as the expansion becomes a boom. If we take action now, then when the next economic correction occurs there will be less devastation to our economy. If we don't change policy now, then this crisis will be remembered only in text books and leverage will rise again and lead to another crisis.

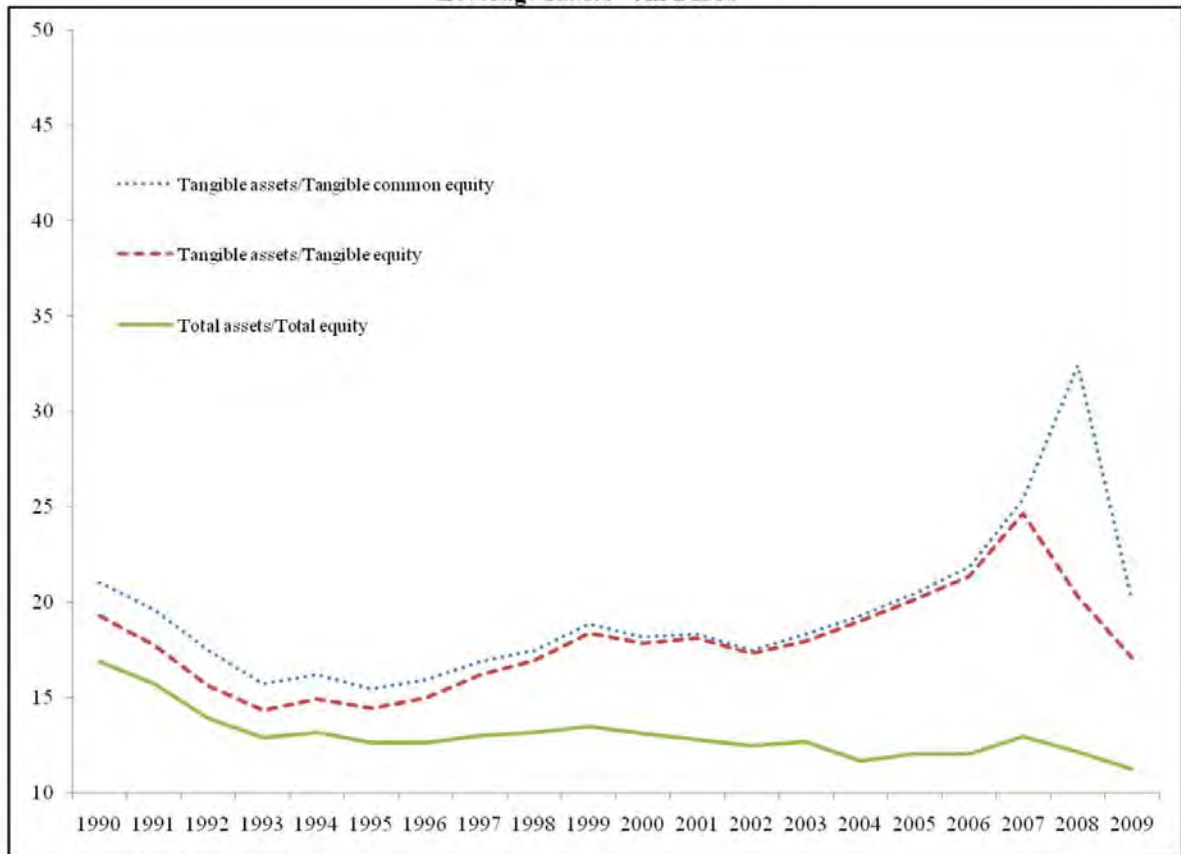
I strongly support establishing hard leverage rules that are simple, understandable and enforceable and that apply equally to all banks and bank holding companies that operate in the United States. As we saw in the years leading up to the current crisis, leverage tends to rise during economic expansions as investors and lenders forget their past mistakes and believe that prosperity will continue with no end in sight. Straightforward leverage and underwriting rules are not procyclical, so that as the economy expands and heats up, bankers must match increases in assets with increases in capital, which constrains reckless growth. Thus, such rules would serve to limit growth beyond a prudent level by creating a counter-cyclical force that moderates booms and provides a cushion to bank losses when the next recession occurs.

For an example of the power of a hard leverage rule, consider the impact on assets and/or equity of restricting bank holding companies to holding no more than \$15 of tangible assets for every \$1 of tangible equity capital (Chart 9). As I noted, at the end of 2007, the 10 largest bank holding companies held \$34 of tangible assets for every \$1 of tangible equity capital. If the maximum leverage ratio was 15:1, these companies would have had to reduce their assets by \$4.9 trillion (56 percent), increase their tangible common equity by \$326 billion (125 percent), or some combination of the two.

Simple rules also provide examiners with the tools they need to prevent leverage from rising and underwriting standards from declining. Without hard rules on leverage ratios and lending standards, bank examiners were disadvantaged in taking actions on rising leverage and declining loan-to-value ratios because bankers could correctly claim they were following supervisory guidance on capital levels, and their loan problems were very low, while profits were strong.

Finally, the rise in leverage in the last cycle was facilitated by the complexity of international risk-based-capital requirements. In particular, the Basel I risk-based capital standards in place leading up to the crisis provided very crude measures of asset riskiness, which increasingly underestimated risk as asset markets deteriorated. Banks also could arbitrage capital standards and raise their risk-based capital ratios by shifting assets to favorably treated off-balance sheet vehicles or exchanging assets such as prime mortgages for “lower risk” subprime mortgage-backed securities. The Basel II risk-based standards, which we were starting to phase in, would have enabled an even greater amount of leveraging to occur. These standards, which allow banks to use model-based risk estimates for many types of assets, actually suggested banks were holding too much capital in the months leading up to the crisis.

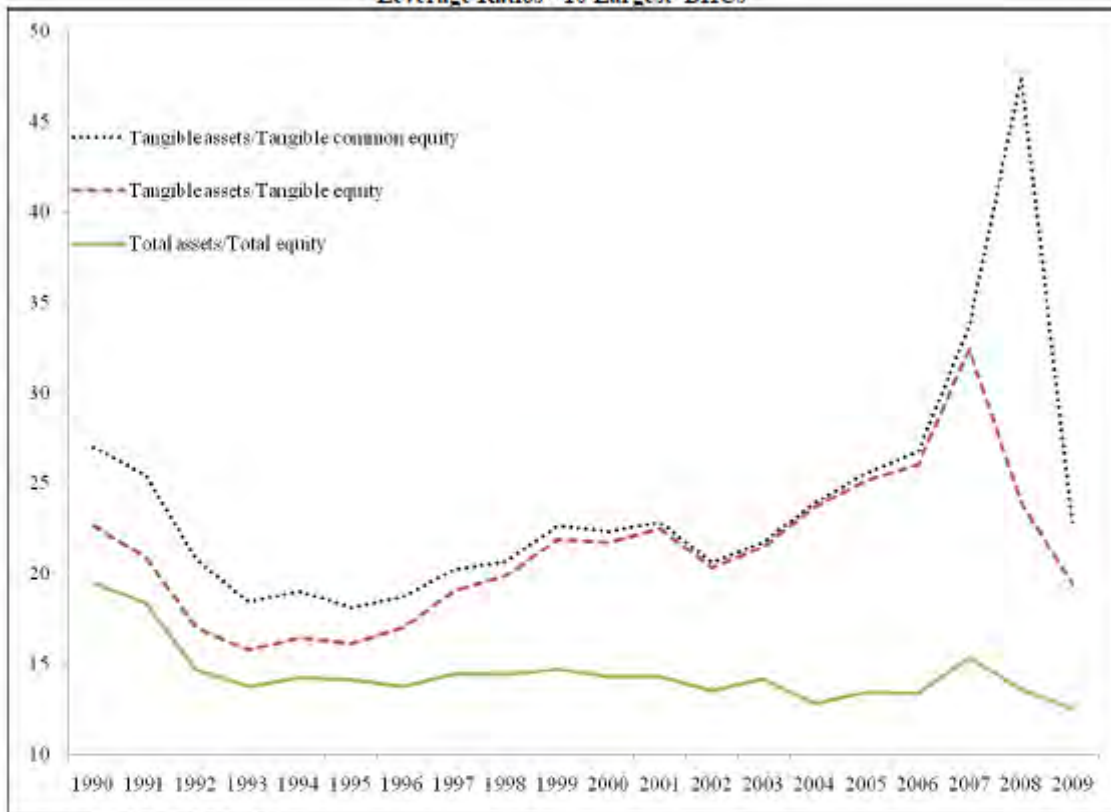
Chart 1  
Leverage Ratios - All BHCs



Source: FR Y9-C, End of Year

Note: Tangible assets/tangible common equity is calculated as total assets less goodwill and other intangible assets divided by equity capital less perpetual preferred stock, goodwill and other intangible assets. Tangible assets/tangible equity is calculated as total assets less goodwill and other intangible assets divided by equity capital less goodwill and other intangible assets. Total assets/Total equity capital is calculated as total assets divided by total equity capital.

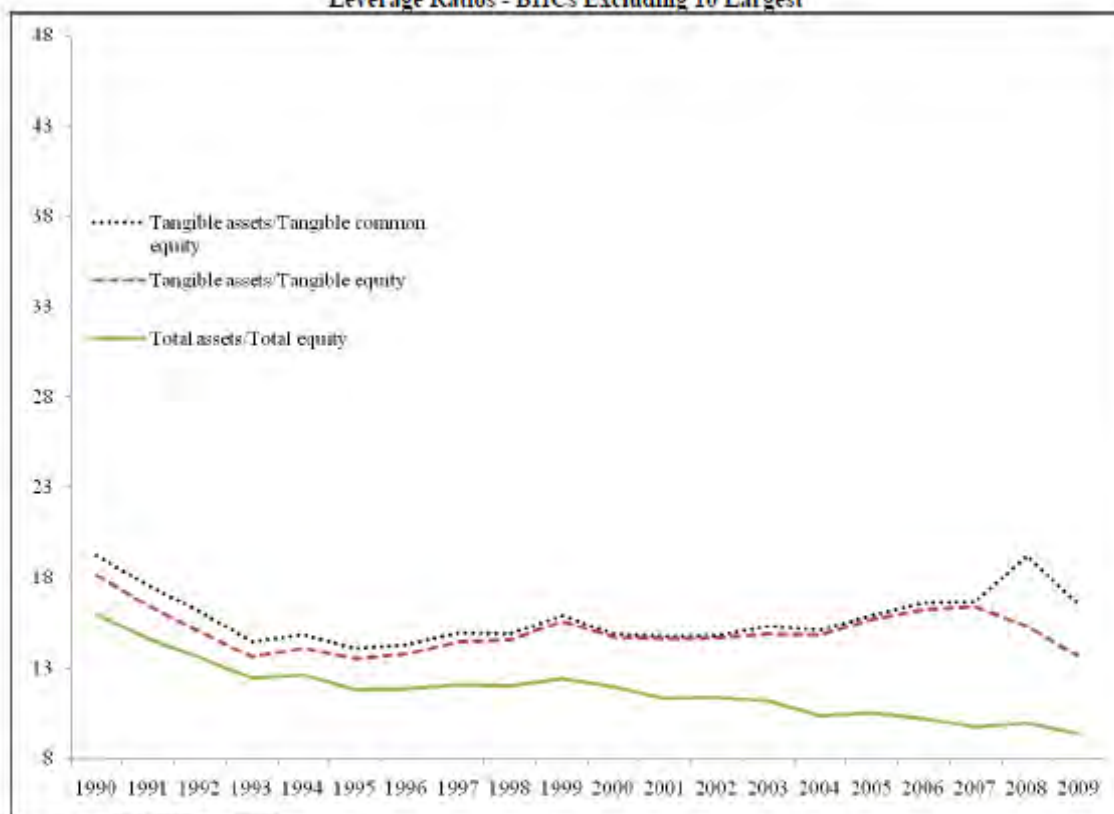
Chart 2  
Leverage Ratios - 10 Largest BHCs



Source: FR Y9-C, End of Year

Note: Tangible assets/tangible common equity is calculated as total assets less goodwill and other intangible assets divided by equity capital less perpetual preferred stock, goodwill and other intangible assets. Tangible assets/tangible equity is calculated as total assets less goodwill and other intangible assets divided by equity capital less goodwill and other intangible assets. Total assets/Total equity capital is calculated as total assets divided by total equity capital.

Chart 3  
Leverage Ratios - BHCs Excluding 10 Largest



Source: FR Y9-C, End of Year

Note: Tangible assets/tangible common equity is calculated as total assets less goodwill and other intangible assets divided by equity capital less perpetual preferred stock, goodwill and other intangible assets. Tangible assets/tangible equity is calculated as total assets less goodwill and other intangible assets divided by equity capital less goodwill and other intangible assets. Total assets/Total equity capital is calculated as total assets divided by total equity capital.

Chart 4  
Security Broker and Dealers Financial Leverage

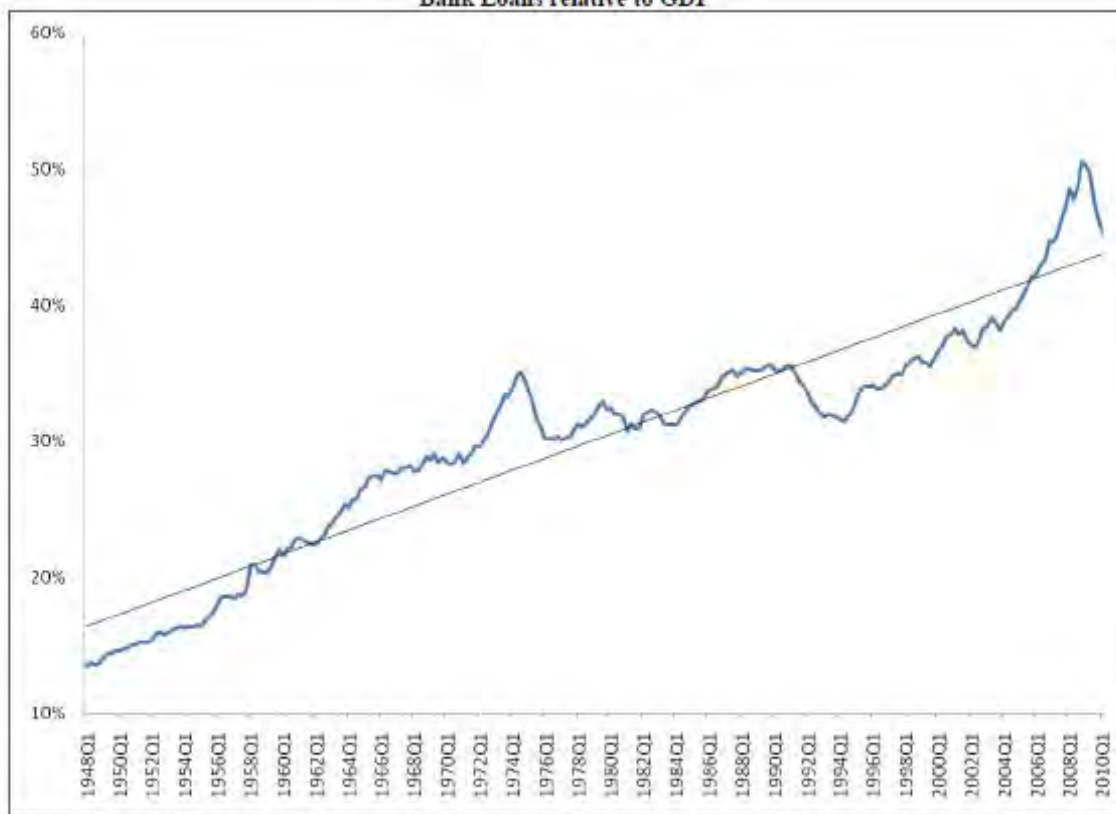


Source: Board of Governors Z.1 – L.129, quarterly data, not seasonally adjusted.

Note: Financial leverage is financial assets divided by the difference between financial assets and liabilities.



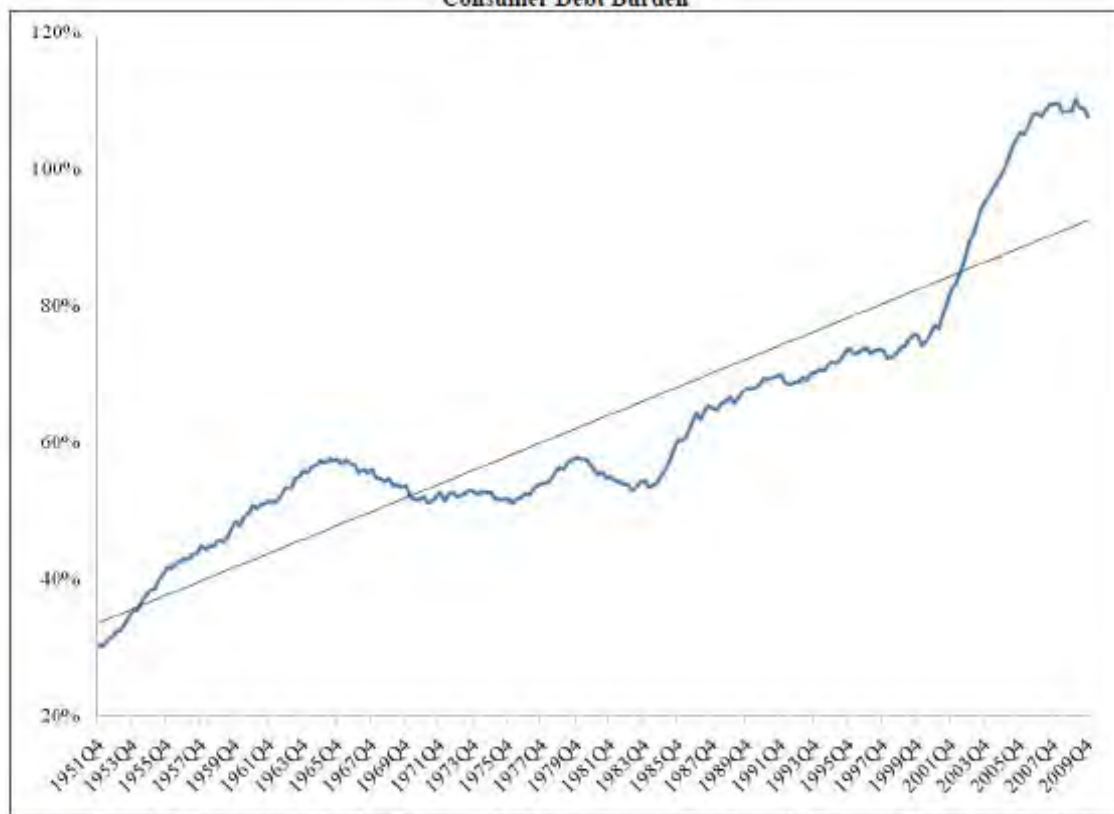
Chart 5  
Bank Loans relative to GDP



Source: Board of Governors, H.8, quarterly data, seasonally adjusted; Bureau of Economic Analysis, NIPA Table 1.1.5., quarterly data, seasonally adjusted.

Note: Bank loans relative to GDP is calculated as loans and leases of all U.S. commercial banks divided by nominal GDP.

Chart 6  
Consumer Debt Burden



Source: Board of Governors, Z.1 – L.100, quarterly data, not seasonally adjusted; Bureau of Economic Analysis, NIPA Table 2.1., quarterly data, seasonally adjusted.

Note: Consumer debt burden is consumer liabilities divided by nominal personal income. The consumer liabilities are calculated as credit market instruments less municipal securities and commercial mortgages.

Chart 7  
Nonfinancial Business Debt Burden



Source: Board of Governors, Z.1 – L.101, quarterly data, not seasonally adjusted; Bureau of Economic Analysis, NIPA Table 1.1.5., quarterly data, seasonally adjusted.

Note: Nonfinancial business debt burden is nonfinancial business liabilities divided by nominal GDP. The nonfinancial business liabilities are calculated as trade payables and credit market instruments less municipal securities.

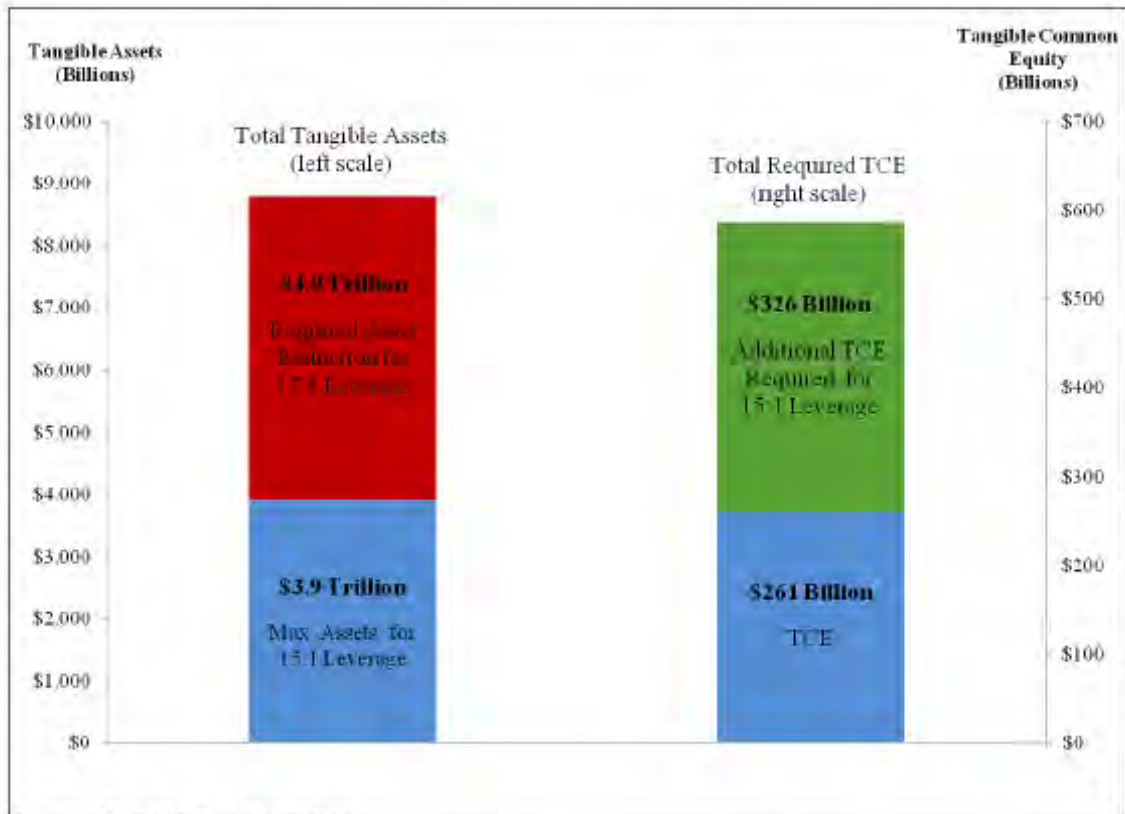
Chart 8  
Federal Government Debt Burden



Source: Board of Governors, Z.1 - L.106, quarterly data, not seasonally adjusted; Bureau of Economic Analysis, NIPA Table 1.1.5., quarterly data, seasonally adjusted.

Note: Federal government debt burden is federal government liabilities divided by nominal GDP. The Federal government liabilities are calculated as credit market instruments, trade payables, insurance reserves, and miscellaneous liabilities.

Chart 9  
 Top 10 BHC's – Reduction in Assets or Additional Tangible  
 Common Equity to Achieve 15:1 Leverage Ratio



Source: FR Y9-C, December 2007

Note: Tangible assets is total assets less goodwill and other intangible assets. Tangible common equity (TCE) is total equity capital less perpetual preferred stock, goodwill and other intangible assets.