

# Economic Outlook

October 2011

## A Tale of Two Balance Sheets

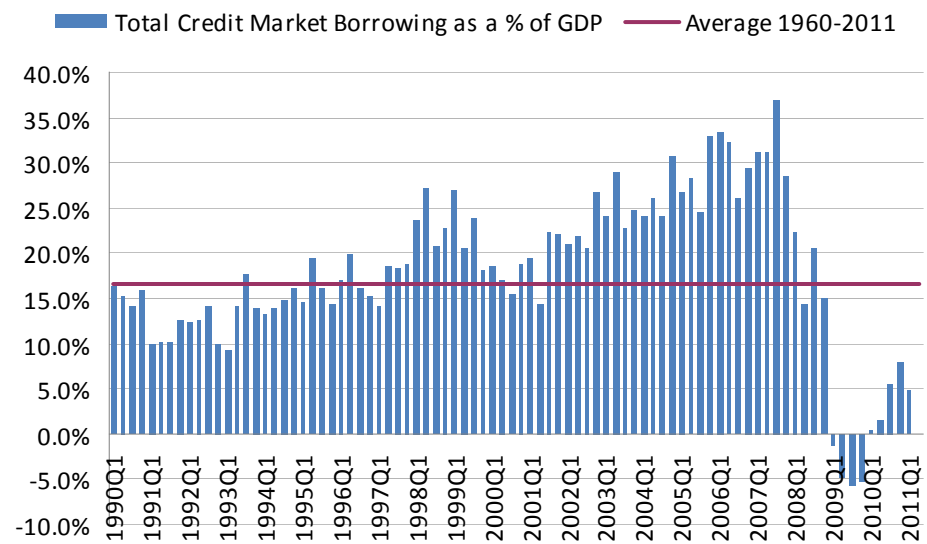
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Last month's *Economic Outlook* described the U.S. economy as in the midst of a "Long Hard Slog," that has proven extremely disappointing to those anticipating faster growth. The economic weakness since 2008 was in many ways presaged by the fragility of the aggregate U.S. household balance sheet in 2007. That weak growth has persisted through 2011 should come as no surprise, as ongoing household "deleveraging" continues to depress consumer and business spending. While the precise endpoint of this balance sheet repair process is unknowable, data released by the Fed in September provide a sense of the distance left to be traveled. The same data also help to reinforce optimism about the strength of corporate balance sheets, the attractiveness of current valuations, and the potential for extremely rapid growth once more immediate problems have been resolved.

### The U.S. Credit Market Shrinks

In September, the Federal Reserve released the *Flow of Funds Accounts of the United States*, which provides the most comprehensive look at the interlinked balance sheets of U.S. households, businesses, and financial institutions. In the second quarter of 2011, the total value of credit market obligations outstanding (bank loans, corporate bonds, government debt, mortgages, commercial paper, etc.) fell at an annual rate of \$17 billion, or 0.1% of GDP. This is only the fifth credit market contraction on record (since 1951). The previous four occurred in the four quarters of 2009.

Figure 1:



Once house prices collapsed and blew a hole in the left hand side of the balance sheet, households needed to shrink the right hand side through some combination of debt repayment, forgiveness, and default.

Although the dip in the second quarter was small relative to the \$600 billion (4.4% of GDP) contraction in 2009, a shrinking credit market is not a sign of growing economy. Credit markets provide external financing to businesses whose internally generated cash flow is insufficient to meet desired investment and to households in need of the liquidity to buy appliances, cars, and homes. The average 3.1% growth rate of real GDP since 1960 was supported by steady credit growth that averaged about 16% of GDP over this period. The 1.1% average real GDP growth since 2009 comes in the context of average annual credit growth of just \$49 billion, or 0.2% of GDP, with outright credit contraction in five quarters out of ten. The great majority of credit market activity since 2008 has consisted of refinancing existing obligations rather than net new borrowing to support new economic activity.

The most obvious reason for the net contraction in credit is the desire of households to reduce the amount of debt outstanding. From 1999-2007 household debt more than doubled. This rate of increase was sustainable as long as house prices grew at a similar pace because residential real estate secures over 81 cents of every dollar of indebtedness incurred by households. Once house prices collapsed and blew a hole in the left hand side of the balance sheet, households needed to shrink the right hand side through some combination of debt repayment, forgiveness, and default (which has accounted for the bulk of the debt reduction). U.S. households have now reduced their net outstanding debt for twelve consecutive quarters. During this time, households' cumulative debt loads have fallen by \$630 billion. In the last quarter, households' \$83 billion in reduced indebtedness accounted for almost 500% of the total credit market contraction (\$17 billion). Excluding households, the credit market actually expanded by \$66 billion during the quarter (annualized).

### How Much More Deleveraging is Required?

Debt levels can be scaled relative to income, assets, or its servicing burden. Figure 2 provides an overview of the different ways to measure the deleveraging that has occurred to date. The first column measures total household debt relative to disposable personal income (DPI). At 114% of DPI, household debt is down 16 points from the peak of 130% reached in the third quarter of 2007. Since 1980, household debt has averaged 91% of DPI. If the ratio reverts to this average, about 41% of the deleveraging process has already occurred. Since 1993, household debt has averaged 104.5% of DPI. If this ratio is the long-term equilibrium, then 61% of the adjustment has occurred and the process would be completed at the current pace within two years.

**Figure 2:**

	(1)	(2)	(3)	(4)
	Debt-to-Disposable Personal Income	Effective Aggregate LTV	Effective Aggregate LTV at Historical Market Value	Mortgage Servicing Cost to Personal Income
Current	114%	0.90	0.73	4.5%
Recent Peak	130%	0.92	0.78	6.4%
1980-2011 Average	91%	0.60	0.59	5.1%
Percentage of Adjustment Completed	41%	6%	28%	100%

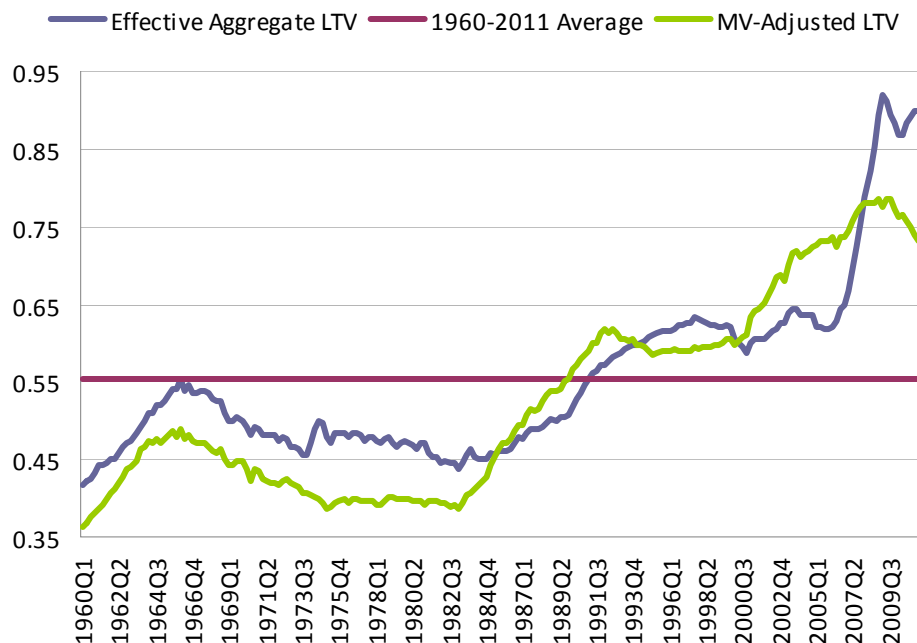
Source: Fed Flow of Funds, September 16, 2011

Although income is the most widely used metric to standardize debt levels, it is unlikely to be the most relevant or useful.<sup>1</sup> What matters in lending markets is collateral, and the collateral households pledge for external finance is their home. Household leverage depends on the relationship between the unpaid principal balance on the mortgage(s) and the value of the house that secures it. The market loan-to-value (LTV) ratio is not only the most important predictor of

<sup>1</sup> See Kiyotaki and Moore, 1997 and Bernanke, Gertler, and Gilchrist, 1999.

default;<sup>2</sup> it also measures the household's secured borrowing capacity. A decline in market LTVs due to rising house prices provides households with the ability to increase current period consumption through home equity loans, lines of credit, and cash-out refinancing. According to the Flow of Funds analysis performed in Greenspan and Kennedy (2007), households extracted \$5.5 trillion from their homes through incremental borrowing between 2000 and 2007. This debt used to finance yesterday's consumption is now today's debt burden that will continue to weigh on household expenditures tomorrow.

**Figure 3:**



Measured relative to collateral values, household deleveraging has a ways to go. The second column of Figure 2 measures the “effective aggregate LTV” for U.S. households. This figure is calculated by comparing the total value of outstanding mortgage debt to the current market value of the portion of residential real estate that serves as collateral for home loans.<sup>3</sup> The current LTV is approximately 90, which is barely below the all-time record of 92, and 30 points above the post-1980 average of 60. On this basis, only 6% of the required deleveraging has occurred to date. However, this measure of household leverage is hugely influenced by depressed residential real estate values. At current market prices, residential real estate is valued at just 1.1-times its cost basis. This “market-to-book” ratio is about 30% below its post-1980 average of 1.4.<sup>4</sup> If aggregate house values are measured at valuations more consistent with historical experience, the aggregate LTV is 74 and about 28% of the required deleveraging has occurred. Figure 3 (above) provides a longer historical context for both LTV series.

Finally, if one believes that all that matters is the debt servicing burden, deleveraging has already run its course. The Commerce Department reports that the average effective interest rate mortgage borrowers paid in the second quarter was 5.28%, an all-time low. Mortgage interest payments averaged about 4.5% of DPI in the second quarter, below 1980-2011 average of 5.1% (see column 4 of Figure 2). When principal amortization and consumer debts are included, the debt service ratio rises to 11.9%, which is still below the post-1980 average of 12.1%.<sup>5</sup> Even when additional obligations like lease payments, homeowners’ insurance, and property tax payments are added, the ratio (16.1%) is still below its post-1980 average (17.2%).<sup>6</sup> The sharp reduction in interest rates since 2008 has more than compensated for the incremental debt load and left debt servicing burdens below long-run averages even at today’s depressed income levels. The Fed’s commitment to purchase \$400 billion in longer-dated Treasury securities and the Obama

<sup>2</sup> For a review of the relevant literature, see: [http://www.philadelphiafed.org/research-and-data/publications/business-review/2006/q3/br\\_q3-2006-3\\_residential\\_mortgage.pdf](http://www.philadelphiafed.org/research-and-data/publications/business-review/2006/q3/br_q3-2006-3_residential_mortgage.pdf).

<sup>3</sup> About 32% of homes are owed “free and clear” with no debt secured against it. Census Bureau, 2009.

<sup>4</sup> This premium could be thought of as the value of the land plus the capitalized value of future income growth.

<sup>5</sup> This refers to the Fed’s Debt Service Ratio (DSR).

<sup>6</sup> This refers to the Fed’s Total Financial Obligations Ratio (FOR).

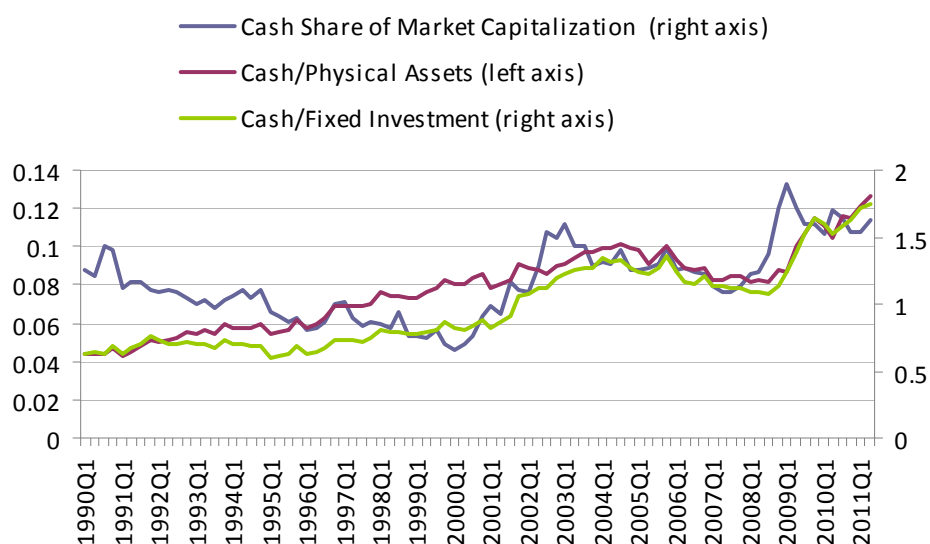
Administration's efforts to increase refinancing activity are likely to reduce financing costs and debt servicing burdens even further. According to Freddie Mac, the average 30-year fixed rate mortgage rate fell to 3.94% in October, an all-time low.

### Corporate Cash Cushions Grow

When turning to the nonfinancial corporate balance sheet, the question is not how much more repair needs to occur, but whether the sector's combined accounts have ever looked so pristine. The most salient difference between current U.S. circumstances and the problems that beset Japan beginning in the early 1990s is the strength of U.S. corporate balance sheets. Whereas large swaths of Japanese industries were insolvent after the collapse in asset prices, U.S. nonfinancial businesses' debt levels are well below historic norms and their cash cushions continue to set records.

Figure 4 (below) scales nonfinancial corporate cash balances relative to market value, physical assets, and fixed investment. Cash relative to physical assets and fixed investment hit all-time records, in the second quarter, at 12.7% and 174%, respectively. Cash as a share of market value reached 11.4%, a figure only exceeded in the first quarter of 2009, when equity prices collapsed, and the late 1970s. Assuming cash levels have remained constant between June 30 and September 16, the recent sell-off would mean cash accounts for more than 12 cents of every \$1 of U.S. stock market capitalization. This metric by itself suggests it is currently a great time to invest, as today's cash share of market value exceeds that of late 2002, 1989, and 1982, periods when the following 36 months' stock market returns exceeded 52%.<sup>7</sup>

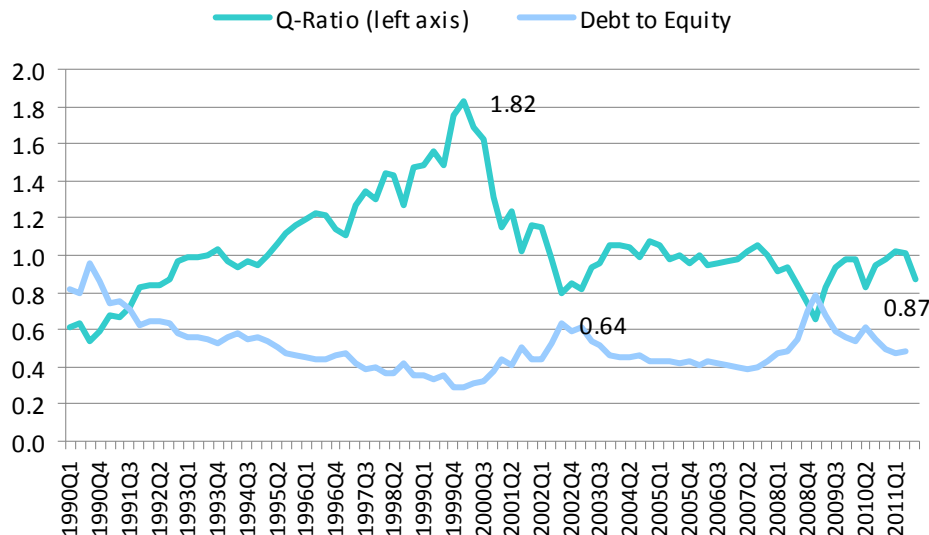
Figure 4:



The aggregate corporate balance sheet is not just liquid. Corporate debt levels are low and asset prices are currently at a discount to replacement cost. Figure 5 (below) provides a time series of the "q ratio," which measures the stock market value of corporate assets relative to the market value of the corporate assets measured at replacement cost. This could be thought of as the discount or premium to the "fair value" of book value. As of June 30, the stock market value of corporate assets was 1.01-times replacement cost. Updating this figure to account for the sell-off since then, corporate equities as of September 30 sold at a 13% discount to replacement cost (q of 0.87). Also provided in Figure 5 is the aggregate corporate debt-to-equity ratio, which finished the second quarter at 0.48, or 10 points below the average since 1960 or 13 points below the post-1980 average of 0.61. These data emphasize that the equity of the typical U.S. nonfinancial corporation is relatively inexpensive, comes with high cash content, and is less subordinated in the capital structure.

<sup>7</sup> This is the total, 36-month return on the value-weight stock market, obtained from CRSP at the University of Chicago.<sup>4</sup>

Figure 5:



Of course, high cash levels and low asset prices can be explained by the corporate sector’s balance sheet linkage to households. Corporate asset prices reflect the discounted value of expected future payment receipts. In the aggregate, these receipts are generated by payments from households and the rest of the world. The more disposable personal income diverted to debt repayment and savings, the less future receipts collected by corporations. Current valuations seem dismissive of households’ low debt financing burdens, or the potential for residential real estate values to bounce back to levels more consistent with historical experience.

**Conclusion**

Fed data released in September suggest that it is the best of times and the worst of times: nonfinancial corporate businesses look liquid, attractively priced, and poised for growth, even as some metrics suggest that household deleveraging has barely begun. While exogenous factors like European financial stability are likely to dictate short-term asset price movements, long-term dynamics will depend heavily on the recovery in house prices and the timing of the eventual conversion of business cash balances into new property, plant, and equipment. The corporate sector has the U.S. economy poised for rapid, investment-led growth. The owners of corporate equities will be rewarded handsomely when household balance sheets look sufficiently healthy for business leaders to turn this switch.

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