What investors need to know about . . .

ENCORE ENTERPRISES

Scylla and Charybdis: Navigating a Liquidity Trap

Recession Macroeconomics for Curious Real Estate Investors

Research Provided By:
Zisler Capital Views

Greek Mythology is replete with pithy metaphors and exciting stories. The great poet, Homer, wrote about Scylla and Charybdis[1]*, two sea monsters domiciled on opposite sides of the Strait of Messina, between Sicily and the mainland of what is now southern Italy. (See Exhibits 1 and 2.) In close proximity to each other, they posed an inescapable threat to passing sailors; avoiding Charybdis meant passing too closely to Scylla and vice versa.*

Today, investors must maneuver betwixt and between the Scylla and Charybdis of deflation and inflation. Investors are fearful and anxious. The Fed has recently signaled increased concern regarding possible deflation. The received wisdom is a weak guide; but act they must and inaction is itself a decision. **This paper discusses the implications of a spiraling asset price deflation (or liquidity trap) for real estate investors normally accustomed to worrying about inflation.**

Exhibit 1. Charybdis

Exhibit 2. Scylla

[1]The hydra-headed Scylla (full recourse debt) was rooted to one spot in the ocean, and regularly ate sailors (over-leveraged investors) who passed by too closely. Charybdis (asset price deflation) was a single gaping mouth that sucked in huge quantities of water, and belched them out three times a day, creating whirlpools (an economic black hole of downward spiraling asset prices). Odysseus (Fed Chairman Bernanke) was forced to choose which monster to confront while passing through the strait; he opted to pass by Scylla and lose only a few sailors (banks), rather than risk the loss of his entire ship (the economy) into the whirlpool. The shipwrecked Odysseus saved himself by clinging to a tree (quantitative easing and regulatory accommodation) on the shore until his raft floated to the surface. Jason and the Argonauts (investors with very low leverage) were able to navigate through without incident due to Hera's (Zisler Capital Associates, LLC) assistance, while Aeneas (investors who effectively shorted CMBS, FNMA and AIG in 2007) was able to bypass the deadly strait altogether. Who says mythology is not fun and relevant?

The IDEA Factory: Big ideas for practical investors

Encore Enterprises, Inc.

5005 LBJ Freeway, Suite 1200
Dallas, TX 75244

Phone: 214-259-7000
Fax: 310-948-9551

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Few people still living experienced the raw grip of the Great Depression. Those who survived found their world view shaken to the core. Our own Great Recession is already changing our attitude toward leverage and financial regulation.

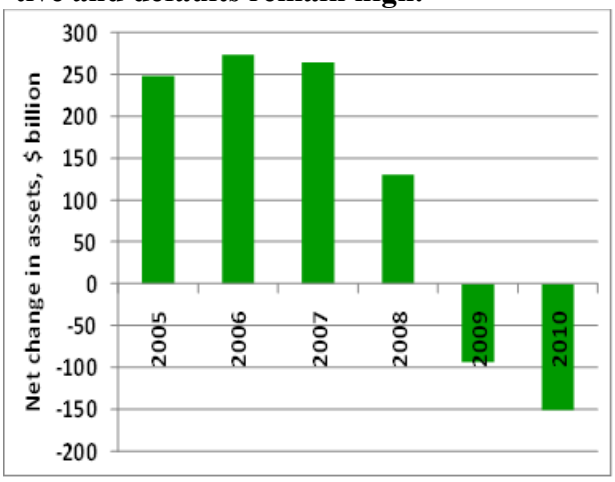
Due in part to successful interventions by the Federal Reserve or central bank, fear of runaway inflation has eclipsed fear of deflation. Consequently, few investors have thought deeply about the likelihood or ramifications of a protracted deflationary period.

What is deflation?

A deflation is a decrease in the overall price level[2]. Deflations are associated with deep recessions. Two prominent deflationary spirals occurred during the US Great Depression and the Great Japanese Recession of 1997-2005. Both contractions share the explosive collapse of a highly leveraged economic bubble and the resultant destruction of wealth.

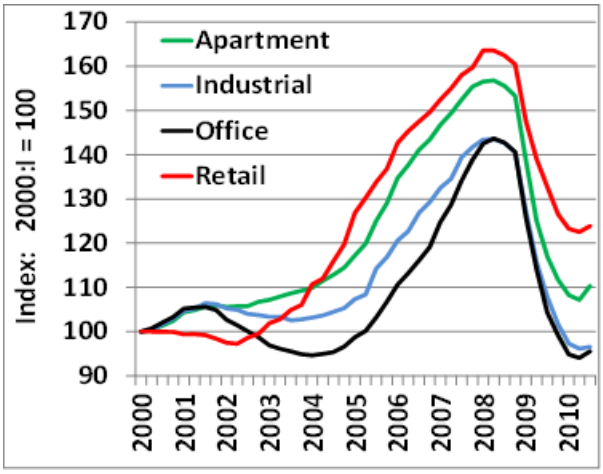
The current contraction, the Great Recession, shares certain many characteristics of the Great Depression and the Great Japanese Recession. Unemployment remains stubbornly high, housing foreclosures are at all-time highs, commercial property prices have declined about 28% to 42% (depending on the property type), and commercial mortgage borrowing is negative. (See Exhibits 3 and 4.) Ominously, the Federal Reserve on September 21 signaled its heightened concern regarding deflation.

Exhibit 3. Mortgage net borrowing is negative and defaults remain high.



Source: Bureau of Economic Analysis

Exhibit 4. Capital values have dropped 28% to 41% since early 2008.



Source: NCREIF

[2] Note that a disinflation is a slowdown in the rate of inflation. While a disinflation is an intermediate stage between inflation and deflation, a disinflation need not portend a deflation.

Now, the National Bureau of Economic Research just proclaimed that the recession ended in June of 2009, even though most Americans would beg to differ. The fiscal and non-real estate inventory situation is worsening while credit standards and excess housing is improving and offsetting, but by how much? What is the likelihood of a double dip recession[3] and spiraling deflation. How can real estate investors protect themselves?

What differentiates inflation from deflation?

Whereas inflation decreases the real value of money and debt, a deflation enhances the real value of debt and encourages the hoarding of cash. Unexpected inflation favors borrowers, while unexpected deflation favors creditors or lenders. While inflation encourages short-run consumption and commodity hoarding, deflation discourages investment spending by firms and households.

Deflation damages balance sheets by eroding the value of collateral; it forces firms and households to sell assets and simultaneously increase their rates of saving in order to fill holes in balance sheets and restore critical ratios. A severe deflation provokes a balance sheet recession, which is qualitatively different from a typical recession.

A balance sheet recession forces traditional borrowers to reduce leverage instead of maximizing profits, which requires retaining cash to pay down debt. Not all economic sectors can be *ex ante* net savers; attempting to do so cripples aggregate demand. While a penny saved may be a penny earned, even good old Ben Franklin would recognize the fallacy of composition: What is good for the individual may be terrible for the collective.

Expectations are crucial. If people expect collapsing prices, a self-fulfilling vicious cycle of cascading asset sales may result. Falling prices beget asset sales which in turn lead to rounds of price deflation. Deflations tend to be persistent.

Some deflation math and other analytics

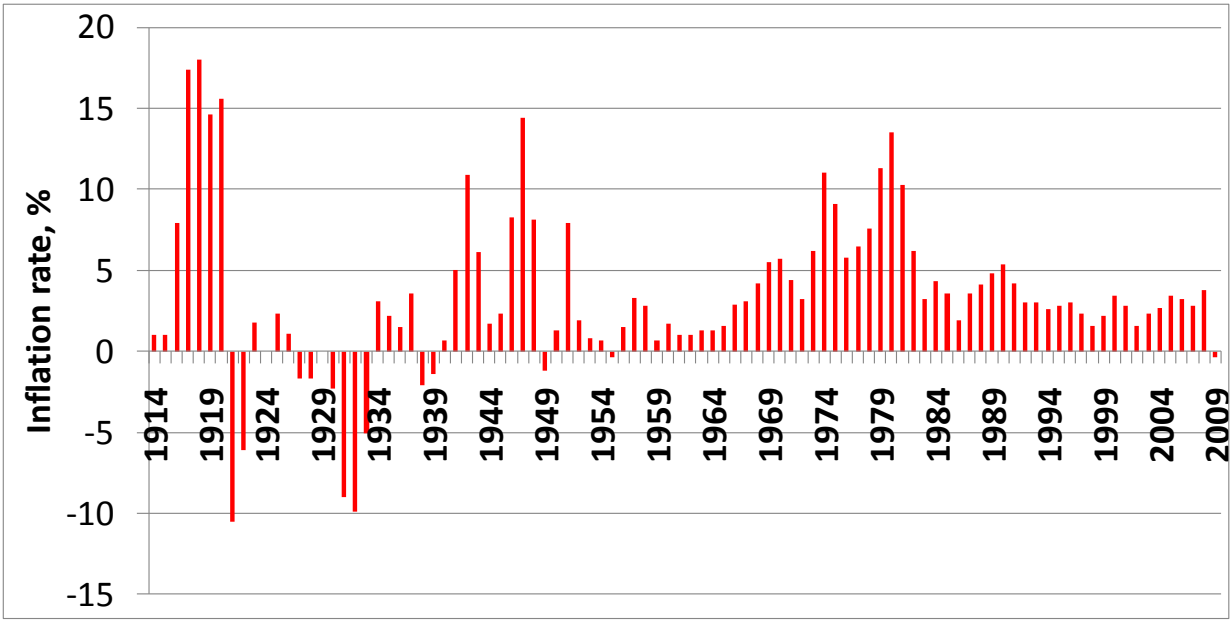
Investment is very sensitive to real interest rates (as well as cash flow). A deflation, or a negative inflation rate, increases the real estate interest rate, as indicated by the following simple formula:

[3] Note Some economists correctly believe that a recession represents a coordination problem, much like a traffic jam. One of the roles of government is to convince the market, especially banks, that the government will do whatever it takes, including increasing government spending to offset private sector saving and temporarily nationalizing banks, if need be. If households and firms believe that they are "on their own", they will take action which, while seemingly prudent, is pathological. The government must be the spender of last resort and act like a shock absorber. During the Great Depression, government was too small in relation to the entire economy and could not absorb the economic shock. As a result, a bad recession became a depression. Therefore, government, today, must err on the side of excessive stimulus. .

$$\textit{Real interest rate} = \textit{nominal interest rate} - \textit{inflation rate} \qquad (1)$$

For example, if the nominal interest rate is 5% and the rate of deflation is 3% (or an inflation rate of -3), then the real interest rate is 8%. A higher real interest rate discourages investment and increases the burden of debt service. If prices are falling at the rate of 3% per year, a mortgage with a 5% nominal coupon should feel like an 8% mortgage in a zero inflation market. In the case of inflation, say 10%, and a nominal interest rate of 8%, the real interest rate is -2%.

Exhibit 5. Deflations have been rare and relatively minor since the Great Depression

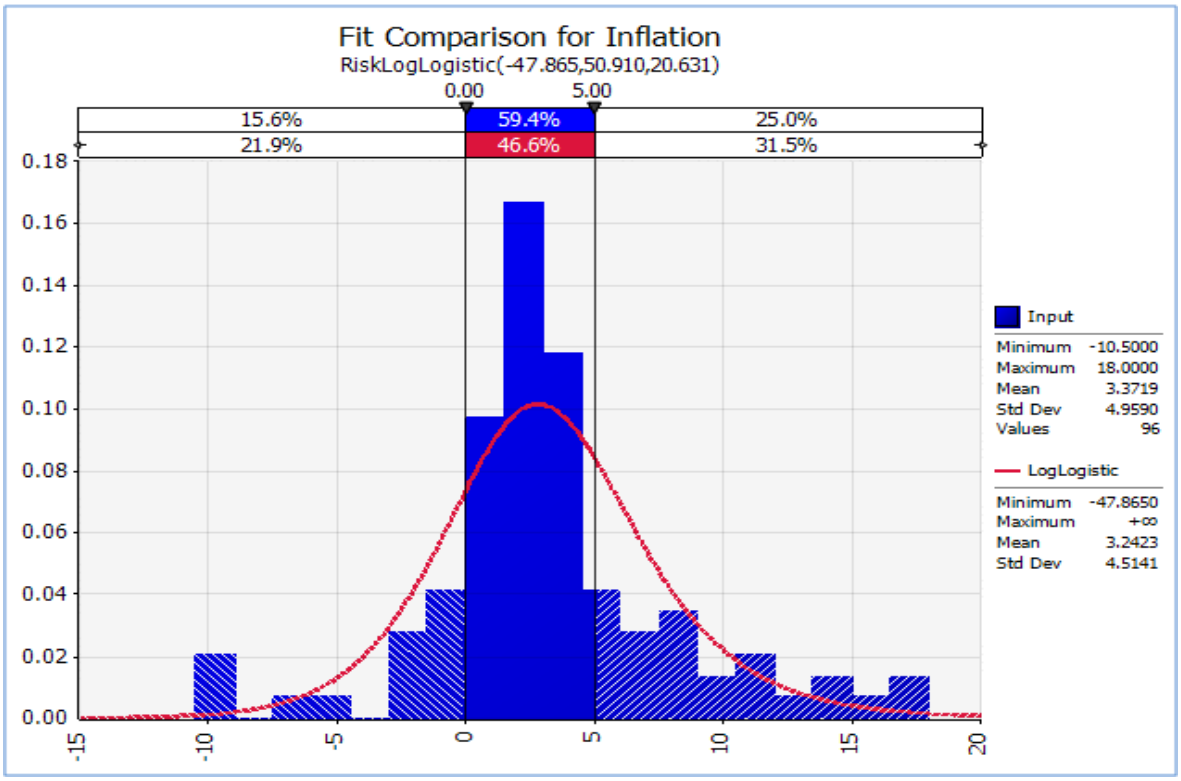


Source: Board of Governors of the Federal Reserve System

Deflation has occurred infrequently, as shown in Exhibit 5, but when it has occurred, as it did during the Great Depression, it has wreaked havoc. Most of the time, deflations have been relatively mild and of limited duration.

Exhibit 6 shows that, if you could pick a year from 1914 to the present at random, deflation—negative inflation—had a likelihood of 22%, (based on interpolation of historic data). Inflation exceeding an annual rate of 5% accounted for 32% of the estimated distribution.

Exhibit 6. Distribution of historical U.S. CPI Inflation, 1914-2010



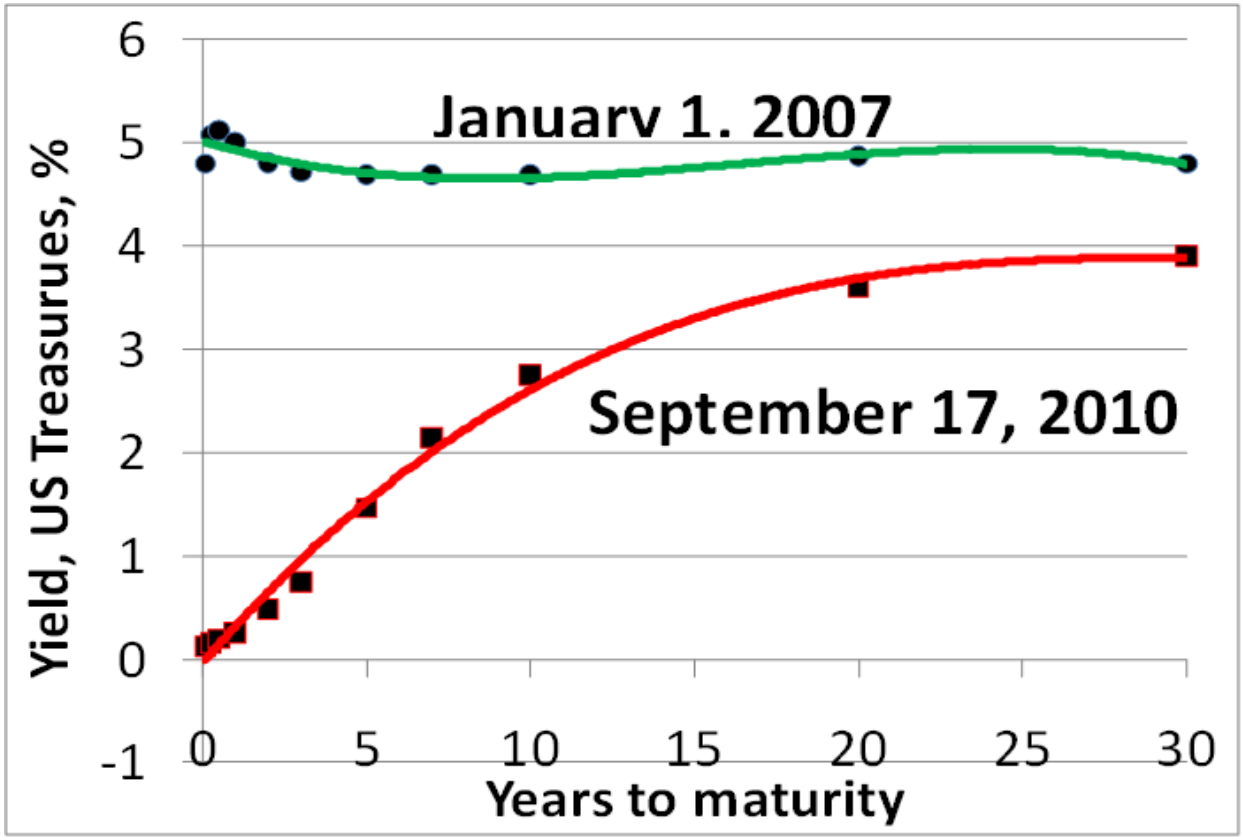
Source: Zisler Capital Associates, LLC

According to Goldman Sachs, the probability of a deflation of indeterminate duration is a non-negligible 30%. We estimate 30% to 40%. Consequently, investors should understand the nature of deflation, the causes of a liquidity trap, and the appropriate protective measures. Those higher leveraged equity investors who reflexively act as if inflation is inevitable, especially following large and growing deficits, may be unpleasantly surprised.

What is a liquidity trap?

Our economy is currently in a liquidity trap. A liquidity trap occurs when nominal interest rates are close or equal to zero and the central bank is unable to stimulate the economy through the use of normal monetary policy, such as expanding the money supply. As long as interest rates are positive, monetary policy is effective. During a liquidity trap, the opportunity cost of holding cash is zero and bonds and cash become perfect substitutes. The cause of a liquidity trap is deflation associated with a dramatic erosion of wealth and reduction in asset prices. A very persistent deflation leads to a vicious spiral of asset price erosion, asset sales, and further asset price erosion, output stagnation and higher real interest rates.

Exhibit 7. Short term interest rates are close to zero.



Source: Board of Governors of the Federal Reserve System

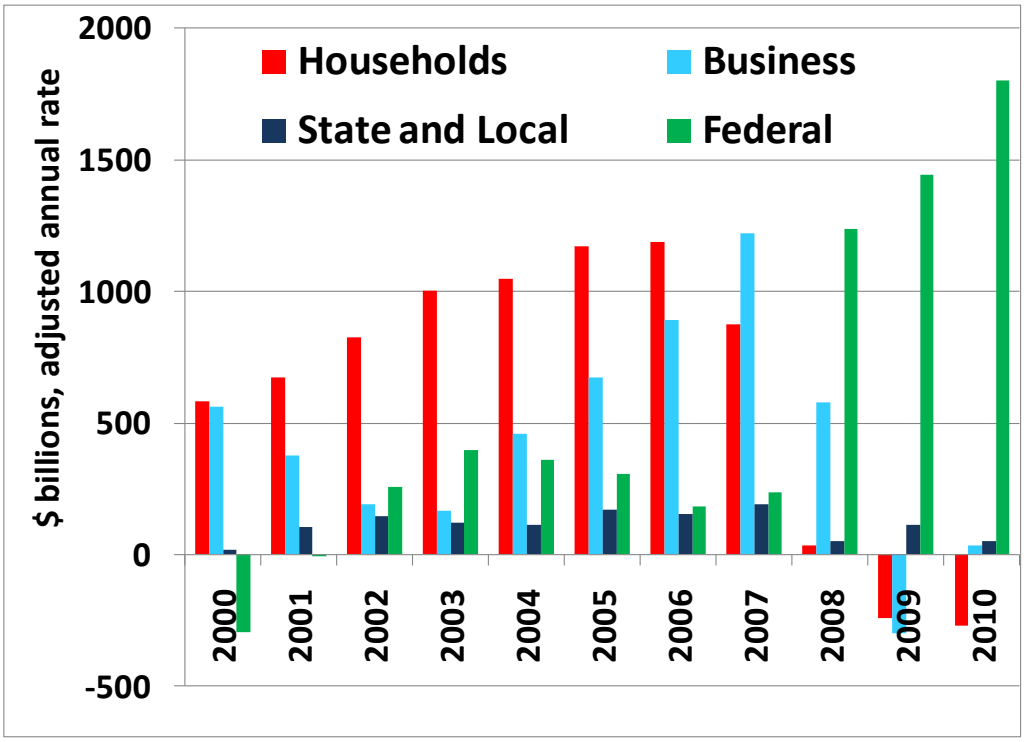
The tell tale sign of a liquidity trap is persistently low interest rates, close to zero or zero. Exhibit 7 compares the yield curves of September 17, 2010 with the yield curve of January 1, 2007, six months before credit markets seized.

Severe bubbles are the product of high leverage coupled with vaulting expectations. Eventually the bubble bursts, resulting is a Darwinian, herd-thinning deflation accompanied by the weeping and gnashing of teeth.

The economy contracts for two reasons. Businesses are no longer investing their cash flow and the business sector is no longer borrowing and spending the savings generated by the household sector. When firms are struggling to pay down debt rather than maximize profits, the process by which a capitalistic economy recycles household savings fails. Ordinarily households and businesses are net borrowers; not so in a balance sheet recession wherein the world seems upside down: saving is bad. Loan demand by firms and households plummets. Banks attempt to repair their balance sheets by reducing the amount of new loans and terminating existing loans. The credit crunch, more a symptom than a cause, intensifies the contraction.

Exhibit 8 shows that the private sector—firms and households—is now a net saver, not a net borrower. This is abnormal. In an effort to fill the deflationary gap caused by insufficient spending, the federal government steps in and becomes the spender of last resort. Not doing so would turn the Great Recession into the Second Great Depression. The question the country should ask is whether government stimulus, which can take the form of spending or tax cuts, or both, is sufficient.

Exhibit 8. Households and businesses are usually net borrowers, but not now. The federal government is picking up the slack

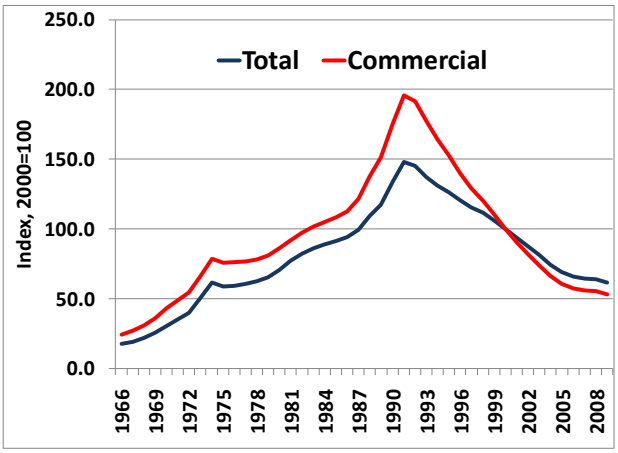


Source: Board of Governors of the Federal Reserve Board, Flow of Funds Accounts of the United States, September 17, 2010

We invite readers to read the Technical Appendix, which introduces the IS-LM model, a standard economic workhorse for studying short-run macroeconomic performance. This appendix discusses the dramatic reduction in wealth and widening credit spreads (or increasing distaste for risk) following the popping of the Great Bubble. It shows why monetary policy is usually faster and more effective in the case of brief, garden variety recessions but ineffective in managing balance sheet recessions, severe recessions and deflations. Fiscal stimulus is the appropriate economic medicine. If the economy cannot offset private sector net saving through increased and offsetting government spending, a deflationary gap emerges with the prospects of tipping a recession into a depression.

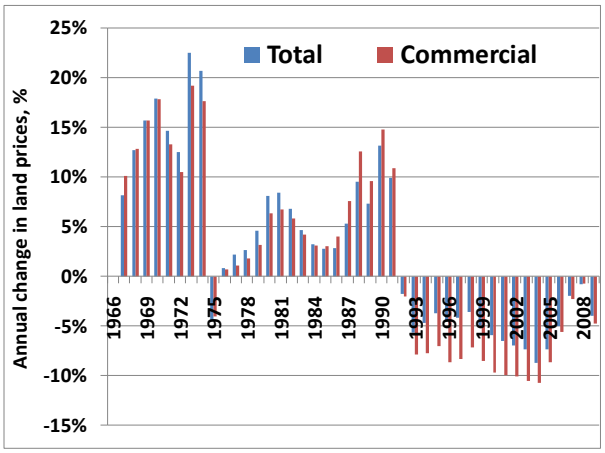
Lessons from the Japanese Great Recession[4]

Exhibit 9. Total and commercial Japanese land price indexes: The bubbles breaks



Source: Japan Real Estate Institute

Exhibit 10. Percentage change in Japanese land prices



Source: Japan Real Estate Institute

The Japanese experience is instructive. Falling Japanese prices wiped out three years of Japanese GDP. Collapsing property—See Exhibits 9 and 10—and stock prices forced companies and households to pay down debt. As interest rates approached zero, firms, instead of borrowing, hoarded cash to pay down debt. The demand for loans plummeted.
The Great Japanese Recession of 1995-2005 was less severe than our country's Great Depression. Average Japanese inflation was -0.2% and real GDP remained relatively steady compared to the steep evisceration of household and corporate balance sheets.

The Japanese learned painfully that traditional monetary policy is incapable by itself of curing a balance sheet recession since nominal interest rates cannot fall below zero. The demand for loans fell. Casual observers at the time believed that a credit crunch were the problem. They were wrong. If demand is very weak, then no amount of additional liquidity will help until firms and households can restore the health of their balance sheets.

Despite a massive reduction in wealth, the Japanese did a decent job managing GDP and avoiding a deflationary gap, because the government increased spending. Japan shifted the IS curve to the right because monetary policy—shifting the LM curve to the right—is impotent.

Lessons for the US

If the Japanese got it right, why can't we? We can. The problem is not economics; it is politics, and therein is the problem for U.S. real estate investors. We simply do not know how effective and coordinated will be the policies of Congress, the White House, and the Fed. Will

[4] See Richard Koo. The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession. Singapore: John Wiley & Sons (Asia). 2009.

we have a double dip recession followed by a deflation? The Fed seems more concerned now than it was at the beginning of the year.

Seeking to balance the budget now would be counterproductive and possibly disastrous. The inflation chickens will eventually come home to roost if the Fed is not vigilant. However, the central bank has powerful tools to combat inflation if it has the will. Post-World War II Fed history shows that the Fed can act as a stabilizing influence.

Is the political system equipped to deal with the tough issues? The political system suffers from two shortcomings: It has limited bandwidth to deal with complicated problems, and it tends to handle long term structural problems poorly, placing an emphasis on short-term results.

So, what should an investor do? The investor is caught between the greater likelihood of inflation and the not negligible probability of deflation. Unfortunately, deflation and inflation call for different investment strategies. We are concerned that misguided efforts to balance the budget too early or withhold sufficient stimulus may cause a resumption of deflation.

The next sections discuss strategies for deflationary and inflation markets. Our inability to commit to either state of the economy causes us to recommend a hybrid strategy with debt-like characteristics.

Expectations: Deflation or inflation?

Expectations really matter and simple economic models, such as the one we discuss in the Technical Appendix, do not capture by themselves the role of expectations.

If investors believe, as we do, that pernicious deflation is not beyond the realm of possibility, then their portfolio strategies should reflect this belief. The Federal Reserve signaled on September 21, 2010 that our central bank is concerned about the fragility of the U.S. economy and the stability of prices. Their concern over low deflation has raised fears of deflation. What exactly the Fed will do, especially so close to the election, is uncertain.

Anxious investors should increase their allocations to real estate fixed income and real estate equity with greater bond-like characteristics. They need not abstain from real estate equity, but they should be more cautious in the use of leverage. Inflation may not bail them out.

Conclusion

Here are some ideas for anxious investors who do not have strong convictions regarding the likelihood of deflation or inflation, but are concerned about both:

- Multi-tenanted real estate is not a consistent inflation hedge.[5] Some investors believe that inflation is a greater risk than deflation. If they seek inflation protection from real estate, then they should think carefully about the various risk factors associated with specific real estate investments. Inflation is not kind to bond-like features.

- If investors believe that deflation poses a sufficient risk to justify protective action, then they might consider the following deflation survival kit:
    - Commercial mortgages
    - Subordinate or mezzanine debt
    - Low leverage real estate
    - Real estate with long dated leases
    - Credit and non-credit net lease
    - Government-leased office buildings [6]
    - Recession resistant tenants
    - Preferred equity
    - Properties with reliable cash flows

- Some investors may protest that our deflation survival kit is too conservative. One public pension fund CIO whom we know insists that the fund's total return target is not attainable without the use of significant leverage. We will show in a future article that leverage does not increase risk-adjusted returns; it increases left tail risk.

- If our thesis—investors should provide for the possibility of deflation—is accurate, then investors should employ leverage with greatest care. Deflation rewards lenders and destroys leveraged investors.

[5] We will be publishing a study soon which shows that multi-tenanted real estate, which comprises the bulk of institutional real estate investments, is an inconsistent inflation hedge. Real estate investments are hybrid assets consisting of bond-like assets called leases and an equity residual. Depending on the economic environment, the value of the bond-like component can be negatively or positively correlated with the equity component. The value of the residual component rises in relation to the bond-like component when vacancy rates are low. During tight rental markets, the lease credit spread also narrows, which supports valuation .

[6] State and local governments, which cannot legally run deficits, are desperately in need of transfer payments from the federal government, additional tax revenues, user fees and other revenues. Tax increases are inevitable but not popular. Transfer payments are warranted but it is unlikely that they will help states avoid terrible choices. User fees are on the rise and in most cases this is warranted to the extent that user fees more closely align benefits with costs. The one area where state governments can raise revenue is by converting state-owned properties into cash and leasing back the properties. Investors should consider either investing in leveraged properties with strong state tenants.

Technical Appendix: The simple analytics of the liquidity trap

Let's take a closer look at the economics of liquidity traps. Consider a simple short-term model of an economy (without a foreign sector). The economy consists of a goods market (IS) and a monetary sector (LM). The IS curve includes all combinations of output and interest rates such that investment and savings are equal. Output equals the sum of consumption, investment and government spending. Consumption is a function of disposable income and wealth. Disposable income is output minus taxes. Interest rates, r, and output determine investment. Government spending is G.

Equation (2) defines the IS curve is as follows:

$$Y = C(Y - T(Y), W) + I(r, Y) + G \qquad (2)$$

$$\frac{M}{P} = L(r) + K(y) \qquad (3)$$

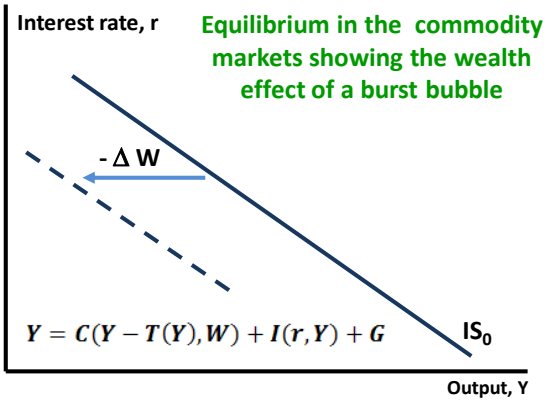
Equation 2 says that output (or income), Y, is equal to the sum of consumption, C, investment, I, and government spending. Consumption, in turn, depends on disposable income and wealth. Disposable income is output minus taxes. Consumption is also a function of wealth, W. Large negative wealth effects depress spending, as we have recently observed following the precipitous decline in stock prices and property values. Taxes in this simplified example are a function of output. Investment is a function of interest rates, r, and Y. G is government spending. The IS curve, as shown in Exhibit 3, slopes downward because a higher interest rate reduces the demand for investment and lowers Y.

The LM curve represents all combinations of Y and r which equate the supply of and demand for money:

The money supply, M, deflated by the price index, P, is equal to the speculative demand for money plus the transactions demand for money. At very low interest rates, r, the speculative demand for money increases as the opportunity cost declines. The transactions demand for money, K(Y), increases as income, Y, increases.

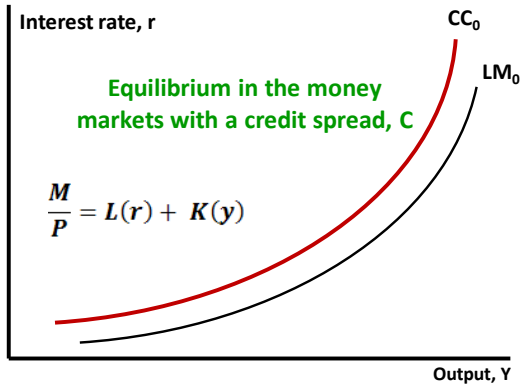
The LM curve has an increasingly positive slope with rising Y because higher output increases the demand for money, lowers the demand for Treasury bills, and, hence, increases the interest rate. The CC curve represents the LM curve with a credit spread to represent risky debt. (We assume a constant spread for simplicity.) The greater is investor distaste for risk, the greater is the spread between CC and LM. This credit spread is critical to understanding the current crisis. See Exhibits 11 and 12.

Exhibit 11. When the bubble burst, a huge negative wealth effect shifted the IS curve to the left.



Source: Zisler Capital Associates, LLC

Exhibit 12. The LM curve shows all pairs of output and short term interest rates; CC shows all pairs for long term risky debt.

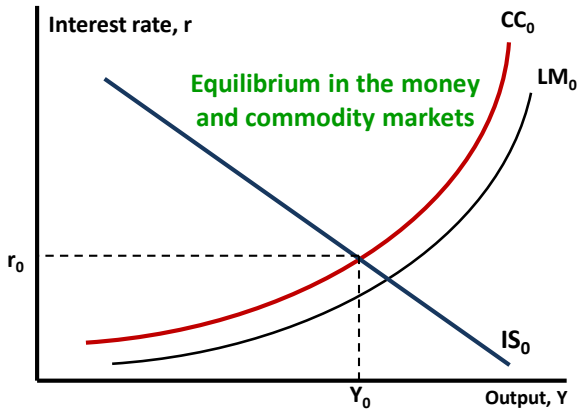


Source: Zisler Capital Associates, LLC

Exhibit 11 is very helpful in understanding the impact of the crash. The crash destroyed great amounts of wealth through plummeting stock and property prices. The decrease in wealth, DW, shifts the IS curve to the left.

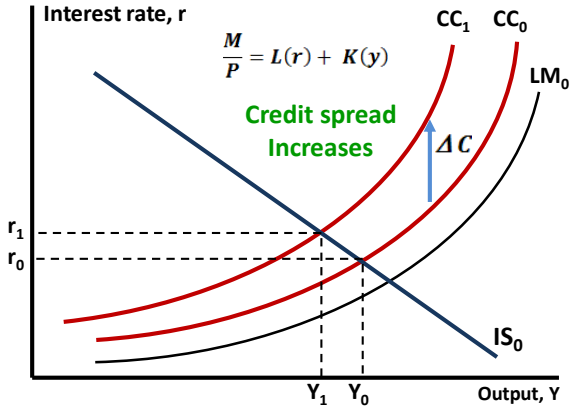
Exhibit 13 shows how the market determines output and the interest rate for risky debt. The intersection of the CC and IS curves assures equilibrium in the goods and money markets. What happens if spreads increase by DC? The CC curve shifts to the left, as shown in Exhibit 14, raising interest rates from r_0 to r_1 and depressing output from Y_0 to Y_1. Thus, fear alone increases interest rates and reduces income (output).

Exhibit 13. The intersection of the CC and IS curves determine the level of output and interest rates on long term risk debt.



Source: Zisler Capital Associates, LLC

Exhibit 14. If credit spreads widen by DC due to increased investor risk aversion, interest rates rise and output falls



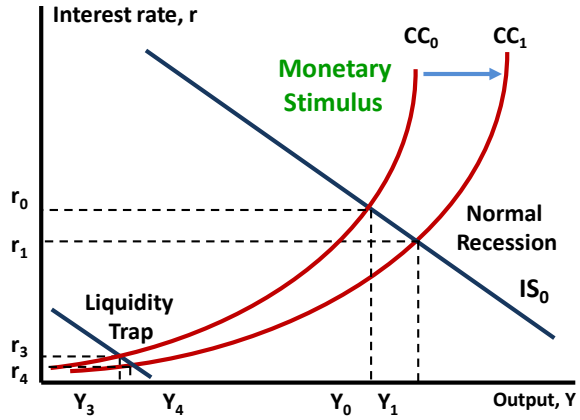
Source: Zisler Capital Associates, LLC

Let's say that the economy is experiencing a moderate recession. The Fed would normally jut increase the money supply by purchasing short term Treasuries, thus pushing the CC curve to the right. Output would increase from Y0 to Y1 and interest rates would fall. Thus, monetary policy is effective in a normal recession.

What if the recession is severe? Exhibit 15 shows that if the economy is in a liquidity trap, the CC curve is very flat. Moving the CC curve to the right has a negligible effect on output and interest rates. The financial sector hoards the additional money.

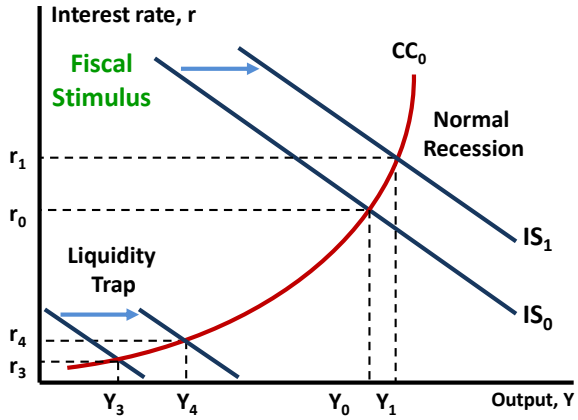
Now let's take a look at fiscal policy using Exhibit 16. If the government decreases taxes or increases spending, the IS curve will shift to the right. As a result, firms and households increase spending and both interest rates and output increase. If the economy is operating close to capacity, fiscal policy has little impact on output but has a disproportionate impact on rising interest rates. On the other hand, if the economy is in a liquidity trap, fiscal policy effectively increases output with little impact on interest rates.

Exhibit 15. Traditional monetary stimulus, which entails an increase in the money supply or a rightward shift in the CC curve, is impotent in a liquidity trap.



Source: Zisler Capital Associates, LLC

Exhibit 16. Fiscal stimulus through tax breaks or increased government spending is most effective in raising output during a liquidity trap.



Source: Zisler Capital Associates, LLC

We conclude this Appendix with the following observations:

- The Great Recession—our current recession—is the result of a dramatic reduction in wealth and widening credit spreads (or increasing distaste for risk) following the popping of the Great Bubble.
- Under normal recessionary circumstances, the Fed would rely primarily on monetary policy. Monetary policy is usually faster and more effective in the case of brief, garden

variety recessions.

- The current recession is not normal; it is a balance sheet recession[5]. Interest rate cuts have failed to revive the economy. The private sector increased its rate of saving to service and renegotiate existing debt. Thus, neither firms nor households were net borrowers at any interest rate!
- Aggregate demand would have declined by the amount of the net saving were it not for increased government spending or public borrowing. An accounting identity, which we need not cover in detail, says that in equilibrium, private sector surpluses (deficits) must offset public sector deficits (surpluses).
- If the economy cannot offset private sector net saving through increased and offsetting government spending, a deflationary gap emerges with the prospects of tipping a recession into a depression.

In our enthusiasm, have we forgotten something important? Let us know. Call us or email.

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