

The Crisis of 2007 :The Same Old Story, Only the Players Have Changed.

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The Crisis

Recent financial instability triggered by the collapse of the U.S. subprime mortgage market has many features with great resonance from financial history. The crisis occurred following two years of rising policy interest rates. Its causes include lax oversight and a relaxation of normal standards of prudent lending and a period of abnormally low interest rates. The default on a significant fraction of subprime mortgages has produced spillover effects around the world via the securitized mortgage derivatives into which these mortgages were bundled, to the balance sheets of hedge funds, investment banks and conduits (which are bank owned but off their balance sheets) which intermediate between mortgage and other asset backed commercial paper and long term securities. The uncertainty about the value of the securities collateralized by these mortgages spread uncertainty about the value of commercial paper collateral, and uncertainty about the soundness of loans for leveraged buyouts. All this led to the freezing up of the interbank lending market in August 2007 and substantial liquidity injections by the ECB and the Federal Reserve

A Historical Perspective

Many of the financial institutions and instruments caught up in the crisis are part of the centuries old phenomenon of financial innovation. The new instruments, often devised to avoid regulation, are then proved to be successful or not by the test of financial stress such as we have been recently encountering.

The rise and fall of financial institutions and instruments occurs as part of a long standing pattern of booms and busts in the markets for equities, land, commodities, foreign exchange and other assets. The cycle is financed by credit. Lending booms and busts and the credit cycle are also intimately connected to the business cycle.

A well known tradition in monetary economics which goes back to the nineteenth century and in the twentieth century was fostered by Wesley Mitchell (1913), Irving Fisher (1933), Hyman Minsky (1957) Charles Kindleberger (1978) and others. It tells the tale of a business cycle upswing driven by what Fisher called a displacement (an exogenous event that provides new profitable opportunities for investment) leading to an investment boom financed by bank money (and accommodative monetary policy) and by new credit instruments -- financial innovation. The boom leads to a state of euphoria where investors have difficulty distinguishing sound from unsound prospects and where fraud can be rampant. It also can lead to a bubble characterized by asset prices rising independently from their fundamentals. The boom inevitably leads to a state of overindebtedness, when agents have insufficient cash flow to service their liabilities. In such a situation a crisis can be triggered by errors in judgement by debtors and creditors in an environment changing from monetary ease to monetary tightening. The crisis can lead to fire sales of assets, declining net worths, bankruptcies, bank failures and an ensuing recession. A key dynamic in the crisis stressed by Mishkin (1997) is information asymmetry, manifest in the spread

between risky and safe securities, the consequences of which (adverse selection and moral hazard) are ignored in the boom and come into play with a vengeance in the bust.

Banks played a key role in the traditional story because bank credit in large part financed the boom, and the bust was often accompanied by bank failures and banking panics—events which inevitably made the downturn worse. This led to the traditional case for the monetary authority to act as a lender of last resort and provide liquidity at penalty rates to the money market and or discount window lending to solvent but illiquid banks.

Countercyclical monetary policy is also an integral part of the boom-bust credit cycle. My research with David Wheelock at the St. Louis Fed covering a century of U.S. data for the U.S and 9 other countries (Bordo and Wheelock 2007a and 2007b), shows that stock market booms occur in environments of low inflation, rising real GDP growth and low real policy interest rates. As the boom progresses and inflationary pressure builds up, central banks (before World War II, driven by the gold convertibility constraint) inevitably tighten their policy rates helping to trigger the ensuing crash. The story is similar for housing booms and busts but they follow a different cycle because of long gestation lags in construction and in the adjustment of prices to a collapse in demand (Leamer 2007).

Stock market crashes can be serious events leading to a decline in wealth and in consumption and also a scramble for liquidity in turn contributing to incipient banking crises. Housing busts also have serious consequences for the banking system via defaults on mortgages, and on the real economy via declining wealth on consumption expenditure, the collapse of residential investment and a financial accelerator effect as net worths decline. The recent housing boom in the U.S. was likely largely triggered by a long period of abnormally low interest rates, likely attributed to loose monetary policy from 2001 to 2004 in reaction to earlier financial turbulence and then fear of deflation and to a global savings glut (Bernanke 2007). The bust was likely induced by a rise in rates in reaction to the inevitable inflationary pressure.

Descriptive Evidence: The Credit Cycle

Figure 1, based on ongoing research that I am doing with Joseph Haubrich of the Cleveland Fed, provides some background evidence for the US over the past century. The upper panel plots, from 1953 to the present, the monthly spreads between the Baa corporate bond rate and the ten year Treasury constant maturity bond rate. The spread, inter alia, represents a measure of the financial market's assessment of credit risk and also a measure of financial instability reflecting asymmetric information (Mishkin 1991). Figure 2 takes a longer view and shows the data from 1921 to the present. Also displayed in both figures are NBER recession dates and major financial market events including stock market crashes, financial crises, and some major political events that affected financial markets. The lower panels of figures 1 and 2 show policy interest rates for the U.S.—the federal funds rate since 1953 and the discount rate for the longer twentieth century.

As can be seen, the peaks in the credit cycle (proxied by the spreads) are often lined up with the upper turning points in the NBER reference cycles. Also many of the events, especially the stock market crashes and the banking crises of the 1930s occur close to the peaks. Moreover the lower panel often shows the policy rate peaking very close to or before the peaks of the credit cycle. Its movements roughly reflect the tightening of policy before the bust and loosening in reaction to the oncoming recession afterwards.

Descriptive Evidence :The Housing Market

We next focus more closely on the housing market which is at the center of the current crisis and provide some evidence on the relationship between monetary policy , housing booms and busts and the business cycle. Figure 3 plots the Case Shiller national housing price index over the cycle and against the discount rate. The pattern suggests that housing prices tend to be procyclical and on occasion peak before the downturn, but as argued by Leamer (2007), house prices react much more sluggishly in a bust than the stock of houses as households are reluctant to cut prices. However there is somewhat of a pattern linking a tightening of monetary policy to reversals in house prices. Figure 4 which plots total vacant housing units for sale and the federal funds rate from 1965 shows both a positive correlation between vacancies and recessions and an inverse relationship between vacancies and the funds rate. Finally Figure 5 which plots residential investment since 1947, shows a close correlation with the business cycle. Its cycle is also preceded by movements in the policy rate.

The Non Bank Financial Sector, Financial Innovation and Financial Crises

The traditional financial crisis story depicts a shock to a major financial or non financial firm leading to a banking panic as depositors attempt to convert their deposits into currency. More recently, especially since the advent of deposit insurance, the source of the pressure has come from the asset side , rather than the liability side of the bank's balance sheet. Examples include the Penn Central episode in 1970 when the collapse of the railroad led to a panic in the commercial paper market which led, like today, to concern by the Fed that it would spill over into the banking system. This led the New York Fed to open the discount window to the money center banks to freely discount non financial firms based on the collateral of sound commercial paper; the Latin American debt default of 1982 when many money center banks became close to insolvent until a massive rescue was engineered between the Fed and the IMF; and the collapse of the hedge fund LTCM in 1998 which also was perceived to be a threat to the banking system. LTCM was rescued by a lifeboat operation by the New York banks orchestrated by the New York Fed. An historical precedent was a crisis in the market for bills of exchange that spread from Amsterdam to Hamburg and which like LTCM led to a liquidity crisis but in which unlike LTCM the crisis led to the failure of the principle player and many others (Schnabel and Shinn 2001). In each case the crisis broke in the non bank financial sector but spilled over or threatened to spill over onto the banks who were the ultimate creditors.

Many of the financial crises of the past involved financial innovation which increased leverage. The 1763 crisis was centered on the market for bills of exchange, Penn Central on the newly revived (in the 1960s) commercial paper market, the savings and loan crisis of the early 1980s on the junk bond market, LTCM on derivatives and hedge funds.

In the most recent episode, the financial innovation derived from the securitization of subprime mortgages and other loans has shifted risk away from the originating bank into mortgage and other asset backed securities which bundle the risk of less stellar borrowers with more creditworthy ones and which were certified by the credit rating agencies as prime . These have been absorbed by hedge funds in the US and abroad, by offshore banks and in the asset backed commercial paper of the commercial and investment banks. As Rajan (2005) argued, shifting the risk away from banks who used to have the incentives to monitor their borrowers to hedge funds and other institutions which do not, rather than reducing overall systemic risk increased it by raising the risk of a much more widespread meltdown in the event of a tail event as we are currently witnessing.

As the recent crisis has demonstrated , the decline in the value of subprime mortgage paper in the US, in addition to drastically reducing the value of some hedge funds has also put pressure on the banking system which has been revealed as the ultimate creditor of the non bank financial sector.

International Spillovers

Financial crises have always had an international dimension.as Morgenstern (1959), Kindleberger (1978) and Bordo (1986) have shown. Contagion spreads quickly through asset markets , through international banking and through the monetary standard. Stock market crashes and banking panics often have occurred in many countries within a few months of the original shock. A classic example is the Baring crisis of 1890 which started in Argentina and affected the rest of Latin America and other emerging countries of the time. It was triggered by central bank tightening in England, France and Germany. This led to a series of sudden stops and current account reversals(Bordo 2006) in the emerging countries and a number of banking crises and debt defaults. These events were echoed in the late 1990s (see Calvo and Talvi 2004).

The current crisis has so far been contained to the advanced countries among which contagion has been spread by the holding of opaque subprime mortgage derivatives in diverse banks in Europe and in other countries, and by the seizing up of the asset (mortgage) backed commercial paper market. The emerging countries have so far avoided the crisis, perhaps because of the precautionary measures many have taken in reaction to their meltdowns in the Asian crisis of 1997 (eg the build up of large foreign exchange reserves and reduced exposure to foreign borrowing.) If the credit crunch continues and the housing bust plays out into recession in the US, then the emergers who are exposed to foreign capital will be affected as well as countries relying for their growth on exports to the US.

Policy Lessons

A number of lessons can be drawn from this historical perspective. First are the implications for crisis management and the role of the lender of last resort. The distinction made by Schwartz (1986) between real and pseudo financial crises and its extension by Bordo, Mizrahi and Schwartz (1995) to systemic risk has resonance for the recent crisis events. Schwartz argued that a real financial crisis involves a scramble for high powered money by the public fearful for the safety of their bank deposits, ie a banking panic or a threat to the payments system. Pseudo crises encompass “ a decline in asset prices of equity stocks, real estate, commodities; depreciation of the exchange value of a national currency; financial distress of a large non-financial firm, a large municipality, a financial industry, or sovereign debtors...” Schwartz (1986 page 12). In the case of a real crisis, the monetary authority should act as a lender of last resort and provide whatever liquidity is required to allay the public’s fears. In the case of a pseudo crisis there is no need for action.

In this framework, the recent events of a collapse in the US housing market and its consequences for wealth holders directly or indirectly exposed by derivatives represents a pseudo crisis which should not be the object of central bank intervention. However the spillovers of the subprime crisis into the interbank loan market and the freezing up of liquidity to the banking system in Europe and America did pose the threat of a real financial crisis and should have been dealt with by following the strictures of Thornton (1802) and Bagehot (1873) to lend freely but at a penalty rate. Bagehot placed primary emphasis on the Bank of England lending without hesitation on the basis of collateral that would be sound in the absence of a crisis. The penalty rate was to prevent moral hazard.

The actions of the ECB of flooding the money market with liquidity and the Fed of following similar actions and also reducing the discount rate by 50 basis points in August 2007 suggests that they heeded the first part of Bagehot’s lesson to lend freely on the basis of proffered collateral but not quite on the second part of lending at a penalty rate. The Bank of England until mid September 2007 followed a strict interpretation of Bagehot by keeping its discount window open to all comers but at a penalty rate. (Although the run on Northern Rock on September 14 which led to a large infusion of central bank liquidity and the announcement of a complete guarantee of all UK bank deposits very likely reflect not the failure of the Bank’s LLR policy but perceived inadequacies in the UK’s provision of deposit insurance, the ill thought out separation of financial supervision and regulation from the central bank and political pressure.)

The second lesson concerns the role of monetary policy in housing and other asset busts. The consensus view of monetary policy suggests that if the safety of the banking system is actually threatened by the consequences of a housing bust then the Fed should temporarily depart from its perceived mandate of maintaining price stability (implicitly targeting inflation) and provide liquidity to the financial system (Bernanke and Gertler 2001). Moreover if the collapse of housing could precipitate or exacerbate a recession then according to this view the policy to follow is countercyclical easing. As long as the Fed’s commitment to its goal of a low inflation

nominal anchor is perceived by market agents to be credible, such easing should not be inflationary. This seems to be the policy which the Fed by cutting the federal funds rate by fifty basis points on September 18, 2007, is pursuing.

A third lesson concerns whether the Fed should follow the reactive policy to asset booms that it now does or follow a preemptive policy. The traditional view of monetary policy argues that central banks should act reactively and deal with the consequences for the financial system of an asset price boom after it has burst (Bernanke and Gertler 2001). An alternative view argues that if an asset bubble (eg housing) is on the horizon, then the Fed should act pre-emptively to defuse it (Cecchetti 2000). Bordo and Jeanne (2002) consider a circumstance in which the use of preemptive policy against the occurrence of a low probability event, which can have catastrophic consequences, such as a national housing bust, can be welfare improving.

Finally we speculate on whether the recent financial crisis could have been avoided if the Fed had not provided as much liquidity as it did from 2001 to 2004. After Y2K when no financial crisis occurred, it promptly withdrew the massive infusion of liquidity it had provided. By contrast thereafter, it foresaw a series of shocks to the economy that might lead to financial crisis, eg the tech bust of 2001 and 9/11. In each case it injected liquidity, but when no financial crisis occurred, it permitted the additional funds it had provided to remain in the money market. In addition it overreacted to the threat of deflation in 2003-2004 which may have been of the good (productivity driven) variety rather than of the bad (recessionary) variety (Bordo and Filardo 2005). If consequent upon these events the markets had not been infused with liquidity as much as they were and for so long, then interest rates would not have been as low in recent years as they were and the housing boom which has just bust may not have expanded as much as it did. Evidence for this perspective by Taylor (2007) suggests that interest rates in this period were on average considerably lower than would be the case based on his famous rule.

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Figure 1. Federal Funds Rate and Baa and 10-Year TCM Spread

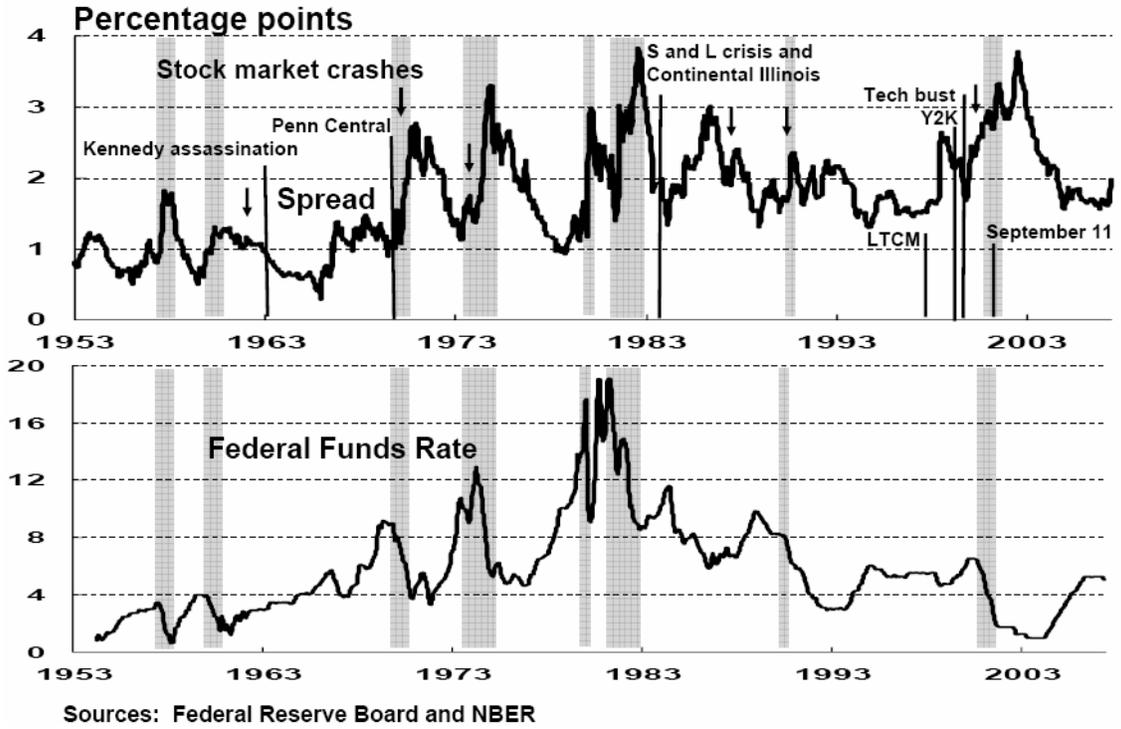


Figure 2. Discount Rate and Baa and Composite Treasury over 10 Years Spread

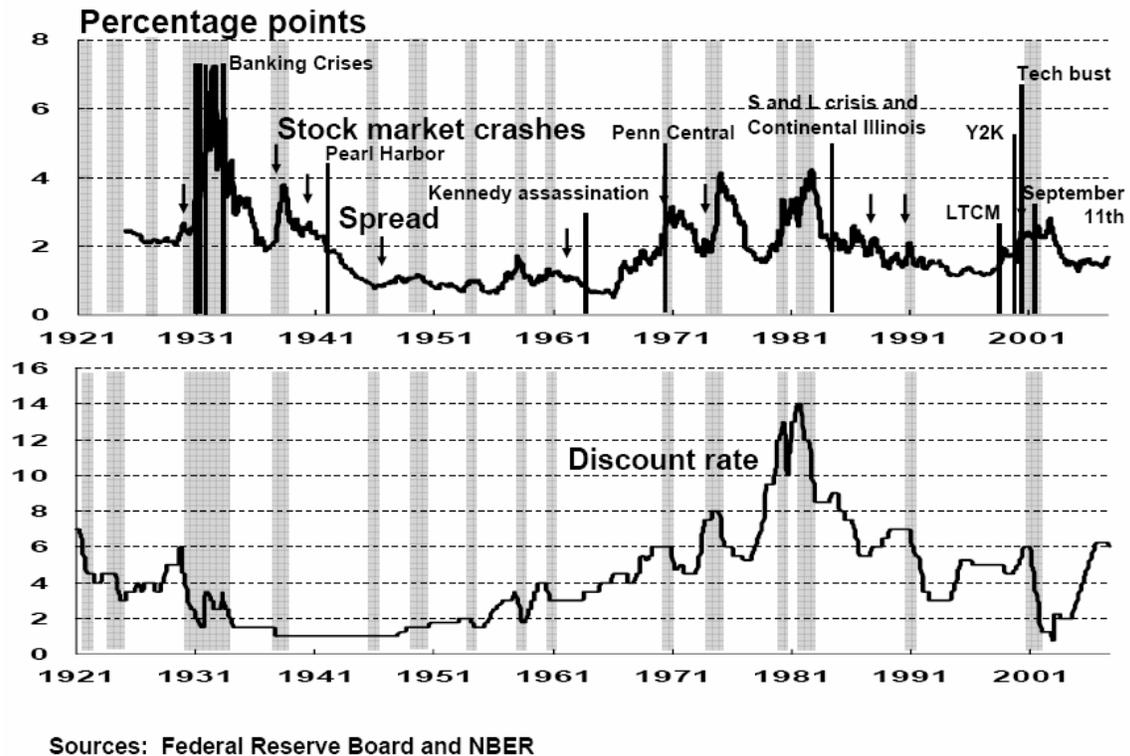
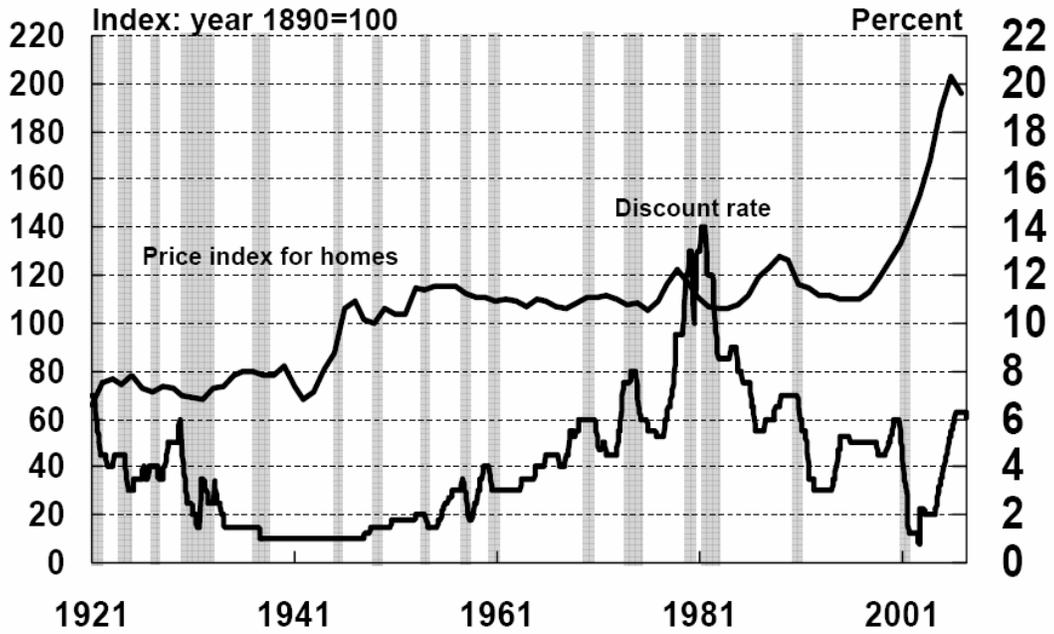
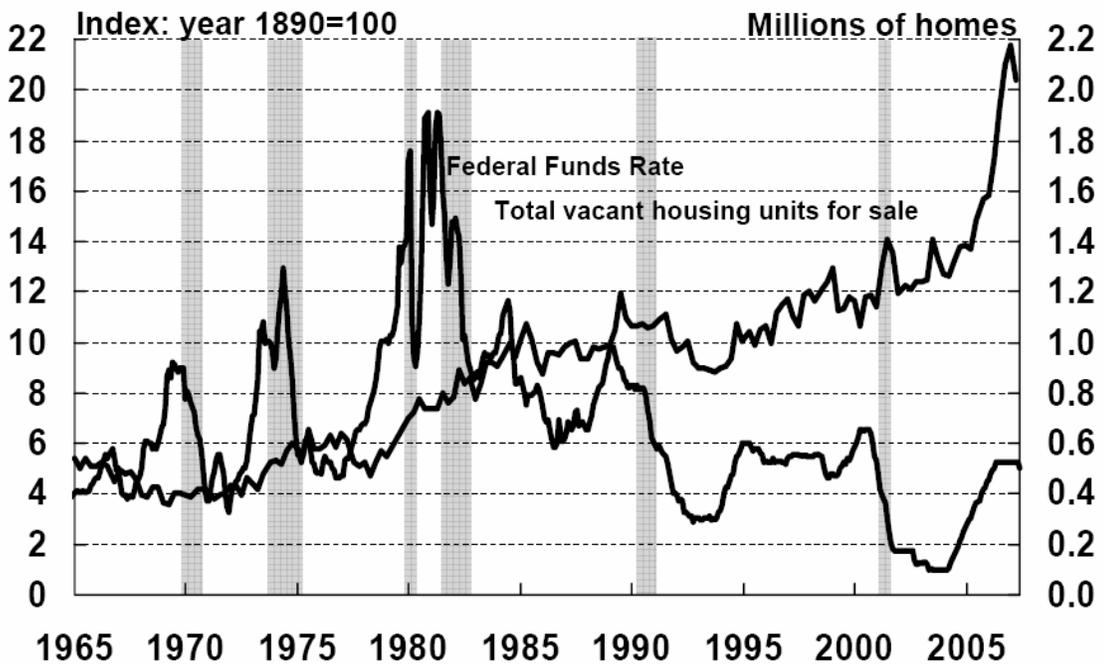


Figure 3. Real Price Index for Homes



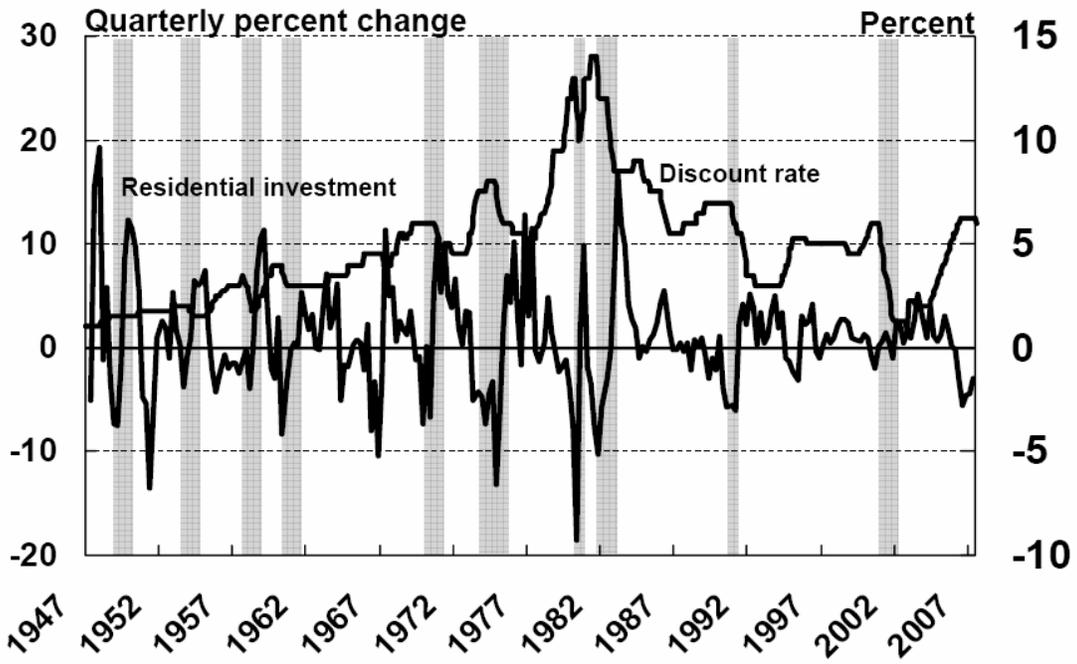
Source(s): Irrational Exuberance, Federal Reserve Board and NBER

Figure 4. Total Vacant Housing Units



Source(s): Bureau of the Census, NBER, and Federal Reserve Board

Figure 5. Residential Investment



Source(s): Bureau of Economic Analysis, Federal Reserve Board