

The Great Recession's impact on the Tampa Bay economy

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ABSTRACT

The Great Recession of 2007-2009 has had a severe impact on the Tampa Bay economy. Although Tampa Bay's housing market peaked in July 2006, it was the bankruptcy of Lehman Brothers, in September 2008, and the subsequent financial crisis, that intensified the magnitude of the Great Recession and its impact on the Tampa Bay economy. Housing bubbles and financial crises have a rich history together, and the damage they cause is usually significant. For example, over the last few years, Tampa Bay's Standard & Poor's Case-Shiller housing price index decreased by 45.8 percent; gross sales for Tampa Bay plunged by 19 percent, on a year-on-year basis; and, at the depths of the downturn, the area lost 140,700 nonfarm payroll jobs. The good news is that nearly six years after the peak in the Tampa Bay housing market, and more than three years since the beginning of the Great Recession, recent data point in a positive direction. The Tampa Bay economy has begun to travel the long road to a full recovery.

Key words: financial crisis, Great Recession, gross sales, housing bubble, labor market, Tampa Bay



INTRODUCTION

Tampa Bay's housing market peaked in July 2006, three months after the peak of the U.S. housing market.¹ One and half years later, in December 2007, the Great Recession began. The magnitude of the Great Recession intensified in September 2008 when Lehman Brothers filed for bankruptcy protection and a global financial crisis intensified. Although the bankruptcy of Lehman Brothers seemed like a distant concern at the time, it and its aftermath have severely impacted the Tampa Bay economy.

The Standard & Poor's Case-Shiller housing price index for Tampa Bay has decreased 45.8 percent since its peak. In the darkest hours of the Great Recession, gross sales for Tampa Bay plunged by 19 percent, on a year-on-year basis. At the depths of the downturn, the labor market in Tampa Bay lost 140,700 nonfarm payroll jobs.

However, recent data point in a positive direction, suggesting an important corner has been turned. First, purchasing a home in Tampa Bay is now less expensive than renting the same sized home. Second, gross sales in Tampa Bay began increasing on a year-on-year basis in April 2010 and a positive trend continues. Third, the year-on-year change in Tampa Bay nonfarm payroll jobs turned positive in November 2010 and has remained in positive territory since that date. Although the road ahead will be difficult, the Tampa Bay economy has begun to travel the long road to a full recovery.

The paper will review the Tampa Bay housing market and the financial crisis of 2008-2009. It will be demonstrated that a housing crisis followed by a financial crisis is far from unusual. Gross sales and labor market trends in Tampa Bay will then be reviewed. The final section concludes the paper.

THE HOUSING MARKET

The Standard & Poor's Case-Shiller housing price index (HPI) for the Tampa Bay metropolitan statistical area is based on observed changes in home prices in the area. The HPI is designed to measure increases or decreases in the market value of residential real estate.² The Tampa Bay HPI hit its maximum value of 238 in July 2006. Since that time, the HPI has dropped 45.8 percent to 129 in January 2011 as shown in Figure 1 (Appendix).

Figure 2 (Appendix) shows the absolute number of privately owned, one-unit residential permits for new homes in the Tampa Bay area.³ The peak of 2,873 permits occurred in June 2005 and the trough of 275 permits occurred in September 2009. After a minor uptick in permits, likely the result of the federal homebuyer tax credit in 2009, initial permits have again slowed. New permits for January 2011 totaled 311.

The Price-Rent Index (PRI) for Tampa Bay measures the price of area homes relative to their implicit rental value. The price component of the PRI is the Standard & Poor's Case-Shiller HPI for Tampa Bay. The rent component of the PRI is the owner's

¹ The Tampa Bay metropolitan statistical area includes Hernando, Hillsborough, Pasco, and Pinellas counties.

² Standard & Poor's Case-Shiller Home Price Indices Methodology. 2009.

<www.standardandpoors.com>

³ Data are reported monthly by the U.S. Department of Housing and Urban Development.

equivalent rent index (OWRI) for Tampa Bay, published by the Department of Labor's Bureau of Labor Statistics. Each series is adjusted to one in 1980 and the PRI computes the HPI/OWRI ratio. A PRI greater than one means that home prices are high relative to rents in Tampa Bay, while a PRI less than one means that home prices are low relative to rents in the Tampa Bay. Figure 3 (Appendix) informs the reader that from 2003 to 2007 home prices were high relative to rents – in retrospect, a clear sign of a housing bubble. During the Great Recession, the PRI declined dramatically. By the end of 2010, the price-rent ratio reached a level not seen since 1998. Currently, the PRI reveals that in Tampa Bay an individual could purchase a home and maintain a monthly payment for less than what would be required to rent the same home.

In summary, the Tampa Bay housing market peaked in July 2006 and the HPI and PRI are currently at their lowest levels since the peak. Such observations provide evidence that Tampa Bay's significant housing bubble has been deflated.

THE 2007-2009 FINANCIAL CRISIS

The recent financial crisis began in 2007. The most significant cause of the financial crisis was the collapse of the U.S. housing market. However, the financial crisis dramatically accelerated with the bankruptcy of Lehman Brothers on September 15, 2008. The systemic dysfunction that unfolded in the financial sector, because of Lehman's bankruptcy, is most visible in the interbank loan market. The panic in the interbank loan market ended with the U.S. Treasury Department's bank recapitalization on October 14, 2008. At that point, however, much damage was done and the national and Tampa Bay economies subsequently spiraled into a deep recession.

Financial Crises and Monetary Policy⁴

Credit crunches are not unusual. During recessionary periods, banks become more cautious with their lending as loan default rates rise and the flow of deposits slows due to the overall slowdown in the economy. A credit crunch manifests itself through fewer available funds and higher borrowing rates. The usual monetary policy prescription of the Federal Reserve Bank (the Fed) is to ease credit conditions through changes in the federal funds rate (ffr). The ffr is the interest rate banks charge one another for overnight lending of excess reserves – that is, reserves above what banks are required to hold against their deposits. These excess reserves are crucial during credit contractions as they provide insurance for banks against deposit withdrawals and declines in the value of bank assets.

The ffr changes as banks supply and demand excess reserves from each other. A lower ffr reduces borrowing costs for banks that demand reserves while the injection of reserves expands the supply available. The Fed intervenes in the market every day by buying and selling treasury notes from and to banks to maintain the Fed's target ffr. The Fed's effectiveness is evidenced by the small deviations of the daily high ffr from the

⁴ Material for this section is drawn from Stinespring and Kench (2009).

Fed's target ffr, which averaged 32 basis points for the six years between November 1, 2002 and September 14, 2008.⁵

In addition to lowering the ffr and increasing the supply of available funds for the interbank loan market, an intervention by the Fed has a multiplier effect by which an increase in one bank's reserves, R , can lead to multiple deposits being created throughout the banking system. Under a credit crunch, the injection of reserves into a bank, call it Bank A, induces it to lend to its customers. As customers spend these loans, the money returns as deposits in another bank, say Bank B. Bank B uses the deposits to generate its own loans leading to more deposits throughout the banking system. The deposit multiplier, a , measures the total increase in deposits created by each \$1 injection of reserves. Although neither bank would claim to create money, each one unintentionally, as if lead by an invisible hand, contributes to the creation of deposits equal to the amount aR .

A credit crunch turns to a crisis if a confidence shock occurs that is large enough and systemic enough to overcome bankers with fear. Fear that commercial and real estate loans will default. Fear that depositors will withdraw their savings. Fear that fellow banks won't repay interbank loans. Fear that banks are hiding credit risk from the market with off-balance sheet securities such as mortgage-backed securities and credit default swaps.⁶ Even fear that their own assets, perhaps some of which are backed by subprime mortgages, will become worthless.

If banks perceive the situation to be severe enough, they will stop providing interbank and customer loans (they may even call in loans) and hoard excess reserves to bolster their balance sheets. Because of these sources of fear, the ffr rises and the deposit multiplier decreases. Perversely, the very actions banks take to protect themselves will reduce the deposit base on which they depend. This is what occurred during the month following the bankruptcy of Lehman Brothers on September 15, 2008, as indicated in Figure 4 (Appendix).

With deviations from the target ffr on the left-side vertical axis, excess reserves on the right-side vertical axis, and the date on the horizontal axis, Figure 4 (Appendix) shows a spike in the average daily deviation from the target ffr from September 2, 2008 to February 24, 2009. These deviations are important as they provide a measure of the risk premiums on interbank loans. During the month-long panic, from September 15th to October 14th, the interbank risk premium exceeded 100 basis points on thirteen of the days, 200 basis points on seven of the days, 400 basis points on three of the days and reached a peak of 800 basis points on September 30, 2008 when the ffr spiked to 10%. On that day, banks were so wary of lending excess reserves to each other that they required a lending premium 400% higher than the Fed's target rate.

The spike in risk premiums contributed to the freeze in lending that caused the deposit multiplier to fall from its prior six-year average of 7.24 to 2.88 for the week of

⁵ Data exclude the final day of each reserve period when the federal funds rate characteristically strays from its target.

⁶ As of 2007, the market was estimated to be U.S.\$62.2 trillion of which banks sold 44% of the total.

September 15.⁷ The fact that these events all occurred while the Fed injected massive amounts of liquidity into the banking system – evidenced by the unprecedented jump in weekly excess reserves from a six-year average of U.S.\$1.8 billion to U.S.\$69 and then U.S.\$133 billion within the month – indicates the impotence of traditional monetary policy and magnitude of the crisis. As Figure 4 (Appendix) illustrates, it was only after the Treasury Department announced its bank recapitalization program on October 14, 2008 that risk premiums fell to their pre-crisis average and remained there throughout the period examined.⁸

Financial Crises and Fiscal Policy: Troubled Asset Relief Program (TARP)

The reader is encouraged to see Stinespring and Kench (2009) for a detailed economic model of the financial crisis and a review of how recapitalizing banks can solve this particular macroeconomic problem. Indeed, the initial bank recapitalization program, commonly referred to as TARP, is a fiscal policy approved by the Congress and President. It is not a monetary policy. In the initial stages of the TARP, the Treasury Department invested U.S.\$245 billion in the U.S. banking sector via capital injections. As of March 31, 2011, the Treasury Department collected U.S.\$251 billion on those initial investments. Outlays for subsequent TARP programs, unrelated to bank recapitalization efforts, invested U.S.\$474.75 billion, of which U.S.\$332.28 billion has been repaid. U.S.\$142.47 billion remains outstanding as of March 31, 2011.⁹ The Treasury Department forecasts that, on net, the TARP program will lose U.S.\$ 23 billion (although this number has continuously been revised downward).

HOUSING BUBBLES AND FINANCIAL CRISES

The U.S. and regional housing bubbles that began to implode in 2006 occupy center stage as the culprit in the interbank loan market crisis of September 2008 and, more broadly, in the financial crisis of 2008-2009. Although our recent housing bubble and subsequent financial crisis were shocks to the world economic system, in historical terms they are hardly unique events. Indeed, Reinhart and Rogoff (2009, p. 159) write that the Great Recession's link between a housing bubble and a financial crisis is but one example of a rich pattern that emerges in their research. Over and over again, a boom in real housing prices in the run-up to a crisis is followed by a marked decline in the year of the crisis and subsequent years (Reinhart and Rogoff 2009, p. 159). Bordo and Jeane

⁷ The deposit multiplier is calculated as demand deposited at commercial banks divided by total reserves. Both figures are provided weekly and are seasonally adjusted.

⁸ The average deviation from the ffr between October 14, 2008 and February 24, 2009 was 26.7 basis points.

⁹ Other TARP programs are: the automotive industry financing program, the automotive supplier support program, the targeted investment program, the asset guarantee program, the consumer and business lending initiative investment program, the systemically significant and failing institutions program, and the home affordable modification program.

(2002) find that financial crises tend to occur either at the peak of a boom in real housing prices or right after the bust.

Table 1 (Appendix), illustrates the magnitude and duration of the downturn in HPIs that have historically accompanied major financial crises. The duration of the housing market downturn ranges from four to seven years¹⁰ and the magnitude of the HPI decline ranges from 12.6 to 58.9 percent. The Tampa Bay housing market peaked in July 2006 and the financial crisis accelerated two years later in September 2008. After more than five years, the Tampa Bay housing market has decreased 45.8 percent. In terms of the historical pattern, Tampa Bay seems average. We should expect a local trough in Tampa Bay's housing market to occur within the next year.

GROSS SALES

Per capita income data, from the Bureau of Economic Analysis, for metropolitan statistical areas has a lag of over two years. A more current series, though an imperfect substitute for income, is gross sales. Nevertheless, income and gross sales are positively correlated. Thus, changes in gross sales data may be used as a proxy for changes in personal income.

Figure 5 (Appendix) illustrates the percent change in Tampa Bay's gross sales from a year ago. December 2007 marks the start of the last recession. Gross sales totaled U.S.\$8.6 billion, which was 4.6 percent higher than in December 2006. The trend throughout the recession was a negative year-on-year change in gross sales. After the bankruptcy of Lehman Brothers, the decline in gross sales from a year ago accelerated.

Consumers in Tampa Bay became as fearful as consumers in the rest of the country. The worst gross sales reading for Tampa Bay came in June 2009, which corresponds with the last month of the Great Recession. In that month, gross sales in Tampa Bay totaled U.S.\$7 billion, which was 19 percent lower than in June 2008.

From the beginning of the recovery, and thereafter, the trend, in Figure 5 (Appendix), is positive. Between July 2009 and March 2010, the year-on-year change in gross sales were negative, but the rate of decline was decreasing. However, beginning April 2010, the year-on-year change in gross sales turned positive, which means that total gross sales in Tampa Bay were larger in this month relative to the same month one year ago. Gross sales for Tampa Bay in January 2011 were U.S.\$10.8 billion, which was 8.8 percent higher than a year earlier. The latest data on gross sales in Tampa Bay remains well below the January 2006 peak of U.S.\$13.2 billion.

THE LABOR MARKET

The Bureau of Labor Statistics' Current Population Survey (CPS) is a monthly survey of households conducted by the Bureau of Census for the Bureau of Labor Statistics. It provides a comprehensive body of data on national and regional unemployment. Figure 6 (Appendix) illustrates that the unemployment rate for the U.S. and for Tampa Bay began to rise in December 2007 (the beginning of the recession). After the bankruptcy of Lehman Brothers, the unemployment rates for the U.S. and for

¹⁰ One exception exists: Japan. Japan's housing market downturn is ongoing.

Tampa Bay made their dramatic accent. The U.S. and Tampa Bay peak unemployment rates were reached in 2010. Since that time, the unemployment rates in the U.S. and Tampa Bay have begun their long descent to the normal rate of unemployment.

The Tampa Bay area has four counties: Hernando, Hillsborough, Pasco, and Pinellas. Figure 7 (Appendix) illustrates the unemployment rates for the four counties. Historically, Hillsborough and Pinellas have lower unemployment rates relative to Hernando and Pasco counties. The peak of the Standard & Poor's Case-Shiller HPI for Tampa Bay in July 2006 corresponds with the trough in unemployment rates in the four counties of Tampa Bay. The bankruptcy of Lehman Brothers in September 2008 corresponds with the beginning of the accelerated increase in the unemployment rates in the four counties of Tampa Bay. In recent months, each of the four counties has observed a decrease in their unemployment rate. A downward drift in county level unemployment rates will likely continue as the economy gains strength.

In addition to the CPS, the Bureau of Labor Statistics conducts the Current Employment Statistics (CES) program survey, on a monthly basis. This national survey is completed by about 140,000 businesses and government agencies, representing approximately 440,000 individual worksites, in order to provide detailed industry data on nonfarm payrolls.

Figure 8 (Appendix) illustrates the percentage change in nonfarm payrolls from a year ago for the U.S., Florida, and Tampa Bay. In November 2010, Tampa Bay observed its first year-on-year increase in nonfarm payroll jobs (this is the month that the series TAMP312NAN, in Figure 8, crosses back over the zero axis). For 41 months prior to November 2010, Tampa Bay, on net, shed nonfarm payroll jobs.

Figure 9 (Appendix) offers an alternative perspective on level of nonfarm payroll jobs in Tampa Bay. The figure illustrates the duration of job loss in Tampa Bay in the 2007-2009 recession relative to the 1990-1991 and 2001-2003 recessions. Figure 9 (Appendix) vividly illustrates how awful the Great Recession has been in Tampa Bay. In the 1990-1991 recession, it took 32 months to claw back to the level of nonfarm payroll jobs that existed prior to the recession. In the 2001-2003 recession, it took 46 months. As of February 2011, 38 months have passed since the recession began.

Current nonfarm payroll job losses in Tampa Bay have far exceeded the losses observed in the last two recessions. At the depth of the Great Recession, Tampa Bay lost 140,700 nonfarm payroll jobs. By February of 2011, job losses decreased to 125,500. At the time of this writing, Tampa Bay is slowly adding nonfarm payroll jobs. However, the sad truth is that it will be many months, if not years, before Tampa Bay has the number of nonfarm payroll jobs observed prior to the Great Recession.

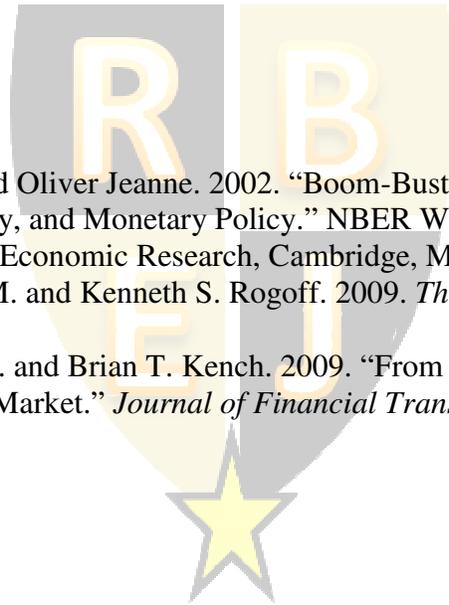
Lastly, Figure 10 (Appendix) illustrates the percentage change in Tampa Bay nonfarm payrolls in from a year ago for eight sectors. Figure 10, panel a (Appendix) illustrates four sectors that continue to shed payroll jobs on a year-on-year basis: financial activities, manufacturing, information, and other services. Figure 10, panel b (Appendix) illustrates two sectors that have begun to add nonfarm payroll jobs on a year-on-year basis, signaling that a bottom has been reached: professional and business services and trade, transportation, and utilities. Figure 10, panel c (Appendix) illustrates the sector that started to shed jobs, on a year-on-year basis, after the Great Recession ended: federal, state, and local government; and the sector that did not shed a job, on a year-on-year basis, throughout the Great Recession: educational and health services.

CONCLUSION

The Great Recession of 2007-2009 has had a severe impact on the Tampa Bay economy. The Standard & Poor's Case-Shiller HPI for Tampa Bay has decreased 45.8 percent since its peak in July 2006, nearly six years ago. However, purchasing a home in Tampa Bay is now less expensive than renting the same sized home. Gross sales for Tampa Bay are down significantly from a peak in January 2006. However, gross sales began increasing on a year-on-year basis in April 2010. More important, the positive trend in year-on-year changes in gross sales has continued. Since the beginning of the recession, in December 2007, Tampa Bay is net negative 125,500 nonfarm payroll jobs. In the darkest hours of the Great Recession, Tampa Bay was net negative 140,700 nonfarm payroll jobs. The year-on-year change in payroll jobs turned positive in November 2010 and it has remained in positive territory since that time. Overall, these data suggest that the Tampa Bay economy has turned an important corner. Although the road ahead will be difficult, Tampa Bay has begun to travel the long road to a full recovery.

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APPENDIX

Figure 1: S&P Case-Shiller HPI for Tampa Bay, January 1987 to January 2011

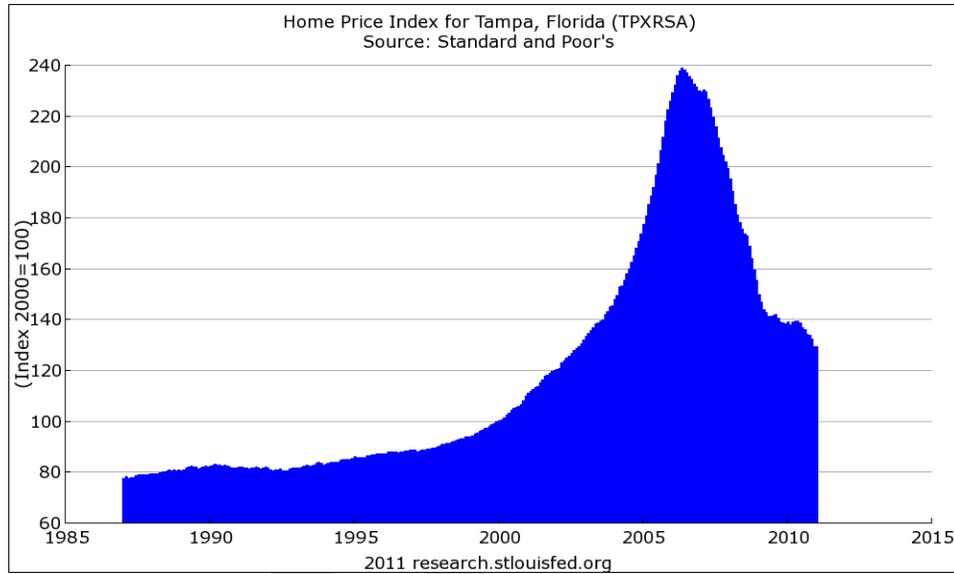


Figure 2: New residential building permits, January 1998 to February 2011

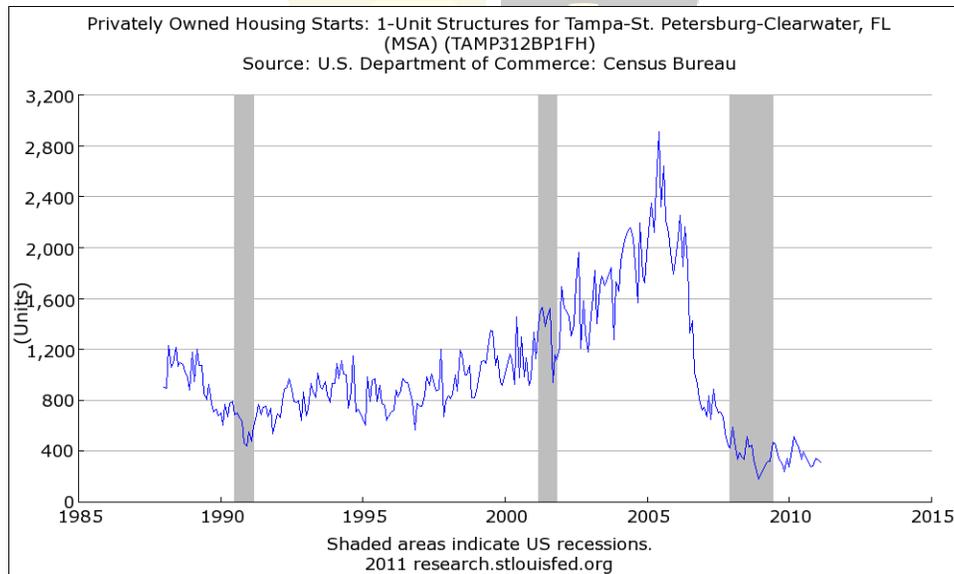


Figure 3: Price-rent Index for Tampa Bay, 1987 to 2010

Source: Standard and Poor's, Bureau of Labor Statistics, and personal calculations

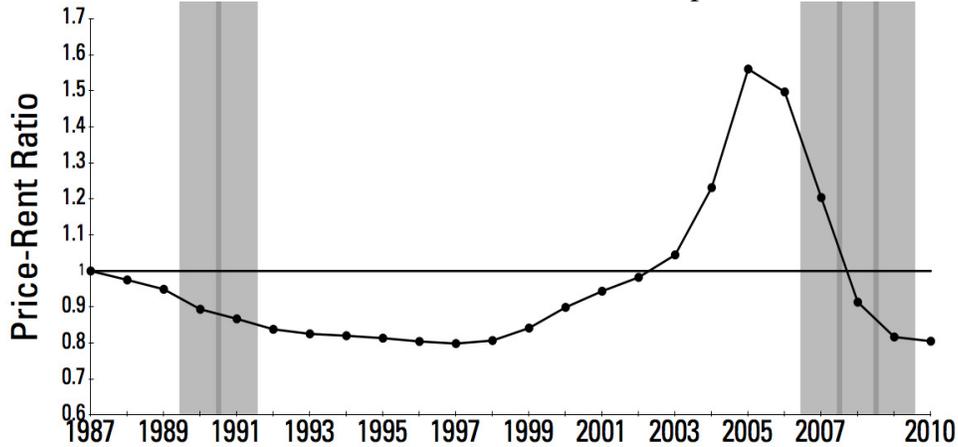


Figure 4: Deviations from the ffr & excess reserves, September 2008 to February 2009

Source: The New York Federal Reserve Bank and personal calculations

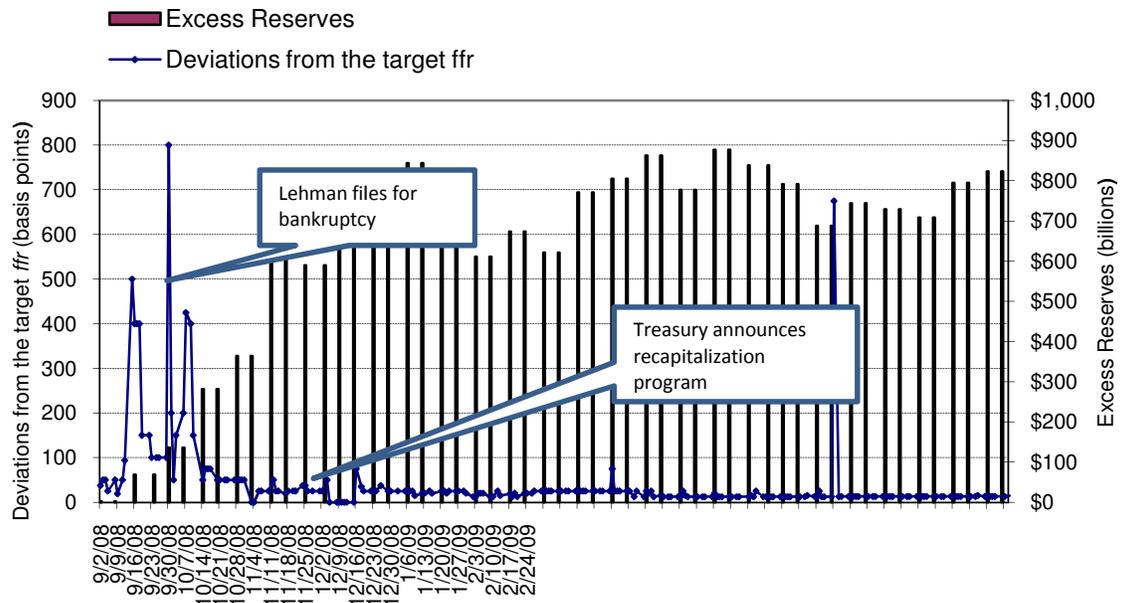


Figure 5: Gross sales in Tampa Bay, January 2007 to January 2011
 Source: Florida Department of Revenue

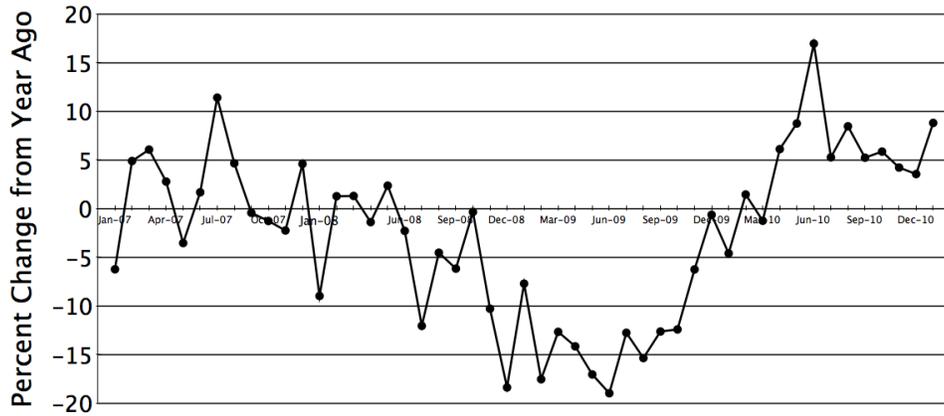


Figure 6: U.S. and Tampa Bay unemployment rates, January 1990 to March 2011

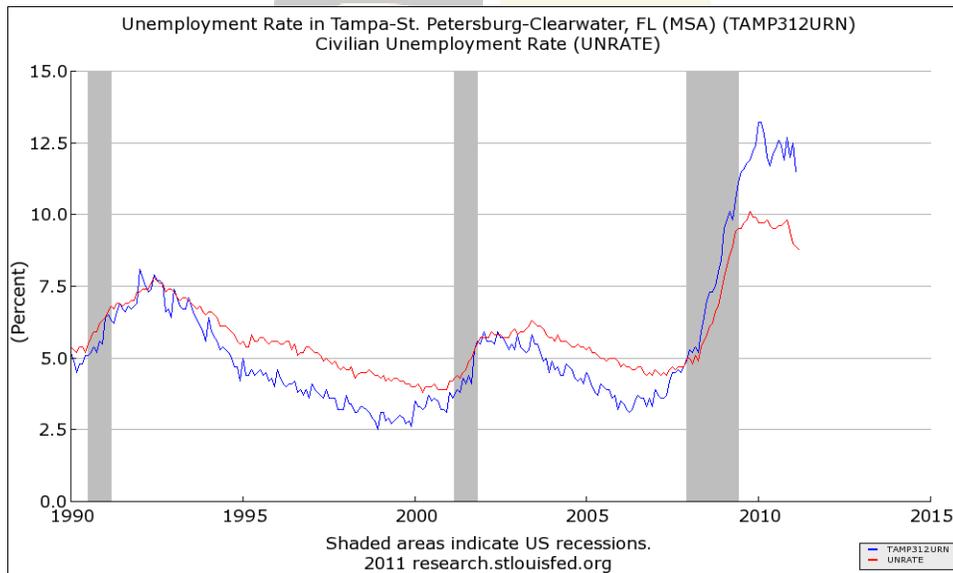


Figure 7: Unemployment rates for Hernando, Hillsborough, Pasco, and Pinellas counties, January 2002 to March 2011
 Source: Florida Research and Economic Database

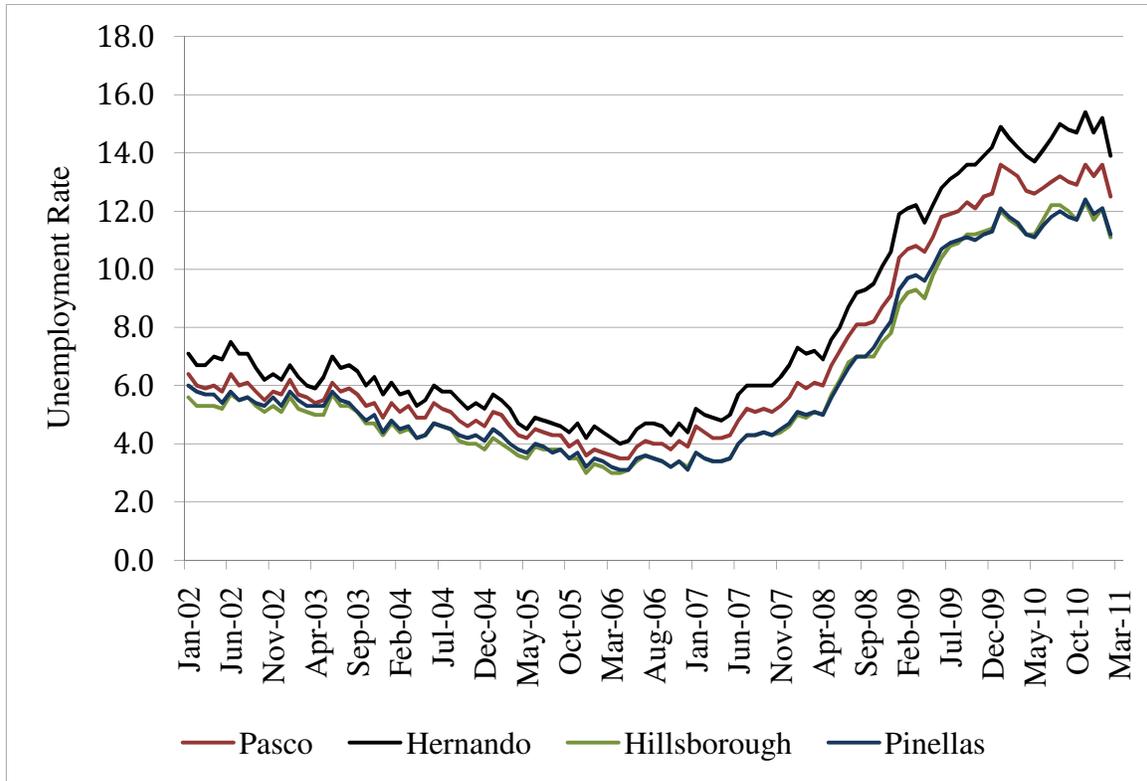


Figure 8: U.S., Florida, and Tampa Bay nonfarm payroll jobs, January 2000 to March 2011

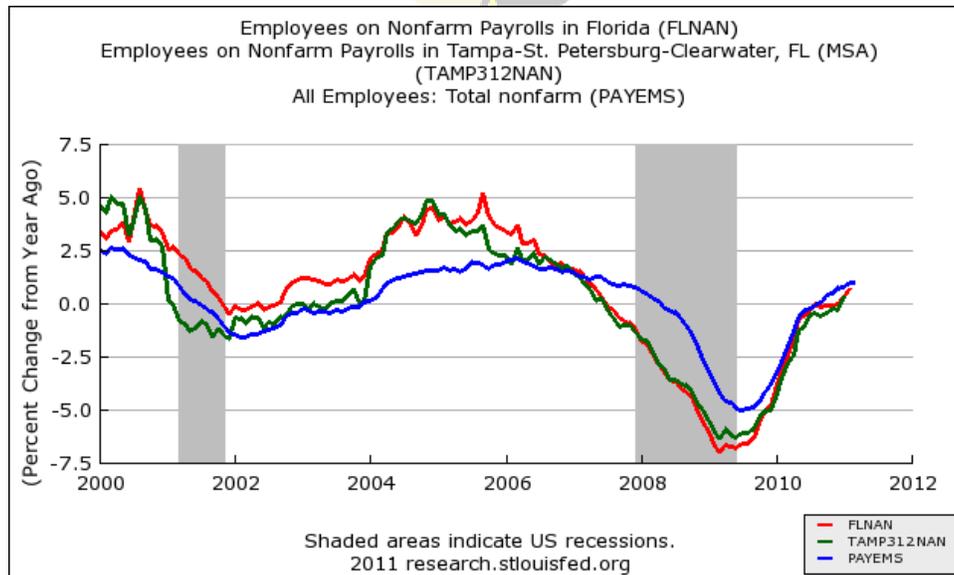


Figure 9: Duration of job loss in Tampa Bay recessions

Source: Bureau of Labor Statistics, National Bureau of Economic Research, and personal calculations

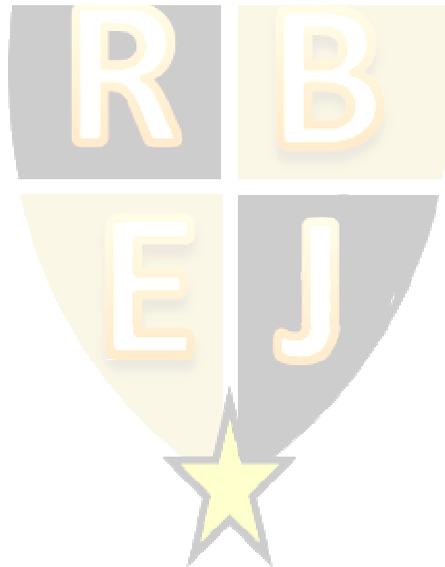
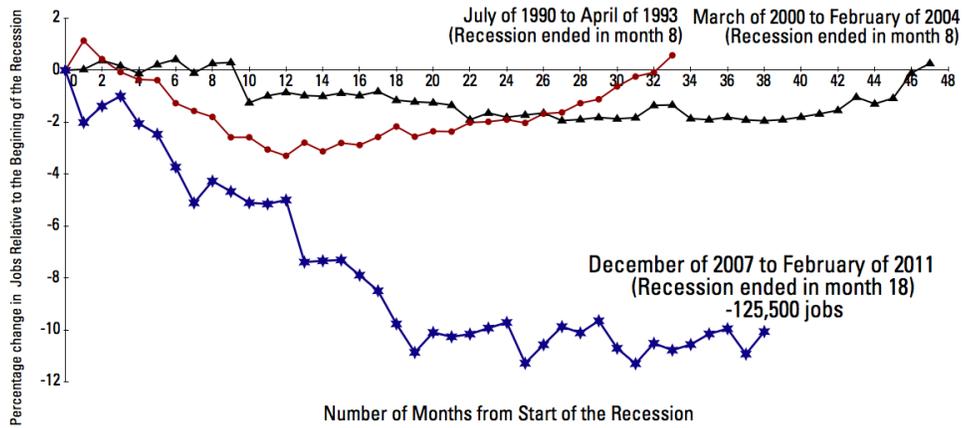
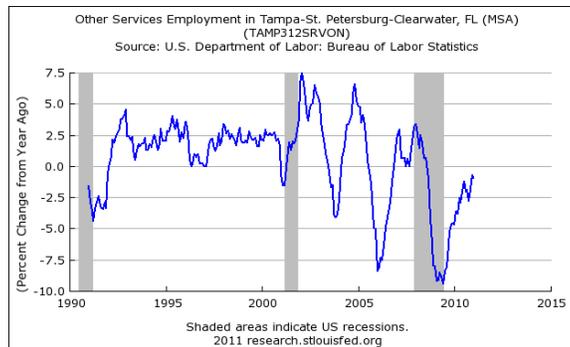
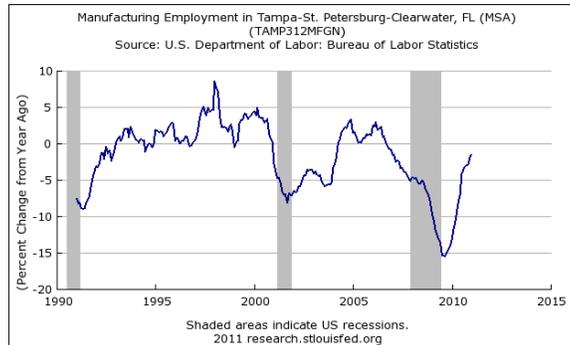
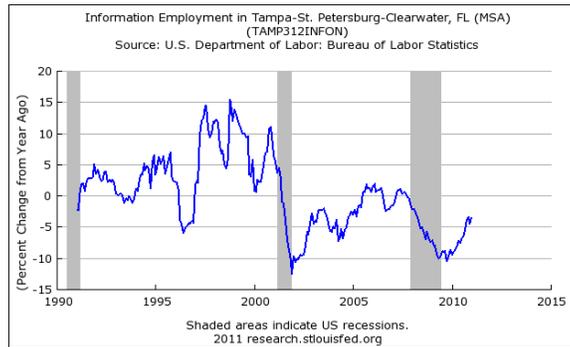
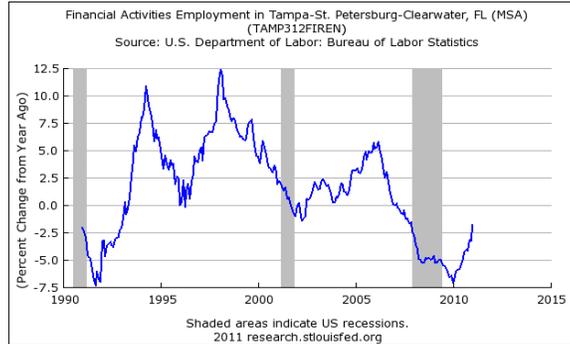
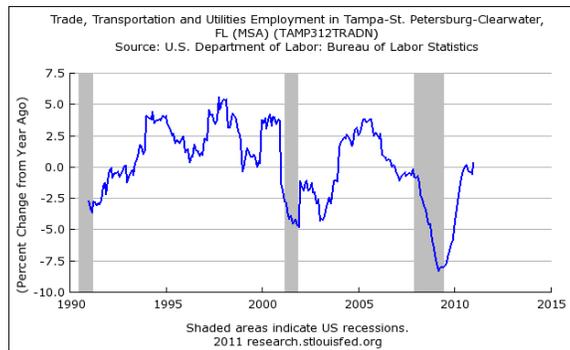


Figure 10: Tampa Bay nonfarm payroll job sectors, January 1991 to March 2011

Panel A



panel B



panel C



Table 1: Cycles of real housing prices and financial crises
 Source: Reinhart and Rogoff (2009) and personal calculations

Country	Year of crisis	Peak	Trough	Duration of downturn	Magnitude of decline (%)
Hong Kong	1997	1997:Q2	2003:Q2	6 years	-58.9
Philippines	1997	1997:Q1	2004:Q3	7 years	-53.0
Finland	1991	1989:Q2	1995:Q4	6 years	-50.4
Tampa, FL	2008	2006:Q3	Ongoing	5.75 years	-45.8
Norway	1987	1987:Q2	1993:Q1	5 years	-41.5
Japan	1992	1991:Q1	Ongoing	Ongoing	-40.2
Spain	1977	1978	1982	4 years	-33.3
Sweden	1991	1990:Q2	1994:Q4	4 years	-31.7
US	2008	2006:Q3	Ongoing	5+ years	-30.3
Norway	1898	1899	1905	6 years	-25.5
US	1929	1925	1932	7 years	-12.6

