

# Sub-Prime Mortgages And The Big Bang

Peggy J. Crawford, Pepperdine University, USA  
Terry Young, Pepperdine University, USA

## ABSTRACT

*Delinquencies and failures of sub-prime mortgages provide evidence that the housing bubble has burst. This study traces the creation of the housing bubble and examines the impact of the sub-prime debacle on world financial markets.*

**Keywords:** Sub-prime mortgages, global housing market, asset bubble

## INTRODUCTION

The housing market continues to be front page news. It was first the topic of wonderment as houses in some hot areas increased in price by 20 to 30 to 50 percent per year – year after year! Then it became a topic of worry as the Affordability Index – a comparison of average price to average salary – showed that fewer and fewer households could qualify for mortgages. Wonderment and delight were replaced with gloom and doom. The hot topic was not increasing prices, but had the housing bubble burst, how much would housing prices decline, and will the defaults cause a recession.

In the article, “The Real Estate Market: House of Cards,”<sup>1</sup> the authors discussed the evidence for and against a real estate bubble. The first evidence mentioned in support of a dramatic drop in housing prices was the prevalent use of creative mortgage instruments. These mortgages were used to allow households to enter the housing market who would not qualify for fixed-rate mortgages– often with potential payments up to 50 percent of gross income! Now that the sub-prime mortgage market – which in many ways drove the housing boom – has begun to implode, it is time to revisit the topic and see what a difference two years makes.

This study will discuss the events and actions which led to the current housing environment, examine the implications of increased delinquencies in the sub-prime market, and discuss the effect of a collapse in the sub-prime market on the global economy.

## THE SUB-PRIME MARKET

The sub-prime market works somewhat differently than the prime market. Prior to its collapse, it was dominated by independent mortgage companies many specializing in sub-prime loans and with little or no diversification. The companies borrowed (often from Wall Street banks) and lent the money to sub-prime borrowers. They then sold the mortgage loans to Wall Street banks and other investors – in the past at a nice profit – and paid back their loans. The purchasers of the mortgages then pooled them and sold bonds backed by the pool to hedge funds, insurance companies and other investors. Many of the mortgages were sold to the investors with what the industry calls “repurchase agreements” or the ability of the investor to return non-performing loans to the sub-prime mortgage companies. As delinquencies began to rise, the sub-prime lenders were hit from both sides – funds to lend dried up and investors returned loans – causing a flurry of bankruptcy filings.

As a result of the sub-prime structure and changes in the capital markets, the current real estate slump has affected a different group of lenders. During earlier slowdowns, the majority of the mortgage loans were held by federally insured banks or thrift institutions. However, today 56 percent (versus 12 percent in 1980) of all loans outstanding worth \$5.7 trillion have been pooled into mortgage backed securities and sold to private – uninsured – investors such as hedge funds.<sup>2</sup> This puts at risk individual investors – some of whom may not be able to withstand the losses. The extent of the structural change is still to be seen. However, the first victim was the investment bank

Bears Sterns. Trouble began as two of its hedge funds failed in July 2007. Bears Sterns' financial condition continued to deteriorate as its losses from sub-prime bets mounted until only a takeover bid by JP Morgan (arranged with help from the Federal Reserve) saved it from bankruptcy in March 2008. The fire sale of the institution will result in the demise of the 85-year old firm and the loss of approximately 60 percent of the 14,000 Bear Sterns jobs.

### **CREATION OF AN ASSET BUBBLE**

Economic, political, and societal uncertainty followed the terrorist attack on 9/11 causing the U.S. economy to slip into a recession. The Federal Reserve (FED) lowered interest rates to spur the economy. Treasury bill rates hovered around 1 percent and mortgage rates fell to 40 year lows. More households qualified for mortgages, and the demand for houses increased. Increased demand drove housing prices upward.

Speculators became active participants in the housing market as returns exceeded those on other investments. Stock and bond market returns were low or negative, and volatile from 2001 to 2004 while the prices of homes in California rose 71 percent. Some surveys found that 23 percent of the homes purchased in the U.S. during 2004 were bought by real estate investors, many of whom hoped to resell the homes quickly at a profit. An additional 13 percent of the purchases were second homes.<sup>3</sup> Increased demand from speculators and buyers of second homes put upward pressure on home prices.

### **HOUSE OF CARDS?**

In the "House of Cards," several factors were mentioned that suggested the housing market could be facing a downturn. The first of these was creative financing. The rapid increase in housing prices caused many borrowers to be priced out of the market. Financial institutions reacted by offering a wide variety of mortgage instruments such as low or no documentation of income, adjustable mortgages with low teaser rates, adjustable rate loans with low fixed rates for the first two to five years, no down-payment loans, 0 percent interest for the first year(s), and interest-only loans with negative amortization. These instruments made borrowers vulnerable not only to rising interest rates (as monthly payments on adjustable rate mortgages increase), but also stagnating or falling prices (as market prices fall below mortgage balances with negative amortization or interest-only mortgages). The Federal Reserve began increasing short-term interest rates – the index for many adjustable rate mortgages – in June 2004. By mid-year 2005, market watchers observed increases in mortgage defaults and delinquencies in the sub-prime category where the delinquency rate, while still low, doubled to 6.23 percent.<sup>4</sup>

The housing market continued to flourish until early 2006 when cracks began to show. Housing prices continued their upward march (but at a much slower rate), housing inventory began to build (as homes took longer to sell), and buyers took to the sidelines (in anticipation of price cuts). Speculative and second home purchases slowed in 2006 with second home purchases in California "vacation" areas declining by 37 percent, and sales to Californians in Phoenix declining 50 percent and in Las Vegas by 32 percent.<sup>5</sup>

To exacerbate the problem, mortgages closed two to three years earlier began to reset. In the past, many sub-prime borrowers continually refinanced their homes with loans featuring low teaser rates and postponed large jumps in payments. But, rising delinquencies caused lenders to tighten standards, pushing sub-prime borrowers out of the refi market. In February 2007, Freddie Mac, one of the largest players in the mortgage market, announced it was tightening its lending standards as of September 1. Freddie Mac does not buy sub-prime loans directly from the institutions that write them. Instead, it purchases bonds backed by pools of sub-prime loans. Under the new guidelines, it no longer purchases bonds backed by loans with low teaser rates for the first two – three years unless the borrower can qualify at the higher rate.

By January 2007, 14.3 percent of sub-prime loans were at least 60 days late up from 8.4 percent in January 2006. For Alt-A loans, which fall between sub-prime and prime, the late payment rate rose to 2.6 percent up from 1.3 percent in January 2006. Together sub-prime and Alt-A loans accounted for 40 percent of home mortgages originated in 2006.<sup>6</sup> Foreclosures continued to climb and by March 31, 2008, 2.04 percent of single-family homes were in foreclosure and 6.35 percent of all mortgages were delinquent by 30 days or more. Fifty percent of the

mortgages that went into foreclosure in the first quarter of 2008 were sub-prime, but a startling 42 percent were prime loans!<sup>7</sup>

Lenders continued to tighten borrowing standards. In May 2008, Wells Fargo raised credit scores for loans covering 95 percent of a home's value and eliminated some cash-out refinancing for customers whose loans equaled more than 80 percent of the home's current value. But, change did not come before lenders begin to feel the heat. Wells Fargo announced a drop of 11 percent in first quarter 2008 net income because of mortgage defaults. Countrywide Financial Corp. lost \$2.5 billion over a nine month period because of the sub-prime collapse and in January 2008, agreed to be bought by Bank of America Corp.<sup>8</sup> Freddie Mac lost \$4.5 billion dollars in the second half of 2007 followed by \$151 million loss in the first quarter of 2008. Moody's Investors Service reacted by downgrading Freddie Mac's securities and forecast that they could loose as much as \$7.5 billion over the next two years.<sup>9</sup>

### **WHY SHOULD WE CARE?**

All markets and participants are affected – either directly or indirectly – by events in the housing market. The real estate market has an enormous impact on the health of the economy by effecting consumer spending, the employment rate, and company profits.

The housing boom increased consumer spending and the slump appears to have reduced it. This is important to economic health since consumer spending makes up approximately 2/3 of all spending making it a major driver of the economy. Increases in property values made people feel rich and this "wealth effect" encouraged them to spend more. In addition, homeowners took advantage of the low interest rates and high real estate prices. They converted their real estate investment into cash by either refinancing and pulling cash out, or borrowing with a home equity loan against the higher value. Consumers are now faced with stagnating or falling house prices, and higher interest rates that discourage borrowing. Consumers are suffering from financial and psychological stress as their paper profits melt away. The question is not will the slump effect consumer spending but by how much. During the first quarter of 2008, consumer confidence – as reported by the Reuters/University of Michigan Surveys of Consumers – fell to its lowest level in 26 years with nearly 9 out of 10 the respondents stating they believe the economy is in a recession. By March 2008, consumer spending grew an inflation adjusted 0.1 percent after growing slightly in January and staying flat in February. Of more concern is that the run-up in gas and food prices has sifted spending from big ticket items such as washing machines and television sets to necessities such as food, energy and medical care.<sup>10</sup>

In addition, the stalling of the housing market and implosion of the sub-prime industry has impacted the employment rate. More than 40 lenders have halted operations, gone bankrupt, or sought buyers since the sub-prime market began its slid in the last half of 2006. The largest bankruptcy involved New Century Financial Corporation, a twelve-year old, independent sub-prime lender headquartered in Irvine, California. New Century filed for bankruptcy, fired 3,200 workers – half its workforce – and announced it would try to sell its remaining operations. New Century admitted it had grossly underestimated the losses it would suffer from numerous loan repurchase demands and disclosed it was under SEC investigation for its accounting practices and executives' stock sales. Following the bankruptcy, shareholders filed lawsuits claiming that top executives had made millions on stock options while concealing problems within the company.<sup>11</sup>

The number of employees fired by New Century was dramatic, but not the only example. Smaller firms have also closed their doors or announced lay-off as well. By early 2007 even diversified mortgage companies such as Countrywide Financial – at the time the country's largest mortgage company – announced losses on its sub-prime portfolio and employee reductions. In California, mortgage industry job losses soared 367 percent in the first quarter. But, the mortgage industry was not the only one hurt. Employment related to the housing industry – construction workers, architects, mortgage lending services, etc – also began to contract. It was estimated that 70,000 jobs in the construction industry would be lost in the U.S. by 2009.<sup>12</sup>

Firms' profits began to feel the pinch. Home builders have been hit by events in the housing market. As lending standards tighten, demand for new homes dropped. Toll Brothers, a luxury home builder, was typical. Their profits fell 67 percent in the first quarter of 2007. Earnings declined from \$.98 per share a year earlier to \$.33 per share. Net contracts signed in the first quarter fell 34 percent and the contract cancellation rate jumped to 29.8 percent, more than four times the historical average of 7 percent.<sup>13</sup> Profits at the Lowe's Companies fell 11.5 percent in the fourth quarter of 2006. Same store sales declined 4 percent. Home Depot announced that it expected fiscal 2007 sales growth to be flat and that earnings per share are expected to decline by 4 – 9 percent.

Profits in the first quarter of 2008 fared no better with Home Depot announcing 66 percent decline and Target a 7.5 percent decline. Retailers began to react by limiting expansion and reducing stores. Home Depot announced it would abandon plans to open 50 new stores and close 15 poorly performing stores. Ann Taylor plans to close 117 stores, Zales 100, Foot Locker 140, and the list continues. Even Starbucks, the darling of Wall Street since its inception, announced it would shutter 100 stores. J.C. Penney, Kohl's and even Wal-mart announced they were slowing expansion or delaying store openings. These announcements will not only change the face of many shopping centers around the country, but will reduce sales tax revenues to many governments and eliminate additional construction jobs.<sup>14</sup>

## **THE U.S. REACTS**

The FED was the first to react to the melt down in the mortgage markets. During the September 2007 meeting, the FED began to lower the discount rate and its target for the Fed fund rate from 5.25 percent and 5.0 percent respectively. Decreases came often until the rates stood at 2.25 and 2.0 percent respectively in June 2008. The decline in interest rates helped lower the rates at which many adjustable rate mortgages reset and lowered potential payment increases for many borrowers. However, the lower rates increased the risk of inflation and, therefore, had only modest impact on the rate of 15- and 30-year mortgages.

In February 2008, the Bush Administration also stepped in with its plan called Project Lifeline. The plan allowed borrowers who were at least three months behind on their mortgage payments to ask their lender for a 30-day "pause" on foreclosure proceedings. If the delay is granted, the 30-day period could be used to negotiate more favorable mortgage terms. However, the plan did not require that a new agreement. Project Lifeline was called dead on arrival by Congress and was never enacted.

The House of Representatives passed its plan in May 2008. The major features include offering refinanced, federally insured mortgages to homeowners facing foreclosure, raising the limit on conforming loans, providing tax credits to first-time home buyers, and tightening oversight of Fannie Mae, Freddie Mac, and the Federal Home Loan Bank system. Key Senators announced a bipartisan plan later in the month which contained some similar features such as the refinanced, federally insured mortgages, but differed on other significant provisions such as financing. Both bills face problems before they could be passed in both houses and a potential veto by the White House.

## **THE WORLD IS GETTING SMALLER**

The real estate boom extended beyond the U.S. borders. Low returns in stock markets and low interest rates caused resources to be diverted into real estate globally. Housing prices rose at staggering rates around the world. The value of residential property in developed countries increased by more than \$30 trillion during the last five years to over \$70 trillion – equivalent to 100 percent of those countries' combined GDPs!<sup>15</sup> But, now the real estate market faces a changing environment. Global stock market returns are up and interest rates are rising. Even Japan which left interest rates at 0 percent for years is allowing rates to edge upward. Where does this leave the global housing market?

But by mid-2005, there are signs that prices were beginning to fizzle, not sizzle in some markets. Prices in Britain have reflected the sharpest drop, but real estate markets in the southern hemisphere countries – Australia, New Zealand, South Africa – also appear to be slowing.<sup>16</sup> If weaknesses in housing markets slow growth in the

global economies, the U.S. economy could be impacted. Slow growth could impact the demand for U.S. exports causing the loss of manufacturing jobs, decrease in corporate profits, and negative impact of U.S. stock prices.

Financial institutions outside the U.S. were also effected by the sub-prime implosion. UBS, the Swiss banking giant, has been particularly hard hit. In May 2008, it announced it would issue \$15 billion worth of shares – its second trip to the equity market in three months – to restore capital depleted by mortgage losses. Additionally, it announced it would lay off 5,500 employees mainly in the U.S. and Britain. Even the Bank of China acknowledged that it held \$9.7 billion of securities backed by U.S. sub-prime mortgages. While UBS is the hardest hit, banks globally have written off more than \$330 billion in losses since the summer of 2007.<sup>17</sup>

## **CONCLUSION**

The real estate market enjoyed a good run as double-digit price increases became the norm. But what now? If history is an indication, we will see a return to “normal” or a correction rather than a complete collapse. However, some areas will be harder hit than others. It is estimated that houses in some areas of California may be overvalued by 40 percent or more and the decline will leave many mortgages underwater. Some individuals will loose their jobs as their companies trim payrolls because of lower profits. Some homeowners, particularly sub-prime borrowers, will loose their homes to foreclosure.

The longer the correction and the deeper the drop in prices, the more impact the decline in the housing market will have on the economy. A slowdown in the U.S. will affect the global economy, but should not stop global economic growth completely. Emerging markets – particularly Brazil, Russia, China and India – are increasingly driving the world economy and should be able to sustain some growth. During each of the last four years, they have produced 5 percent of global economic growth. In addition, European economies are experiencing strong growth and the Japanese economy, for the first time in a decade, is showing ever stronger signs of life. Over the last two years, every country except for the poorest and those plagued with political instability experienced growth. World economies, for the most part, are reasonably healthy and prosperous.

The downturn in the housing market will cause pain for some, but in the end of the housing boom may be good news for the overall economy. A return to normalcy in the market should increase affordability while still providing reasonable returns on housing investment. So, hang on – it is just a matter of time!

## **AUTHOR INFORMATION**

### **Peggy J. Crawford:**

#### **Professional Experience**

Dr. Crawford has over 20 years business experience. She has consulted for a variety of firms including Klemm Consulting, Professional Development Institute, AT&T, Sprint, and the Washington Redskins (her favorite job!). She was a founding partner of Eastwind Asset Management, a California investment firm, providing financial planning and portfolio management services for individual clients.

#### **Academic Experience**

Dr. Crawford joined the faculty of the Graziadio School at Pepperdine University in 1997 after serving on the faculties of the University of Houston, Fordham University, and George Mason University. At Mason, she served as Chair of the Finance Department, Director of the Executive MBA, and Director of MBA Programs. At Pepperdine, she served as Associate Dean of Academic Affairs, Director of Accreditation and Learning Assurance, and Discipline Lead for Finance.

#### **Research**

Dr. Crawford has published over thirty articles in a variety of practitioner and academic journals. Her research focuses mainly on corporate finance, capital markets, and real estate/mortgages topics including lease vs. buy

decision, return on closed-end investment funds, risk profile of adjustable-rate mortgages, impact of the budget and trade deficits, Chinese currency policy, and speculation in oil markets.

### **Education**

PhD Purdue University, in Finance  
BA University of Texas at Arlington, in History

### **Terry W. Young:**

### **Professional Experience**

Dr. Young has over 15 years of business experience in Asia and the United States. She has extensive knowledge of the global marketplace, with a primary emphasis on Asia. Her consulting expertise encompasses global sourcing, business start-ups, and management in many industries, including food distribution, textile/garment, agriculture, and electronics. Additionally, she has significant experience in real estate development.

### **Education**

PhD University of Southern California, Los Angeles  
MA University of Southern California, Los Angeles  
MA University of Colorado, Boulder  
BA University of Santo Thomas, Manila, Philippines

### **Teaching Experience**

Dr. Young has more than 20 years of teaching experience at such institutions as Regis University, Denver, Colorado; California State University, Los Angeles; California State University, Long Beach, and the University of Southern California. She has been a full time faculty member at Pepperdine's Graziadio School of Business and Management since 1984 and is the 1994 recipient of the Luckman Distinguished Teaching Award.

### **Summary**

Dr. Young is an experienced professor and economist and has dedicated the major part of her career to the education of others. She is experienced in the areas of U.S., European, Latin American, and Asian economies.

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