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Publication Date
2008-01-02

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AT THE TIPPING POINT: *THE MORTAGE MELTDOWN AND ITS IMPLICATIONS FOR CALIFORNIA AND THE NATION*

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The tech crash began in 2000, a slowing of business spending that eventually led to the 2001 recession. California saw a wide variety of economic outcomes during this last downturn. The Bay Area experienced one of the worst regional recessions in U.S., losing proportionally more jobs over a shorter period of time than Los Angeles did in the slump of the early nineties, Houston did in the late eighties or Detroit did in the early eighties. In contrast the Inland Empire added over 10 percent to its workforce from January of 2001 to January of 2004. The difference was the unusual nature of the downturn; a business cycle driven not by consumer spending but by a boom/bust in capital investments.

California, including the Bay, has bounced back since the tech bust and continues to grow faster than the U.S. overall. This faster growth has occurred despite claims that the state has lost its competitive edge due to high business costs. Yet even as recovery has been achieved, an old issue has emerged as a substantial threat – housing. As far as real estate bubbles go, this past cycle has no precedent even in California's turbulent housing history.

The House Price Boom

House prices relative to past trends and household income have never been higher, nor has the boom in housing ever gone on as long as this one did. As we know now, the causes of this unusual cycle are not unlike the causes of the earlier dot-com frenzy. Investors, seemingly blind to the lack of fundamentals, snapped up mortgage backed securities valued in the billions of dollars, allowing the industry to lend money to buyers seemingly without any standards.

When the housing market finally topped out in 2005, it went initially into a slow decline. The forces of growth outside the housing sector – productivity and business investment – remained strong and – with labor markets tightening – incomes grew at a solid pace. The housing market, while clearly distressed, remained mainly a distraction to the economy rather than a fundamental threat to it.

Many forecasters believed that the economy could weather the housing storm. The thinking went this way: past recessions were led by a slowing housing market, but this seeming linkage was correlation, not causality. Housing simply responded faster to the external shock that would soon hit the rest of the economy. For awhile the bulls seemed to be right; the rest of the economy moved along for close to a year without housing having a substantial impact.

The Consumption Impact

It is true that price increases in real estate alone cannot cause a recession by themselves. Home prices simply reflect a financial swap – for each home buyer paying a high price there is a home seller making a handsome profit. The issue is the consumer reaction to perceived home wealth. The economy over the last few years has been out of balance. Consumers in California and nationally have been on a spending binge fueled by home price appreciation. Savings rates have been negative and the U.S. overall has been running a massive international trade deficit as consumers have used mortgage equity withdrawals to expand spending. So the old rules about housing prices not causing recessions do not apply anymore. Now the housing market *can* cause a recession. And if there is a national recession, California – which has participated in the house price boom extensively – will not escape.

The cooling housing market has cooled growth in consumer spending, but so far has not stopped it. Consumers had lots of excess equity in their homes and the stock market has also been booming along. As long as home prices didn't start to fall, consumers could slowly move back to a balanced position and the U.S. economy could continue to grow. Unfortunately, prices have now started to fall. The fall was inevitable since peak house prices were simply unsustainable.

Risky Finance

Many home buyers used risky alternative financing to speculate on real estate with the idea of using short-term low interest rates to capitalize on rising prices. When the housing market peaked, those last in suddenly found themselves with mortgages that were ticking time bombs. Such mortgages had "reset dates" when higher interest rates had to be paid. As the reset dates kicked in, home buyers often couldn't make the higher payments and foreclosure was in the works. The impact was felt by such California-based companies as Countrywide, which had lent in the high-risk market.

The situation began to reach a crisis point in the second quarter of this year. Foreclosure across the nation and in California started to reach record high levels despite the tight labor market. The foreclosures caused prices to start to fall as repossessed houses were dumped on the market. As a result, consumer spending growth slowed in the second quarter of 2007.

Note that the economy was already substantially at risk when the credit crunch began. Hedge funds began to implode due to the lack of performance of the low-tranche (i.e., risky) mortgage-backed securities that formed the base investment product. Bond holders suddenly realized that their investments may not be worth what they paid for them. Credit markets dried up rapidly. The Federal Reserve made moves to relieve the resulting liquidity crisis, but there is little it can do now about the mortgage markets going forward.

Mortgage markets will no longer touch any potential borrower who has less than stellar credit ratings and can make a large down payment. Foreclosures – already high – are sure to spike in the wake of this development; the cooling U.S. economy could tip into a recession by early 2008. If that happens, some analysts will blame the credit crunch, but it won't be the culprit. The credit crunch is simply an aggravating factor.

The Recession Outlook

Is a recession going to happen? From our perspective the answer is almost certainly "yes." There are some potential factors that may help offset the housing effect. The falling U.S. dollar will stimulate exports. Much of the impact of the consumer spending slowdown will accrue to foreign producers in the form of lower imports to the U.S. The federal government may find some way to slow the housing implosion. A major fiscal expansion, as driven by a big expansion of a foreign conflict, could replace consumer spending as a driver of growth.

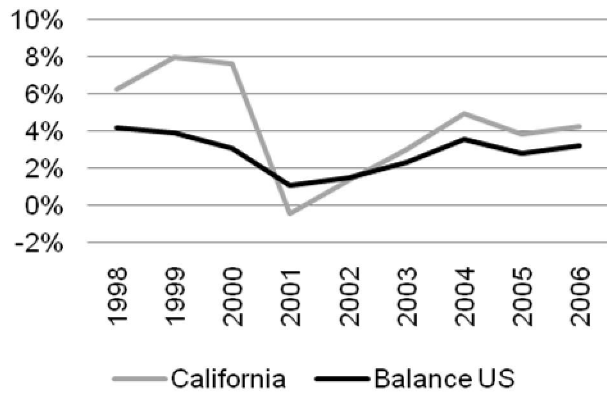
But we see these as low-probability events. What is clear is that even if the U.S. does avoid a recession, growth will be slow for at least a year, perhaps even longer. The good news is that a recession, if it does hit, will be sharp but short. Expect solid growth to resume in California and nationally by mid-2009. The year 2010 could even be a great one. But in the meantime, there could be unpleasant impacts including adverse effects on state and local budgets in California.

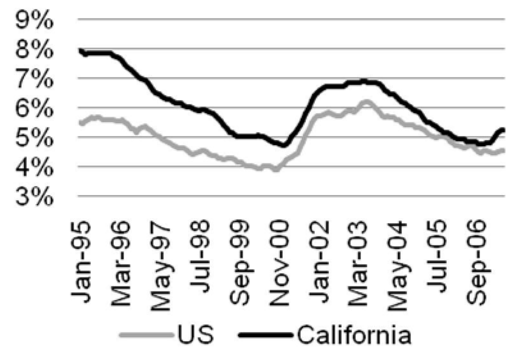
Recent Trends

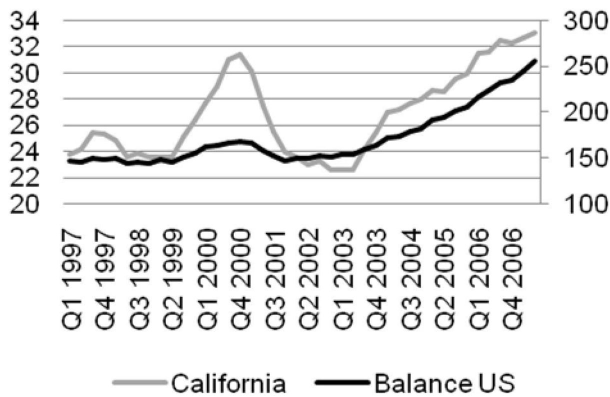
California posted good numbers into 2007, despite being often maligned as a bad place to do business. The 2006 *Forbes* "Best States for Business" ranked the state 48th out of 50 in terms of business costs, 41st for regulatory environment and even 28th in quality of life![1] Despite this bad press, the state continued to have one of the fastest growing economies in the nation. After recovering from the sharp downturn of 2001-02, during the next three years gross state product (GSP) in California grew at a 4 percent pace. While slower than during the late nineties, the rate was a full point above the U.S. as a whole.

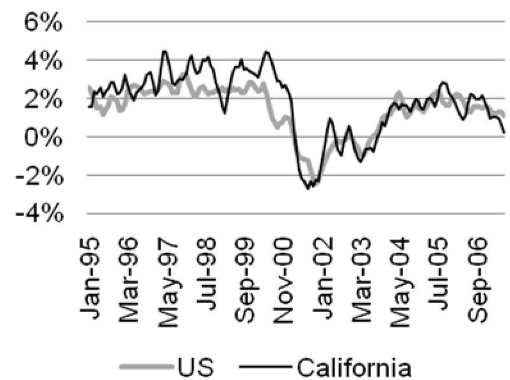
Gross State Product

Gross state product at the local level is measured by the "value added" for each productive sector – the difference between total output and the cost of material inputs. It reflects the contribution of capital and labor in the state to producing final product. The largest source of economic output (until the housing bust) was the real estate and leasing sector of the economy – reflective of both the hot housing markets as well as the solid growth seen in commercial rents around the state. The next largest contributors to growth were manufacturing, professional services, and information respectively.



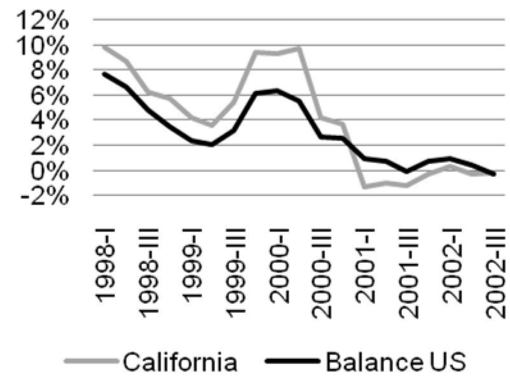






Top California Exports, $Billions

	Q2 06 YTD	Q2 07 YTD
Total all Industries	$63.0	$65.0
Computer And Electronic Products	$22.0	$21.3
Machinery, Except Electrical	$7.1	$7.4
Transportation Equipment	$7.2	$6.5
Chemicals	$4.2	$5.2
Miscellaneous Manufactures	$3.7	$4.1
Agricultural Products	$3.1	$3.0
Food And Kindred Products	$2.4	$2.8
Electrical Equipment, Appliances	$2.1	$2.3
Waste And Scrap	$1.6	$2.1
Fabricated Metal Products	$1.7	$1.9



Real Median Household Income ($2006)

	US	California
2006	$48,451	$56,645
2002	$47,687	$55,086
Change	1.6%	2.8%

Growth in manufacturing output may come as a surprise given the lack of employment growth in the sector. However manufacturing is a sector that is able to take advantage of advances in information technology better than any other. As such, output growth in this sector has been driven by capital deepening. Computers and Electronics production represents the most important sector with over 20% of manufacturing value added. Chemicals and the Food Production sector come in a distant second and third. Foreign demand has played an important role in supporting manufacturing in the state. According to WISER statistics, the second quarter (Q2) of 2007 was a new record for state exports, with just over $33 billion in local produced products shipped overseas, up from $23 billion per quarter in 2002. The top export from the state remains computers and electronic equipment – critical to the Bay Area economy.

Labor Markets

Labor markets in the state were also relatively strong compared to the U.S. overall. Unemployment in the state – the best measure of the strength of demand for workers, fell below 5% at the start of 2007, almost the same as for the U.S. overall. That level is as low as it was at the height of the dot.com boom and a considerably better than the two point gap against the U.S. seen in the late nineties as a result of the steep recession that hit the state in the early nineties. Payroll job growth has been averaging around 2% since the recovery from the 2001 downturn, on par with the U.S. overall.

Real Income

Given the tight labor market conditions, it is not too surprising that real income growth in the state has also been running at a pace above the U.S. as a whole. Between 2002 and 2006, real median household income in California grew by 2.8% compared to 1.6% for the U.S. State incomes are now 17% higher than for the nation as a whole. Aggregate personal income has also been growing strongly, largely in response to tight labor markets.

Unemployment

While current inflation adjusted growth rates are below where they were in the late nineties, overall rates accelerated recently, and Q1 of 2007 saw a 6% rate of growth (seasonally adjusted annualized rate), the best showing since 2000.

Signs of a Slowdown

Despite solid recent trends, it was clear that the economy was starting to slow both nationally and locally once we look closer. During 2007, employment growth in California slowed sharply in the state and unemployment suddenly started to rise. The state employment survey has some problems, and has been consistently underestimating job growth towards the end of the year – a problem that is corrected with the employment revisions that occur in February. However, the 2007 slowing seemed to be the real deal. The increase in the

unemployment rate is one clue. More importantly, the weaknesses in the labor markets are completely in line with what would be expected given the housing slump being experienced in the state.

Construction, after growing at a 5% pace over 2006-2007, finally started to shed jobs. Financial activities, particular those related to the mortgage industry, along with the real estate industry were showing declines in employment levels. Other weaknesses showed up in retail and wholesale trade – potentially related to a slowing of consumer spending growth. But there were some signs of strength. Job losses in manufacturing slowed as a falling dollar continued to stimulate exports. Such mixed signals are not unusual when a slump begins.

Nonetheless, it is clear that the housing markets were finally starting to take their toll. Unemployment is the critical number. Overall at this writing, it had risen by nearly a percentage point since the last quarter of 2006. The state has never seen this kind of increase in unemployment that did not eventually lead into an economic downturn.

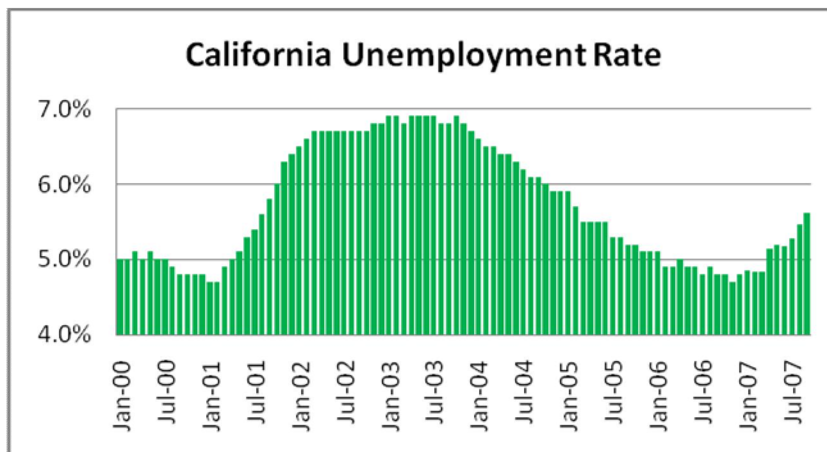
Bubble Economics

In addition to the shift in growth in the second quarter of 2007, the third quarter was marked by a severe credit crunch and substantial financial turmoil in the bond and equity markets. After many months of rumbling, the credit sinkhole opened wide at the start of August 2007 and, even as this chapter is being written, economic events are continuing to move at a rapid pace. The stock market was in turmoil, as the markets for mortgage-backed bonds continued to shut down, and firms were starting to report an inability to sell bonds in order to finance ongoing operations. The Federal Reserve acted strongly to try to soothe worried investors with a variety of plans – such as cutting the discount rate, widening the borrowing window for banks from 1 to 30 days, and cut the Federal Funds interest rate by approximately half a percent. These steps caused the markets to relax and the bulls came out of their caves and started to claim that the worst was behind.

However, August's problems were a symptom of a larger situation – the collapse of the housing market in the wake of one of the largest asset bubbles in U.S. economic history. The decline in the residential construction industry began taking its toll, but the true crisis is only beginning. Consumers have been running on the fumes of imaginary equity in their homes, counting on the ability to capitalize on that imaginary equity through mortgage markets that seemingly lost all sense of credit risk. However, rising foreclosures and delinquencies finally restrained the mortgage markets, leaving consumers with substantial very real debt based on estimates of equity that are currently fading away with continued declines in home prices. The only way to rebalance the economy is by a significant slowdown in consumer spending, one that will not occur painlessly.

Payroll Job Growth:
Thousands, Annualized Growth Trends

Sector	United States			California		
	04 to 06	06-07	Diff	Jul-07	04-06	06-07
Total nonfarm	2305.7	1404.0	-901.7	15,270	1.8%	0.6%
Construction	290.3	-157.5	-447.8	945	5.1%	-0.8%
Manufacturing	-52.0	-220.5	-168.5	1,506	-0.9%	-0.3%
Wholesale trade	108.5	119.3	10.8	721	3.4%	1.2%
Retail trade	133.6	53.7	-79.9	1,664	1.8%	0.0%
Transportation	101.5	39.1	-62.4	505	1.3%	1.0%
Information	-24.3	42.0	66.3	471	-0.2%	-0.3%
Finance insurance	107.5	10.1	-97.4	644	2.0%	-0.6%
Real estate leasing	45.4	0.9	-44.5	291	2.2%	-0.1%
Professional technical	280.5	312.0	31.5	1,051	5.8%	1.7%
Management of Enterprises.	41.2	35.9	-5.3	202	-3.9%	-1.9%
Administrative	228.5	-128.1	-356.6	1,021	2.6%	0.8%
Education Health	441.3	643.5	202.2	1,646	1.8%	1.4%
Leisure / Hospitality	345.3	324.0	-21.3	1,587	2.8%	1.2%
Other Services	12.7	49.5	36.8	519	0.2%	0.9%
Government	202.7	246.0	43.3	2,471	1.0%	1.1%



The credit crisis is important because it represents the shock that can take a weak economy and turn it into a bad economy. Growth will slow substantially, and the chance of a national recession – one from which California won't escape – is well above 50 percent. So the forecast is simple. Expect growth to slow sharply – perhaps to a recessionary level. Unemployment will rise. The cycle will be shallow and short, but with a slow recovery behind it. Overall growth for 2008 will be barely positive before the economy gets back on track in late 2009.

Bubble Background

To understand where the economy is heading, it helps to take a step back and discuss how we arrived at this point. The U.S. and California economies have been buffeted by two major asset bubbles over the past decade. The first occurred in the stock markets in the late 1990s, while the second occurred in the housing sector between 2002 and 2006. In many ways these two events are related. The reactions of the Federal Reserve to the stock market crash (and its consequences) in large part created the housing bubble and its consequences.

What is a bubble? An asset is any product – real or financial – that provides future return. The technical value of an asset today is the net present value of this future return. Because expectations may vary across potential buyers regarding the future, we have active markets for trading these products. An asset bubble is a period of time when the price of an asset in the market diverges substantially from its fundamental value. Asset bubbles are driven in large part by investors who forget or ignore technical valuations and simply expect price appreciation, either on the basis of recent trends, or on the basis of incorrect ideas regarding changes in how the economy works. A feedback loop develops; investors rush into the market, driving prices up, causing more investors to rush into the market, and so on.

What we saw in the stock market between 1997 and 2000 was a classic case of an asset market bubble. Technically speaking, stock prices should be driven by corporate profits. Yet over-optimism regarding the potential impact of information technology on the economy caused the major indexes to experience tremendous growth in value even as corporate profits stalled due to excessive corporate investment and an overheated labor market that drove wages up. The S&P 500 stock price index saw its value nearly double between 1997 and 2000, even as profits remained essentially flat. In contrast, the increase in market value over the past few years has closely tracked true increases in profitability.

The timing of the end of a bubble is almost impossible to predict because the market is behaving irrationally, thus confounding basic analysis. But self-fulfilling prophecies cannot last forever, and eventually the mechanism grinds to a halt as reality imposes itself on the system. Bubbles must end and when they do the results are eminently predictable. Prices begin to return painfully to their proper levels. And, the turmoil of an economy rebalancing itself can have serious consequences for growth. For the stock market, the party came to an end in the third

quarter of 2000, when prices started to fall sharply. The stock market had lost half of its value by 2003. The drop in value caused businesses, which had been relying on cheap capital to fuel their investment binge, to cut back sharply on capital spending. This cutback dropped the U.S. economy into a recession in 2001.

Fed Response

It was during this downturn that the roots of the current economic problems developed. The Federal Reserve cut the funds rate (the interest rate that banks charge each other for short-term borrowing on reserve funds) sharply and kept it at an unprecedented low level for almost a full three years. That action kept the recession at the national level brief and shallow but – because California was more exposed to the prior dot-com mania – the recession in the state was deeper.

Short-term interest rates fell, stabilizing consumer spending and thus minimizing the impact of the business spending and stock market collapse on the economy. However, the rate cuts also created a tremendous amount of financial liquidity that needed to find someplace to land in the economy. Economists usually associate excessive financial liquidity with consumer inflation. However, liquidity can also end up driving up asset prices rather than consumer prices. The housing market, already hot in the late 1990s, was healthy and growing even as the rest of the economy stumbled along. Homebuyers took advantage of low rates to buy homes, lenders willingly financed their purchases, and home price appreciation began to accelerate. The housing bubble began to form.

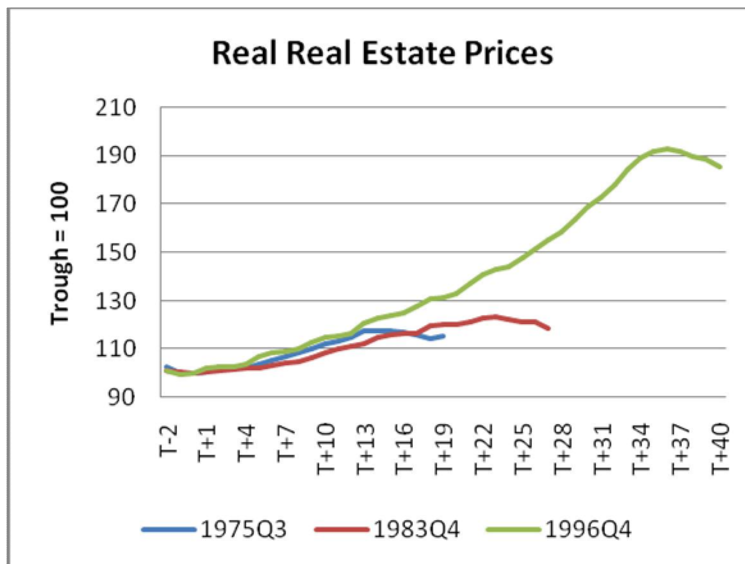
The Mortgage Debacle

Real estate bubbles in the United States and California are nothing new. The nation experienced rapid increases in prices in the late 1970s and the late 1980s. But there is a distinct difference this time – the sheer scope of the cycle. The past cycles saw prices rise at the national level by 20 percent to 25 percent in inflation-adjusted terms over a period of four to five years. The recent cycle started back in 1996 and thus has been going on for over 10 years, with prices in real terms nearly doubling.

Part of this difference is due to the sheer ubiquity of the price increases. In past cycles not every part of the nation experienced substantial increases they way they have this time. In the late 1980s, some states saw rapid increases in housing, while other states, such as those with economies driven by high energy prices in the early 1980s, were going through a period of painful withdrawal. However, even those states that saw increases that corresponded with the national cycle have experienced an extraordinary rise in values.

California saw price increases of 90 percent and 60 percent in the 1970s and the 1980s. More recently, California saw an increase of 200 percent – a tripling in the value of real estate over the last decade. Some of this increase can be explained by the falling mortgage rates

experienced between 1998 and 2003. But it is important to keep in mind that the largest share of the increase occurred *after* 2003, when mortgage rates had already hit bottom and started to rise again.



(Sources: S&P Case Shiller Home Price index, Beacon Economics)

	1970's	1980's	2000’s		1970's	1980's	2000’ss
AL	-2%	1%	38%	**NC**	4%	14%	40%
AR	23%	-13%	35%	**NV**	50%	-15%	131%
AZ	48%	-11%	140%	**NY**	-9%	74%	110%
CA	91%	60%	208%	**OH**	18%	11%	19%
CO	68%	-26%	62%	**OR**	50%	-10%	81%
DC	76%	82%	228%	**PA**	1%	65%	86%
FL	13%	-2%	159%	**TN**	3%	1%	28%
GA	-6%	8%	43%	**TX**	28%	-31%	37%
IL	19%	44%	74%	**UT**	38%	-20%	11%
KY	8%	5%	33%	**VA**	9%	46%	151%
MD	16%	38%	134%	**WA**	69%	13%	119%
MN	33%	7%	98%	**WI**	17%	1%	50%

Bubble Finance

The record increases in the real estate market and the subsequent current credit crunch have the same cause – namely the brave new world of asset-backed securities and the abuses created thereby. In past cycles, there was a check on how far prices could go up – the banker who made the loan to homebuyers. The banker would either keep the mortgage asset on the books or sell it to a secondary mortgage holder, primarily Fannie Mae or Freddie Mac.[2] In either case, the ultimate owner had a long-term interest in the performance of that loan and as such it was naturally cautious about the size of loans relative to the income of the borrower and the value of the property. Likewise, the decisions regarding the attributes of these loans were highly regulated.

In the late 1990s, a new source of funding that started to take off was the asset-backed bond. These agreements seemed to be a sharp new tool to use in the capital markets. The idea was simple: take a bunch of assets, such as mortgages, and bundle them together in a pool. Then sell claims on the revenues to be generated by the pools as bonds

with different rankings on the claims. Those in the top tranches (least risky) received first claim on any income, while those in the lower tranches received second or third claims, and so on.

Share of Subprime and Adjustable Rate Mortgages as Share of Total
Source: Mortgage Bankers Association

	00Q1	06Q4		00Q1	06Q4
US	10.1%	27.7%	MS	7.9%	20.5%
AK	2.6%	20.8%	MT	4.1%	14.6%
AL	10.4%	17.5%	NC	14.1%	21.8%
AR	5.0%	14.6%	ND	4.4%	11.4%
AZ	7.3%	34.9%	NE	3.3%	14.6%
CA	***10.7%***	***41.9%***	NH	9.8%	22.5%
CO	6.8%	30.7%	NJ	10.1%	24.6%
CT	17.2%	27.4%	NM	9.2%	17.8%
DC	16.7%	35.8%	NV	7.0%	44.3%
DE	8.9%	22.2%	NY	11.9%	23.8%
FL	16.5%	35.3%	OH	11.0%	24.0%
GA	9.1%	25.7%	OK	4.6%	16.1%
HI	13.3%	26.4%	OR	9.4%	24.2%
IA	6.3%	15.9%	PA	8.2%	20.7%
ID	6.5%	22.2%	RI	8.9%	26.2%
IL	11.5%	29.1%	SC	14.1%	23.8%
IN	10.5%	22.4%	SD	3.0%	11.6%
KS	7.4%	18.4%	TN	9.1%	21.9%
KY	12.1%	19.7%	TX	7.2%	19.6%
LA	7.8%	18.6%	UT	6.7%	25.5%
MA	10.7%	27.5%	VA	7.9%	26.5%
MD	7.3%	27.7%	VT	11.5%	16.8%
ME	6.6%	21.9%	WA	9.7%	27.7%
MI	11.1%	26.3%	WI	12.2%	20.5%
MN	6.0%	23.7%	WV	18.8%	20.1%
MO	10.7%	23.0%	WY	3.4%	16.1%

The immediate benefits of this system are clear. By pooling mortgages, one reduces the individual exposure to any one mortgage. And by selling claims on the returns in tranches, you can create a range of financial products in terms of their risk and returns.

For bond portfolios that are restricted in the risk they can take (such as prudently-managed pension funds), this financial innovation offered a chance to participate in the housing sector without increasing the risk profile of the portfolio. Hedge funds that take a high-risk, high-return approach to the market could also find products among the lower tranches that fit their investment needs. And with such increases in diversification, the mortgage market was free to offer a new range of products in the subprime and Alt-A categories to provide individuals in the economy with the opportunity to buy a home as never before.

The enthusiasm for this credit system was summed up nicely in former Fed Chair Alan Greenspan's June 2005 speech to the Congressional Joint Economic Committee. While famous for his proclamation of 'froth' in some portions of the U.S. housing market, a far more telling line comes later:

"*Although we certainly cannot rule out home price declines, especially in some local markets, these declines, were they to occur, likely would not have substantial macroeconomic implications. Nationwide banking and widespread securitization of mortgages make it less likely*

that financial intermediation would be impaired than was the case in prior episodes of regional house price corrections."[3]

In short, bubble or no, the economy would be immune to a housing downturn, so we don't have to worry anymore.

The problem with Greenspan's otherwise rosy scenario for a wonderful new world of financing was that the final holder of the risk was essentially removed from the decision process of who would receive loan funds for a mortgage. Instead a series of brokers who earned a living on the basis of commissions, rather than the long-term viability of the loans being made, took over the decision-making process. The mortgage broker and real estate agent who were on the front end helping the buyer purchase a home were the first line. Behind them were the big banks that packaged the mortgages up and sold them to investors in the form of mortgage-backed securities (MBS).

The last cog in the machine were the rating agencies who, despite having little experience with these products, blindly gave the products their stamp of approval, typically rating the top 85 percent of claims with a AAA rating – the best that can be given. Thus, the final investor – wooed by the long-running bull housing market and fancy models, not to mention the implicit approval of the Federal Reserve – happily bought the product up regardless of the mounting evidence of massive problems forming in the markets.

This new financial market allowed homebuyers to speculate as never before. Home prices were bid up to record high levels by a public obsessed with becoming the next home millionaire. Prices started to rise to such high levels that many buyers simply couldn't afford a basic mortgage with a 30-year fixed rate. The industry responded by introducing all sorts of products that had low introductory rates. The simple idea – buy now at this low rate and in two years when the reset comes due you sell at a price 20 percent or 25 percent higher than at purchase. If your income would not allow you to qualify even in the loose world of alternative financing, no worries – simply use a limited documentation loan where you could lie about your income without any troublesome verification process. With the exception of Nevada, California was the hottest market for such shaky lending.

As prices rose, many more conservative buyers were unwilling to take a chance and simply dropped out of the market. For the industry to keep the commission machine going, it had to make riskier mortgage loans by delving lower into the pool of potential buyers. Credit quality continued to drop, and alternative products began to dominate the market. Subprime alley, the row of lenders who located along the 405 freeway in Costa Mesa, boomed.

California Housing Affordability

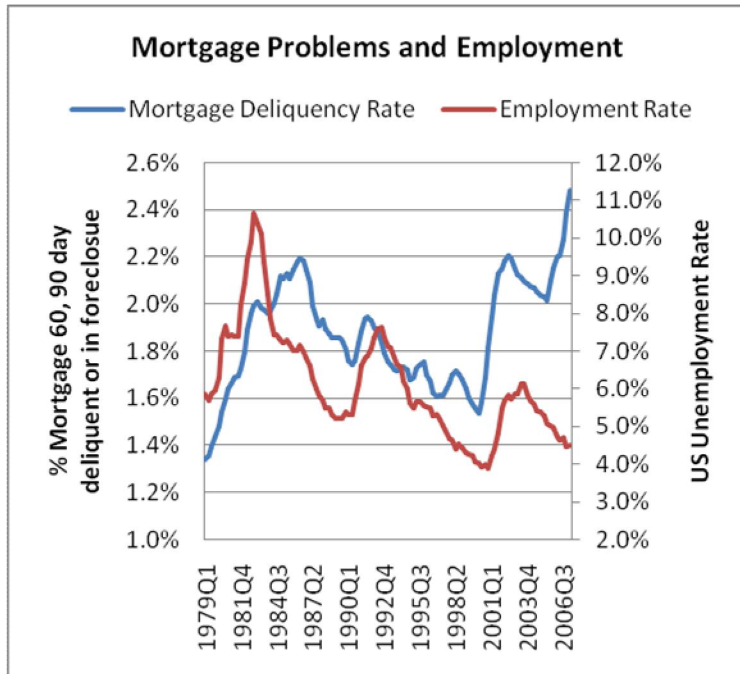
1989	Alameda	Contra Costa	Los Angeles	Marin	Orange
Median Price	$179,750	$163,583	$185,333	$305,462	$223,333
Minimum Income	$58,537	$53,272	$60,355	$99,476	$72,730
Actual Income	$48,506	$53,316	$47,708	$60,055	$55,805
Ratio	83%	100%	79%	60%	77%
1999					
Median Price	$228,333	$209,167	$177,500	$398,725	$246,417
Minimum Income	$54,575	$49,994	$42,425	$95,302	$58,897
Actual Income	$75,328	$76,591	$62,180	$91,363	$73,745
Ratio	138%	153%	147%	96%	125%
2007					
Median Price	$618,167	$584,833	$553,333	$943,167	$681,667
Minimum Income	$139,406	$131,889	$124,785	$212,699	$153,727
Actual Income	$91,770	$94,512	$76,030	$107,136	$91,245
Ratio	66%	72%	61%	50%	59%
1989	**Riverside**	**San Diego**	**San Francisco**	**San Mateo**	**Santa Clara**
Median Price	$106,000	$160,167	$268,167	$287,250	$231,333
Minimum Income	$34,520	$52,159	$87,330	$93,545	$75,335
Actual Income	$38,593	$44,974	$47,906	$56,271	$58,510
Ratio	112%	86%	55%	60%	78%
1999					
Median Price	$117,167	$200,333	$327,167	$385,000	$334,333
Minimum Income	$28,005	$47,883	$78,198	$92,021	$79,911
Actual Income	$52,288	$62,537	$77,917	$85,619	$91,407
Ratio	187%	131%	100%	93%	114%
2007					
Median Price	$409,667	$546,667	$799,000	$792,167	$738,000
Minimum Income	$92,386	$123,282	$180,187	$178,646	$166,431
Actual Income	$70,510	$82,254	$90,736	$100,809	$109,069
Ratio	76%	67%	50%	56%	66%

Median Price: Dataquick estimates for resale homes

Minimum Income: Based on annual payment of 30-year fixed rate mortgage at current rates being 35% of annual income

Actual Income: Median income of homeowners in the region

In early 2007, Ben Bernanke, the new Fed chairman (who must be wondering right now why he wanted Greenspan's old job!), estimated that almost 25 percent of first lien mortgages in the nation currently had high-risk characteristics – either being made to borrowers with low credit scores or made with limited documentation regarding income. Despite rampant evidence of these dangerous trends, the rating agencies continued to give mortgage-backed securities the same risk ratings as if nothing fundamental was changing.



Source: Mortgage Bankers Association, Bureau of Labor Statistics

Home Price Changes , Peak to July 2007

Source: S&P Case-Shiller and Beacon Economics

Detroit – MI	-12.4%	New York	-4.0%
Tampa – FL	-8.8%	Minneapolis – MN	-3.7%
San Diego	***-8.3%***	Cleveland – OH	-3.6%
Washington	-7.6%	Chicago	-1.5%
Phoenix – AZ	-7.3%	Denver	-0.7%
Miami	-7.3%	Dallas – TX	-0.1%
Las Vegas	-6.3%	Atlanta – GA	NA
Boston	-5.8%	Charlotte – NC	NA
Los Angeles	***-4.8%***	Portland – OR	NA
San Francisco	***-4.5%***	Seattle – WA	NA

The banks did much internal "research" attempting to show that, according to historical statistics, the upper tranches of securities were bulletproof, despite evidence of massive fraud in the mortgage markets. Thus, the market had its own version of a self-fulfilling prophecy – as long as prices continued to rise, the models seemed to work. Yet in the midst of all this fancy research, the fundamental principle of assessing income-to-price ratios was being broken.

For example, in California in 1989, the median price of a resale home in Alameda County was $180,000. At interest rates available at the time, the annual mortgage payment for that median home would have been about $20,000 per year. Using a mortgage payment affordability measure of 35 percent, a household would have to make $58,500 in order comfortably to afford this home. But the actual

median income of a homeowner in Alameda County at the time was $48,500, a full 17 percent below this preferred income and indicative of the overheated markets.

In 1999, the income inflation associated with the tech boom had brought the affordability measure back in line. However, in the second quarter of 2007, prices were a full 50 percent higher than what was sustainable, even using a generous affordability ratio. These high-risk characteristics, combined with record high prices relative to incomes, led to what seems in hindsight inevitable – a sharp rise in mortgage delinquencies and foreclosures.

According to figures from the Mortgage Banker Association, the share of problem mortgages in the market (those that are 60 days or more delinquent or in the beginning of the foreclosure process) started to rise sharply from an already high historical rate in the first half of 2005. What makes this rise so unusual is the context in which it started to happen. In past cycles, mortgage problems have been linked to two things – mortgage interest rates and unemployment. When these indicators start to rise, homeowners have trouble making their payments. In 2005, however, the increases occurred while mortgage rates were holding steady and unemployment was falling. This development simply was unprecedented.

False Beliefs

It would be easy to accuse the ratings agencies and investment banks of blatant fraud. However, the steep losses being suffered by many of them (the collapse of the Bear Stearns hedge fund is a prime example) seems to indicate that the banks themselves truly believed in what they were peddling. Moreover, the buyers of these bonds were not in the same class as the lone day trader sitting at home in front of the computer in the late 1990s, trading stocks like a Las Vegas gambler picking numbers on a roulette table. These institutions are large and sophisticated organizations with internal research analysts. The problem is that, as often happens in making forecasts, using the past to predict current trends relies on the continuity of the underlying fundamentals. In this case, the fundamentals were not the same – not the credit quality of the borrower, the amounts being borrowed relative to income, or the type of products being used. The models didn't work because the models used the past to try to understand an entirely different present.

The nation is now facing another unprecedented statistic. It wasn't too long ago that many organizations, including the National Association of Realtors, claimed that the nominal prices of homes in the U.S. could not fall, a statistic borne out by historical trends which showed that only when a regional economy suffered a truly dramatic decline in employment (5% or more) would nominal prices start to fall. Since this had never happened in the post-World War II period, the potential for nominal price declines could be safely ignored. Yet the historically high price-to-income ratios seen in the U.S. are proving unsustainable even without a loss of employment. Prices at the national level and in 16 of the 20 markets publically tracked by the

Case Shiller index were showing nominal house price declines by mid-2007, even with the low unemployment rates. Historical models simply don't apply in this market.

Public Policy and the Meltdown

The moves by the Federal Reserve – lowering the discount rate and extending the borrowing window – have been wrongly interpreted to be related to helping the housing market out of its current slump and to reducing the number of troubled mortgages in the market. This interpretation is incorrect. The Fed was primarily concerned that a lack of liquidity in financial markets could cause the problems in the mortgage markets to spill over into the broader economy. A wave of bank failures could cause a liquidity crisis in every corner of the nation, and productive and healthy firms could be negatively influenced. The Fed's moves were designed primarily to prevent such collateral damage.

As for the housing market itself, there really is very little the Fed can do for the many homeowners with debt too large to handle on their current incomes. No matter how you slice it, house prices relative to incomes are simply too high. While certainly there are cases of fraud and abuse in the industry, the fact is that many of those being foreclosed on would still be in financial trouble even if they somehow replaced their existing subprime adjustable rate mortgage with one with a fixed interest rate. The mortgage market is going to have to clear itself of bad debt through the slow painful process of foreclosure, and recovery in the overall market will not occur until home prices fall to a supportable level.

Limited Options

At this point in time the federal government has few options beyond paying the lip service to the issue. The President announced a plan to allow the Federal Housing Administration (FHA) to insure 80,000 more mortgages for low-income home owners who are already delinquent on their payments. Such guarantees could allow them to refinance. Unfortunately, 80,000 represents a tiny fraction of the 5 million or so subprime mortgages in the market. And the vast majority of would not qualify for FHA loans anyway at the current loan-to-value and loan payment-to-income ratios necessary to qualify for such a product.

Some have criticized the President for this approach – but what else can be done? One radical strategy would be to simply prevent banks from being able to foreclose on homeowners who are behind in payments by moving the asset into the arena of personal bankruptcies. This approach would destroy the bond markets that rely on the foreclosure process to allow them some recourse in the event of non-performance of the borrower. It would also encourage more non-payment, causing losses to mount rapidly.

Of course the government could bail out bondholders – a solution that would be incredibly costly, set a horrible precedent and something sure to enrage most of the tax-paying base as evidence of another bailout for wealthy investors holding mortgage-backed securities.

The Fed could continue aggressively to loosen policy in hope that mortgage interest rates would decline. But the link between the short-term Federal Funds interest rate and the mortgage rate is tenuous at best, and with rising spreads it seems unlikely that much could be accomplished without risking a serious bout of inflation.

Inevitable Prospects

The mortgage and bond markets may simply have to let the chips fall where they may. We should expect continued shakeups in many corners of the financial markets over 2008-2009 as continued foreclosures in the market undermine the value of existing mortgage products. Similarly, we should expect the balance sheets of many large financial firms to take a hit over the next year. Will this be the only financial crisis we will face? Not necessarily. There is another class of bonds out there that also may be of dubious quality – those that are backing commercial building projects, particularly condominiums and retail establishments.

Cap rates (net earnings/purchase price of the property) for many of these projects were very low, sometimes below the rate you might receive if you purchased a low-risk 10-year Treasury bill instead. The only way such low cap rates can be economically justified is if significant rental price increases are expected. At this writing, commercial rents in many markets have been rising sharply. However, if we experience an economic slowdown, these products as well may begin to lose value quickly. And there may be risks elsewhere that simply have not been revealed yet. What is clear is that when all is done, we can expect substantial change in the rules that dictate how asset-backed bonds are valued.

The Consequences for the Economy

While a housing bubble and a stock market bubble are largely the same thing, the speed at which they develop is considerably different. Stock markets are very liquid, with low transaction costs and billions in assets bought and sold every day by professional traders. The pop when the bubble bursts in these markets is quite rapid. Housing markets are the opposite. With high transaction costs and inexperienced investors who only infrequently trade, the cycle is much slower – particularly on the way down.

The current market hit its peak of activity in August 2005, while prices began to fall in late 2006. More substantial declines developed in 2007. It is clear at this writing that the bottom of the housing market is still a long way off (although the current credit crunch will likely hasten the process substantially). Many forecasting organizations believe that the housing slump will stay contained within that sector and that the U.S. and California economies can weather this crisis with the help of strong world demand. Are there truly no broader consequences for the economy? It depends on where you look.

Sectoral Versus Broad Implications

We should immediately separate the impact of the credit crunch from the broader implications for the economy. Clearly the financial issues of liquidity are being handled as best as they can by the Federal Reserve in order to prevent the resulting financial instability from having real effects on the economy. Regarding the impact on the economy, we must remember that an asset bubble, while painful, primarily moves money around the economy. For every buyer out in the economy there was a seller on the other side of the equation. In other words, what was lost was gained somewhere else. For every dollar of loss incurred by bondholders, somewhere else a home seller made a healthy profit on their sale. Wealth transfers – while painful with potential long-term social consequences – play little role in the day-to-day functioning of the economy.

The slowdown in the housing market poses four potential dangers to the California and national economies.

1. The direct impact on the housing market: construction, sales, and financing.
2. The impact of the credit crisis on business investments.
3. The potential impact of the mortgage debacle on the willingness of foreign investors to hold U.S. assets.
4. The wealth impact on consumer spending.

The first three potential effects on the economy are not likely to have severe consequences outside the housing and finance sectors. The last danger – the effect of the downturn in housing on consumer spending – is more serious.

The Construction Sector

The economic impact of the downturn in the housing sector includes of course the impact of the boom and the collapse on the construction industry. The construction industry responded to the massive rise in prices and the high demand for housing by building a vast number of new homes, particularly single-family homes at the high end of the housing market. With the boom well over and with excess inventory piling up and prices slipping, the industry has been taking a beating for some time. Building permits started to slip with overall activity in 2005. Toll Brothers, KB Homes, DR Horton, and other home construction firms have all reported substantial declines in profits.

Excess housing inventory primarily has the impact of putting sharp downward pressure on housing prices. Reduced construction and market activity has an impact on employment. Finance, real estate, and construction played a large role in the recovery of the job markets after the 2001 downturn. However, the last few years have seen these industries slow in terms of growth while other parts of the economy started hiring again at a more substantial rate. One

small mystery initially was apparent stability of construction employment in the midst of the housing downturn.

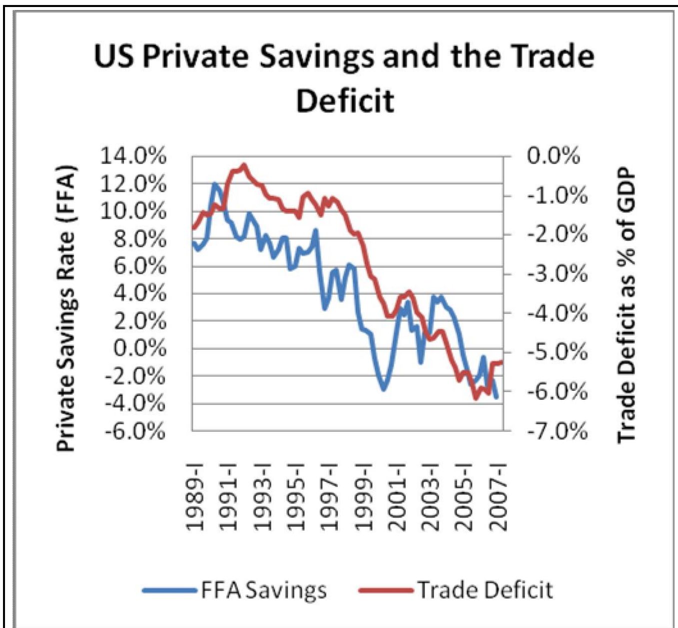
Part of this anomaly may be explained by the large immigrant workforce in construction, workers who do not show up in employment for various legal reasons. Additionally construction jobs typically lag behind housing completions. This fact, along with a surge in jobs in nonresidential construction (particular in infrastructure and energy), kept things stable until late 2007.

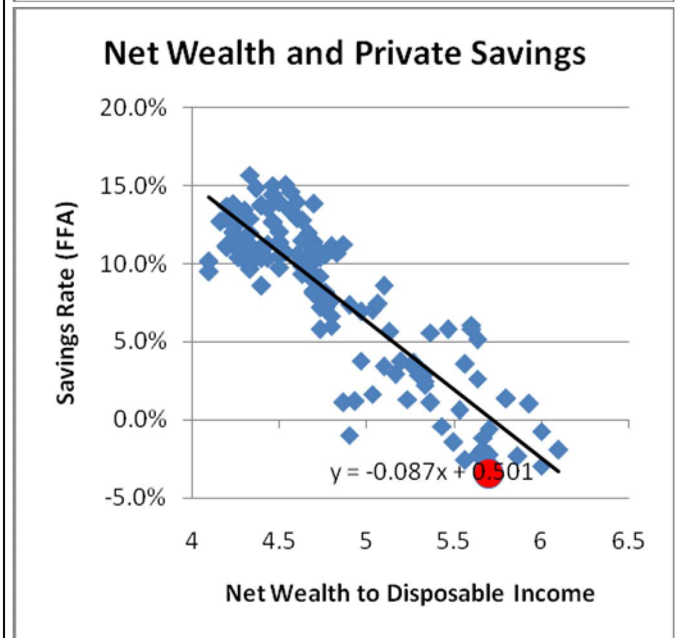
By late 2007, however, a slow decline in construction jobs developed. Similarly, growth for jobs in financial activities slowed due to layoffs in the mortgage industry and a general slowdown in banking activities. These industries will start to shed jobs at an accelerated pace in 2008, cooling the labor markets somewhat. However, housing as a share of GDP and the labor markets is relatively small, about 6% of non-farm payroll employment in California. A decline in the industry – even by 50 percent spread over a two- to three-year span – is not enough to sink the national or state economy on its own. A big drop can cause growth to slow – and it already has – but it cannot on its own create a recession.

Credit and the Non-Housing Economy

The second and third issues, the effects of a credit crisis on business spending and foreign investment, have yet to play out in the economy given that they are both directly influenced by problems in the bond markets, a situation that is still in motion. In particular, the liquidity issues do not seem to have spilled out beyond the mortgage markets to any great extent. Anecdotally, corporate America is still getting the finances needed to operate and grow. The prime interest rate has not moved, and the rate on Moody's AAA industrial bonds is roughly where it was last year at this time.

As for the effect of the credit crisis on foreign investors, many foreign banks are experiencing losses on their holdings of mortgage-backed products – banks in Italy, China, France and Germany have already acknowledged problems. Other banks around the globe are sure to follow. However, foreign investors also seem to believe the problems are constrained to this one portion of the economy. Had the U.S. been a small nation, a capital flight may have ensued, putting very strong downward pressure on the value of the U.S. dollar and creating a variety of internal problems often associated with a rapid decline in a nation's terms of trade and the associated secondary problems. Instead, for investors both inside and outside of the U.S., there seems to be a move toward safe securities – namely Treasury bills. Given our enormous trade deficit, any further unwinding of our financial system could create a dangerous situation for the nation if foreign investors decide to reduce their exposure to the U.S. economy.[4]





Sources: Federal Reserve, Bureau of Economic Analysis, Beacon Economics

The Consumer

The immediate danger to the U.S. economy is not due to problems with foreign investment but rather to downturns in consumer spending. While growth has been steady over the last few years, the fundamentals of the economy were not good. Until 1997, the U.S. economy was running a mild trade deficit and personal savings rates were running at roughly 8 percent of disposable income by the flow of funds estimate.[5] Ask what drives the savings rate and the answer is simple – net wealth, the value of assets minus the current level of debt.

In the late 1990s, the stock market heated up on the overly optimistic promises of information technology and the new economy. This spurred businesses and consumers to consume more than ever – not on the basis of real productivity growth but on the basis of promised future growth. The trade deficit widened rapidly and savings rates sank precipitously. The 2001 downturn was driven by business spending that slowed sharply as the stock market bubble collapsed and profits continued to be weak. Consumers slightly pulled back on spending in 2001, as a result of falling prices in the market, but falling interest rates that reduced the debt burden and a housing market that continued to bubble along kept them spending away.

Consumers used their homes as a way of extending their spending by withdrawing equity through second mortgages or refinancing their first mortgages. From 2003 to 2006, these withdrawals added up to about 8 percent of overall consumer spending. To put this in perspective, this adds up to $2.5 trillion in mortgage debt. Not all of this cash went directly to

consumption, of course. About two-thirds went to paying down other forms of debt, buying other assets (such as mortgage-backed bonds perhaps?), or upgrading homes.

Now that the flaws in the system are being seen and prices are starting to drop, the question is how much do consumers need to rebalance their spending in order to bring things back in line with real wealth? To estimate this, consider a simple experiment. Let's assume that the value of real estate in the U.S. falls by 10 percent – not a difficult assumption considering that values have already fallen by 3 percent. We will also assume that the turmoil in the financial markets will reduce the value of other financial assets by 2.5 percent. This small change alone drops the wealth-to-income ratio from 5.7 to 4.9, given the high level of debt.

The reason for this dramatic change is that there was an increase in net household wealth based on a massive increase in consumer debt (largely mortgage debt) and a larger but false increase in consumer asset wealth. As such, even a small change in the value of assets has a large impact on net wealth. The new wealth level – still high at this writing by historical levels, but not dramatically so – carried with it a savings rate of 6 percent. From first quarter 2007, this estimate implies that consumer spending needs to fall by 6 percent from its current levels in order to rebalance the accounts appropriately. Never has such a decline not been accompanied by a recession.

Some of the consumer debt will be written off as people default on their mortgages. This write-off in turn will cause a loss to bondholders on the back end, so the net impact on wealth is nullified. Some of this bad debt may be held overseas, which would reduce any impact. However, continued hits to foreign investors at this magnitude would cause interest rates to rise and squeeze consumers, not through reduced wealth but through the increased burden of carrying real debt. Furthermore, the more foreclosures experienced, the greater the decrease in home values.

As is often the case with the economy, the key to how much damage occurs depends critically on the speed of adjustment and how the adjustment is carried out. Some of the pain will be transferred overseas by a reduction in the demand for imports, but this will have an impact on the sectors that rely on these imports – namely, transportation and retail. And some of the pullback in spending will accrue to goods and services made here in the U.S., since most consumption still is of domestically produced products.

Fed To the Rescue?

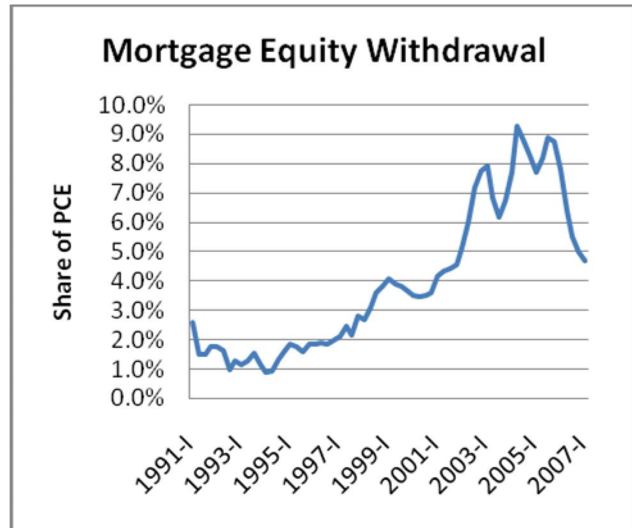
Federal Reserve Chair Ben Bernanke has been put between a rock and a hard place. Inflation is a real issue in the U.S. economy. Injecting liquidity into the economy will tend to cause inflation to increase, a situation that will cause even more turmoil in the already distressed financial markets. For that reason, he has chosen the path of injecting liquidity – but not cutting rates. But as the economy continues to cool, inflationary pressures will also settle down. When

this happens, the Fed can start to play a role in helping the economy out, by slowing the pace of consumer spending declines with timed cuts in the rates.

However, such action will not begin until the pace of economic decline speeds up. The Federal Reserve understands the fundamental issues around savings and spending, and realizes that some painful corrections need to be made to the U.S. economy. This pain cannot be avoided, only delayed or minimized.

California: Ground Zero?

California has been home to real estate booms in the past, but the current one has set records by any measure. Perhaps because of this familiarity with past cycles, or perhaps because Californian's are used to high prices for real estate and hence the use of alternative mortgage products, they indulged most than almost any other state in the use of sub-prime products to speculate on real estate. The frenzy to buy caused a market boom not matched in past cycles and no other state experienced more appreciation. Median prices in the state tripled from $150,000 to over $450,000 in one decade, during a period of time when per capita income only increased by 50%. Unfortunately the party came to an end in 2005, and since then those that speculated that they would be able to sell and reap a profit before the market cooled have found themselves in tough financial straits.

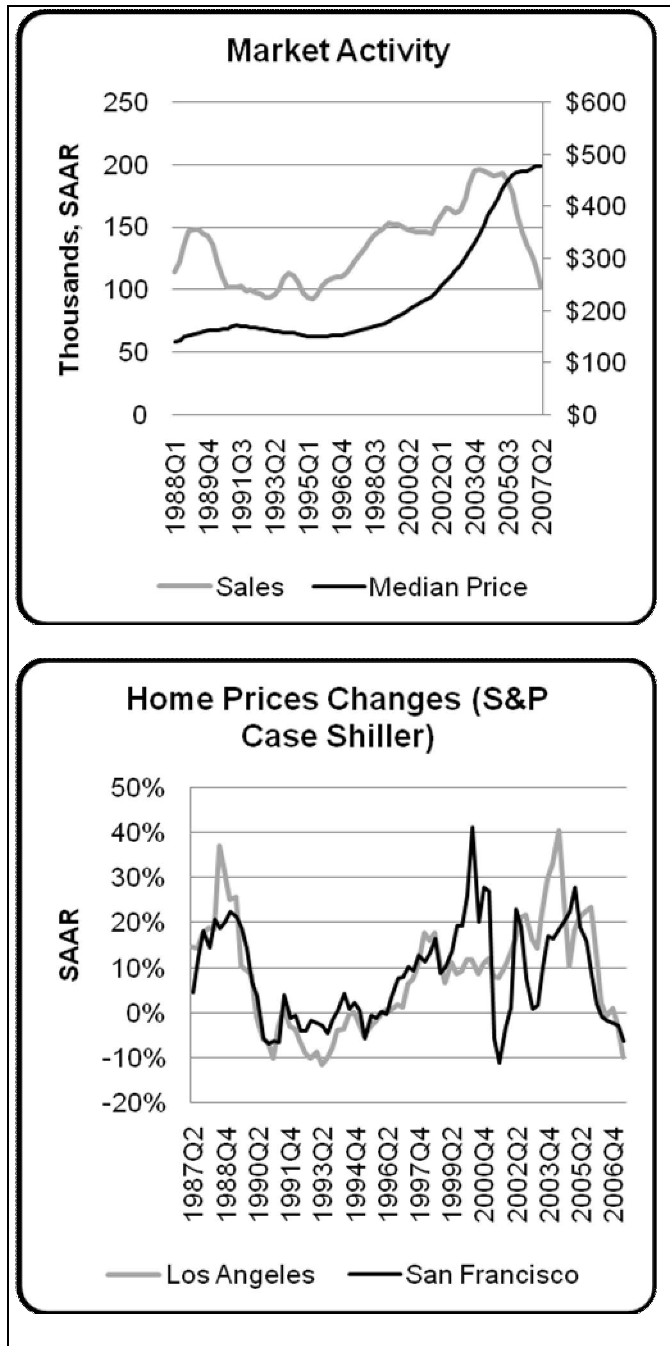


Financial Net Worth

Stated as mulitple of Disposable Income

	1994	*2007*	*Chg*	*2007 Est*
Assets	5.66	7.04	1.39	6.40
Tangible assets	2.07	2.70	0.64	2.25
Real Estate	1.61	2.29	0.68	1.83
Other	0.45	0.41	-0.04	0.41
Financial assets	3.59	4.34	0.75	4.16
Deposits	0.62	0.66	0.04	0.66
Credit Assets	0.39	0.32	-0.07	0.31
Equities	0.64	0.61	-0.03	0.58
Mutual funds	0.22	0.49	0.27	0.47
Pension Funds	0.91	1.23	0.32	1.17
Other	0.81	1.03	0.22	0.98
Total liabilities	0.88	1.36	0.47	1.36
Mortgages	0.61	1.00	0.39	1.00
Consumer credit	0.18	0.24	0.06	0.24
Other	0.10	0.12	0.02	0.12
Net Wealth	4.8	5.7	0.9	5.0

The depth of the California problem cannot be overstated. Best estimates are that 35 percent to 40 percent of all first lien mortgages on homes in California (that represents something on the order of 25 percent of all homes) have high-risk characteristics – either they are sub-prime, have limited documentation, or have a low introductory interest rate that is due to reset at some point in time.



The housing market and the regular state economy balanced each other for some time, with a solid labor market maintaining income growth, which in turn supported the housing market. With the housing market relatively stable the economy could continue to grow. However, this cycle couldn't last. As more mortgages reset, financially strapped owners have found themselves trapped with a property on which they could not afford to service the mortgage. But they also could not sell it without taking a substantial loss.

Foreclosures have started to rise substantially in California and the excess supply of new and existing homes on the market is causing prices to fall. According to the quality-adjusted figures from the S&P Case-Shiller house price index, there is no sign of slowing in the price declines.

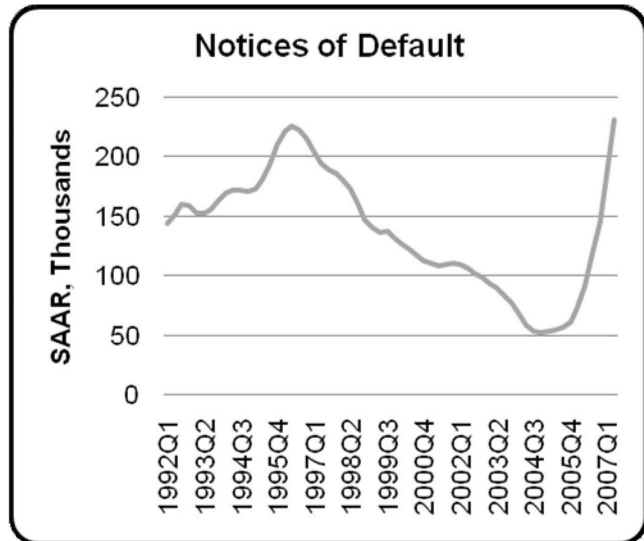
Feedback

What we are starting to see is a classic feedback effect. Now that prices are starting to fall, foreclosures are starting to rise more rapidly, putting more pressure on prices. This development is starting to have an impact on the labor markets, which will – in turn – make the housing markets worse. According to figures from DataQuick Information Systems, notice of

default rocketed to 240,000 units by the first quarter of 2007 (seasonally-adjusted annual rate – SAAR), higher than at the previous peak in 1996. This process will only intensify over time. The share of alternative finance mortgage products that are already in financial trouble (60 or more days behind in payments or already in the foreclosure process) ranges from 20 percent in the Inland Empire and in the East Bay to 12 percent in San Francisco.

It is clear that this development represents a substantial threat to the California economy. As noted, the impact will come through direct channels having to do with construction and real estate jobs and the indirect impact of cooling consumer spending as imaginary home equity slowly bleeds away. On the construction front, single family home permits have fallen from 150,000 units (annualized) to 65,000 units. Multi-family units have also slowed somewhat, from 60,000 units annually to 40,000 units.

The construction industry has been buoyed somewhat by increasing investment in non-residential construction. In real terms, new construction permits in the state in 2006 finally equaled the previous peak hit in 2000. Non-residential alterations are also up at a record high level. However, non-residential construction is driven by residential construction and the health of the overall economy. These two forces are starting to be felt,



Shares of Alternative Mortgages at Risk: 2007Q1

60 or more days delinquent or in foreclosure

MSA	Share
Stockton	25.13%
Sacramento—Roseville	23.00%
Riverside-San Bernardino-Ontario	20.12%
Santa Barbara-Santa Maria-Goleta	21.15%
Oakland-Fremont-Hayward	21.37%
San Diego-Carlsbad-San Marcos	19.52%
Oxnard-Thousand Oaks-Ventura	17.09%
Santa Rosa-Petaluma	17.92%
Fresno	15.12%
Los Angeles-Long Beach-Glendale	14.91%
Santa Ana-Anaheim-Irvine	15.64%
San Luis Obispo-Paso Robles	14.10%
Napa	15.52%
San Jose-Sunnyvale-Santa Clara	14.33%
Santa Cruz-Watsonville	14.61%
Visalia-Porterville	11.79%
San Francisco-San Mateo	12.81%
Eureka-Arcata-Fortuna	9.88%

and permits values have dipped since the start of the year. The credit crunch will likely adversely affect non-residential activity.

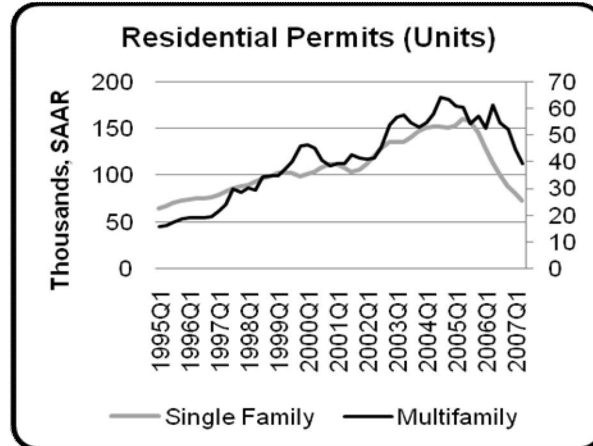
Low- End Housing Shortage?

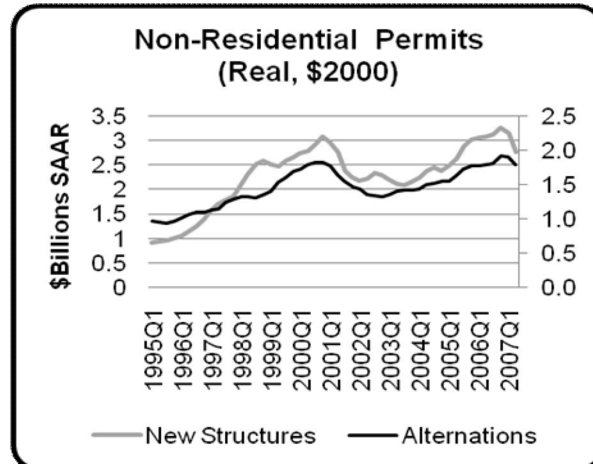
While the pain that many home builders are feeling due to unsold inventory of new units has been well publicized, remember that is wasn't too many years ago that many industry analysts were touting a chronic lack of housing as a reason for rapidly rising prices. The state does have a housing shortage, but mainly for low-cost rental units for low-skilled workers. Over the last few years the crowded housing situation was reduced through a trickledown effect – as buyers snapped up new units they freed up lower-end units.

Now with construction collapsing we can expect the crowded housing situation to get even worse, along with the understood consequences for public health, education, and safety. The tight rental markets are already having one impact on the state – despite a strong labor market net migration has fallen sharply. Slowing population growth will slow economic growth in the state for the next few years.

Consequences for the State

The potential implications of the housing crash on the California economy are the same as for the U.S. If trends at this writing continue, there





Share of Housing in Overcrowded Conditions

	Total	Owned	Rented	Rank
Madera	13.0%	10.1%	19.1%	3
Visalia	12.7%	7.3%	20.6%	5
El Centro	12.5%	5.9%	21.6%	6
Merced	12.4%	8.8%	17.5%	7
Los Angeles	11.8%	6.0%	18.0%	8
Salinas	11.5%	6.2%	18.2%	9
Hanford	9.6%	4.9%	15.4%	12
Fresno	9.2%	4.6%	15.4%	13
Flagstaff	8.5%	9.2%	7.4%	18
Bakersfield	7.7%	4.9%	12.5%	19
Riverside	7.4%	4.9%	12.8%	22
Modesto	7.2%	4.9%	11.2%	23
Santa Barbara	7.2%	2.9%	13.0%	24
Stockton	7.0%	4.1%	11.9%	25
Yuba City	7.0%	4.9%	10.4%	26
Yuma	6.7%	6.1%	8.1%	29
San Jose	6.5%	3.5%	10.9%	33

will be a recession. It will be led primarily by consumer spending, but intensified by the downturn in the finance, real estate and construction industries.

Regional and Industry Variation

A housing downturn will affect different parts of the state differently. The tech downturn hit the Bay Region very hard due to the heavy concentration of IT firms there. In stark contrast the Inland Empire saw its job growth rate slow from 6 percent per year to 4 percent. The impact of this slowdown will be less concentrated, as housing is a force for consumer spending everywhere. However, it is clear those local areas that have a higher than average share of their economy in the housing sector will feel the pinch more. This conclusion suggests that the Inland Empire, Sacramento, Contra Costa, San Joachim, and other such economies will be more heavily affected than San Jose, San Francisco or even Los Angeles.

There are some bright spots for the economy. Tech is doing well, as is manufacturing. The falling U.S. dollar will support these industries. The risk here is the potential impact a cooling U.S. economy will have on the world economy. And in the end the readjustment process, while painful, will leave a stronger U.S. economy in its wake. Any downturn will be sharp but short.

State and Local Fiscal Distress

What will the slowdown mean for the California state budget? The budget battles in Sacramento over the past few months have made headlines. But they have ignored the fundamental issue – that the structural gap that formed between spending and revenues in 2001 still has not been fixed. A solid economy in fiscal year 2006-07 kept the budget afloat, and allowed the Governor some leeway on the 2007-08 budget. As it currently stands the state budget calls for a very modest 1 percent increase in expenditures. But to cover its expenditures, the state is expecting a 7 percent increase in revenues. This outcome does not seem likely under the circumstances of a cooling economy. The state is unlikely suffer the same explosive loss of revenues that it did in 2000-2002. But even a small negative shock to the economy can have consequences for a state that has a highly progressive income tax system.

More at risk through this slowdown will be the local governments (cities, counties, school districts, etc.). These institutions rely on property and sales taxes for roughly half of their direct revenues. This dependence is one reason why they avoided much of the pain of the 2001 downturn – the greatest risk was having income normally supplied by the state government reduced or eliminated. But with the exception of the hard hit Bay Area region, they saw little to no declines in direct revenues.

Local governments have been enjoying the windfall of revenues that rapidly rising real estate prices have brought to them over the past few years. However, this windfall will not last – the rapidly cooling market and waves of foreclosures will cause revenue growth to stop, and

perhaps even fall in some hard hit economies. It will be years before revenues from real estate begin to grow again.

Endnotes

[1] http://www.forbes.com/lists/2006/9/06beststates_The-Best-States-For-Business_Rank_2.html

[2] Fannie Mae is now a private, but quasi-official, corporation whose roots go back to the Great Depression. It was designed to encourage home ownership and construction by widening the secondary market for mortgages. Freddie Mac is a similar entity created in 1970 as a competitor to Fannie Mae.

[3] Testimony of Chairman Alan Greenspan, *The Economic Outlook,* before the Joint Economic Committee, U.S. Congress, June 9, 2005.

[4] In 2002, California had about a U.S. average proportion of employment and payroll in establishments owned by foreign direct investors, a little over 5% and 7%, respectively. Source: http://www.bea.gov/international/pdf/fdius_2002/FDIUS_A1-16_A1-17.pdf.

[5] There are two estimates of the private savings rates, one by the BEA in the NIPA accounts which is most widely cited, and another by the Federal Reserve in the Flow of Funds accounts. The Flow of Funds estimate includes financial flows such as mortgages and consumer debt, whereas the NIPA version focuses instead on savings from a consumption standpoint. They show similar long-run trends but differ somewhat in the short run.