Sources & Impacts of the Subprime Crisis: From Financial Exploitation to Global Economic Meltdown

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A Map

1. Introduction & Timeline of the Crisis, 2007-08
2. Fundamental Risks in Banking Behavior
3. Transformation of US Banking & Mortgage Markets
4. The Evolution of US Financial Exploitation
5. From the Margins of the City to the Core of Global Finance
6. The Onset of the Subprime Crisis and Why Policy has Failed
7. Why Policy has Failed (Thus Far)
8. The Policy Dilemma – Which Crisis Demands Action?

1. Introduction

- The spreading gloom spread by the subprime crisis leads to the question: Why?
- Most accounts focus on:
  - Greed and overreach by globe-spanning financial firms – or –
  - Unwary or unwise borrowers taking excessive risks
  - (or both)

- It is treated as a replay of a historically recurring pattern of financial crashes: Charles Kindleberger (*Manias, Crashes, and Panics,* 1978); Robert Shiller (*The Subprime Solution*, 2008).

1. Introduction

- But it is better understood as resulting from an abuse of the economic functions of the banking and financial sector. Here we use Hyman Minsky's "balance-sheet approach."

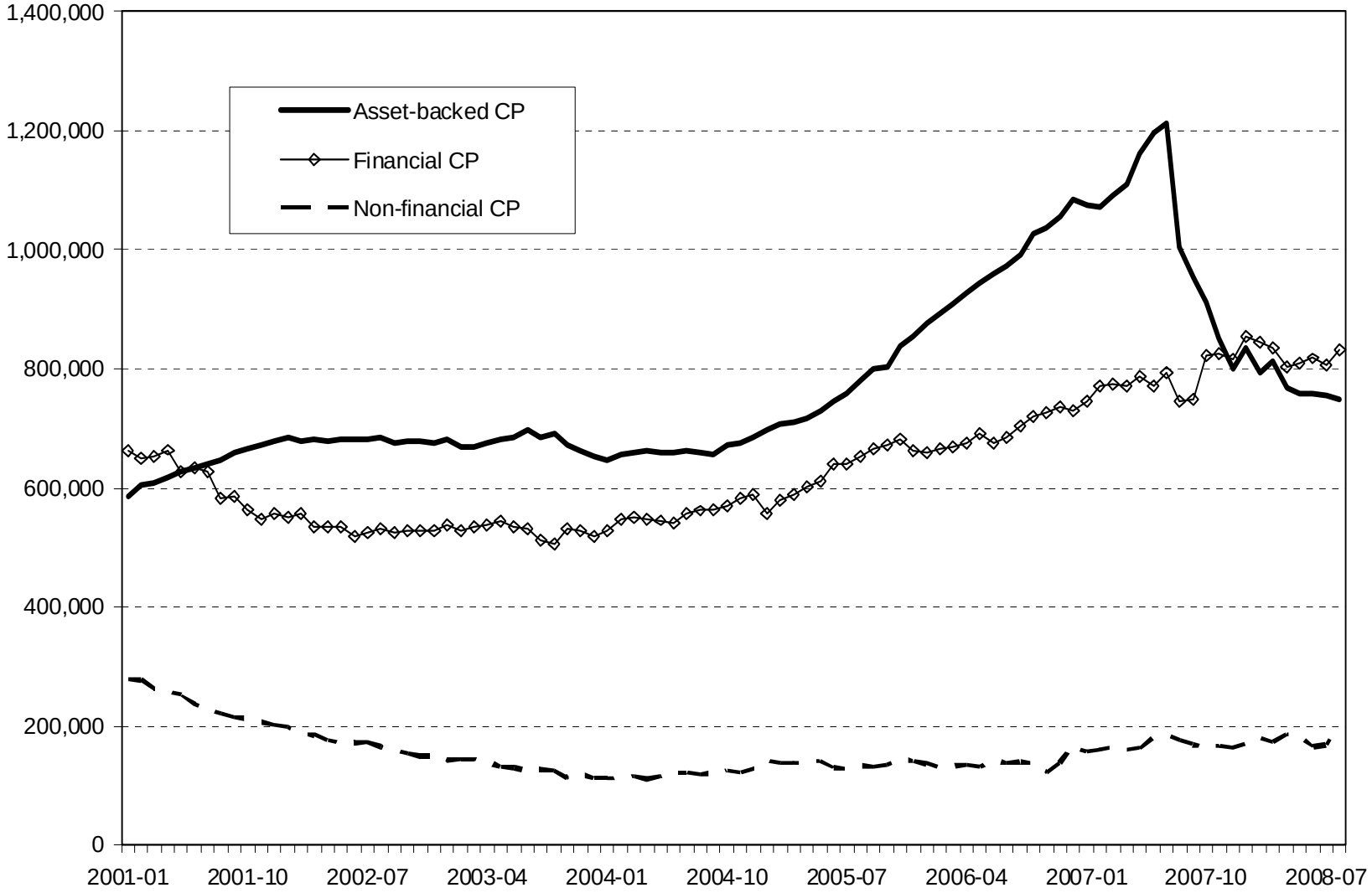
- This sector's economic functionality has been deeply compromised by the perverse interaction between American racial discrimination and social inequality and unregulated hyper-competition by a globally dominant US financial sector.

- Is it ironic or fitting that the crisis that finally ends the period of *Pax Americana* has evolved from the chronic US problems of racial oppression and huge income/wealth disparities?
- It doesn't matter – California has to pick up the pieces.

1. A Timeline of the Subprime Crisis

- Federal loan-renegotiation measures, Feb 07, Feb 08 (cumulative impact <2% of mortgages)
- *Bear-Stearns SIV failures, May 07*
- *Liquidity crisis, Aug-Sept 07*
- *Freezing of the asset-backed commercial paper market, Sept 07*
- Sept-Oct 07: Treasury (Chase/Citi/BofA) $100/200B “superfund” idea - abandoned
- Federal Reserve expands its liquidity-provision program, Nov ’07 (again in Mar 08, June 08)
- The Bush Administration’s Tax-Rebate Program, January 2008 (signed February 13, 2008)
- *Bear-Stearns failure, March 08*
- Apparent 2nd Qtr consumer-expenditure recovery

Commercial paper outstanding 2001-08 ($M)



6. The Onset of the Subprime Crisis

- *Sept/Oct 08:*
  - *Lehman Brothers failure*
  - *A spike and breakdown in markets for liquidity, with the interbank market temporarily freezing up*
  - *FNMA/FHLMC "receivership"*
  - *Washington Mutual failure – takeover by Chase*
  - *Wachovia – takeover by Citi, then Wells Fargo*
  - *AIG "receivership"*
  - *Widening filters for Fed liquidity injection: "migration of entire money market onto Fed balance sheet"*

- Henry Paulson's $700B "rescue" fund (toxic-asset removal – borrowing channel – megabank capital injection – selective bank capital competition – auto-industry bailout)
- The "Next Bretton Woods" conference, Nov 14, 2008 (on hold)
- Obama/Bush discussion about second "tranche" of TARP

2. Fundamental Risks in Banking Behavior

- Banks perform two “functions” for the economy: they supply credit and provide liquidity, and take on default risk and liquidity risk.
  - The idea is, “who makes risk, bears risk.”
  - A principal-agent problem: agents (borrowers) are monitored by the principals (lenders) who entrust them with scarce resources (credit).
- There are tensions between these two functions, and risks. These create “brakes” on bank behavior as an expansion goes on.
- Regulators should be interested in holding these risks down.

3. The Transformation of US Banking & Mortgage Markets

Banks and thrifts in deep trouble in the late 1970s, early 1980s.

- Disintermediation due to high interest rates, emergence of money-market mutual funds
- Loss of large corporate loan customers (commercial paper, bond markets)
- Loans to developing countries, esp. Latin America, in late 1970s, early 1980s (commodity boom, no default risk)

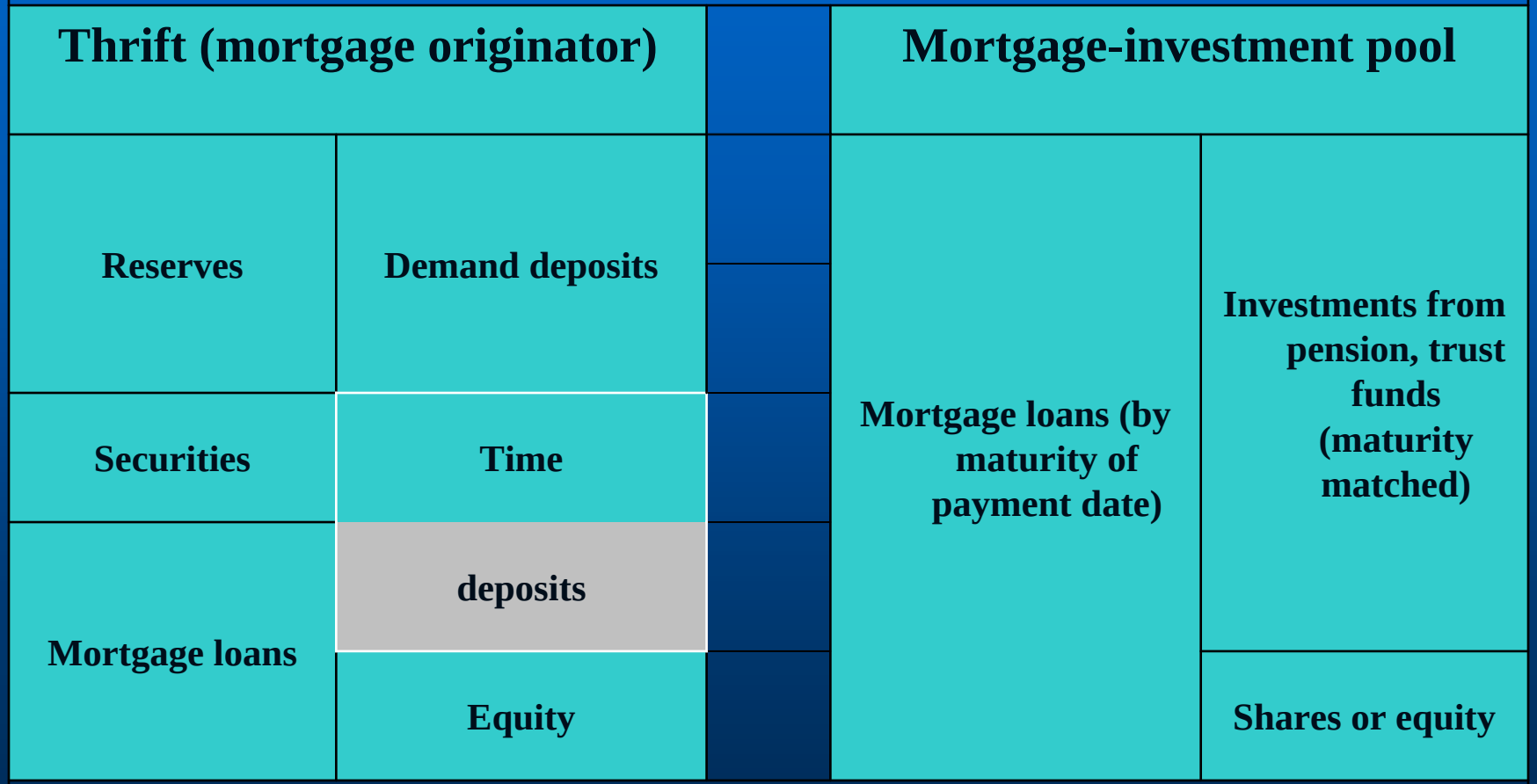
Savings and loan crisis – Latin American debt crisis (Continental Illinois failure, 1981, Mexico's loan default August 1982)

Result: Banking deregulation from 1980 on:

- A shift in banks' business model from interest-margin to fee-based income. Initially: "upscale retail banking" and a "safe securitization" solution for housing finance.

3. The Transformation of US Banking & Mortgage Markets

Figure 5: Thrift / mortgage-investor balance sheets with securitization



Note the ambiguity about who is bearing risks in the securitization model! And note the principal-agent problem associated with the mortgage pool…

4. The evolution of financial exploitation

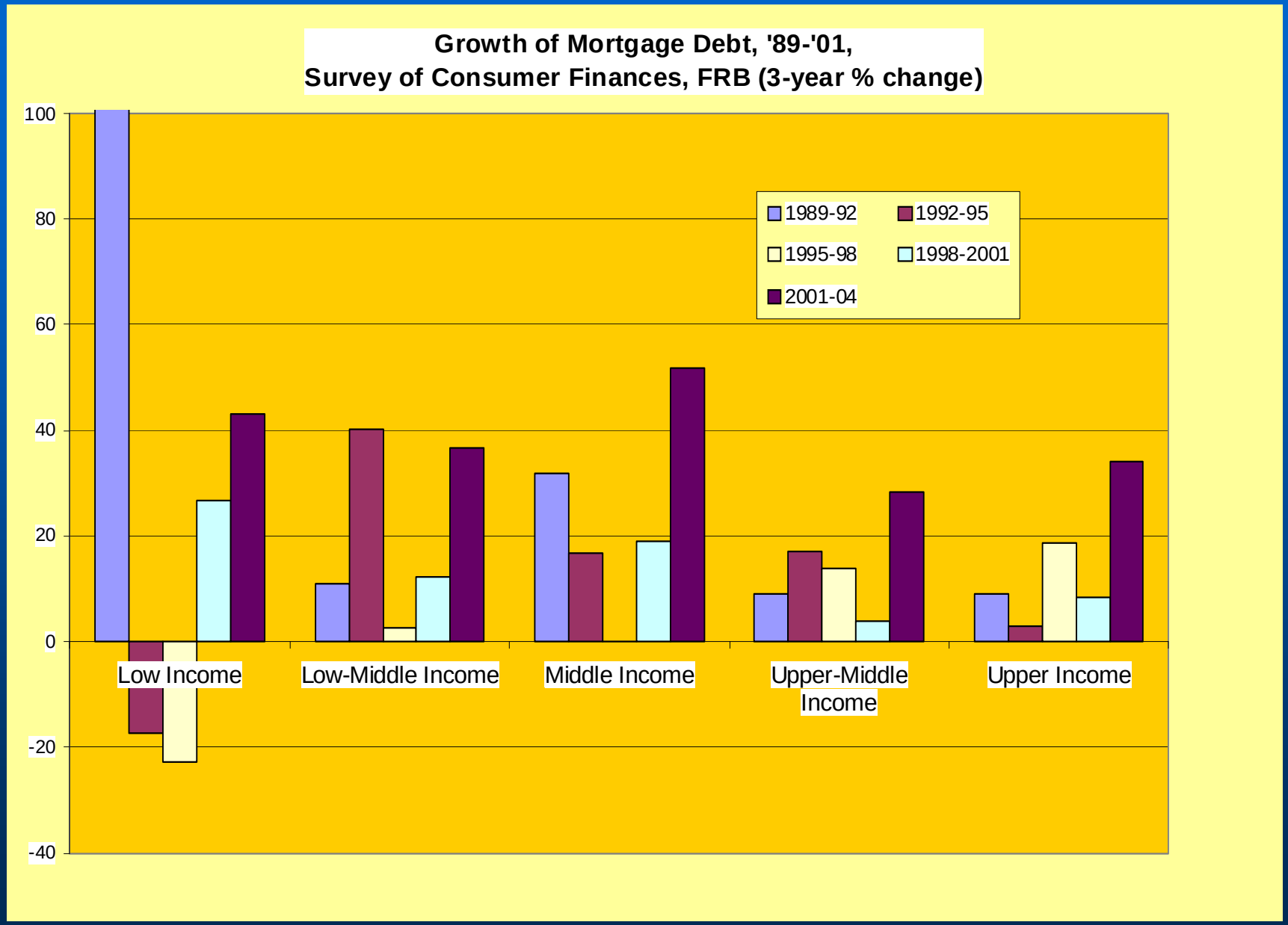
- Markets for credit and capital excluded racial minorities and lower-income and minority areas for many years – with the collaboration of the federal government (FHA redlining begins in 1930s).
- Civil rights & community-reinvestment laws forced changes by the gov't and banks. Community reinvestment laws passed in 1975, '77.
- Banks' behavior improved … but then racial exclusion was transformed into racial exploitation in these markets.
- Banks increasingly developed products for lower-income markets, such as pay-day loans, consumer-durable credit, debit cards, and .. Subprime loans.

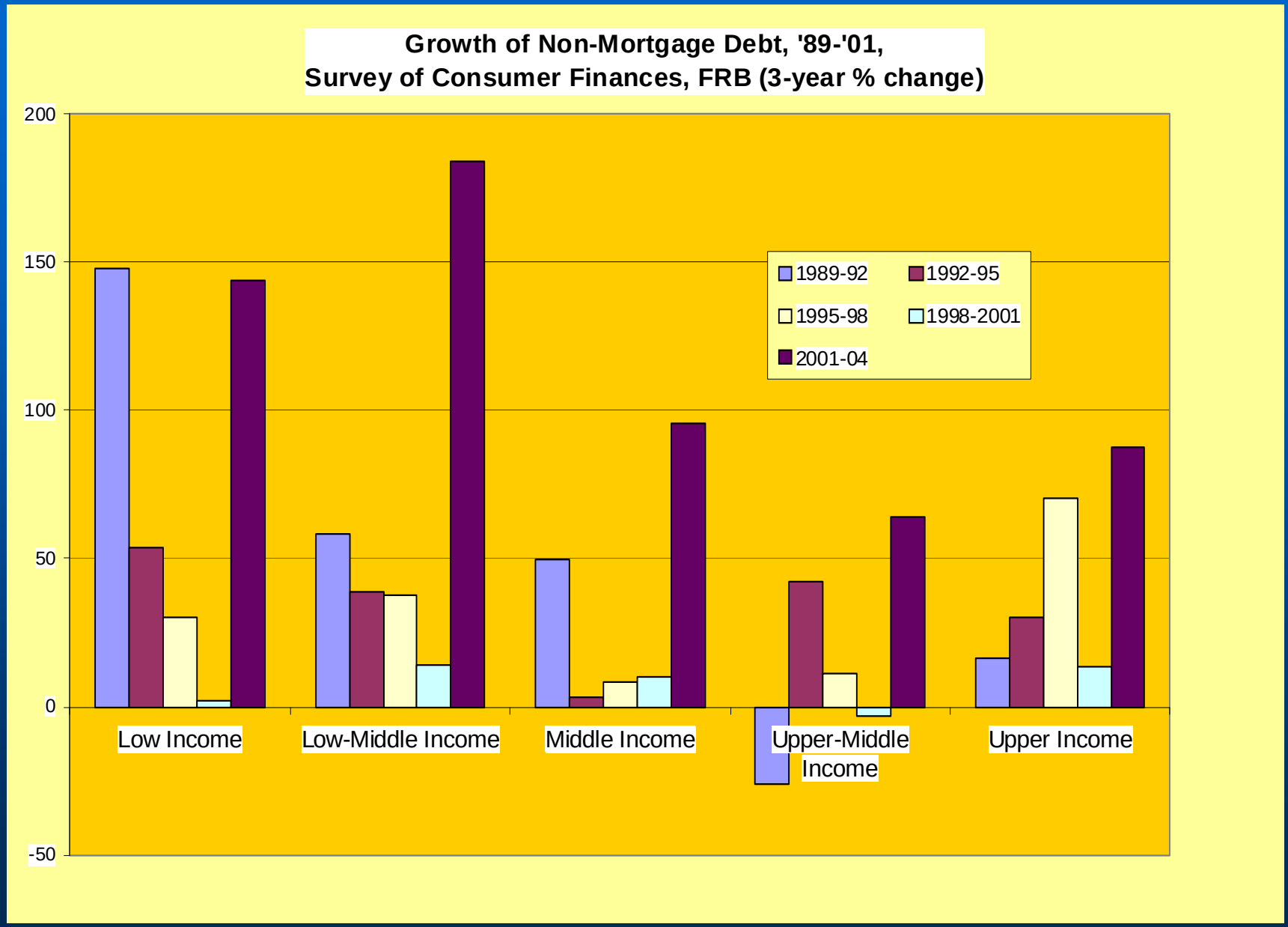
4. The evolution of financial exploitation

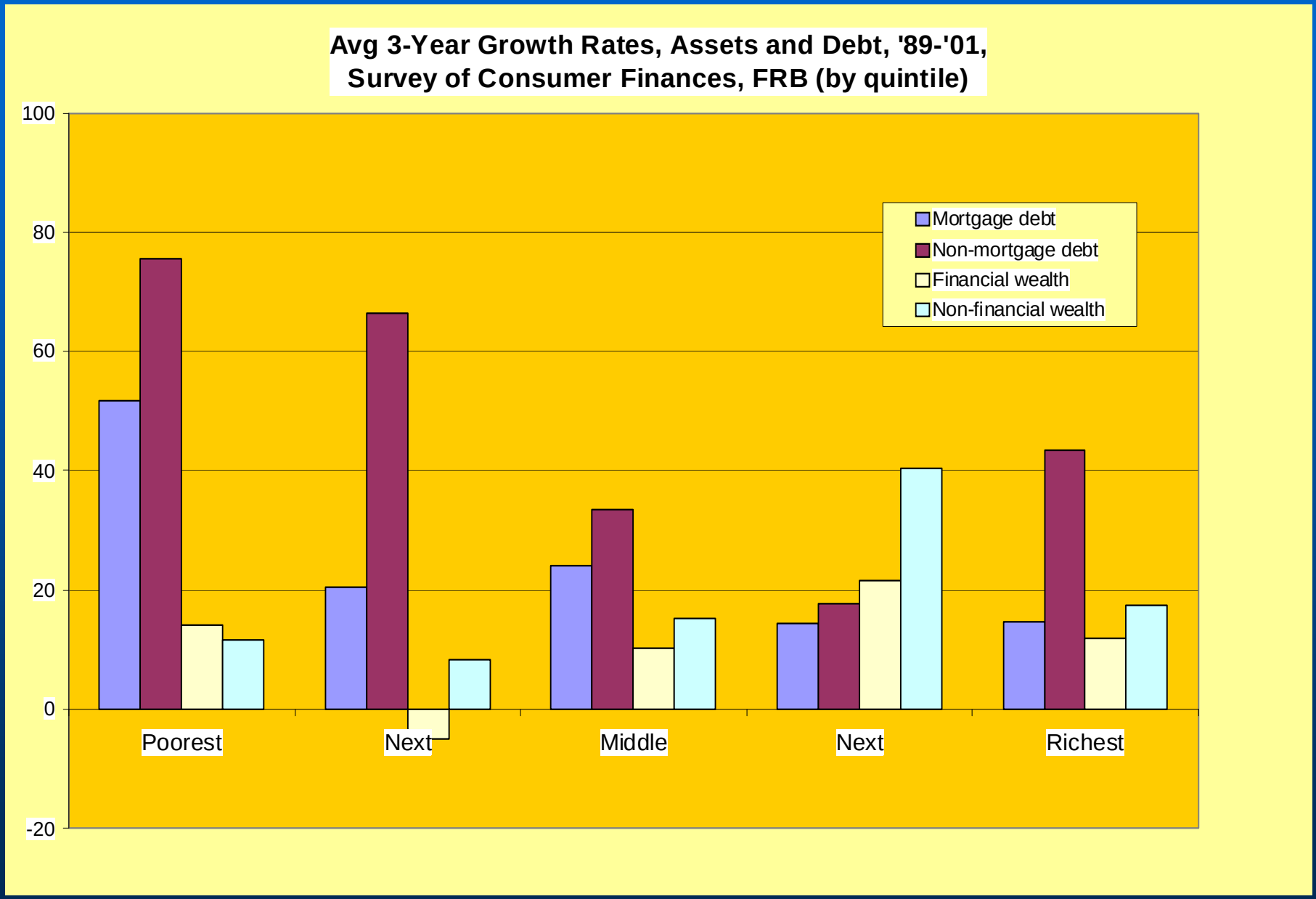
- Initially, subprime loans were made to homeowners in redlined areas.
  - By 1998, one-third of all mortgage loans made to African Americans were subprime; and one-fifth of mortgage loans to Latinos and low-income people.
  - Subprime lending grew 900% between 1993 and 1999 in “inner-city” areas, while other forms of mortgage lending fell.
- Payday loans also exploded in these same areas: more than 22,000 outlets (vs. 60,000 bank branches).

4. The evolution of financial exploitation

- This involved a business model for “subprime lending”: high loan rates, short maturities, high application fees and high penalties for non-compliance.
- Banks did not want subprime and payday loans on their balance sheets. They nurtured a securitization market for this paper based on:
  - Improvements in computability capacity.
  - Large bank acquisitions of subprime-lender subsidiaries (fees from securitization)
  - Growing demand for high-return, high-risk money-market paper
  - *A loan that was not viable for a borrower in the long run could be profitable in the short run. ..*
  - *And the problem of “recourse risk” was handled by the creation of markets for insuring against excessive default (credit-default swaps).*


Growth of Mortgage Debt, '89-'01,
Survey of Consumer Finances, FRB (3-year % change)
100
80
60
40
20
0
-20
-40
1989-92
1992-95
1995-98
1998-2001
2001-04
Low Income
Low-Middle Income
Middle Income
Upper-Middle Income
Upper Income


Growth of Non-Mortgage Debt, '89-'01,
Survey of Consumer Finances, FRB (3-year % change)
200
150
100
50
0
-50
1989-92
1992-95
1995-98
1998-2001
2001-04
Low Income
Low-Middle Income
Middle Income
Upper-Middle Income
Upper Income

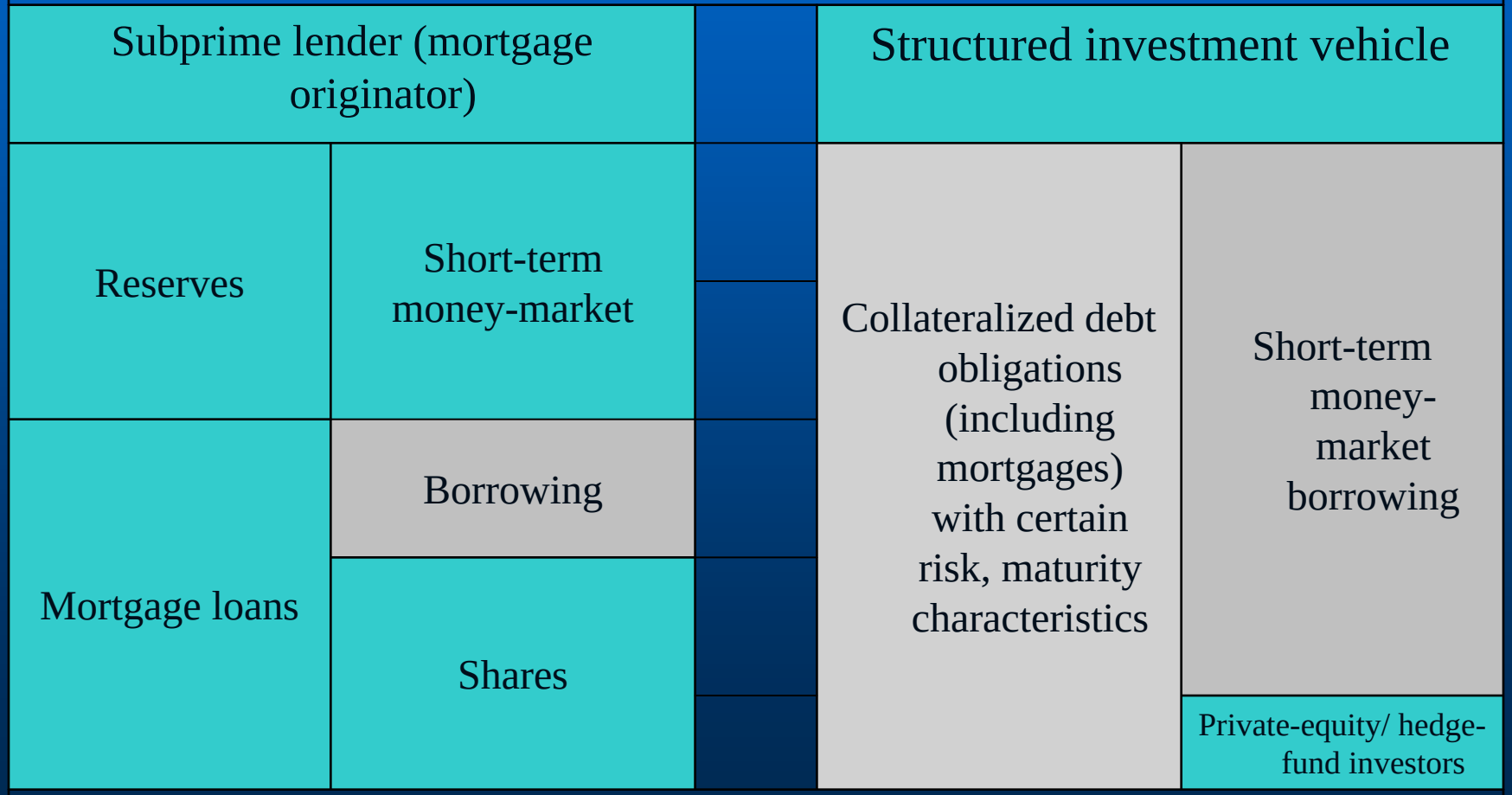

Avg 3-Year Growth Rates, Assets and Debt, '89-'01,
Survey of Consumer Finances, FRB (by quintile)
100
80
60
40
20
0
-20
Mortgage debt
Non-mortgage debt
Financial wealth
Non-financial wealth
Poorest
Next
Middle
Next
Richest

5. From the Urban Margin to the Core of Global Finance

- The machinery needed for a robust subprime industry extending beyond the boundaries of the inner-city area was now in place:
  - Bank and non-bank lenders
  - Bundlers and underwriters
  - Sources of demand for securitized high-risk debt
  - Abundant liquidity in short-term credit markets
- Further, the growing number of hedge funds and private equity funds spurred demand for high-risk (higher-than-market-return) instruments.
- And liquidity was guaranteed by the unique macro position of the US economy (global reserve currency, global lender-of-last-resort (?))

5. From the Margins of the City to the Core of Global Finance

Figure 7: Subprime lenders and structured investment vehicles



Note: Light-grey shading indicates default risk, and dark-grey shading, liquidity risk.

5. From the Urban Margin to the Core of Global Finance

- As the housing bubble grew, the idea grew that longer-run housing-price appreciation would permit a reset of unviable loan conditions.
- In some areas, rising housing prices made subprime loans a necessity: income fell (Detroit) or housing prices skyrocketed (California).
  - 2001-03: 8.5% of mortgages were subprime
  - 2004-05: 14% subprime
  - 2006: 32% subprime (45% variable-rate loans, 23% conventional)
  - 2005-06: California – 50% of home-acquisition loans are zero down-payment

Figure 3: US homeownership rate and real median household income, 1970-2008 (% of all housing units occupied year-round)

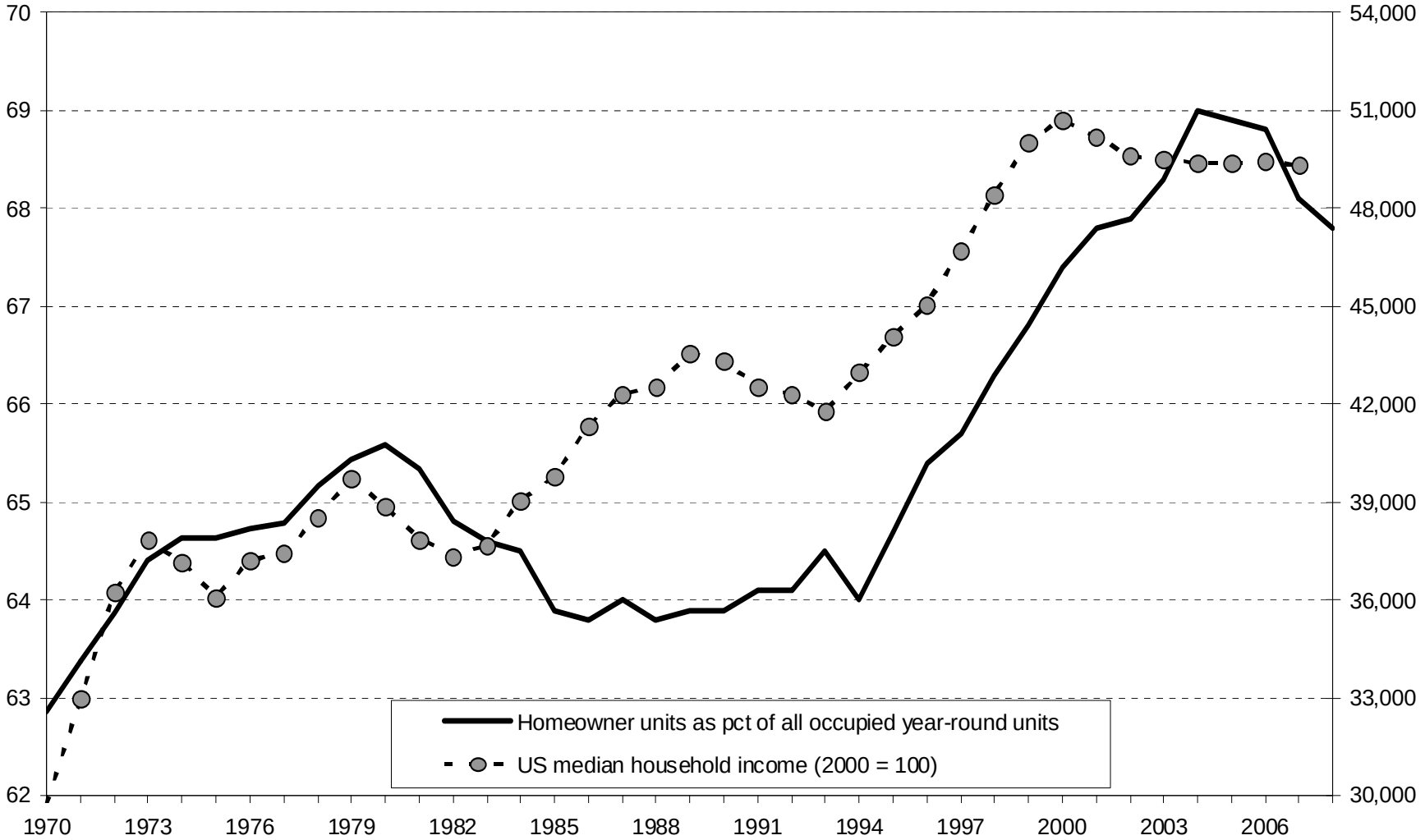
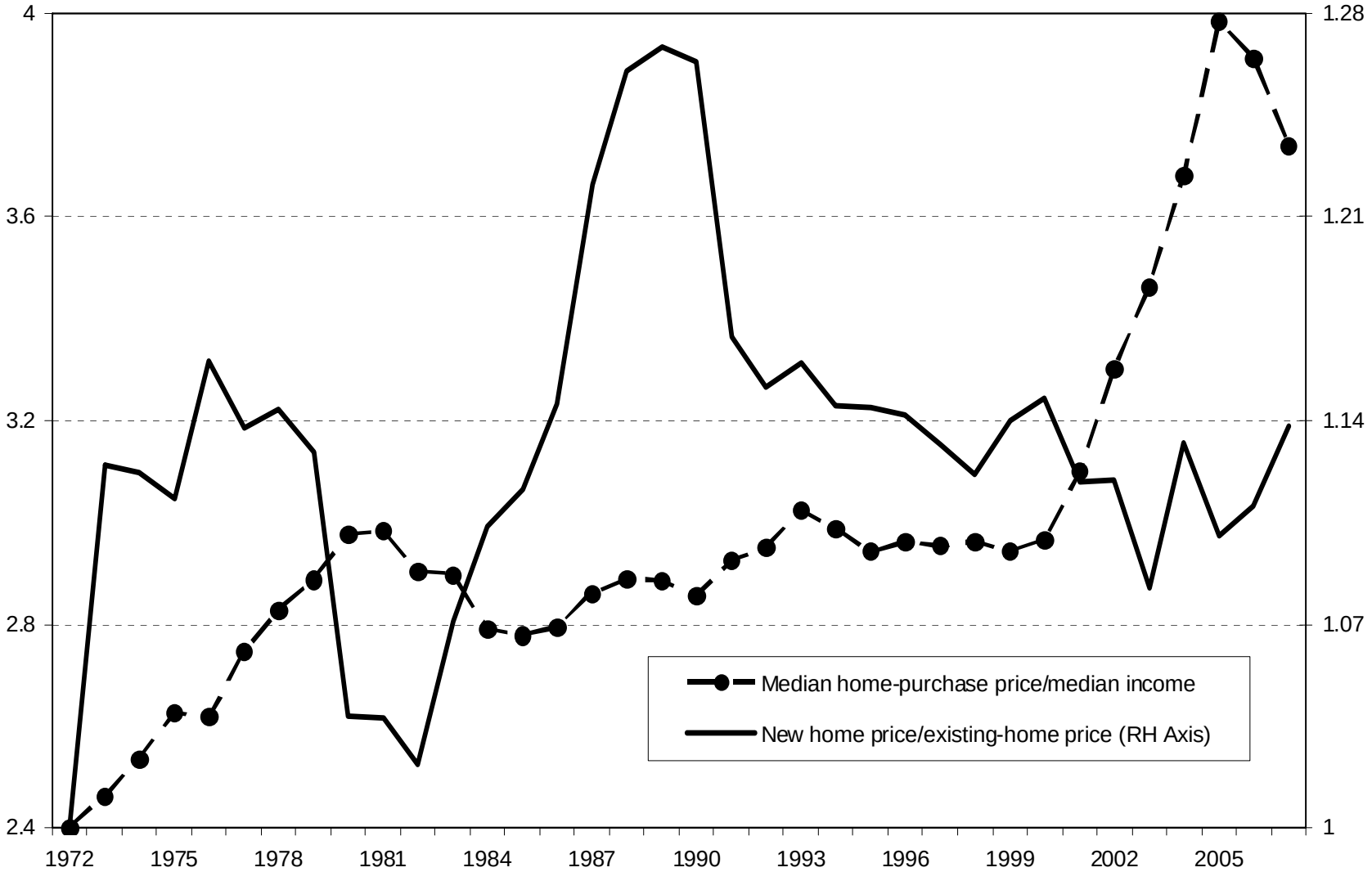


Figure 5: Housing Price-to-Income Ratio and New-Home/Existing-Home Price Ratio, 1972-2008



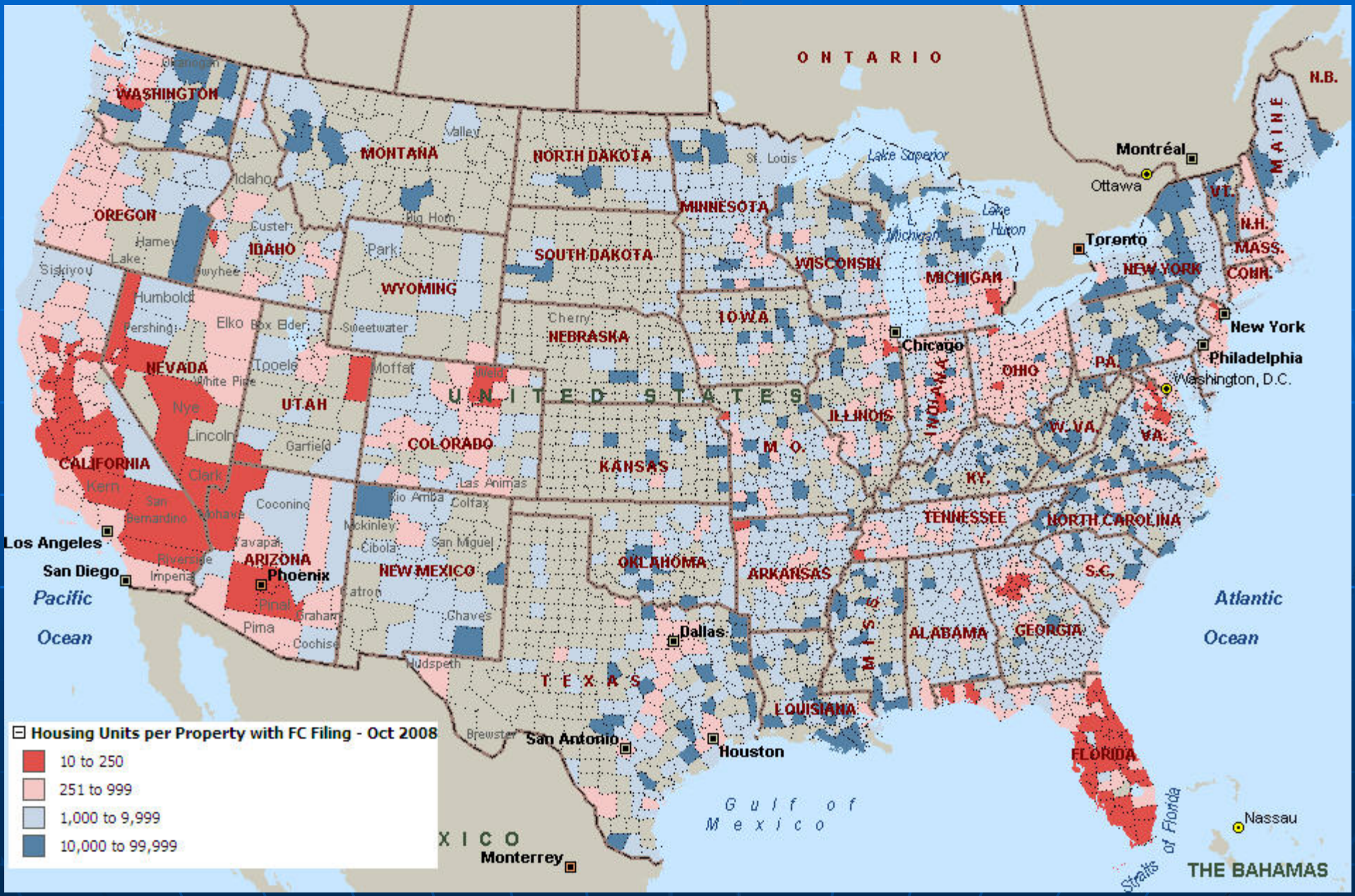
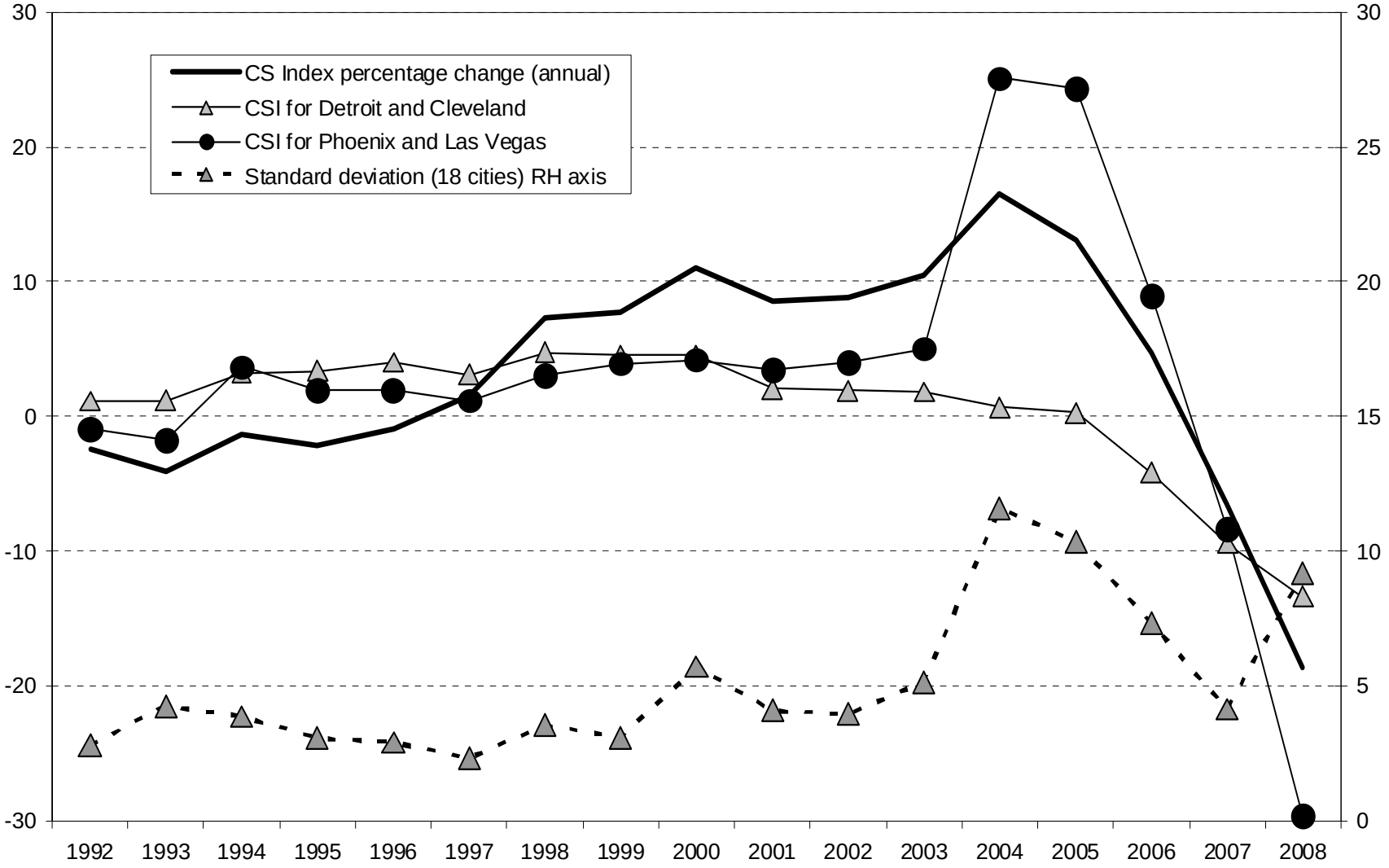

ONTARIO
WASHINGTON
MONTANA
NORTH DAKOTA
MINNESOTA
OREGON
IDAHO
SOUTH DAKOTA
WYOMING
WISCONSIN
MICHIGAN
NEBRASKA
IOWA
NEVADA
UTAH
COLORADO
KANSAS
ILLINOIS
INDIANA
OHIO
PA.
W. VA.
VA.
KY.
MO.
CALIFORNIA
ARIZONA
NEW MEXICO
OKLAHOMA
ARKANSAS
TENNESSEE
NORTH CAROLINA
S.C.
MISS.
ALABAMA
GEORGIA
LOUISIANA
FLORIDA
TEXAS
UNITED STATES
MEXICO
Montréal
Ottawa
Toronto
Chicago
New York
Philadelphia
Washington, D.C.
Los Angeles
San Diego
Phoenix
Dallas
San Antonio
Houston
Monterrey
Nassau
THE BAHAMAS
Pacific Ocean
Atlantic Ocean
Gulf of Mexico
Lake Superior
Lake Michigan
Lake Huron
Straits of Florida
N.B.
MAINE
VT.
N.H.
MASS.
CONN.
Housing Units per Property with FC Filing - Oct 2008
10 to 250
251 to 999
1,000 to 9,999
10,000 to 99,999

Figure 3: Inflation-adjusted Case-Shiller Housing Index Values:
Annual percentage change, June 1992-June 2008



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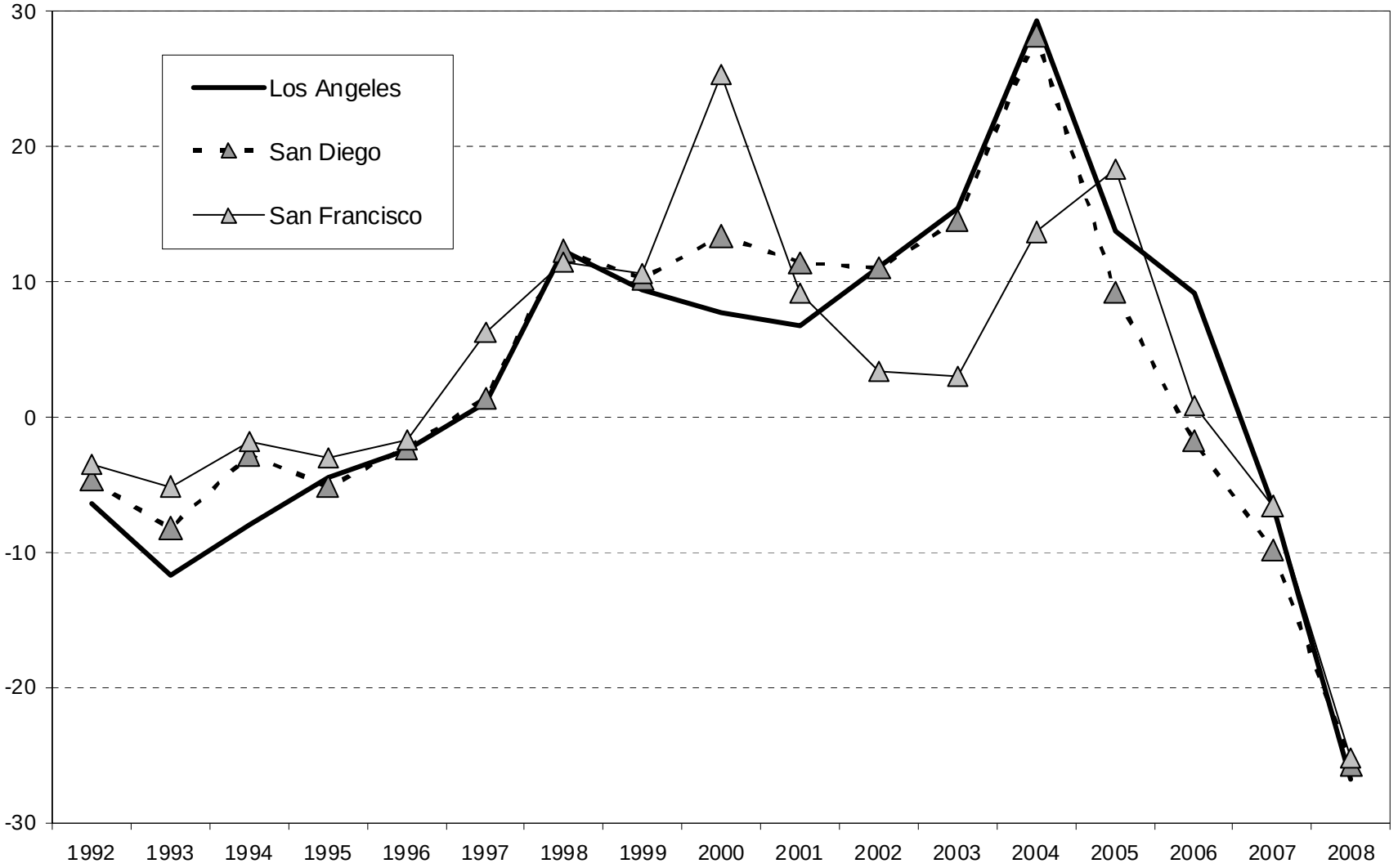

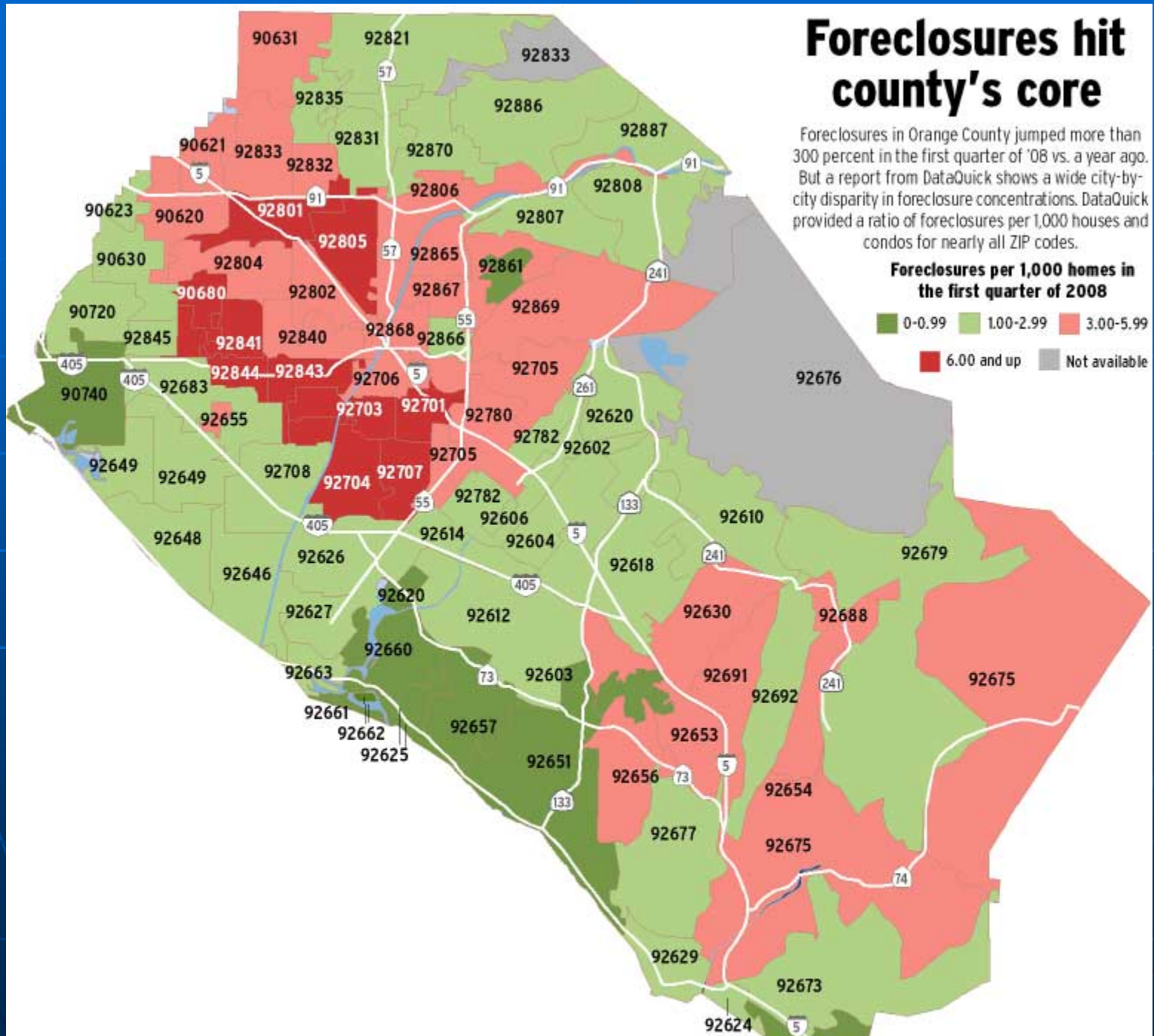
Foreclosures hit county's core
Foreclosures in Orange County jumped more than 300 percent in the first quarter of '08 vs. a year ago. But a report from DataQuick shows a wide city-by-city disparity in foreclosure concentrations. DataQuick provided a ratio of foreclosures per 1,000 houses and condos for nearly all ZIP codes.
Foreclosures per 1,000 homes in the first quarter of 2008
0-0.99
1.00-2.99
3.00-5.99
6.00 and up
Not available
90631
92821
92833
92835
92886
92887
90621
92831
92870
92832
92806
92808
90623
90620
92801
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5a. The conceptual basis for structured finance

This was regarded as a reinvention of banking by means of new financial technologies.

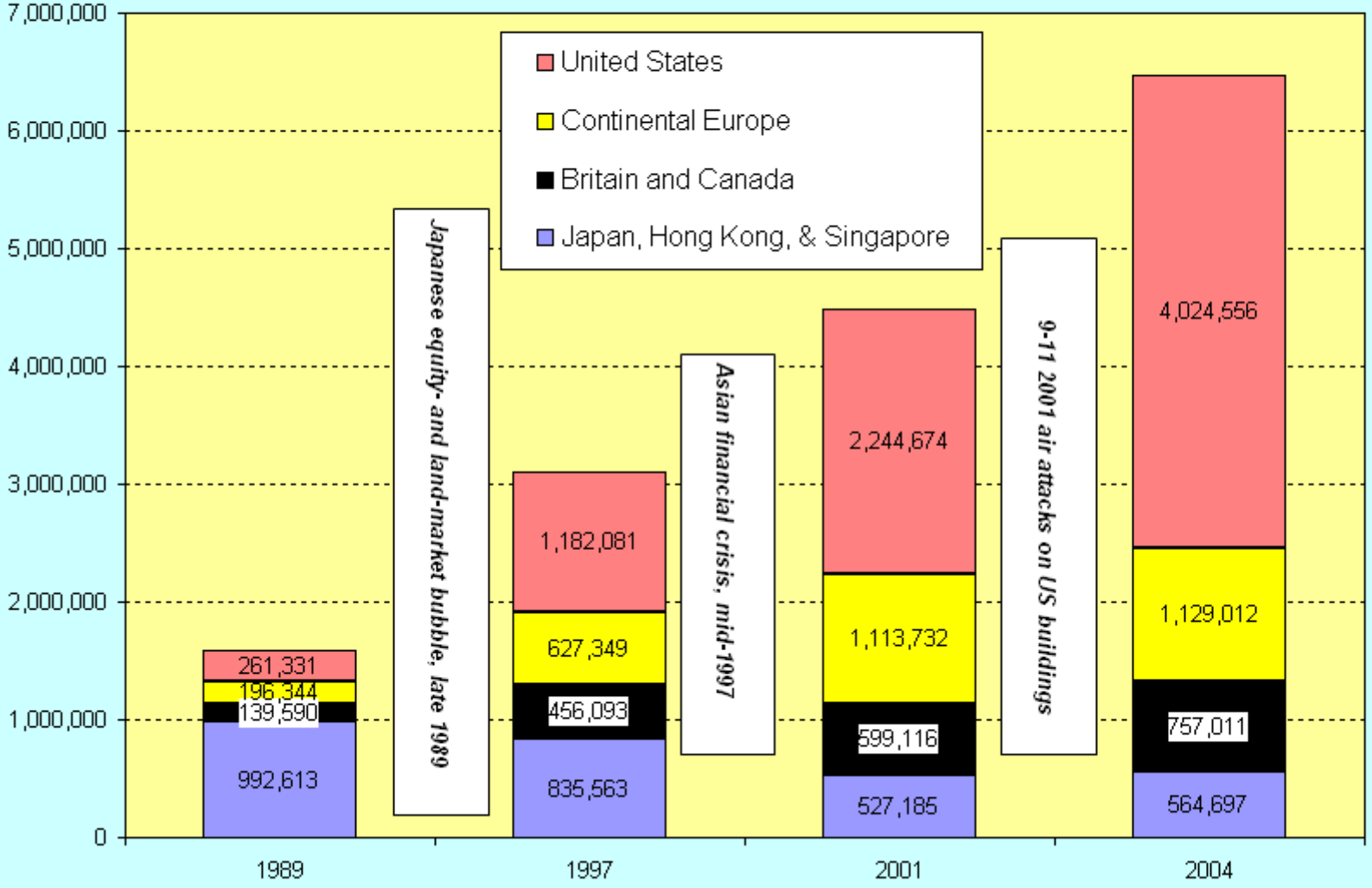
- In structured finance, both assets and liabilities are "tranched" – the underlying loans and debt instruments are recombined, and financing for this synthetic paper is assembled from different markets.
- The SIV is doubly "opaque." This is the point... for the SIV apparently encompasses a set of underlying claims that a wealth-owner cannot access directly. It apparently makes financial markets more complete.

  - Oldfield: "This .. mechanism for structuring the derivatives ... represents a passive financial intermediary" (2000, p. 446).

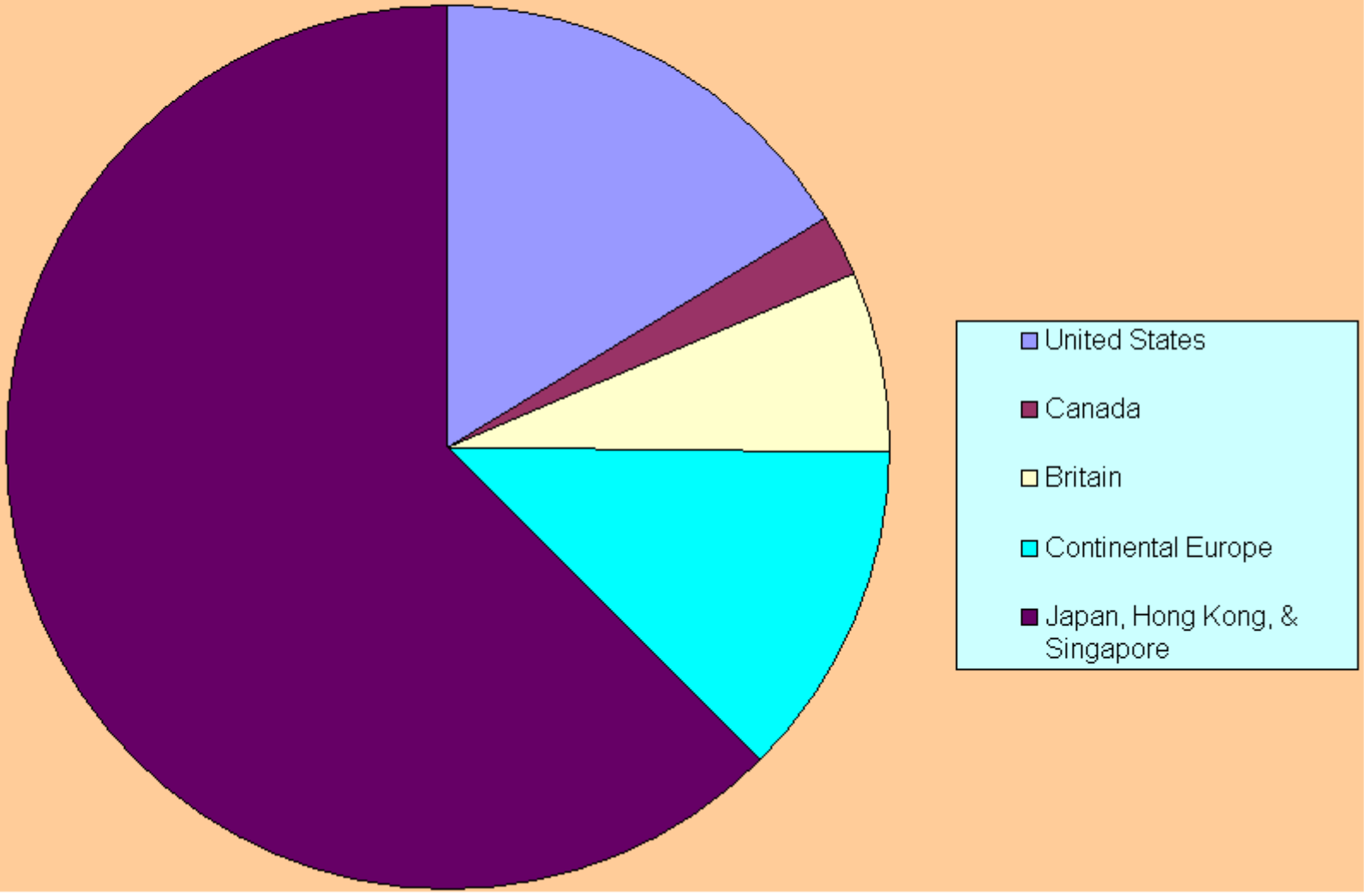
6. The Onset of the Subprime Crisis

- But why did it all go wrong so quickly? And .. Why was risk evaluated as being “riskless”?
- This has something to do with the US’s cross-border imbalances ...
- Years of current-account deficits = capital-account surpluses
- US as a “global liquidity sink” – so that Wall Street prices continually go up, with cheap short-term credit

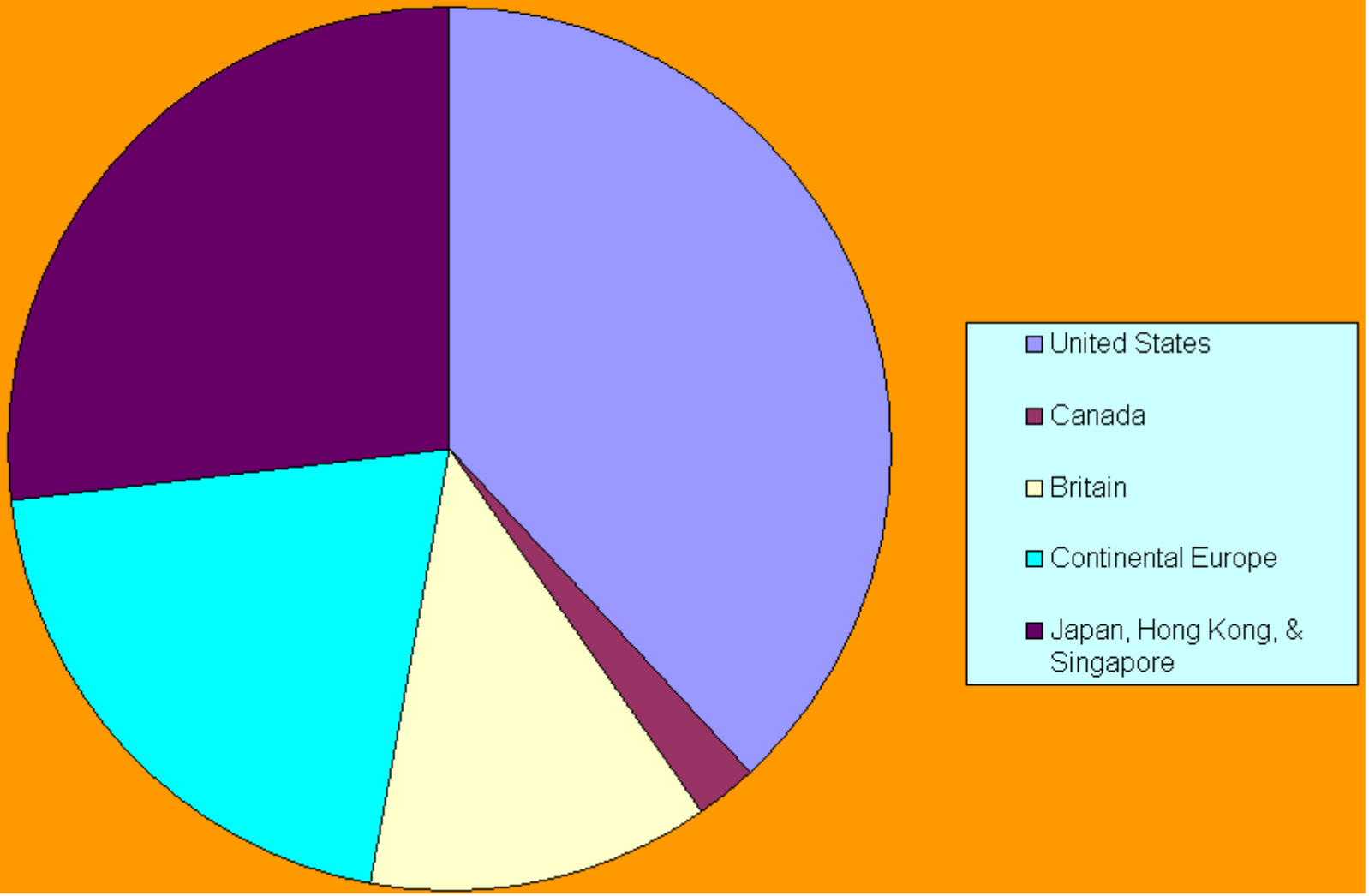
Figure 9: Market value of financial firms listed in Business Week 1000, by global areas, 1989-2004 (US $M)



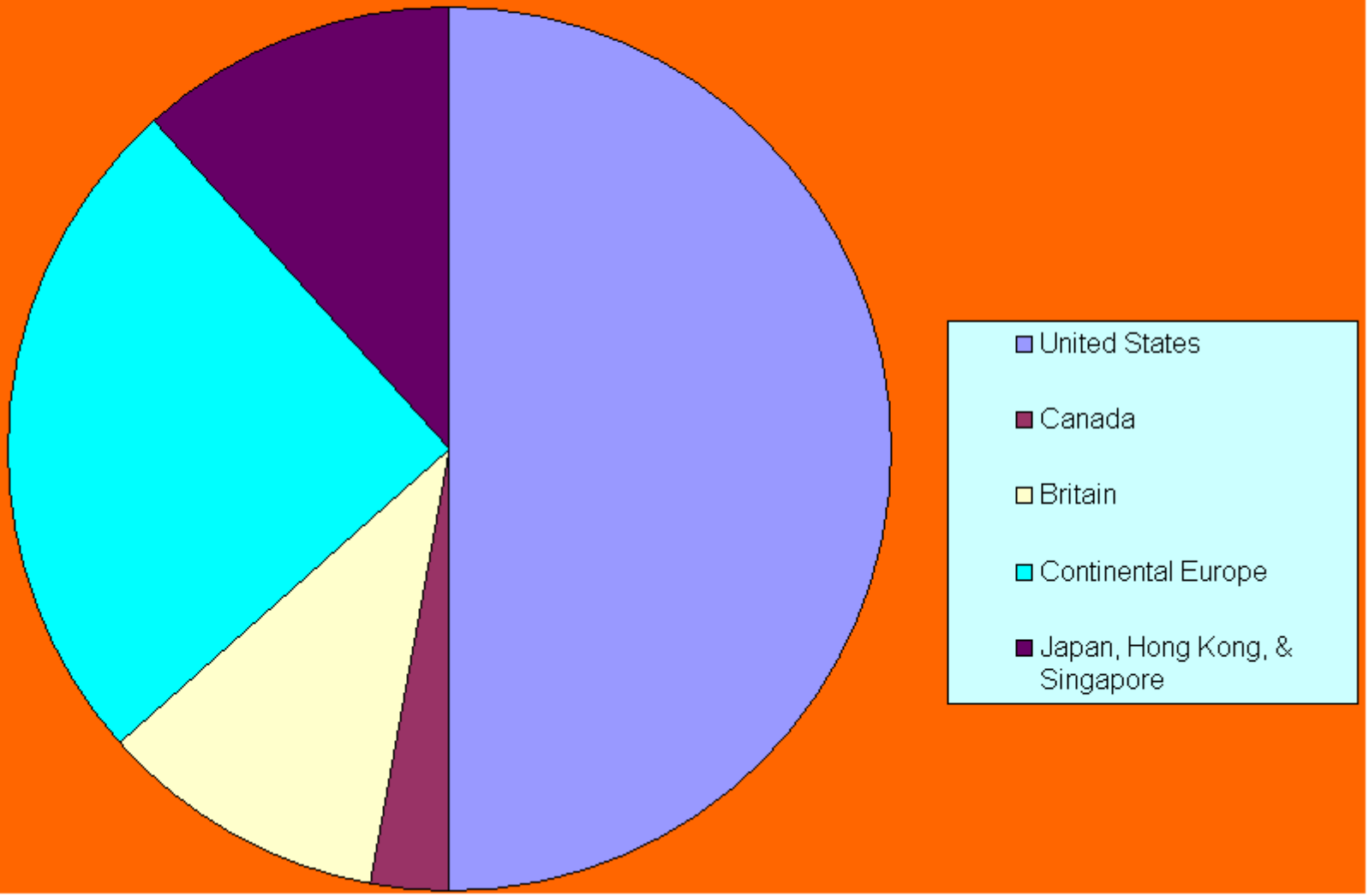
Market value of financial firms, BW 1000, May 1989



Market value of financial firms, BW 1000, May 1997



Market value of financial firms, BW 1000, May 2001



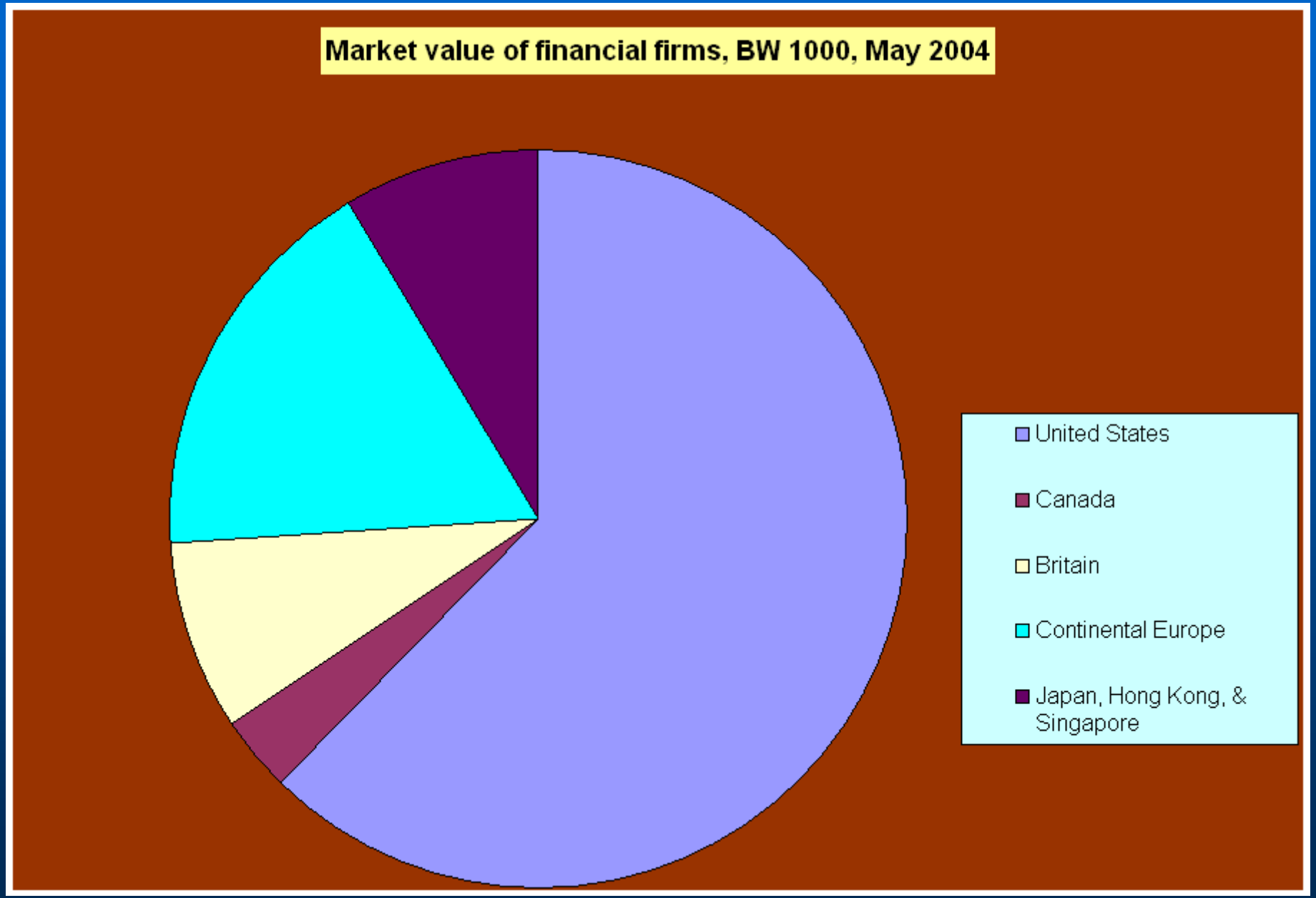
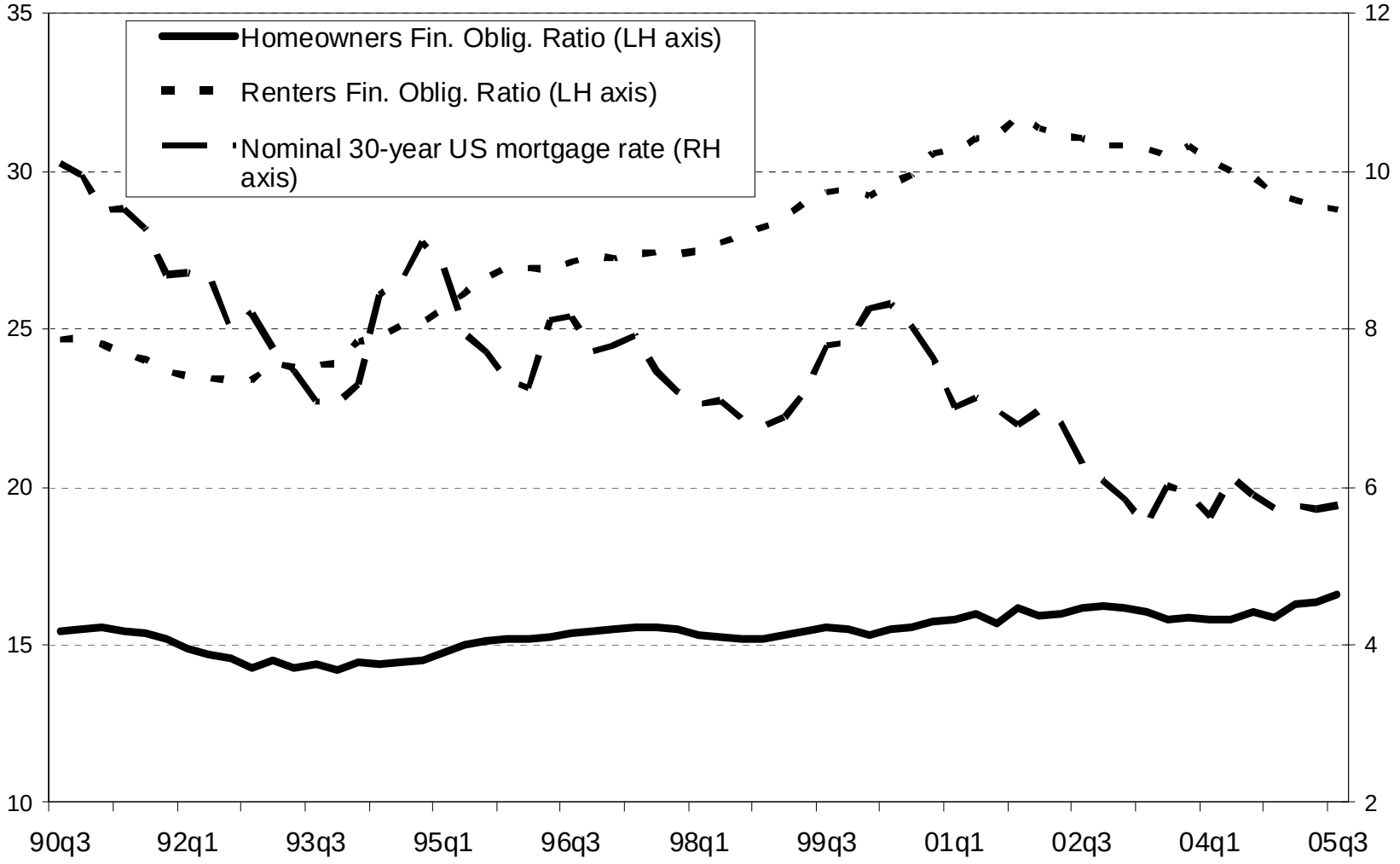

Market value of financial firms, BW 1000, May 2004
United States
Canada
Britain
Continental Europe
Japan, Hong Kong, & Singapore

Figure 14: Homeowner and Renter Financial Obligation Ratios vs. 30-year Nominal Mortgage Rate, 1990-2005



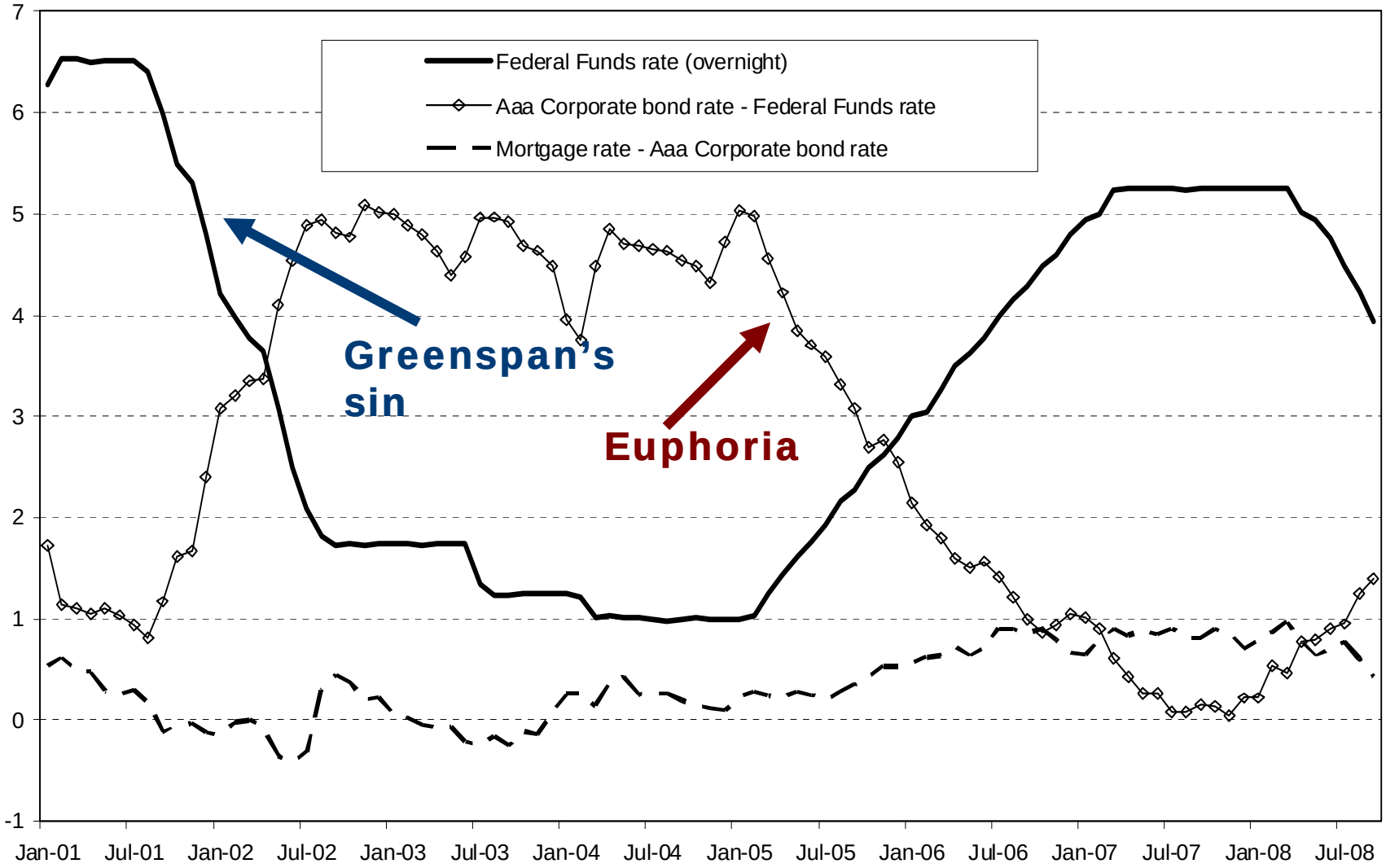
Source: Federal Reserve Board.

6. Why Policy has Failed (Thus Far)

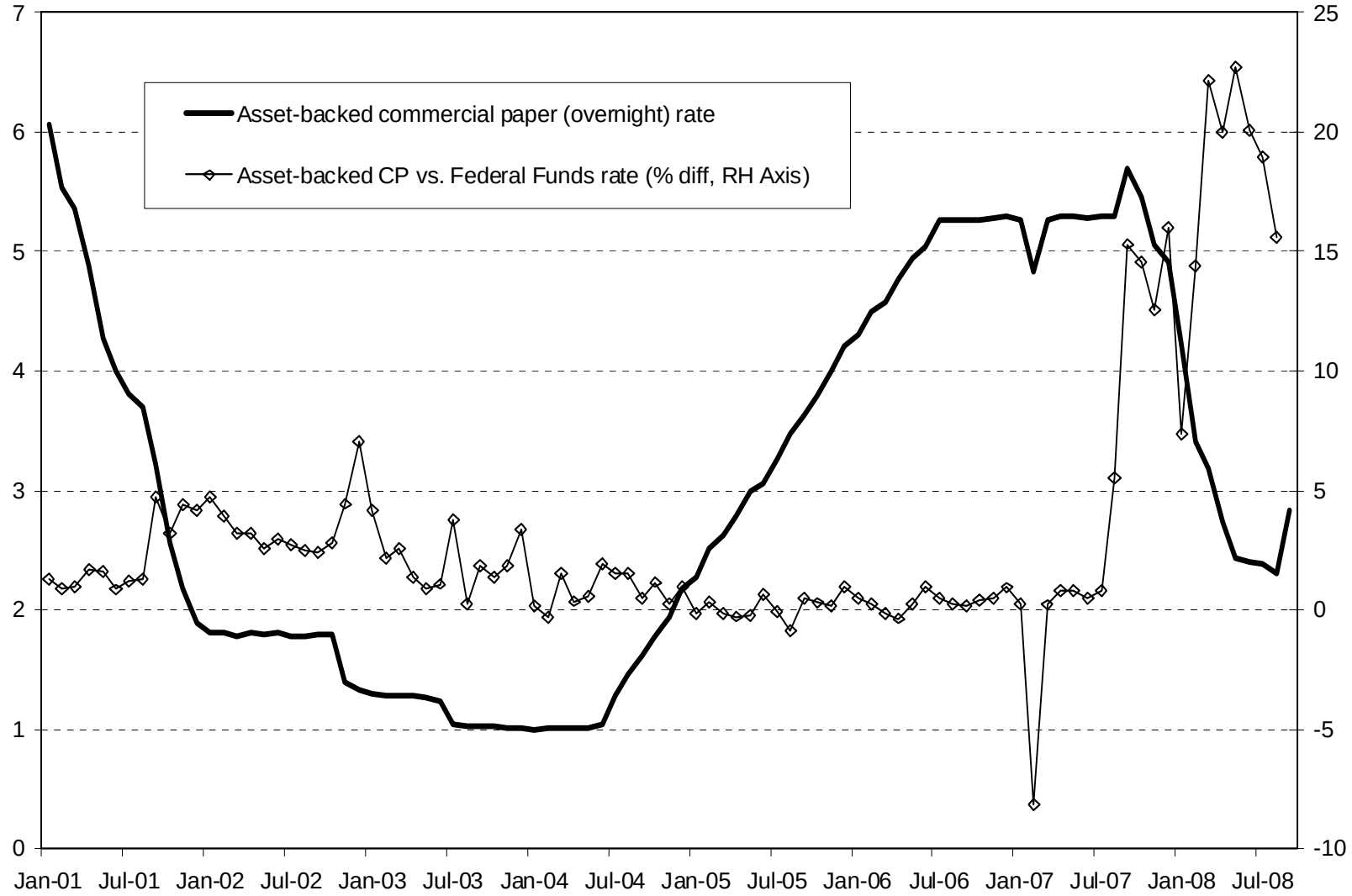
- The policy question is: *how to rebuild an institutional framework in which all people can find affordable housing and in which banks and the financial system again play a productive economic role.*
- But this depends on what we think went wrong…

- One story was that bad monetary policy "did it" and good monetary policy could "undo it" ….
- But for this to be enough, the markets have to be "smart" and we need to be in "normal times"

Federal Funds rate and two interest-rate differentials, monthly averages, 2001-08



Commercial paper outstanding 2001-08 ($M)



6. Why Policy has Failed (So Far)

- Another story is that the Wall Street/mega-banking system made a huge and unexpected miscalculation, but it remains a source of US competitive advantage and must be rescued.
- The banking system has been disadvantaged by excess capacity for years, and continues to be .. So this is an opportune time to clean things up.

7. Why Policy has Failed (Thus far)

- Ben Bernanke, LSE (WSJ, 1/13/09): "In my view, however, fiscal actions are unlikely to promote a lasting recovery unless they are accompanied by strong measures to further stabilize and strengthen the financial system," he added.
- Mr. Bernanke said the government may need to provide more capital injections to financial firms to help stabilize the markets considering the worsening of the economy's growth prospects. Additionally, guarantees may become necessary "to ensure stability and the normalization of credit markets," he said, according to a prepared text of his London speech.

7. Why Policy has Failed (Thus Far)

- Robert Shiller:
  - *Irrational Exuberance*
  - *The Subprime Solution*
- Argument: There was a “mechanism design” flaw in the modern financial world. The “risk-assessment” and “risk-management” systems were years behind “financial-risk creation and distribution” systems.
- Solution: Create a new index market or set of markets for risk(s). If risk is publicly priced, no one will be surprised.

Figure 4E: 24 Largest U.S. Megabanks, December 31, 1997
(Assets in US $000)

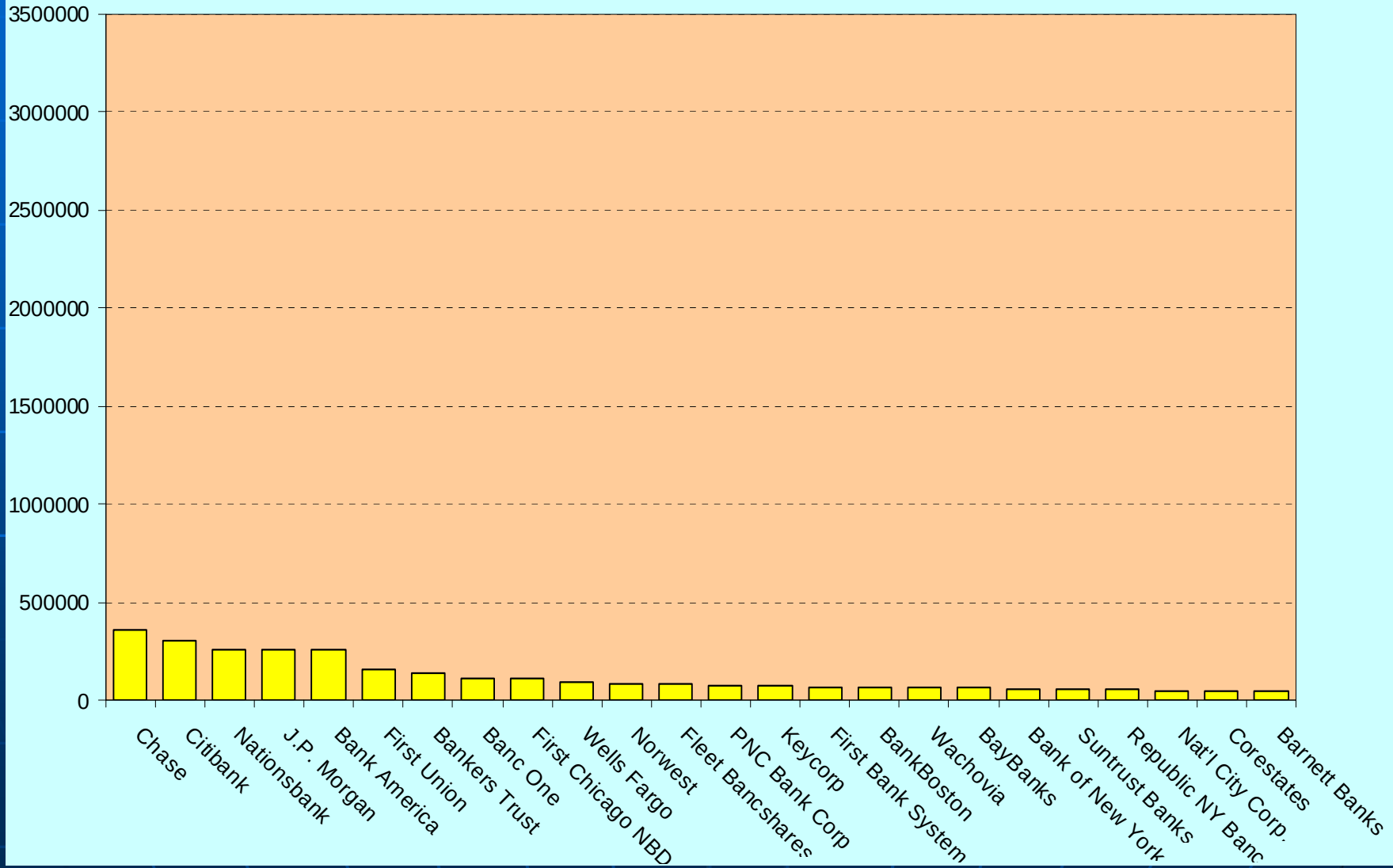


Figure 6: The Size-Distribution of the 24 Largest U.S. Megabanks in 1997 as of 2004, including Patterns of Consolidation (Assets in $000)

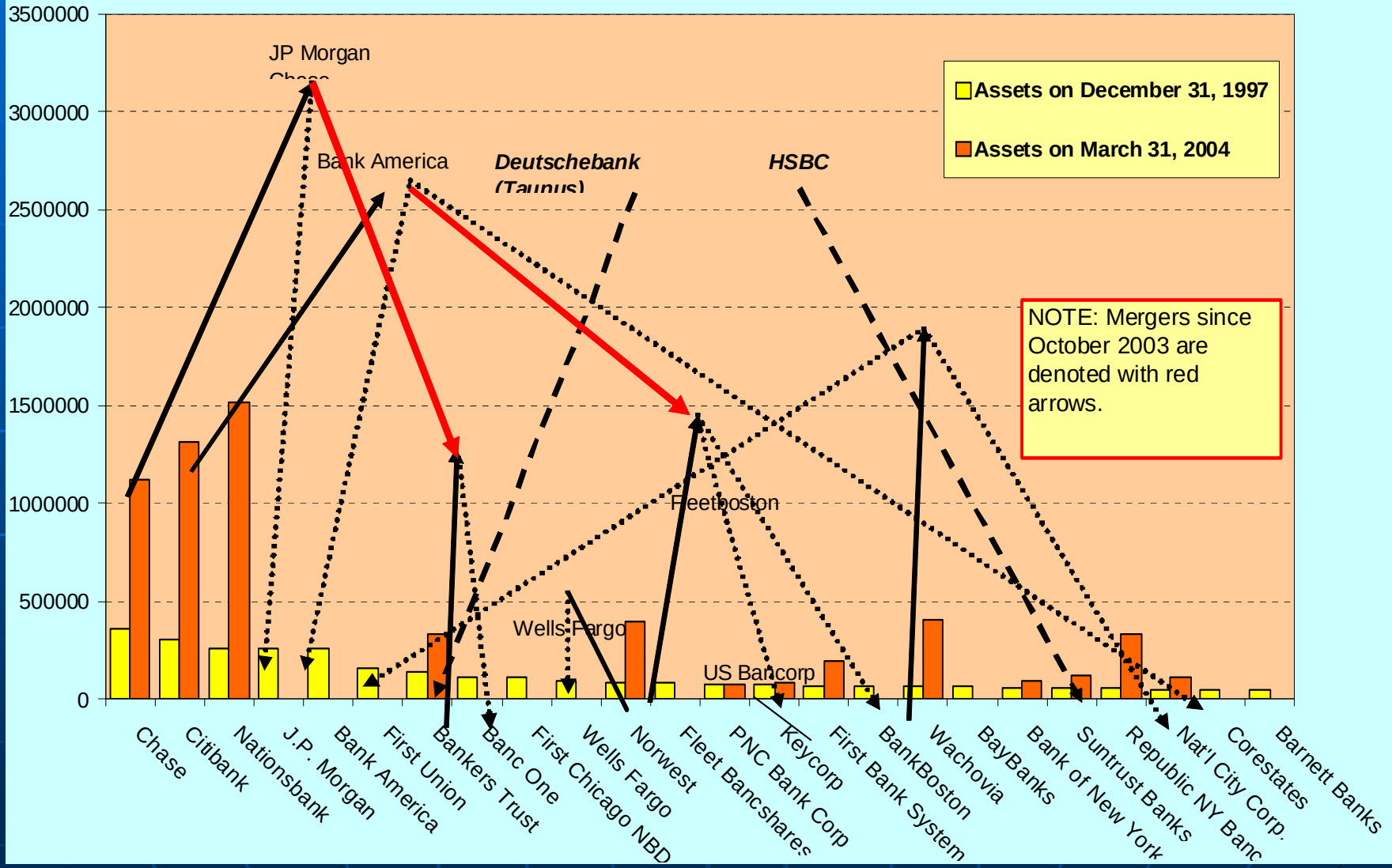


Figure 6E: Surving U.S. Megabanks, March 2004, of the 24 Largest Megabanks as of December 1997 (Assets in US $000)

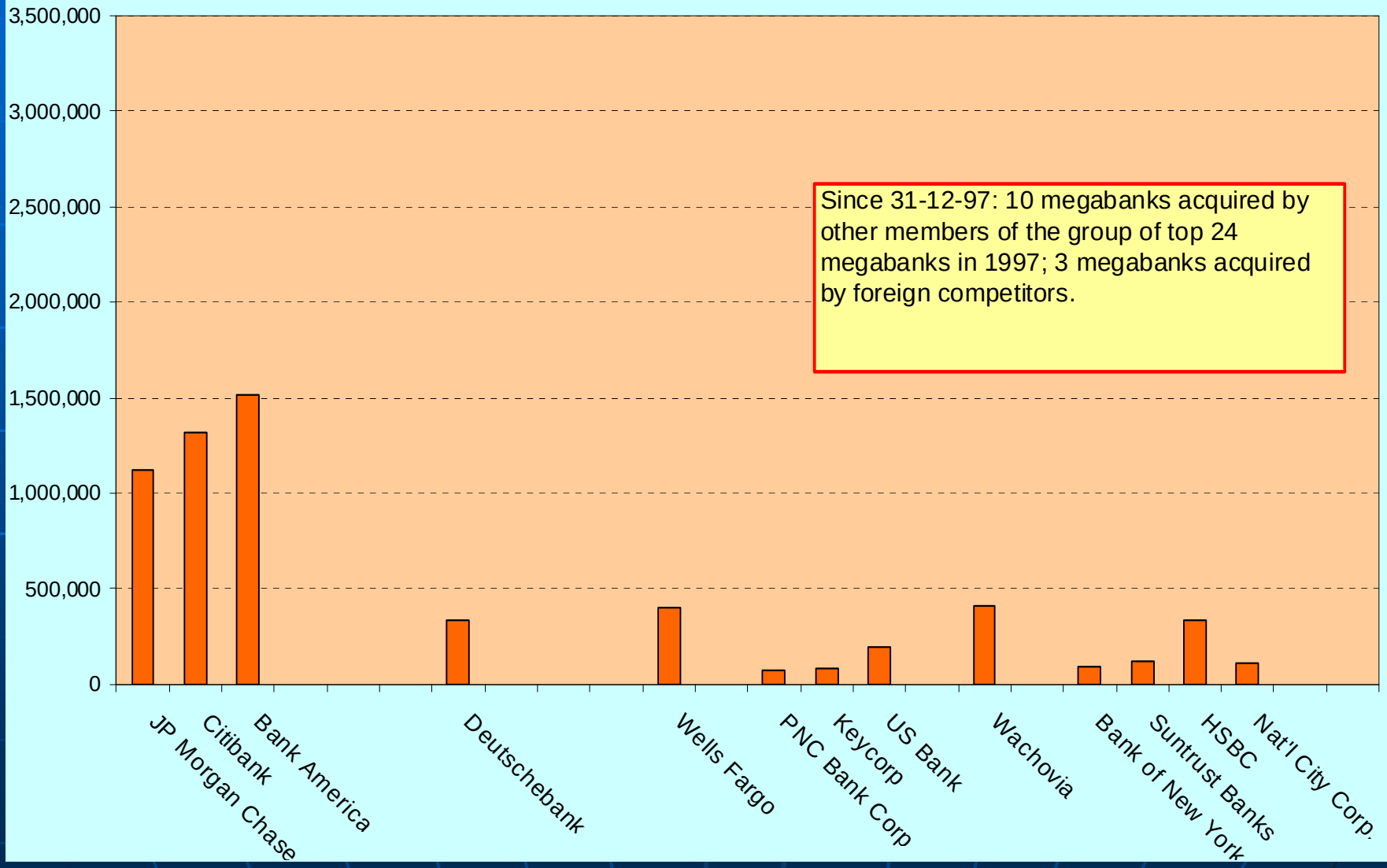


Figure 6E: Surving U.S. Megabanks, March 2004 and June 2008 (after Citi-Wachovia merger), of the 25 Largest Megabanks as of December 1997 (Assets in US $000)

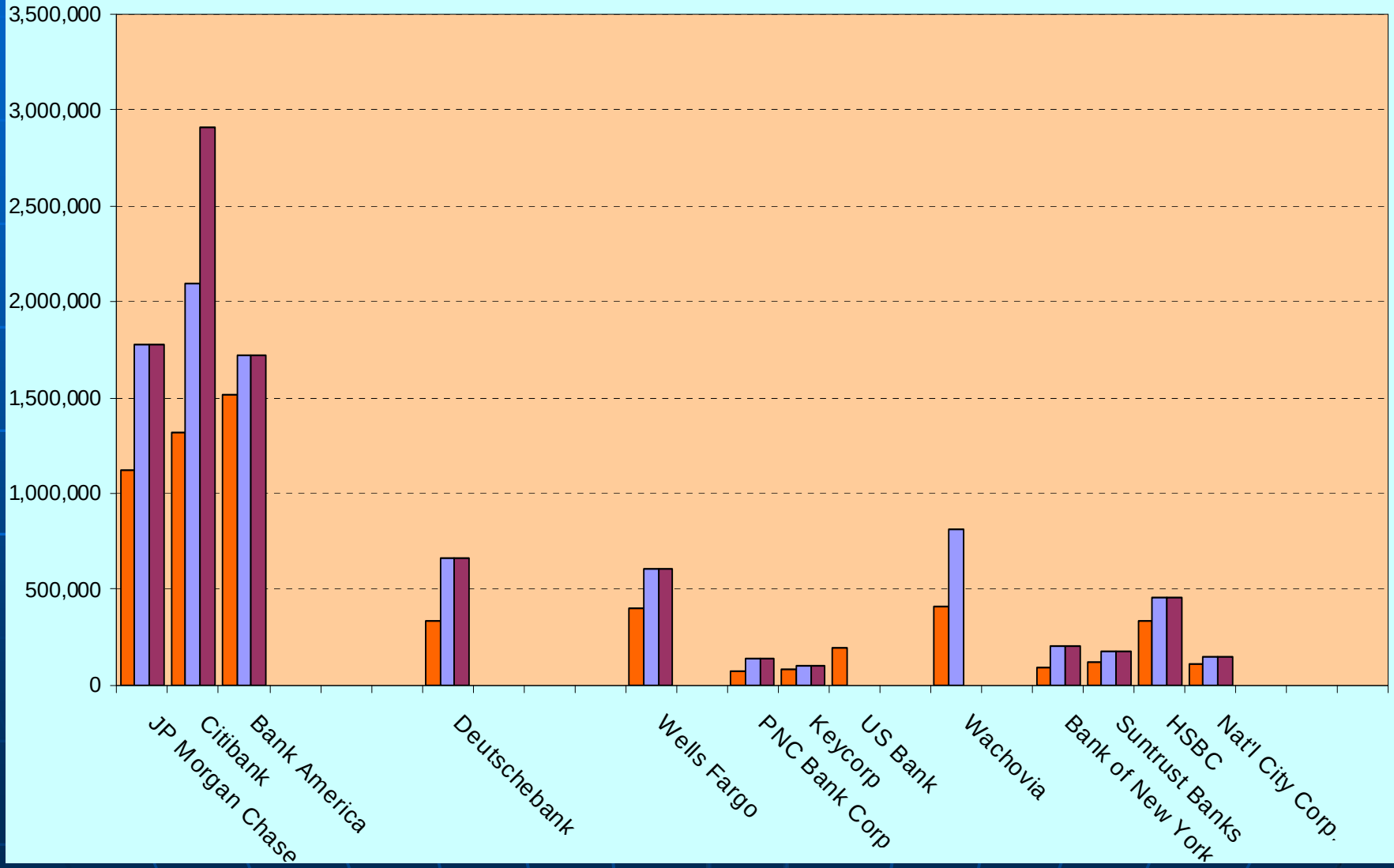
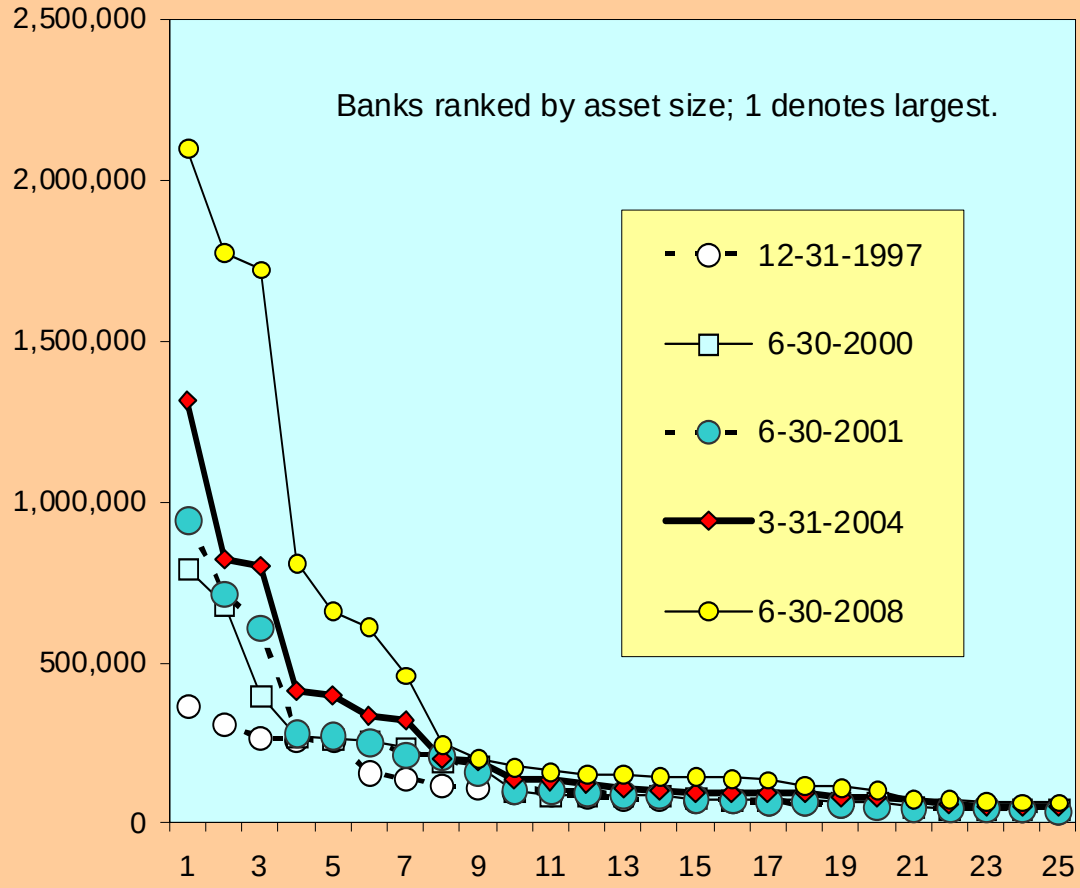
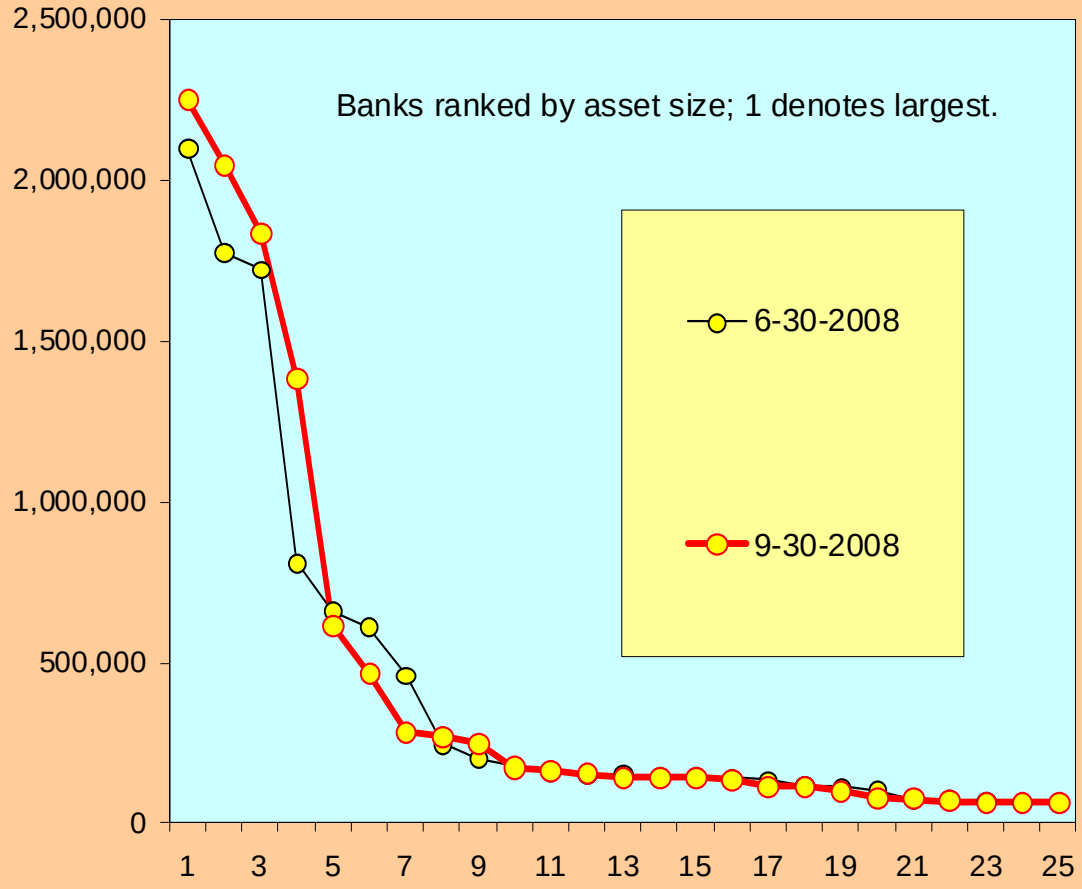


Figure 7: Asset Size of Top-25 Bank Holding Companies, Dec. 1997 to June 2008 (US $000)



Source: National Information Center, FFIEC; FDIC.

Figure 7: Asset Size of Top-25 Bank Holding Companies, Dec. 1997 to Sept. 2008 (US $000)



Source: National Information Center, FFIEC; FDIC.

Figure 7: Capital Injections for Top-25 Bank Holding Companies from TARP, January 10, 2009 ($000)

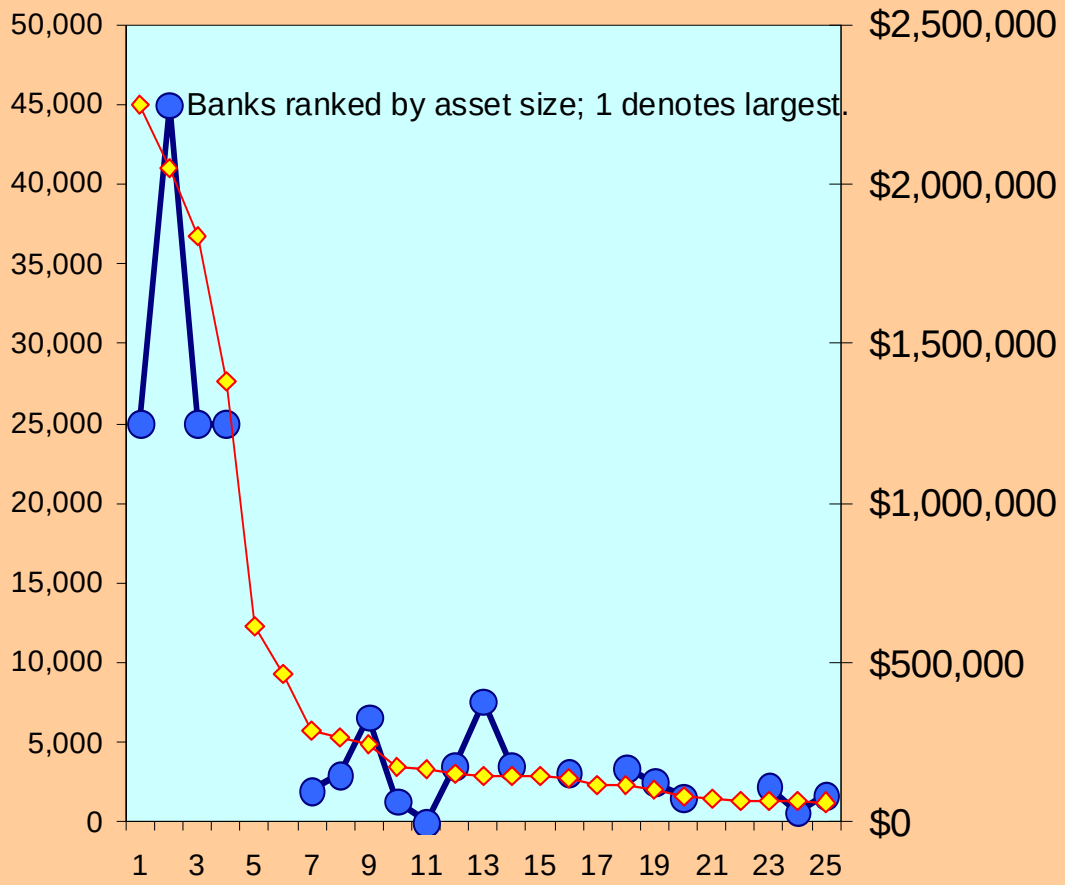
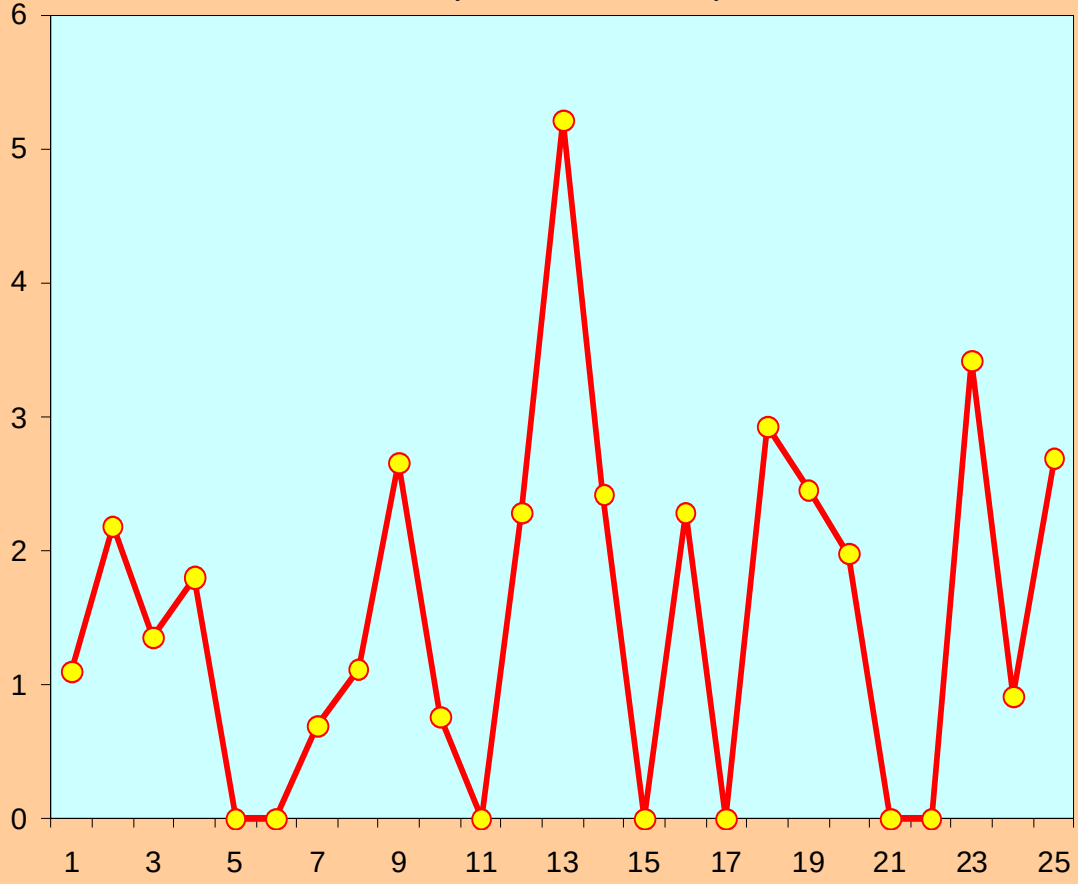


Figure 7: Capital Injections for Top-25 Bank Holding Companies from TARP, January 10, 2009 (Percentage of capital on 9-30-08)



Sources: WSJ, FFIEC.

7. Why Policy has Failed (Thus Far)

- A Keynesian warning ..
- *Liquidity is an endogenous property of markets, not an exogenous characteristic of assets.*
- *Financial risk, once created as an aspect of a financial asset, has to be borne. It can be shifted or insured against, but some unit must bear the risk.*

8. The Policy Dilemma – Which Crisis Demands Action?

- Paul Krugman (Dec. 2007): "There are, in fact, three distinct concerns associated with the rising tide of foreclosures in America. One is financial stability: as banks and other institutions take huge losses on their mortgage-related investments, the financial system as a whole is getting wobbly.
- Another is human suffering: hundreds of thousands, and probably millions, of American families will lose their homes.
- Finally, there's injustice: the subprime boom involved predatory lending — high-interest loans foisted on borrowers who qualified for lower rates — on an epic scale."