EMERGING CAPITAL MARKETS

Lecture 11: The US Subprime Mortgage Crisis

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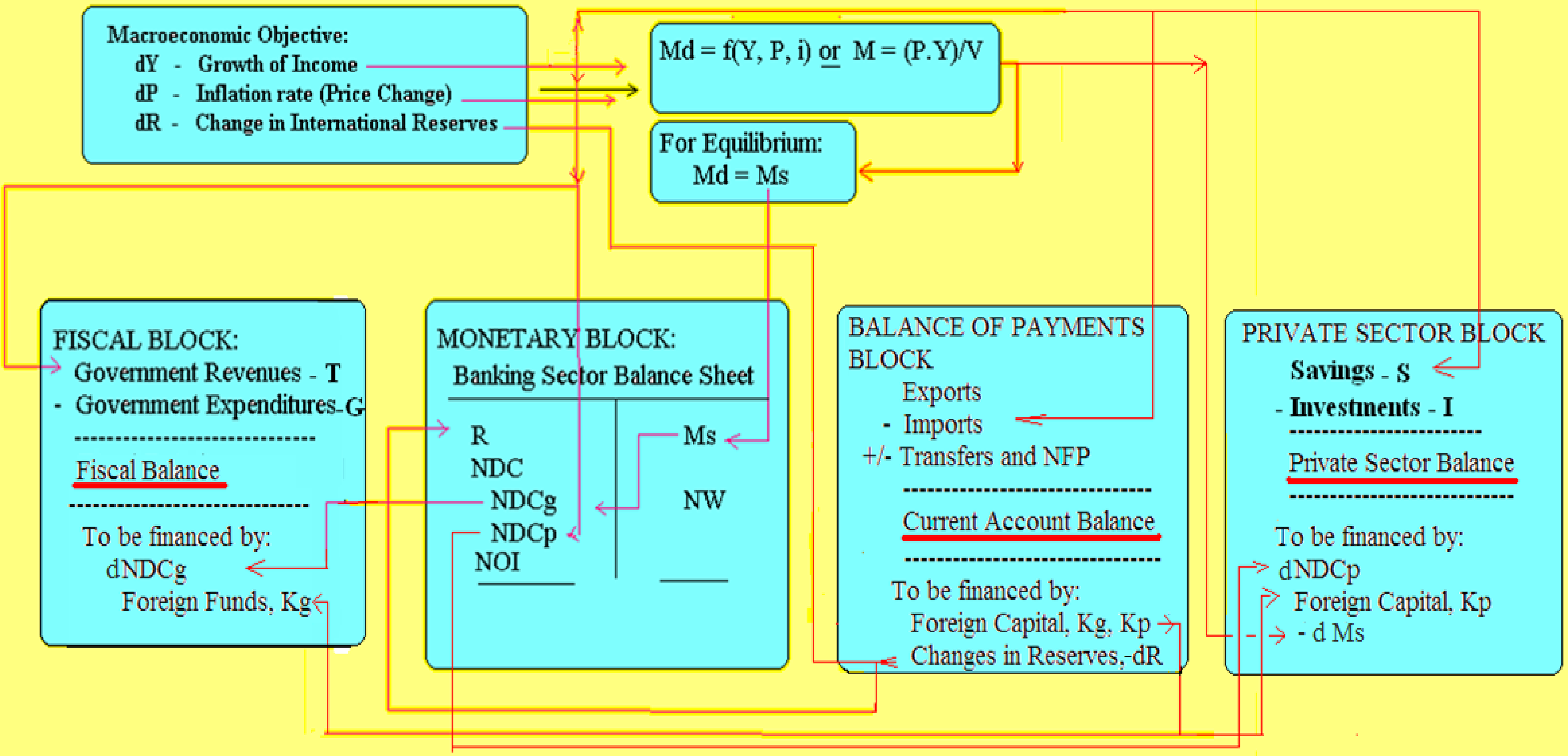
Outline

I. The Subprime Crisis in Developed Countries
- Raising Demand for Housing
- Financing the Housing Boom: Securitization
- The Outset of the Crisis

II. The Subprimne Crisis in Emerging Markets
- Better Economic Fundamentals
- Prompt International Support

III. Responses of the Crisis: Dependent of debt levels
- Responses in Countries with Low Foreign Debt
- Responses in Countries with High Foreign Debt

RMSM+X Model



For the economy to be in equilibrium:

1. **Money supply should not exceed money demand. Otherwise the inflation rate will be higher than dP**
2. **The Fiscal Deficit can not exceed the amount financed by NDCg and Kg**
3. **The Private Sector Deficit can not exceed the amount financed by NDCp, Kp and dMs**
4. **The Current Account Deficit can not exceed amounts financed by K and dR**

These four relations implies that the national identities hold: AD= AS= Y= C+I+G+X-J= C+S+T-TR ; ⇒

(X - J + TR) = (S - I) + (T - G)

CAB = PSB + FBB

(Kg+Kp-dR)=(dNDCp+Kp-dMs)+(dNDCg+Kg)

dMs = dNDC + dR

The IMF Performance criteria include: (i) Maximum size of the fiscal deficit;

(ii) Ceiling on public sector borrowings;

(iii) Minimun international reserves of three months of imports

The Subprime Crisis in Developed Countries

Causes of the Crisis

The crisis had its origins in (i) low interest rates with excessive bank liquidity/credit; (ii) large US current account deficits (-5% GDP for 10 yrs), with excessive foreign borrowings; (iii) pressures by the US government to increase mortgage lending to low income borrowers; and (iv) loose regulations of non-bank financial firms.

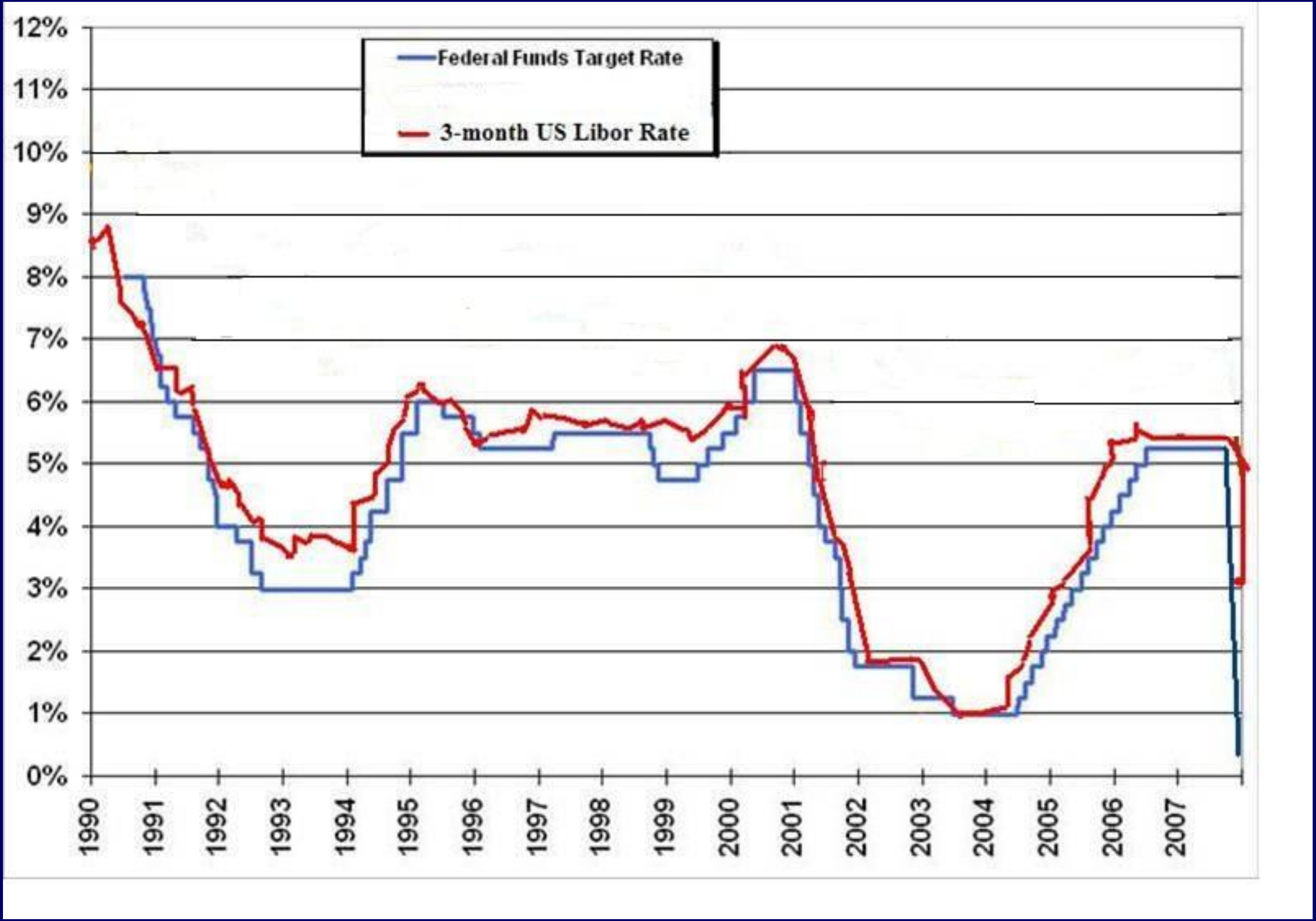
(i) In 2001-2006, following the dot-com crisis, the Fed implemented loose monetary policy with low interest rates (targeting a Federal Funds Rate of 1% in 2003/2004) to stimulated investments and growth. But this led to excessive bank liquidity and strong pressures to increase bank credit and lending.

(ii) Excessive credit and low savings led to excessive current account deficits, which were financed with borrowings by the US Government, corporations and households principally from Asia (particularly China which hold over $1 trillion of US securities). Personal, corporate and government debt increased from 220% of GDP in 2000 to 300% of GDP in 2012 (150% in 1980.)

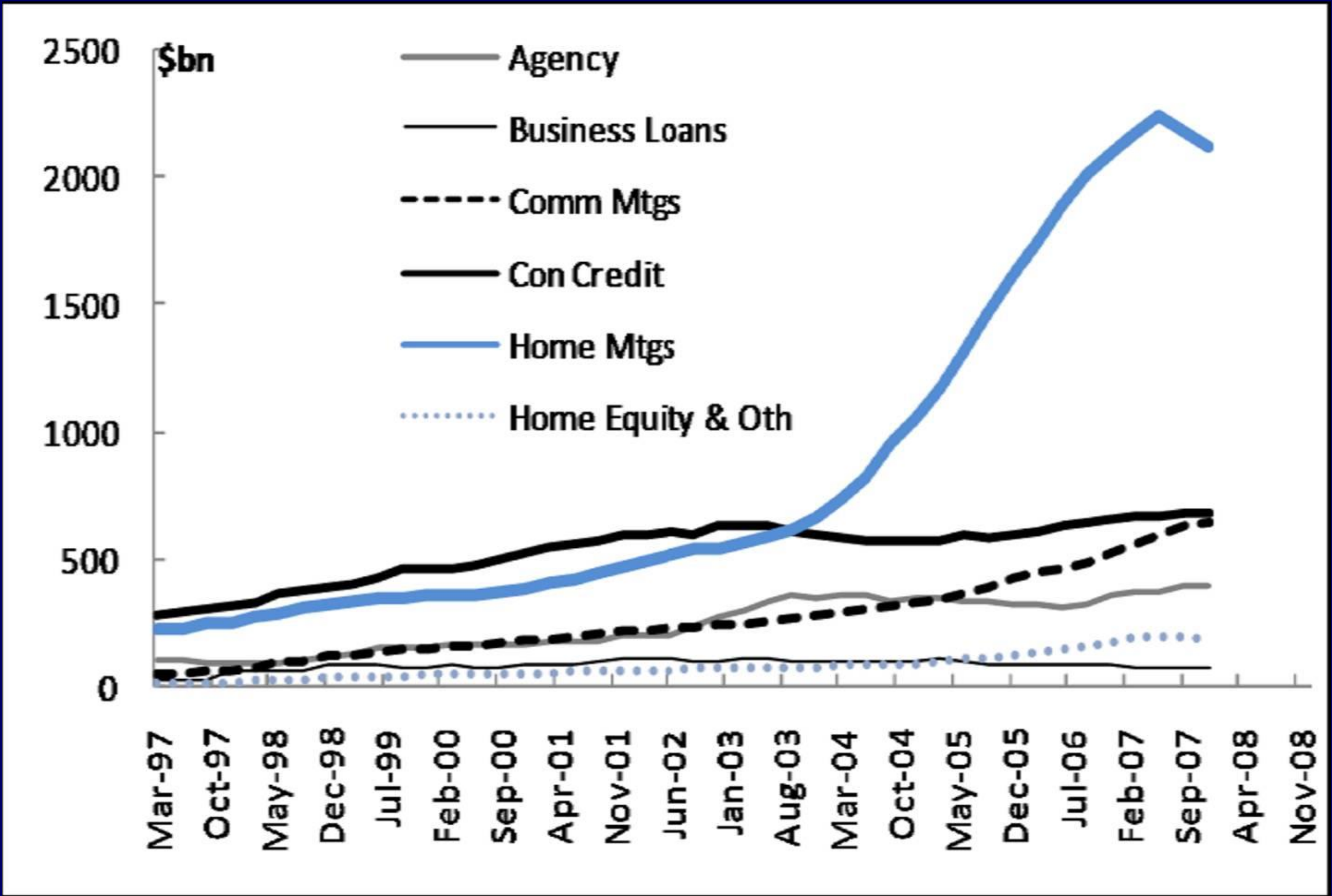
(iii) Since 2000, the US government put pressure on Government-sponsored mortgage enterprises (Fannie Mae and Freddie Mac) to relaxed mortgage credit requirements to increase loans to low-income borrowers. Tthe US Department of Housing dictated these agencies to maintain a 50% portion of their portfolios in loans to low and moderate-income borrowers.

(iv) The removal of the Glass-Steagall Act in 1999 led commercial banks to take investment bank functions, which led to risky underwriting and trading of securities, un-sound lending practices, and excessive leveraging and risk-taking.

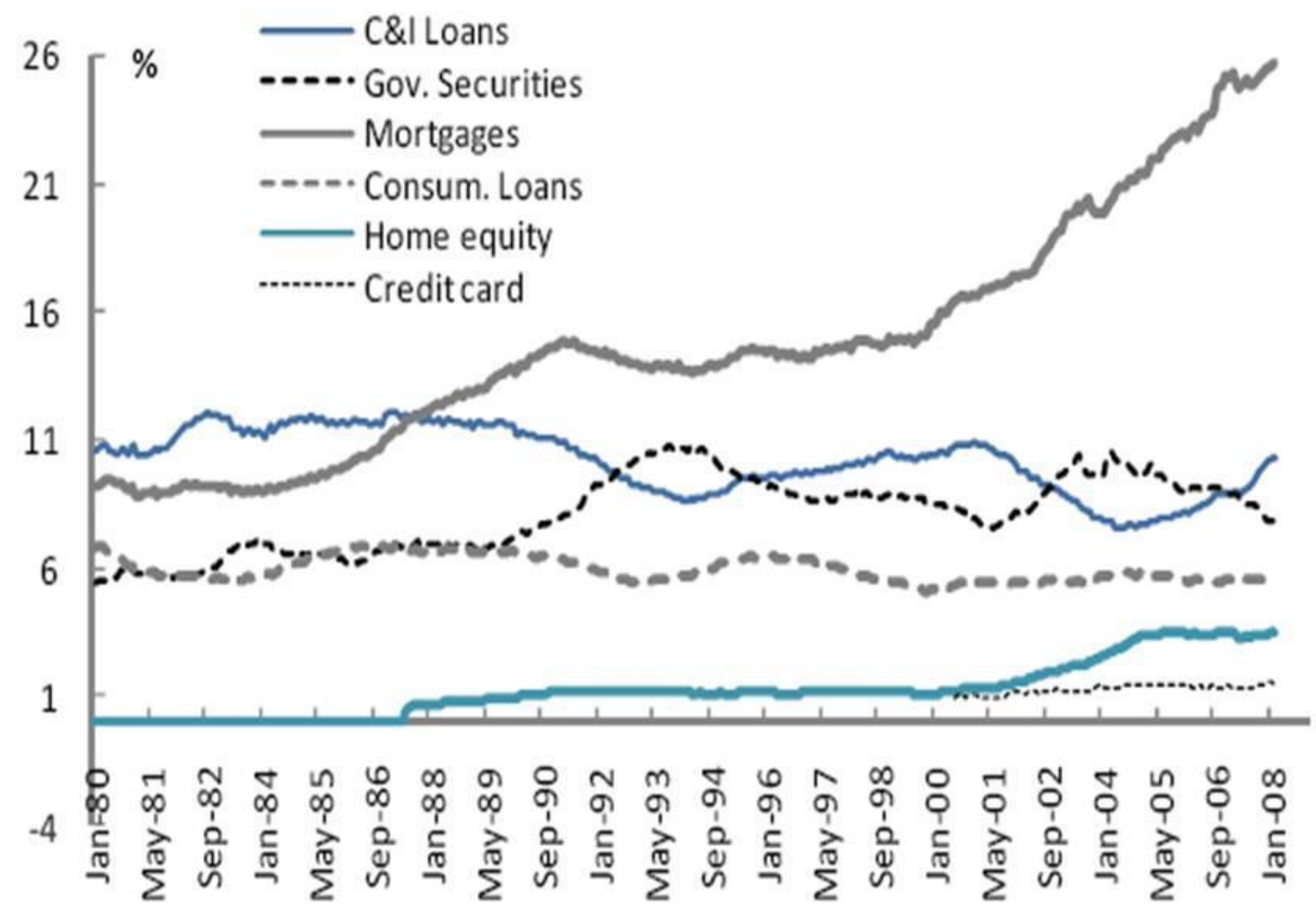
- The FED reduced Interest Rates for US funds from 2001 to 2005



US Securitized Private Assets in Banks – in US$ bn



US Commercial Bank Assets, as Percent of GDP



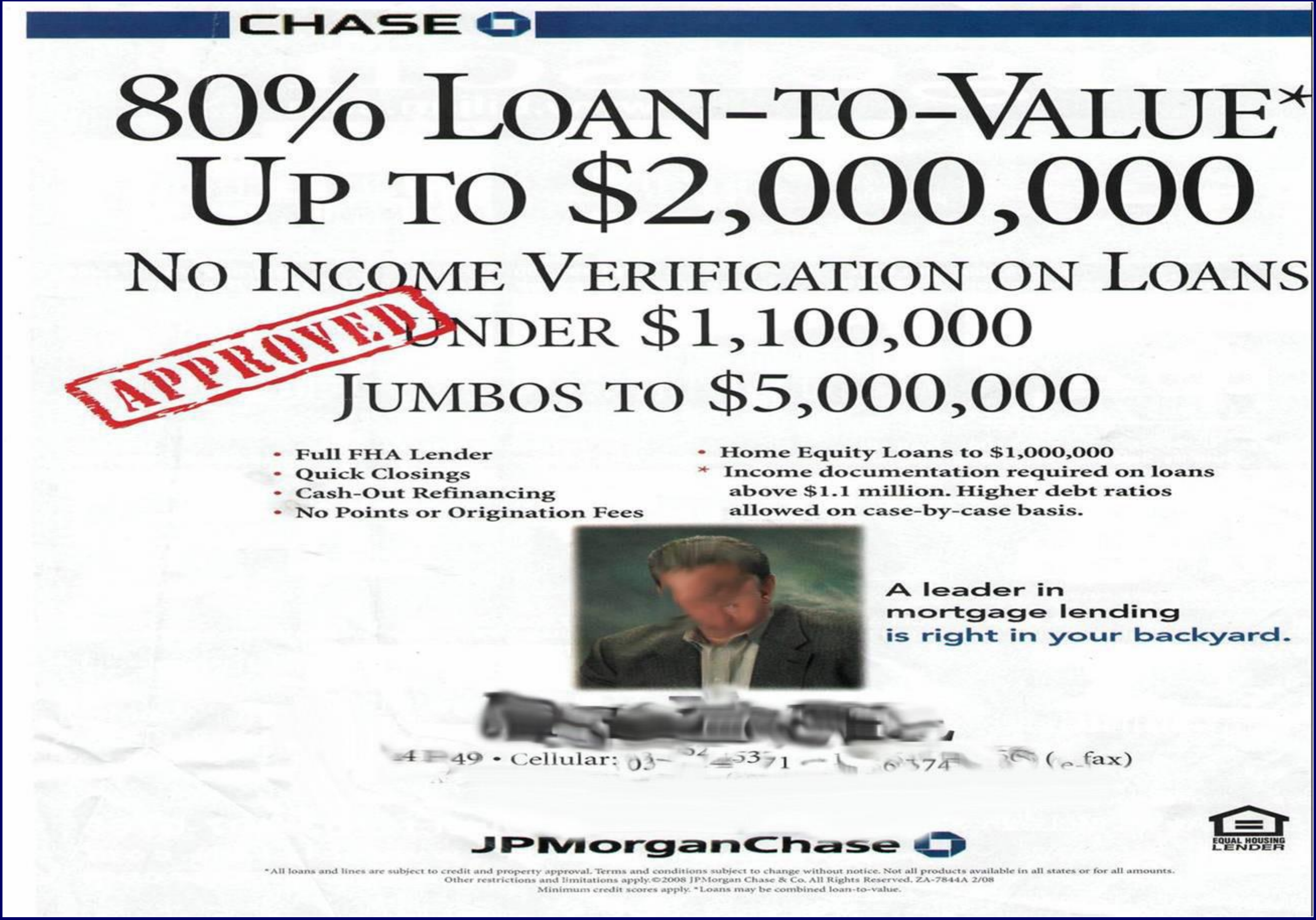
Source. OECD, Datastream.

Rising Demand for Purchases of Houses

With plenty of money, banks wanted to increase housing demand by attracting new home buyers. Many banks decided to make mortgage loans to un-creditworthy buyers, on the believe that house prices will always increase: the houses could always be repossessed and the loans recovered.

- In late 2008, about 30% of all mortgages were "subprime" (for borrowers with low incomes and assets, who did not meet the usual "prime" criteria for borrowing at the lowest prevailing market interest rate).
- To make them affordable, these subprime mortgages had little or no down-payments, had adjustable rates (low initial rates to be increased later on), had capitalized payments over a grace period.
- In addition, mortgage providers lowered their lending standards, granting "NINJA" loans to borrowers with "**N**o **I**ncome, **N**o **J**ob or **A**ssets". These loans were granted without "income verification" (just accepting what borrowers "declared"- they were called liars' loans).
- This increase in demand fueled rising house prices: during the two decades ending in 2001, the national median home price ranged 2.9 - 3.1 times median household income. This ratio rose to 4.6 in 2006.
- Household debt grew from $705 billion at year-end 1974 (60% of disposable personal income) to $7.4 trillion at yearend 2000, and finally to $14.5 trillion in midyear 2008 (134% of disposable personal income).
- All these developments led to a boom in lending for housing and a boom in house building; but also to a surplus of unsold homes.

Liars' Loans: Loans without Income Verification



Wall Street Journal: Causes of the Crisis

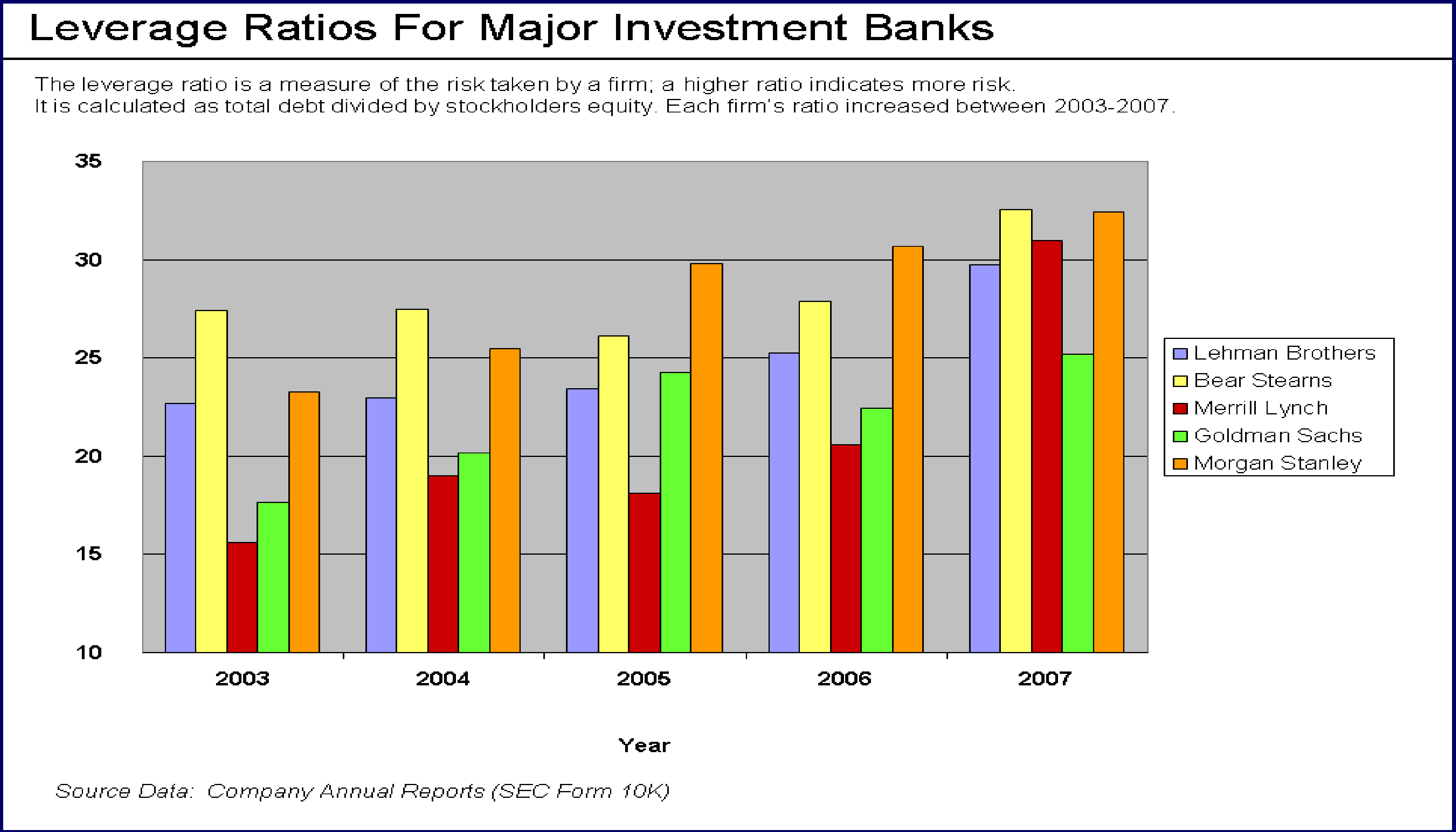
- ***AVONDALE, Arizona. -- The story of this shack on West Hopi Street is the story of this year's financial panic. It helps explain how a series of bad decisions can add up to the worst financial crisis since the Great Depression.***
- ***The little house rests on a few pieces of wood and a concrete block. The exterior walls, ravaged by dry rot, bend to the touch. The condemnation notice stapled to the wall says: "Unfit for human occupancy."***

- ***The house was bought for $3,500 a few years ago. But less than two years ago, Integrity Funding LLC, a local lender appraised the house at $130,000 and gave a $103,000 mortgage to the owner, an unemployed woman with a long list of creditors and, by her own account, a long history of drug and alcohol abuse.***
- ***By the time the house went into foreclosure in August 2008, Integrity had sold that loan to Wells Fargo & Co., which had sold it to a U.S. unit of HSBC Holdings PLC of the UK, which had packaged it with thousands of other mortgages and sold it in pieces (some pieces rated AAA) to scores of investors.***
- ***Today, those investors will be lucky to get $15,000 back. And that's only because the neighbors bought the house a few days ago, just to tear it down.***

Financing the Housing Boom

- The boom in real estate prices was exacerbated by the ability of banks to exploit loopholes in the regulations for capital requirement.
- These loopholes allowed banks to increase their lending and loan to equity ratios without increasing their formal capital requirements.
- They did so by moving loans off-balance sheet into "Special Purpose Vehicles" (SPV): this is, subsidiaries that did not raise deposits from the public and therefore were subject to lower capital standards.
- These SPVs funded themselves not with deposits, but with short-term funds and in the wholesale markets (e.g., through asset-backed commercial paper), without the backing of adequate capital.
- These SPVs were used to invest in risky and illiquid assets (such as low-quality mortgages and mortgage derivatives).
- The growing importance of this shadow banking system highly dependent on short term funding, combined with lax regulatory oversight, were key contributors to the bubble in housing prices.

- Investment banks, which did not raise funds through deposits from the public, borrowed heavily and had very high debt to equity ratios.
- These borrowed funds contributed to the housing bubble



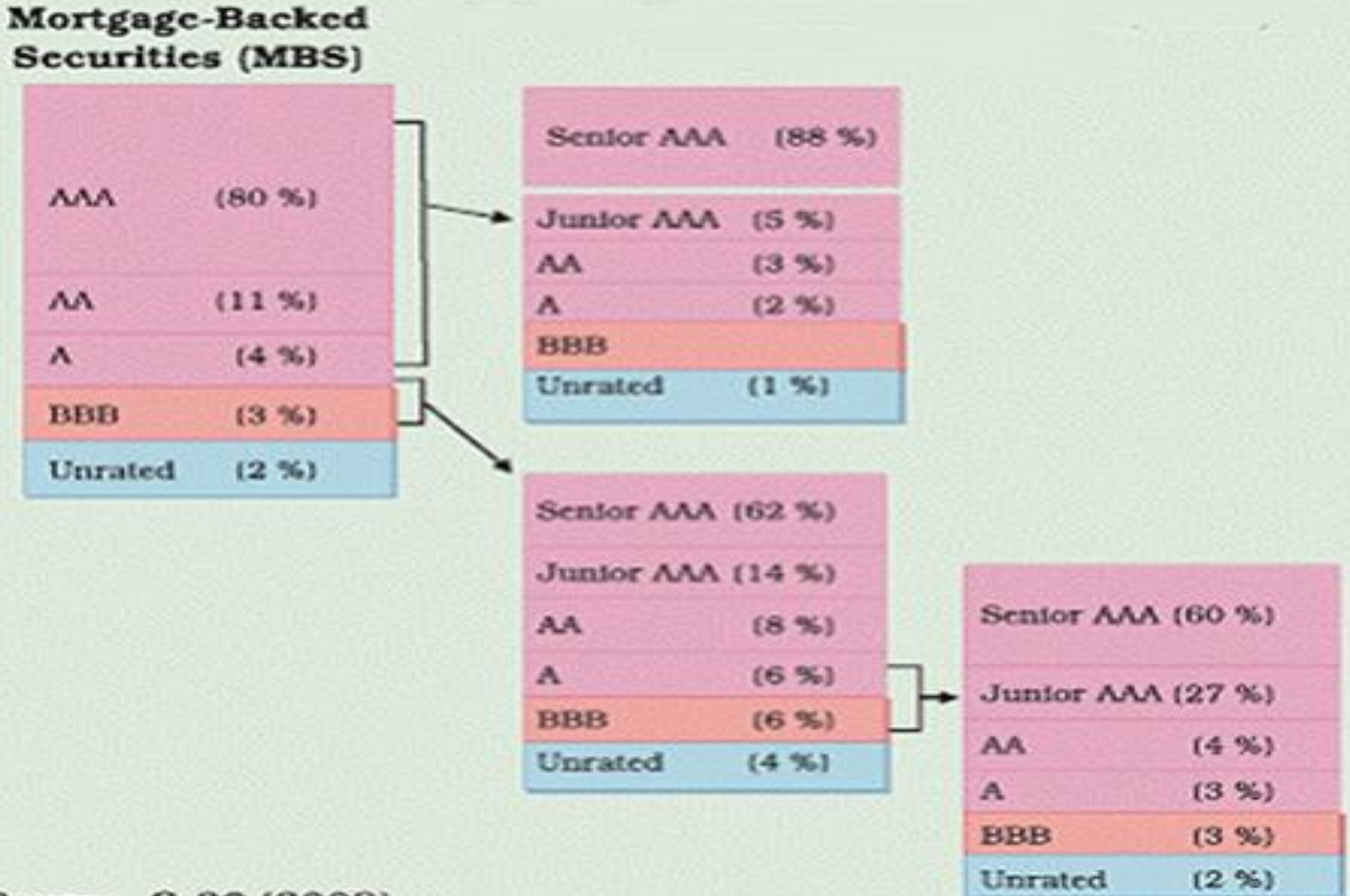
…..Financing the Housing Boom

- Higher asset prices led to a leverage cycle by which increases in home values allowed banks to further increase their debt.
- The rise in asset prices decreased “value at risk” as measured by financial institutions, creating spare capacity in their balance sheets to increase leverage and supply more credit.
- A similar mechanism took place in the household sector, as perceived household wealth increased due to rising home values. Easy access to the equity accumulated in their homes led households to increase their leverage substantially.
- It was estimated that the average homeowner extracted 25 to 30 cents for every dollar increase in home equity to be used in real outlays.
- The asset price boom was further fueled by an explosion of subprime mortgage credit in the United States, which were used to raise further financing through “Securitization”.

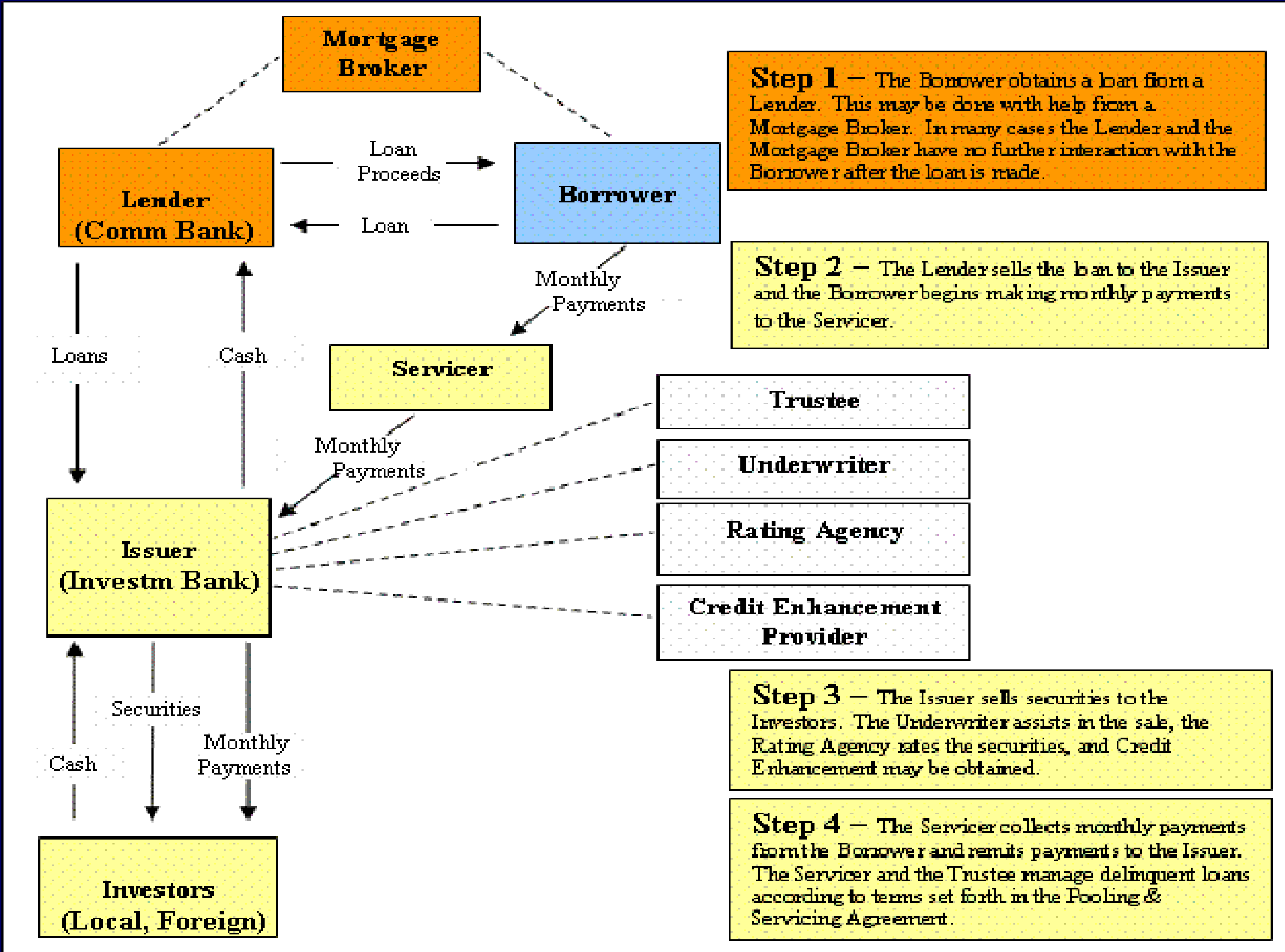
…..Financing the Housing Boom

- **Securitization** processes were used to sell poor-quality house mortgages.
- Under securitization, a diversified package of mortgages was used as collateral for a new “security” which could then be sold to investors.
- The collateral consisted of the mortgages given as guarantees (MBS- Mortgage-Backed Securities, CDO- Collateralized Debt Obligations).
- Investment banks bought mortgages from commercial banks, issued CDOs and sold them through private placements to “qualified” investors.
- To target different investors, CDOs were divided and sold in three “risk layers” with different interest rates: senior tranche (rated AAA with lower coupons), mezzanine tranche (rated AA-BB), and equity tranche (unrated).
- The senior tranches would be paid first; then those holding the second tranches would be paid, and the investment banks would retain the equity tranches, which would be re-securitized and repacked into new “tranched” CDOs (with AAA to BB ratings, called CDO-Squared, cubed) and sold.
- Many CDOs were enhanced by over-collateralization (pledging collateral in excess of debt) and by credit default insurance issued by third parties.
- Banks placed most of the CDOs they originated or purchased into off-balance sheet entities (special purpose vehicles- SPVs) to move the debt "off the books" and circumvent capital requirements.
- Through these processes, a good portion of the default risk was transferred to the final investors, with the US intermediary banks taking a “spread”.
- About 50% of these “toxic” assets were sold to European banks/investors.

Structured Finance Products: Matryoshka 'Russian Doll' Structure



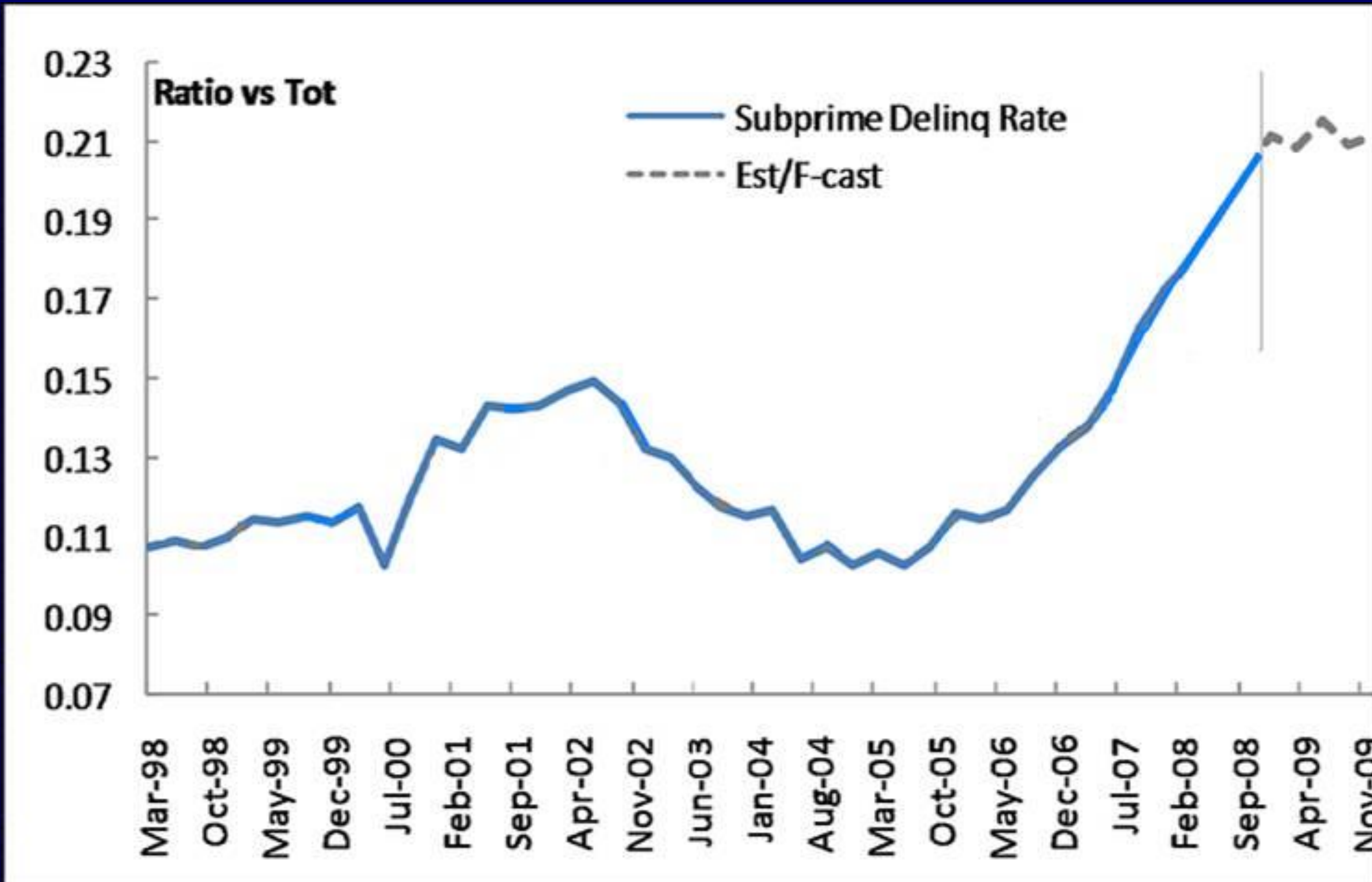
Source: G-20 (2008).

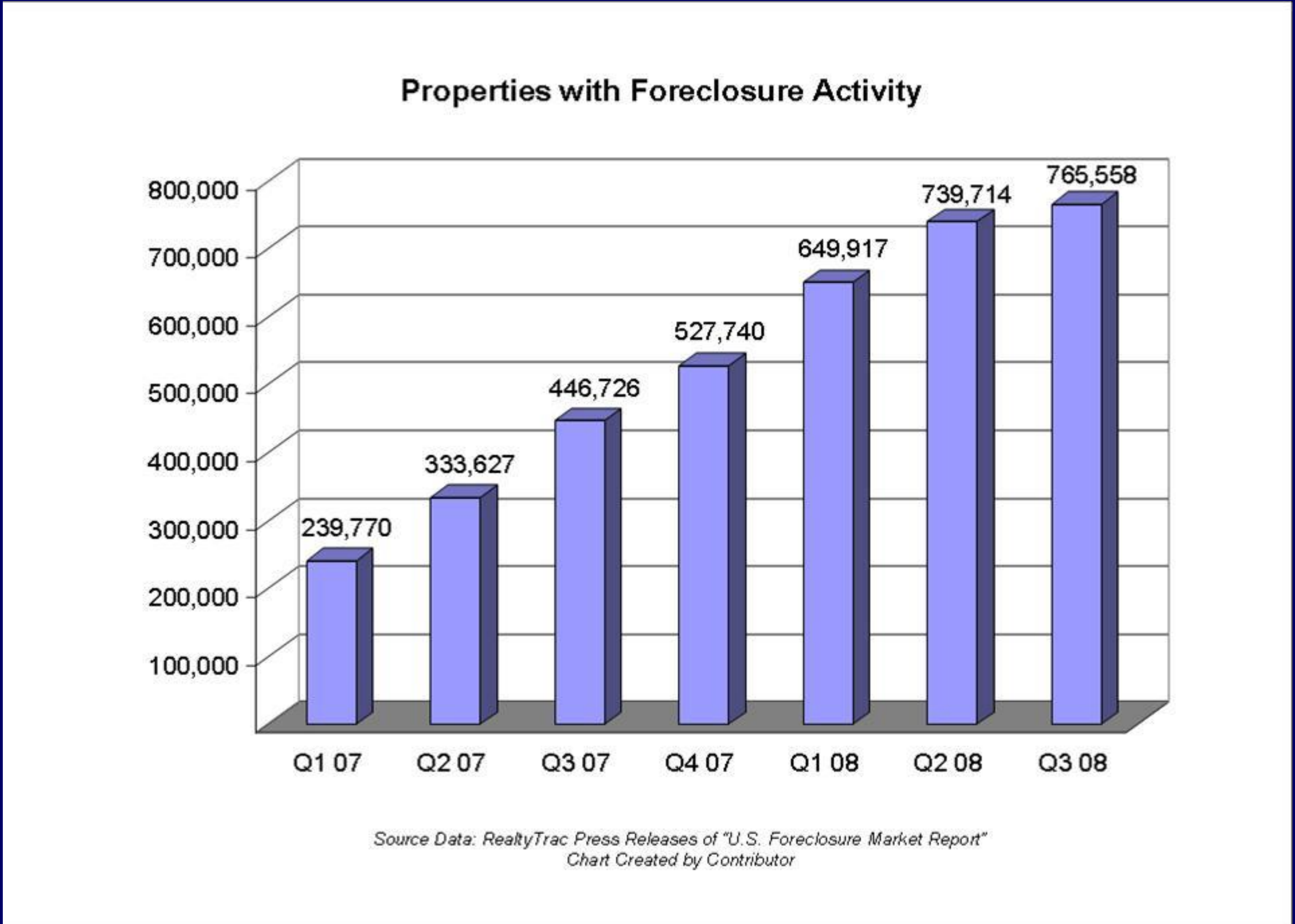

Mortgage Broker
Lender (Comm Bank)
Loan Proceeds
Loan
Borrower
Monthly Payments
Loans
Cash
Servicer
Monthly Payments
Trustee
Underwriter
Rating Agency
Credit Enhancement Provider
Issuer (Investm Bank)
Securities
Cash
Monthly Payments
Investors (Local, Foreign)
Step 1 – The Borrower obtains a loan from a Lender. This may be done with help from a Mortgage Broker. In many cases the Lender and the Mortgage Broker have no further interaction with the Borrower after the loan is made.
Step 2 – The Lender sells the loan to the Issuer and the Borrower begins making monthly payments to the Servicer.
Step 3 – The Issuer sells securities to the Investors. The Underwriter assists in the sale, the Rating Agency rates the securities, and Credit Enhancement may be obtained.
Step 4 – The Servicer collects monthly payments from the Borrower and remits payments to the Issuer. The Servicer and the Trustee manage delinquent loans according to terms set forth in the Pooling & Servicing Agreement.

The Outset of the Crisis

- In 2006, US interest rates grew from 1% to 5.4% and many of the sub-prime borrowers could not repay their mortgages.
- This led to a dramatic rise in sub-prime mortgage delinquencies (to about 18%) and foreclosures (2-3% of mortgages) in the US.
- The number of new homes sold in 2007 was 26.4% less than in 2006.
- In 2007, these developments and a surplus of unsold houses led to declines in home prices, both for sub-prime and prime houses.
- By September 2008, average U.S. housing prices had declined by over 20% from their mid-2006 peak.
- This major and unexpected decline in house prices meant that many borrowers have zero or negative equity in their homes, meaning their homes were worth less than their mortgages.
- As of November 2008, an estimated 12 million borrowers — 15% of all homeowners — had negative equity in their homes.
- Borrowers in this situation had an incentive to "walk away" from their mortgages and abandon their homes, even though doing so will damage their credit rating for a number of years.

US Sub-Prime Delinquencies Rates





Properties with Foreclosure Activity
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
239,770
333,627
446,726
527,740
649,917
739,714
765,558
Q1 07
Q2 07
Q3 07
Q4 07
Q1 08
Q2 08
Q3 08
Source Data: RealtyTrac Press Releases of "U.S. Foreclosure Market Report"
Chart Created by Contributor

- The incentive to “walk away” was intensified by the fact that 40% of the houses bought in 2005-06 were for investment (not living) purposes.
- With house prices declining, delinquencies increased even faster.
- As a consequence, securities backed by subprime mortgages, widely held by financial firms, lost most of their value.
- The result was a large decline in the equity of many banks and USA government-sponsored housing institutions, leading to “de-leveraging” (sale of assets/liabilities to meet required capital adequacy ratios).
- Investment and mortgage banks with large holdings of securitized mortgages failed, starting with New Century Financial, UK (bankrupt, Apr 2007)
- This was followed by difficulties in **BNP Paribas’ mortgage funds (which were recued by ECB’s $130 bn loan, Aug 2007).**
- Other bank failures included Northern Rock (which was nationalized by UK, Feb 2008), Bear Stearns (sold to JPMorgan, Mar 2008), IndyMac Mortgage US (bankrupt in July 2008).
- But the major shock to the world’s financial sector was the bankruptcy of **Lehman Brothers (bankrupt in Sept 2008).**

- The bankruptcy of Lehman Brothers in Sept 2008 was a key event.
- It triggered further panic that spread the credit crunch in the US and Western Europe to a tightening of credit around the world.
- It led to a further collapses of stock exchange markets, and to recession in most countries of the world.
- Other major bank failures followed:
  - Freddie Mac and Fannie Mae (nationalized by US, Sept 2008),
  - Wachovia (sold to Wells Fargo, Sept 2008),
  - Merrill Lynch (sold to Bank of America, Sep 2008),
  - AIG Insurance (nationalized by the US, Sept 2008),
  - Washington Mutual (sold to JPMorgan, Sept 2008),
  - Fortis (nationalized by Belgium & Holland, Sept 2008),
  - Royal Bank of Scotland (nationalized by UK, Oct 2008).
  - Morgan Stanley & Goldman Sachs ceased to be investment banks and become commercial banks (Sept 2008)
- All banks around the world suffered major losses.

The Subprime Crises in Emerging Markets [1/]

- The International Crisis affected many EMs hard, with the average rate of growth of GDP dropping from 7.5% in 2007 to 0.8% pa in 2009.
- But even in 2009, most EMs had positive rates of growth, whereas Developed Economies had recessions with negative rates of growth for over 3 quarters.

Real GDP Growth	**2007**	**2008**	**2009**	**2010**	**2011(f)**	**2012(f)**
Global	3.4	1.5	-2.5	3.8	3.4	3.5
Developed Economies	2.4	0.7	-3.4	2.6	2.4	2.5
Emerging Economies	7.5	4.9	0.8	7.0	5.9	6.0

Source: JP Morgan; EM Outlook and Strategy; Jan 2011, July 2009, Nov. 2008

1/ ***A Stability Pact à la Maastricht for Emerging Markets***; Alejandro Izquierdo and Ernesto Talvi, IADB, 12 December 2009

- But the good average economic performance of EMs conceals major differences in GDP performance across regions.

- Whereas CIS and Central/Eastern Europe had highly negative rates in 2008, Asia and ME/Africa, enjoyed high rates.
- Even within Latin American, some countries did well, with Peru, Colombia, Uruguay, Argentina and Central America showing positive rates of growth in 2009.
- Furthermore, despite its global nature and severity, the current crisis dealt a much smaller blow to emerging markets than its two predecessors, the 1997-8 financial crises.

GDP %	2008	2009	2010
Central/East Europe	3.0	-3.6	3.7
CIS	5.3	-6.5	4.3
Emerg Asia	7.7	6.9	9.4
Latin Amer	4.3	-1.7	5.7
ME/Nth Afr	5.0	2.0	4.1
Sub-Sha Afr	5.5	2.6	5.0

- The first explanation for the lower severity of this crisis for EMs is that they had stronger economic fundamentals (lower fiscal and current account deficits and lower inflation) and thus were better positioned to resist the storm in international financial markets.
- Although stronger economic fundamentals in EMs are part of the explanation, studies have shown that the readiness of the international community – bilateral as well as multilateral financial institutions -- to provide lender of last resort facilities played a key role.

- If emerging market credit ratings are used as a proxy for EM economic fundamentals, it is clear that fundamentals are stronger now.
- On the eve of the Lehman debacle emerging markets had an average rating of BB+ (closer to investment grade levels), whereas they scored an average rating of BB- on the eve of the 1988 Russian crisis (thus lingering closer to the high-credit-risk category).
- Furthermore, if EMs are divided into two categories depending on their ratings, we see that those EMs with better fundaments did much better that the others during the crisis.
- This explains why CIS countries did poorly. They were already vulnerable.
- Fundamentals were relevant, but they do not tell the whole story.
- A second explanation for the differences in in severity in this crisis is related to the readiness of the international community to provide financial support to emerging markets facing liquidity problems.
- The international financial community displayed early on a predisposition to act swiftly as international lender of last resort for emerging markets, providing timely, unconditional, preventive, and sizeable assistance.
- The earliest indication came in April 2008, when Japan announced liquidity swap lines for Indonesia (and for India two months later).

- Shortly after the Lehman downfall, the US Fed offered swap lines for systemically relevant countries such as Brazil, Korea, Mexico, and Singapore, and the IMF launched a short-term liquidity facility.
- In April 2009, the G20 decided to triple the resources of the IMF and the IMF launched its flexible credit line to assist unconditionally and at longer maturities countries with sound policies facing liquidity problems.
- In contrast, during the 1988 crisis, support by the international agencies was slow, conditional, curative rather than preventive, and smaller.
- To assess the impact of access to international lender of last resort facilities on EM's bond spreads, a recent study looked at two groups of countries.
- The first group includes emerging markets that were not expected to have access to international lender of last resort facilities during the current crisis, namely Argentina, Venezuela, and Ecuador.
- To control for fundamentals, the second group includes countries with the same credit ratings but access to international lenders of last resort.
- As expected, countries with no access to international lender of last resort facilities had much larger spread spikes in their bonds.
- In any event, as a group, EMs are now fully recorering from the crisis and are expected to growth at a healthy pace in the next few years.

Responses to the Crisis

- **Both Developed Countries and Developing Countries responded to the crisis depending on their levels of foreign debt:**
- **Developed and Developing countries with low debt, as well as the US,** were more concerned with reviving growth and reducing unemployment.
- They were less concerned with the effects of exchange rate devaluations, since foreign debt service was low due to their low foreign debt.
- Therefore, countries with low debt gave priority to:
  1. Re-capitalize banks to **revive credit operations** of the banks to allow them to expand private sector credit and production growth.
  2. Implement **loose monetary policies and low** interest rates to encourage investments and revive growth.
  3. Provide **fiscal stimulus** to revive the economy through tax reductions & public investments, despite the risk of large fiscal deficits and increase in public debt (again denominated in their own currencies).
- These policies could generate future inflation, but this a risk would be faced only in a future that at this time appeared quite distant.

Concrete Measures Taken by the US

- The US dealt with the crisis with a combination of measures:

1. **Revive Bank Credit Operations by Providing Liquidity support to "systemic" financial institutions.**
    - In December 2007, the Fed established a Term Auction Facility to provide short-term loans to banks against collateral. It increased the monthly amount of these auctions from $20 billion at inception to $300 billion by November 2008. A total of $1.6 trillion in loans to banks were made for various types of collateral by November 2008.
    - In October 2008, the Fed expanded the collateral it will lend against to include commercial paper, to help address continued liquidity concerns. By November 2008, the Fed had purchased $271 billion of such paper, out of a program limit of $1.4 trillion.
    - In November 2008, the Fed announced the $200 billion Term Asset-Backed Securities Loan Facility (TALF). This program supported the issuance of asset-backed securities (ABS) collateralized by loans related to autos, credit cards, education, and small businesses.
    - In November 2008, the Fed announced a $600 billion program to purchase the MBS of Fannie Mae and Freddie Mac, to help lower mortgage rates turning the fed into a direct lender to consumers).

- **The Fed financed all these programs by borrowing from the US**:
  Fed loans to the private sector were financed by funds provided by the US Treasury from its sale of new US Treasury bills under a Treasury Supplementary Financing Account.
- The Fed balance-sheet balloned from $900 billion in Aug 2008 to about $2.2 trillion in Dec 2008 and will grow to $3.0 trillion during 2009.
- In July 2008, the Fed approved new rules for mortgage lenders to improve lending practices, requiring lenders to verify that borrowers actually have the income & assets to service debt; and baring misleading advertising practices including using the word "fixed" to describe mortgages whose rate will change over the course of the loan.

2. Implement Loose Monetary Policies

- The Fed lowered the target rate for the Federal funds rate (the US interbank rate) from 5.25% to 0%-0.25%. This took place in six steps between 18 September 2007 and December 2008.
- This target rate was made effective through open market operations of the New York Fed (with the Fed buying government securities from banks) to ensure that member banks remain liquid and do lower their interbank rates.
- The Fed has also lowered the interest rates (the discount rate) it charges to member banks for short-term loans from 5.75% to 0.50% .

3. Provide Fiscal Stimulus Programs

- On 13 February 2008, President Bush signed into law an economic stimulus package (the Economic Stimulus Act of 2008) costing $168 billion, mainly taking the form of income tax rebates mailed directly to taxpayers.
- In July 2008, Congress approved the Housing and Economic Recovery Act of 2008 which included six separate laws intended to restore confidence in the mortgage industry. The Act:
  - Insures $300 billion in mortgages, assisting 400,000 borrowers;
  - Creates a new Federal regulator to ensure the safe and sound operation of Government-Sponsored Enterprises (GSE- Fannie Mae and Freddie Mac) and Federal Home Loan Banks;
  - Raises the ceiling on the dollar value of the mortgages that GSEs may purchase;
  - Lends money to mortgage bankers to help them refinance mortgages of owner-occupants at risk of foreclosure. The lender reduces the amount of the mortgage (typically taking a significant loss), in exchange for sharing in any future appreciation in the selling price of the house via the Federal Housing Administration. The refinancing must have fixed payments for 30 years;
  - Requires that lenders disclose more information about the products they offer and the deals they close;
  - Helps local governments buy and renovate foreclosed properties.

- In October 2008, President Bush signed the Emergency Economic Stabilization Act of 2008 to allow the US Treasury to purchase from financial institutions Collateralized Debt Obligations (CDOs) backed by subprime mortgages.
  - The estimated cost of this plan was $700 billion, of which $350 billion were subject to a mid-term review.
  - In December, the USTreasury concluded that this amount was inadequate to purchase "toxic" assets, as compared to the size of the mortgage market ($10 trillion) and those that were either seriously delinquent or in foreclosure (amounting to over $1.0 trillion).
  - Therefore, the plan to purchase CDOs was abandoned and decided that the funds would be used to re-capitalize troubled institutions.
  - As of December 2008, $165 billion had been provided to 87 banks in exchange for preferred stock and warrants. In addition $40 billion were provided to AIG and $20 billion to Citibank in exchange for preferred shares and warrants.
  - A Congressional Oversight Panel (COP) was created to monitor the implementation of the law. The panel issued its first report on 10 December 2008, which stated that banks cannot be stabilized unless foreclosures are addressed, which is not the case until now.
  - In December, President Bush announced that part of this money will be used to support "critical" sectors, such as the automobile industry.

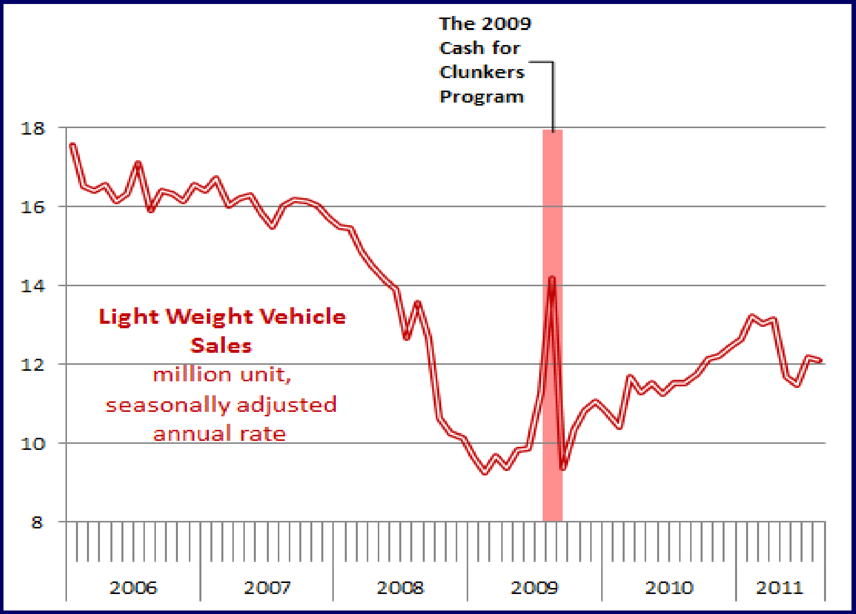
- On Feb 16, 2009 President Obama signed a new fiscal stimulus package, the American Recovery and Reinvestment Plan, that would spend $787 billion over two years to provide tax credits (35%) and implement social and public works (65%), including roads, bridges, energy, education, research, etc.
- Without this program, the 2009 US fiscal budget deficit would have amounted to 8.2% of GDP (a deficit of $1.2 trillion compared to a GDP of $14.6 trillion), and compared to a deficit of 3% of GDP in 2008.
- With the new fiscal stimulus program implemented over two years, the US fiscal budget deficit for 2009 increased to 9% of GDP.
- Fiscal Deficits in 2010 and 2011 remained at about 9-10% of GDP.
- These deficits were almost twice the size of the highest deficit in the US after the WW II -- 6% of GDP incurred in 1983.

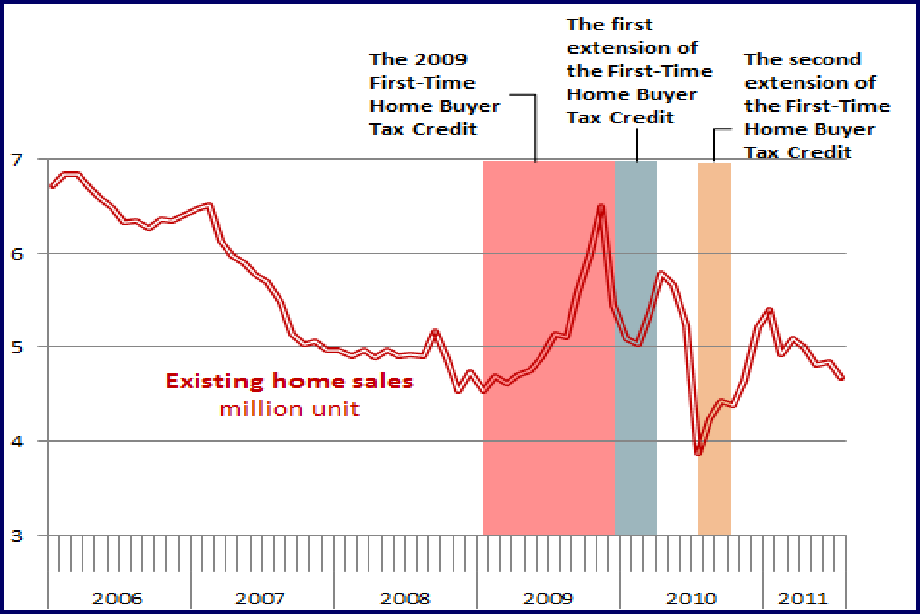
Conclusion:

- Most economists supported the monetary policies implemented in the US and believed that they were effective in minimizing the risk of a depression.
- But many economists (e.g., Taylor of Stanford) argued that the evidence is against the effectiveness of fiscal stimulus and demand-side policies.
- They feel that a stimulus is neutralized by Ricardian effects (people not consuming more due to concerns about higher future taxes) as well as by the increases in government debt and costs due to higher interest rates.
- Furthermore, these fiscal stimulus programs expand bank liquidity and will eventually generate high inflation and a weaker dollar.

Evidence of Failure of Fiscal Stimula

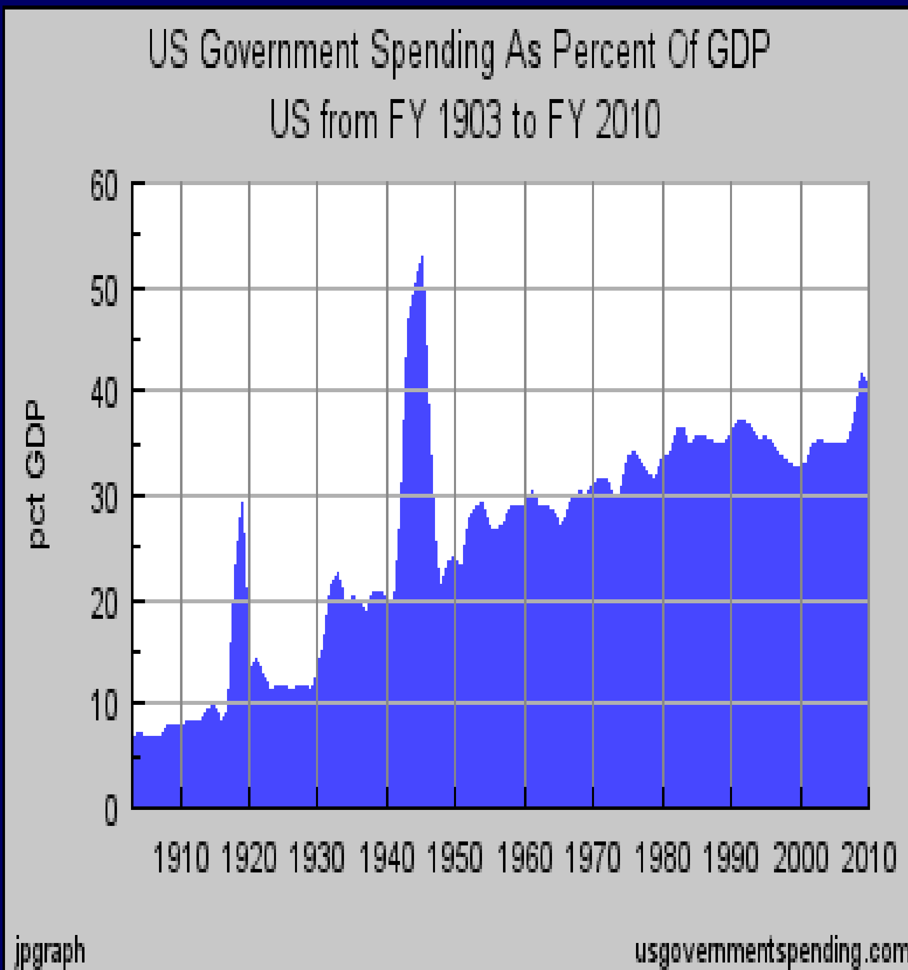
- There is ample evidence that these demand-side programs have failed.
- For example, both the cash-for-clunkers and the first-time home buyer tax credits programs failed to reverse the downtrend of car and home sales (see charts below).

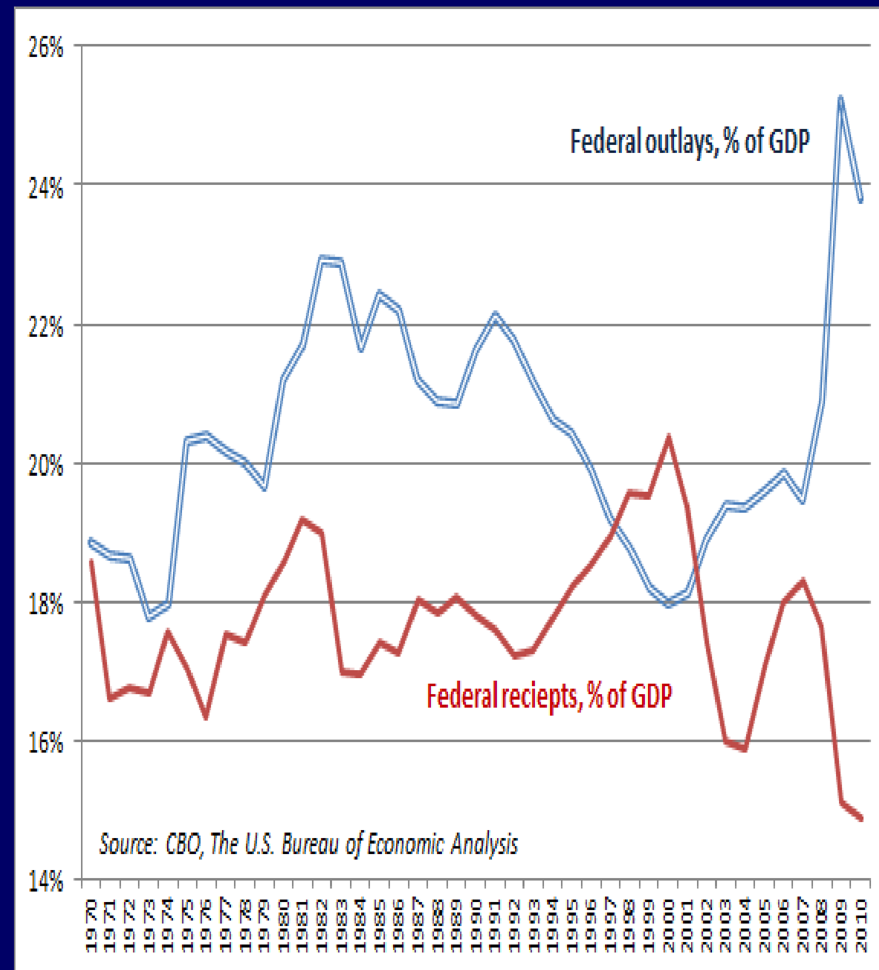




- Recent studies show that fiscal stimulus programs help to revive growth only when the level of public debt is low; but have little impact when the level of public debt and expenditures is too high.

- In the US, public expenditures have been increasing steadily and have become too high, as shown below.
- Furthermore, the gap between expenditures and revenues is widening.





Government Expenditures and Public Debt (2010)

Country	Government Spending %GDP	Public Debt % GDP
Zimbabwe	97.8	241
Cuba	78.1	96
France	52.8	84.2
Belgium	50.0	100.2
Ukraine	47.3	39.5
Greece	46.8	130.2
Germany	43.7	74.3
United States	38.9	92.7
Japan	37.1	225.8
Australia	34.3	21.9
Russia	34.1	11.1
China	20.8	19.1
Hong Kong	18.6	0.7

- Except mainly for Europe, the US has one of the world's highest ratios of Government Spending to GDP.
- It also has one of the highest ratios of public debt to GDP.
- At 93% of GDP, public debt is not sustainable and may increase exponentially, unless the economy were to growth at a high pace.
- To secure sustainable growth, the US must reduce its fiscal deficits and improve its business climate to encourage new investments and growth.

Crisis Response by Countries with High External Debt.

- **Developed and EMs with significant foreign debt** had to avoid widespread bankruptcies for their highly indebted companies. Their priority was to avoid the collapse of foreign exchange rates. For this, they had to maintain confidence of foreign investors to avoid further capital outflows and convince investors to roll-over foreign debt.
- These countries with high external debt gave priority to:
  - Implementing **austerity measures** that would reduce the demand for foreign exchange in order to contain capital outflows, reduce the interest rates on debt, and avoid currency devaluation pressures.
  - To reduce aggregate demand, they: lowered domestic credit (with higher interest rates) and generated fiscal surpluses.
  - Avoid the collapse of the **banking systems** by supporting banks.
  - Secure **official financing** from abroad to maintain the confidence of both local and foreign investors that the country could serve its debt and permit the roll-over of foreign debt.
  - Implement **structural adjustment** programs to revive growth.

Measures Taken by Emerging Countries

- Many countries in the periphery of Europe and most EMs had weak fiscal budget positions and large foreign debts in hard currencies.
- The most typical response of these countries to the crises was to contain the risk of large currency devaluations to avoid bankruptcies for those firms with high foreign debt.
- They implemented a combination of the following measures:

1. **Implement Austerity Measures** for a credible Macroeconomic Stabilization Program to gain back the investors' confidence:
   - This stabilization program aimed at eliminating the fiscal budget and current account deficits through a "real" currency devaluation, "internal" devaluations and other measures that would reduce aggregate demand and thereby reduce imports.
   - The control of aggregate demand required tight monetary policies (increasing interest rates to control credit growth) and tight fiscal policies (to control expenditures, wages and pensions) and achieve a balanced fiscal budget).

2. Implement a Program of Interventions in Troubled Banks:

- Intervention and support of troubled banks was necessary to avoid runs on banks and bank bankruptcies.
- The international experience with bank resolution programs suggested that only banks that can be viable over the mid-term should received government support.
- The resolution of bank troubles requires the implementation of a program to deal with affected bank borrowers, both corporate and households.

3. Secure Substantial Foreign Financial Assistance.

– Financial assistance in foreign exchange and for medium-long term was vital to ensure foreign creditors that the EM government had the resources to serve all of its external short term debts.

– The Governments supported private sector corporations and banks to implement a program to restructure current short term debt.

4. Implement Structural Reforms to Improve the Investment Climate and revive Investments and Growth

- Since the stabilization measures to reduce aggregate demand would reduce GDP growth, the Government Program should also include supply-side measures to improve the business and investment climates to attract foreign investments and revive economic growth.
- SigmaBleyzer's studies show that an EM's investment climate can be significantly improved by the implementation of nine key policy measures that affect expected profits or business risks. These nine key "investment drivers" are:
    1. Secure Domestic and Foreign Macroeconomic Stability
    2. Provide a Stable and Predictable Legal Environment
    3. Liberalize and Deregulate Business Activities
    4. Improve Public Administration, including Taxation
    5. Remove International Capital & Foreign Trade Restrictions
    6. Strengthen corporate governance.
    7. Facilitate Financing of Businesses by the Financial Sector
    8. Prevent and Deal with Corruption
    9. Minimize Political Uncertainties and Improve the Country's International Image