THE U.S MORTGAGE MARKET: THE GOOD, THE BAD AND THE UGLY

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THE U.S. MORTGAGE MARKET: THE GOOD, THE BAD AND THE UGLY

JORDAN ECONOMIC DEVELOPMENT PROGRAM (SABEQ)

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TASK NO. 1.4.1.12.1.1 FORUM TO EDUCATE COMMERCIAL BANKS ON THE INTERNATIONAL MORTGAGE MARKET CRISIS

The U.S. Mortgage Market:
The Good, The Bad, and The Ugly

Warren Coats and Sarah Hargrove
June 22, 2008

What Crisis?
Introduction and Overview

Large Mortgage Loan Losses

- US and European banks declared write-offs of $372 billion
  - Citibank - $43 billion
  - UBS - $38 billion
  - Merrill Lynch - $37 billion
  - HSBC - $20 billion
- AIG posts $13 billion losses first half 2008
- Since last July, 7 of the largest US banks have written off ½ their combined profits since 2004

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Major shake-up in the industry

- CEOs replaced
  - Merrill Lynch
  - Citigroup
  - Bear Stearns
- Bear Stearns fails
- Lehman Brothers replaces CEO and CFO
- Bear Stearns traders arrested for fraud

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Overview of what happened in U.S.

- Big increase in mortgage securitizations
  - 1968 – 40%, 2006 – 77%
- Housing price bubble
  - Average price doubled from 2001 to 2006
- Big increase in non-conforming loans
  - Alt-A, Jumbo, Subprime
  - 2001 : 32% vs. 2006 : 59%
- Bubble pops
  - From June 2006 to March 2008 prices decreased 18%
- Mortgage delinquency & foreclosures sky rock
  - 1Q 2008 + 181 bps Prime, +1,066 bps Subprime
- Financial markets seize up: credit disappears
- Lessons learned

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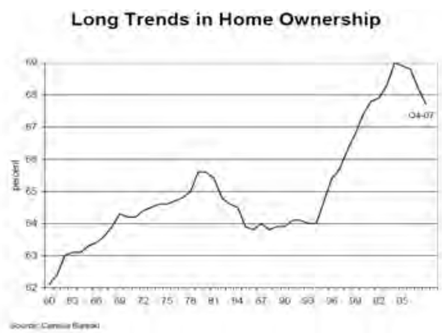
The Good

Growth in Home Ownership



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Home Ownership Elsewhere

- Spain – 85%
- UK – 69%
- France – 55%
- Germany – 42%

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Contributing factors in U.S. - Demand side

- Attractive products
  - 20 to 30 years payback with 80% - 90% LTV
  - Level payments: maximum 33% of income
- Efficient and low risk
  - Low interest rate spread
  - Low transaction costs
- Multiple products tailored to borrowers
- Home equity loans allow homeowners to monetize equity values in houses

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Contributing factors in U.S.- Supply side

- Standardization and Securitization
  - "Conforming" credit worthiness standards and terms
  - Securitization
    - Mortgage backed securities (MBS)
    - Distributes risks
      - Liquidity risk (short-term deposits funding long-term loan)
      - Credit risks (pooled)
    - Fees for originating and servicing
- New breed of mortgage bankers and brokers
- Home equity loans provide adjustable rate secondary liens at higher rates

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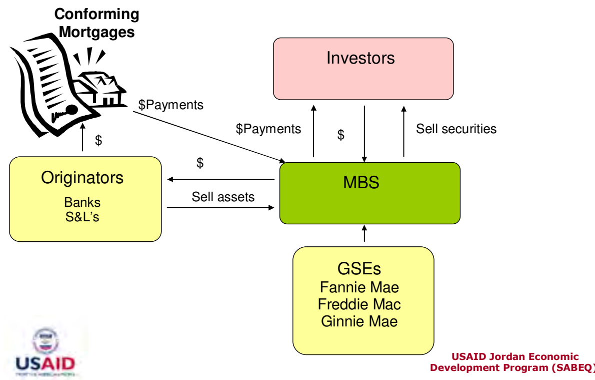
Structured Finance: Plain vanilla agency securitizations



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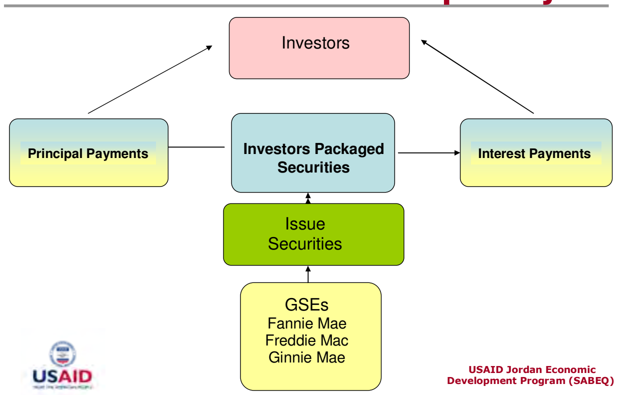
Restructuring of structured finance added additional complexity



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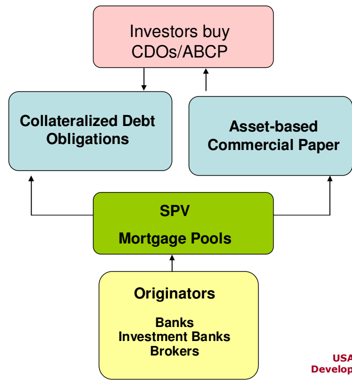
Restructuring of structured finance with CDOs added leverage



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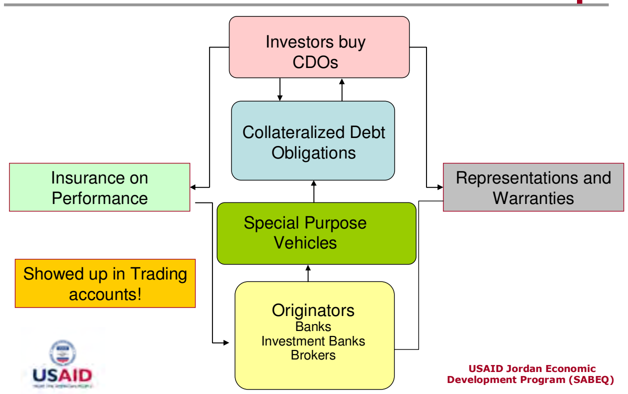
Increased leverage led to credit derivatives: Credit default swaps



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By 2006, huge expansion of mortgage securitizations

- Non-agency origination was more than 45% larger than agency origination
- Non-agency issuance of $1.033 trillion was 14% larger than agency issuance of $905 billion…a combined almost $2 trillion
- Credit default swaps soar to over $45 trillion

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Subprime mortgages became the rage due to higher rates

- Definition: Loans to those with weak credit history or qualifications (FICO < 660)
- Tend to be lower income families (US policy for Freddie and Fannie!)
- Availability of special terms made home ownership a reality
  - No down payment
  - Adjustable rates with early low payments ("teaser rates")
- Historical defaults relatively low < 2%

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The Bad

Housing Price Bubble

- Average annual price increase 2000-2005
  - Los Angeles + 20%
  - Miami + 18%
  - Dallas + 5%
- Ratio home price/income end 2006 (like a P/E multiple for evaluating the stock market)
  - L.A. : 11.4
  - Dallas : 2.7

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Erosion of underwriting standards

- Subprime borrowers
- Adjustable rates
- No down payment
- No or low Doc

Gathering perfect storm

Interest rates low, credit spreads narrow, everyone reaching for yield, and speculation that housing prices will continue to rise!

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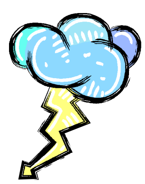
Mortgage loan originations ($millions)

	2001	Share	2006	Share
Agency	1,433	35%	1,040	23%
Jumbo	430	10%	480	11%
Alt-A	60	1%	400	9%
Subprime	190	5%	600	13%
Total	4,114	100%	4,526	100%



Increased supply fed the pipeline for securitizations

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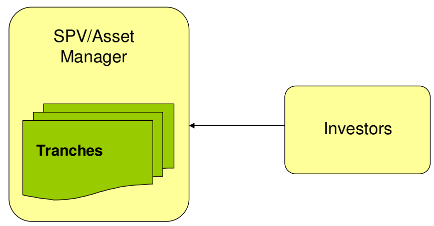
Vulnerabilities: Principal-agent

- Underwriting standards applied
- Assets are as warranted
- Fiduciary standard of care: act in best interests of investors



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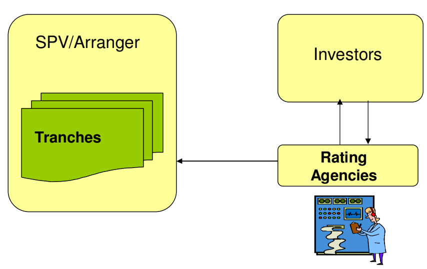
Vulnerabilities: Model error

- CRA paid by arranger
- Reliance on models
- Ratings for structured assets different from corporate bonds
- Valuation problems



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Vulnerabilities: Predatory lending and borrowing (fraud)

Originators

- Misrepresented income
- Unsophisticated
- Overstated appraisals

- Misrepresented risks
- Did not confirm income
- Tailored payments

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Vulnerabilities: Adverse selection

Ancillary
Credit Enhancement
Commercial Paper
Servicing

Arranger and Originator

SPV/Asset Manager

Tranches

Rating Agencies

- Arranger and originator have more information on asset quality
- Lower standards not applied
- Tendency to keep better assets on own books
- Misrepresentation of quality of assets
- Paid by volumes

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Vulnerabilities: Moral hazard

Ancillary
Credit Enhancement
Servicing

SPV/Asset Manager or Servicer

Fees f(outstandings)

- Mortgagor responsible for taxes, insurance and upkeep
- Servicer has interest in keeping asset on books
- Tendency to inflate expenses

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The Ugly

Prices hit with reduced demand and increased supply

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The bubble pops …..

- Housing prices declined 17% from July 2007 to March 2008

2006
Price: $460,000

KB new homes

2008
Price: $271,000

Source: *Fortune*, June 9, 2008

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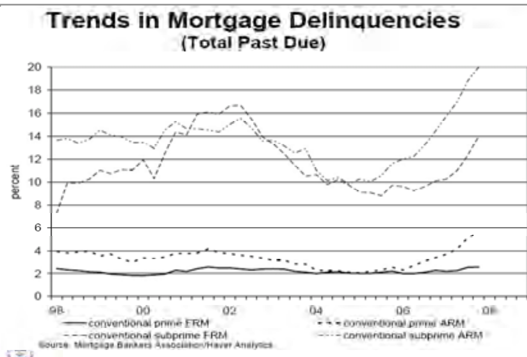
Delinquencies increased



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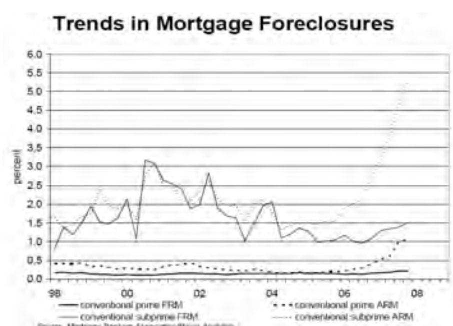
Mortgage foreclosure rates responded



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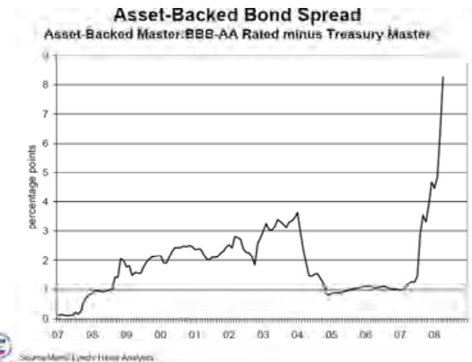
Spreads increased and valuations plummeted



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Foreclosures and revaluations led to bank losses

- US and European banks declared write-offs of $372 billion
  - Citibank - $43 billion
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  - Merrill Lynch - $37 billion
  - HSBC - $20 billion
- Since last July, 7 of the largest US banks have written off ½ their combined profits since 2004

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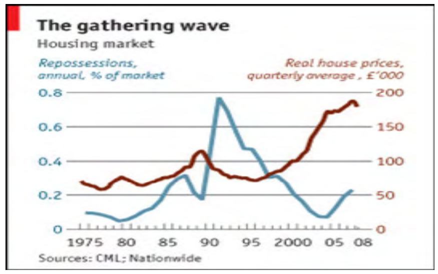
UK fares the same…leads to nationalization of Northern Rock



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Financial markets freeze up

- Flight to quality
- MBS trading dead…valuation difficult
- Commercial paper market dead
- Banks build up/hoard liquidity
- Cannot unwind credit derivatives—difficult to assess exposures to counterparties

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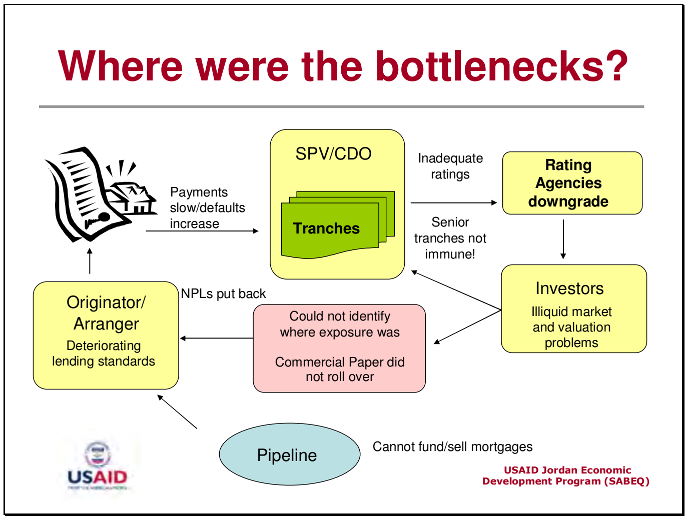
Where were the bottlenecks?
SPV/CDO
Tranches
Inadequate ratings
Rating Agencies downgrade
Payments slow/defaults increase
Senior tranches not immune!
Originator/ Arranger
Deteriorating lending standards
NPLs put back
Could not identify where exposure was
Commercial Paper did not roll over
Investors
Illiquid market and valuation problems
Pipeline
Cannot fund/sell mortgages
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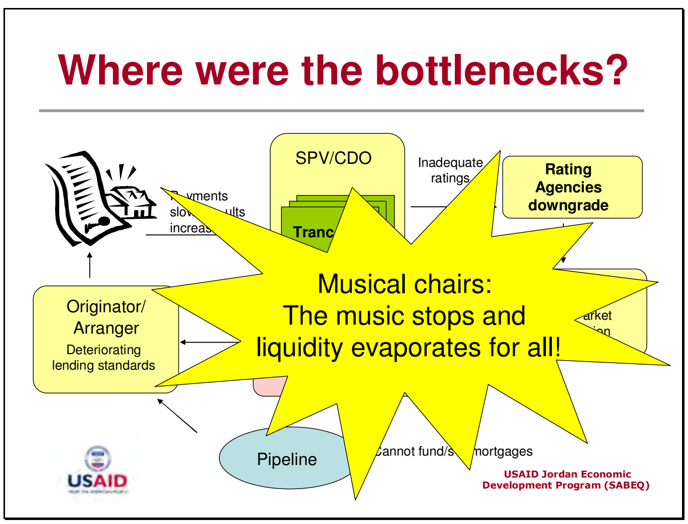
Where were the bottlenecks?
SPV/CDO
Inadequate ratings
Rating Agencies downgrade
Originator/ Arranger
Deteriorating lending standards
Musical chairs:
The music stops and
liquidity evaporates for all!
Pipeline
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Fed provides liquidity support

- Fed intervenes with liquidity
  - Lowered discount rate premium (dud)
  - Term Auction Facility and
  - Term Securities Lending Facility
  - Primary Dealer Credit Facility
- New facilities have longer maturity and broader collateral
  - Fed injects $150 billion

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Monetary easing may help, but at a cost

- Fed funds rate cut from 5.25% in August 2007 to 2.0% on April 30 2008
- Inflation increased from 2.4% in February 2007 to 4.2% in May 2008
- Dollar depreciated 37% from Nov 14, 2005 to April 22, 2008

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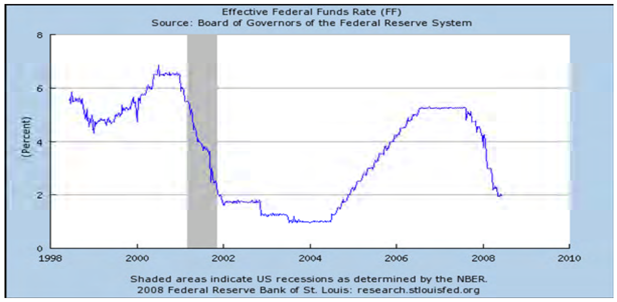
Effective Federal Funds Rate



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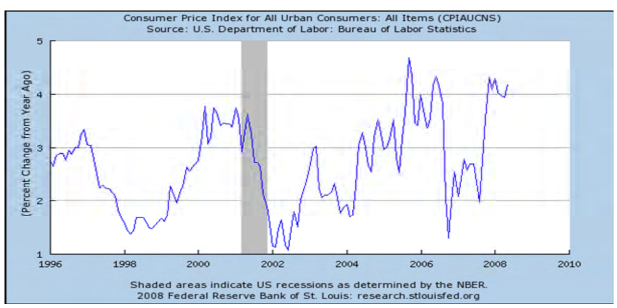
Change in CPI from year ago



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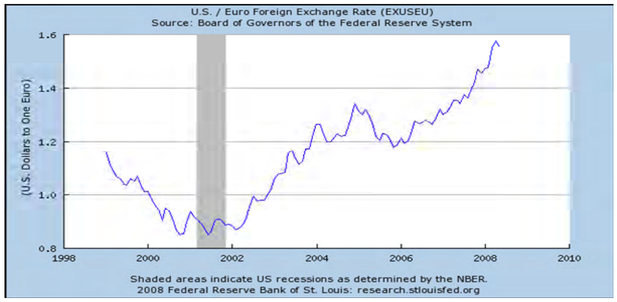
USD/Euro exchange rate responds



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Policy Objectives and Lessons

Objectives

- Mortgage Securitization - reduce the weaknesses without reducing the benefits
  - Strengthen underwriting standards and oversight in the market
  - Simplify structured finance, reduce leverage, increase transparency
  - Don't bail out losers, but contain spillovers

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Lessons for risk management

- Settlement capacity did not keep pace with market developments—who is the counterparty?
- Concentration risk not captured/monitored
- Liquidity contingency planning not sufficient
- Models are imperfect—need subjective interpretation
- Reputation risk is a real risk— Private label SPVs are really not "off balance sheet"

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The perfect storm….or extreme tail event

- Adverse interaction between
  - High leverage
  - Market liquidity
  - Valuation losses
  - Capital of financial institutions
- Assumptions of static environment incorrect
- Effect of individual firms risk reduction efforts increased systemic risk

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Lessons from those who best weathered the storm

- Integrated risk management systems and culture
- High level aggregation of exposures across different business segments
- Valuation models "tested" by selling limited assets in market
- Firm-wide liquidity planning factored in worst case scenarios and repurchase of mortgages

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Is there any light at the end of the tunnel?

- Need for realignment of incentive systems
- Need for more accountability
- Further housing price adjustments
- Have new data sets for future modeling
- Clearinghouse for CRTs
- Increased capital and liquidity buffers

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What does this mean for the Jordanian housing market ?

- Be aware of the pitfalls and enforce accountability along value chain
- Housing markets are local but always have cycles
- Gross positions are as important as net ones
- Risk assessment process is key for any new products

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Questions??

Thank you for your attention….

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