FINANCIAL MARKETS AND INSTITUTIONS

FINANCIAL CRISES

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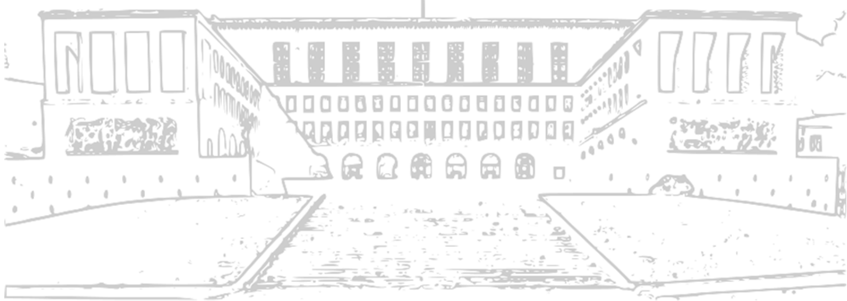

DEAMS
University of Trieste

AGENDA

- Why are there financial crises? Are they similar? Are they avoidable?
- Key stories:
  - the Great Depression
  - the 2007-09 financial crises
  - emerging markets

Why financial crises?

- A **shock** triggers a mounting **imbalance**
- **Asymmetric information** increases
- **Inefficient capital allocation**
- **Credit crunch** and **economic recession**
- From **asset bubbles** to **market crashes**, **bank runs** and **countries' defaults**

Are there patterns?

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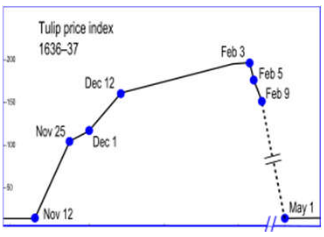
A Fantasy Example

- Imagine a new luxury asset is invented, that requires time to be produced
- Imagine that one of these assets starts being traded at 20/40 times the average yearly salary, while people gets richer
- Demand is so strong that someone starts buying assets at the *beginning* of their production phase, or even during planning, in exchange of a small amount (compared to the final price): what can happen?
- If someone starts questioning the chances of future supply meeting the demand, what can happen?
- What happens to those holding claims on future productions when the asset loses value?

Fantasy? Recent? Never again?



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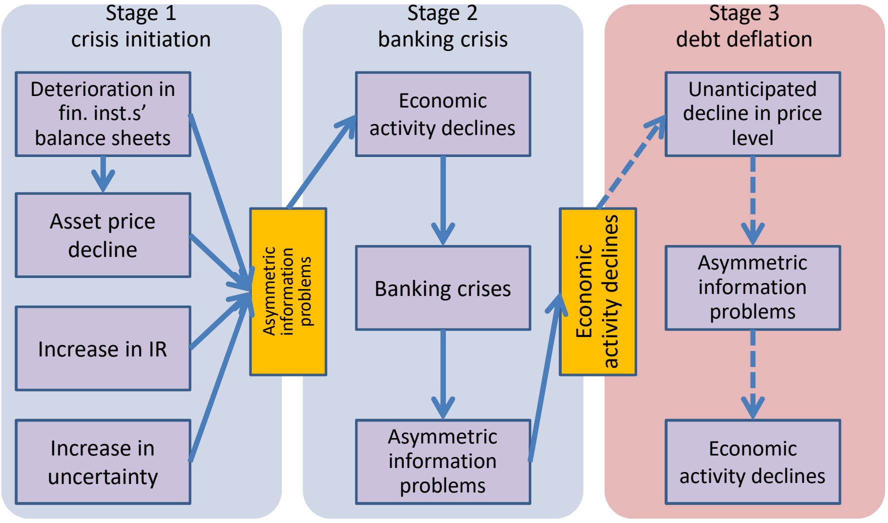
PATHS OF FINANCIAL CRISES



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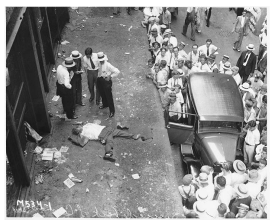
THE GREAT DEPRESSION: KEY ASPECTS

Longest (1929-39), largest (first global) and deepest (millions unemployed, half of banking system collapsed) recession:

- farming crisis: drought, falling food prices, debt/bank defaults
- **stock market crash (1929)**: less consumption, accumulation of unsold goods while stock prices kept rising beyond expectations on earnings (Black Thursday/Tuesday: mass selling of stocks)
- **easy credit**: several "margin" investors, adding to the +100% of stock prices in <2y
- the CB **raises IR**
- **spiral**: less investments, failures, unemployment-wage reduction, less consumption
- **monetary role**: gold standard (fixed regime)
- but, the stock market halved its losses by mid-1930



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THE GREAT DEPRESSION: KEY ASPECTS


York Times.

STOCKS COLLAPSE IN 16,410,030-SHARE DAY, BUT RALLY AT CLOSE CHEERS BROKERS; BANKERS OPTIMISTIC, TO CONTINUE AID

- **1930-31:** 5 mln jobless in US only, production -50%
- **bank runs/defaults**: thousands by 1933 with now 13-15 million unemployed (20% rate)
- **Hoover**: loans to banks, hoping these reached businesses promoting employment – yet the Treasury lacked funds

- **Roosevelt ("New Deal")**:
    - bank/industrial/agricultural stabilization reforms (including deposit insurance and stock market regulation),
    - public spending in infrastructures and job creation, including unemployment insurance and social security since 1935

- strong **recovery** since 1933 (+9% real GDP),
- new recession in 1937 partly due to increased Fed reserves requirements
- meanwhile, Europe prepares for **WWII…**

THE GREAT DEPRESSION 2.0

A recipe for the perfect financial disaster:

1. **Low IR** make credit easy, **high IR** promote riskier lending…
2. **House bubble** (peak in 2004):
    - **easy credit** from foreign capital inflows
    - **financial innovation**: MBS, CDO, CDS open a secluded segment to capital markets
    - **originate-to-distribute**

3. **Deregulation** and **lax lending** standards, little transparency and fragility of **shadow banking**
4. **Burst**: capital flows stop, losses arise, foreclosures explode
5. **Banks hit** from all sides (assets, liabilities, equity)
6. **Intervention of CBs** (facilitating lending and improving access to credit) **and governments** (bailing out troubled institutions and spending beyond tax inflows) transform private into **public debt issues**
7. Future expectations do not improve and recovery lags: **deleveraging**

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The Great Depression 2.0

Main defendants

Subprime mortgages:

- Lots of lenders, few good borrowers, high competition, revenues available relaxing underwriting: risky loans
- Still, a small percentage (20% tops) of a small market
- Some attribute to government-sponsored institutions (Fannie Mae/Freddie Mac) the conflict of interest between affordable housing and profitability
- House values grow: refinancing at lower IR on appreciation
- Demand for higher and "safe" returns: investment banks' fees to ease access to mortgage lending with good credit ratings, predatory lending
- OTD: agency issues and asymmetric information problems

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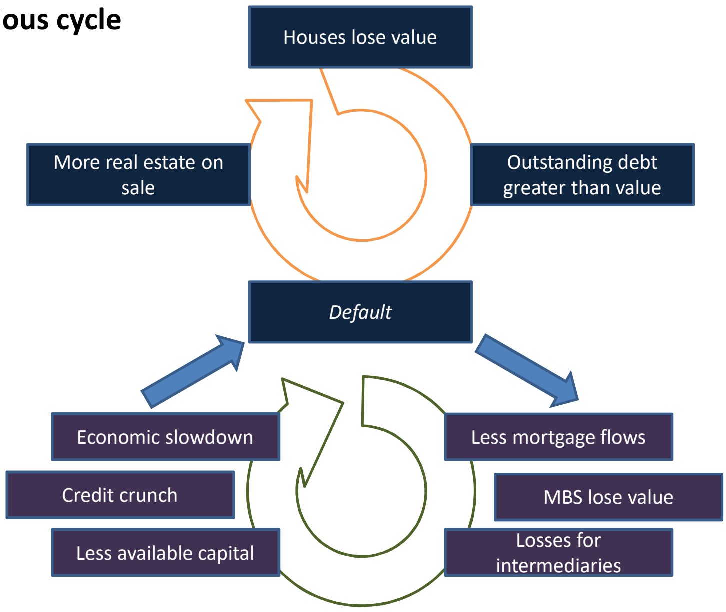
The Great Depression 2.0

The vicious cycle



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THE GREAT DEPRESSION 2.0

Easy credit and predatory lending:

- Low IR, after "dot-com" and 9/11 shocks, promotes easy lending
- US current account deficit, inflow of foreign funds (emerging and oil countries)
- Fast growing IR until the peak of the crisis lower incentives but promote more risk-taking (low lending standards)

- Higher costs/risks than advertised (f.i. ARM with very low initial interest-only payments and negative amortization), forgery of documents to enhance distribution
- Conflicts of interests:
  - in rating agencies also advising new issues of securities
  - in mortgage and CDOs originators
  - in banks lending and servicing securitizations

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THE GREAT DEPRESSION 2.0

Financial innovation

- New instruments add complexity and generate issues of accountability: ARM, MBS, CDO, CDS, … skyrocketing in few years
- Securitization spread the risk rather than transfer it
- Multiple layers create risk concentration again
- Innovation to circumvent regulation
- Unknown/underestimated risks are not priced
- Commodities had also their own bubble

https://www.youtube.com/watch?v=EEXTqtH-Oo4

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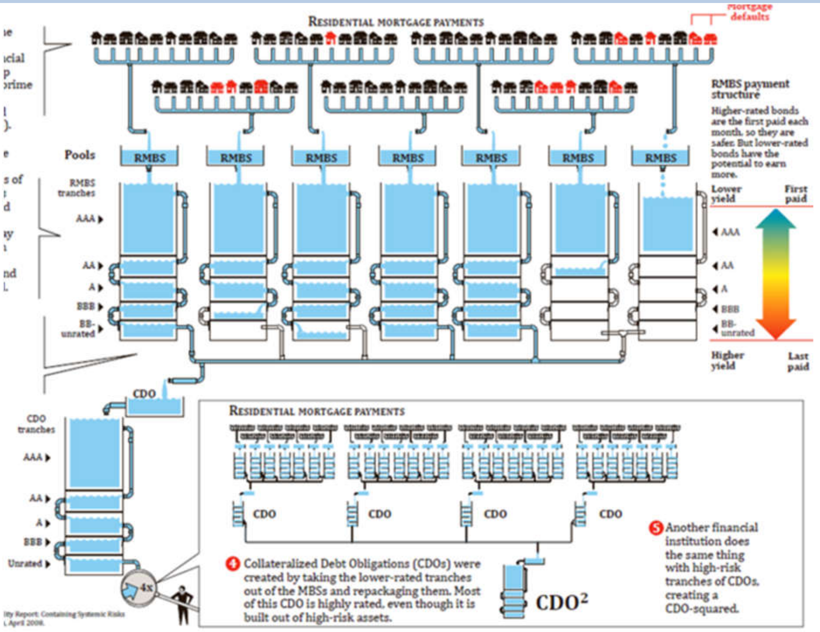
THE GREAT DEPRESSION 2.0



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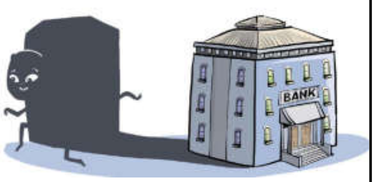
THE GREAT DEPRESSION 2.0

Deregulation and leveraging:

- Waived separation between investment/commercial banks
- Increased deposit insurance: less monitoring
- Weak transparency of derivatives
- Poor accountability of under-the-line leveraging
- Excess debt of households and firms too

Shadow banking

- Unregulated (legal) entities compete with banks in providing lending opportunities
- Fragile during run to withdraw funds and to cope with securitizations' breakdown



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THE GREAT DEPRESSION 2.0: BRIEF TIMELINE

- **2007**
  - AUG: panic after pricing difficulties experienced by MBS/CDO
  - SEP: Northern Rock (UK) faces liquidity crisis from securitizations
- **2008**
  - JAN: largest fall in US house selling in 25y announced
  - FEB: Northern Rock nationalised
  - MAR: Bear Stearns bought by JP Morgan to avoid bankruptcy
  - **MAY: US Treasury says "the worst is over"**
  - SEP: bailout of Freddie Mac / Fannie Mae, bankruptcy of Lehman Brothers, rescue of HBOS by Lloyds TSB, Goldman Sachs and JP Morgan Chase move from investment banks to holding companies, bankruptcy of Washington Mutual and Wachovia (US), Ireland - into recession - promised bailout of whole banking system (not happened)
  - OCT: US government project for "toxic" assets, collapse of Iceland's 3 biggest banks (and freeze of UK assets), joint cut of IR by BoE/ECB/FED/other 5, bailout of several UK banks (RBoS, Lloyds TBS, HBOS)
  - NOV: 1m unemployment for US +240,000, from "toxic" assets program to cash injections in US banks, G20 summit, **Gordon Brown thinks "we saved the world"**

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THE GREAT DEPRESSION 2.0

- **2009**
  - APR: G20 global stimulus package (5trnUSD)
  - OCT: elections in Greece and evidence of accounting fraud
- **2010**
  - APR: Greek debt rated as junk
  - MAY: first Greek bailout
  - NOV: Irish bailout
- **2011**
  - MAY: Portuguese bailout
  - JUL: second Greek bailout
  - AUG: downgrade of US debt
- **2012**
  - FEB: new Greek austerity package
  - MAR: highest EU unemployment ever recorded
  - JUN: record Spanish borrowing
  - **JUL: "whatever it takes"**

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THE GREAT DEPRESSION 2.0

Main consequences:

- **Real estate bubble**: net worth of families/country down
- **Deterioration of financial institutions**: deleveraging, credit crunch
- **Run on shadow-banking system**: more collateral, more defaults, less value, more collateral, …
- **Bubble extends to stocks and bonds also outside the financial sector**: less lending, more uncertainty, more asymmetric information issues, increased risk premiums, less investing, less growth
- **Liquidity injections are insufficient and contagion make this crisis global**
- **TBTF paradigm** under scrutiny
- End of **investment bank paradigm**
- **Recession, unemployment**

CRISES IN EMERGING MARKETS

Similar steps, although with some differentiations:

- **Regulation/supervision weaker** and globalization incentives **risky lending**, with the typical consequences
- **Fiscal imbalances** of government budgets lead to **requiring banks to acquire public debt**, weakening their balance sheets
- **Less collateral** is available, hence increasing asymmetric information problems
- **Foreign monetary policies can increase dependent countries' IR**
- **Instability of political systems**
- Usually a **currency crises** occurs also due to international speculation, increasing **inflation**
- To attract capitals **IR are increased**, leading to **issues for highly leveraged institutions** (banks, but also other borrowers)
- Banks and debtors **defaults**
- If recovery does not take place, usually **whole countries default** or call for debt restructuring (f.i. Argentina, Indonesia, …)

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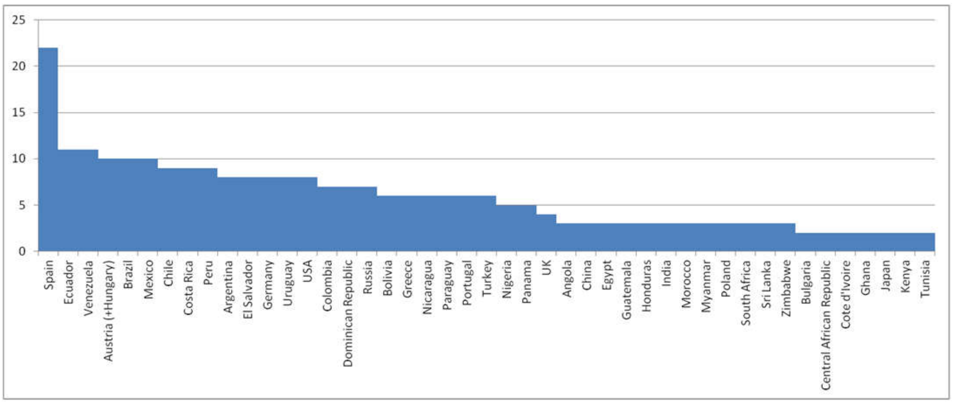
EXAMPLES

Country defaults since 1500 (most since mid-1800):



Other 37 countries with at least one default (incl. FRA, SWE, DEN, CRO)

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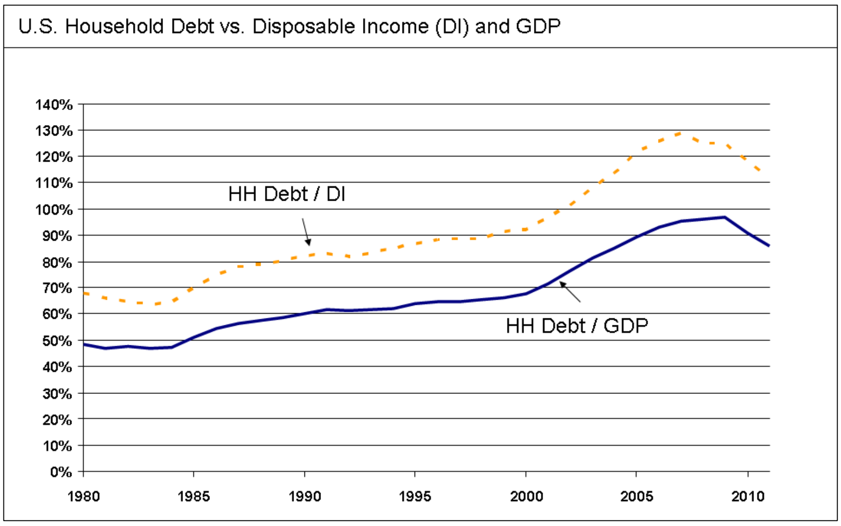
EXAMPLES

Bubbles always fare beyond fundamentals



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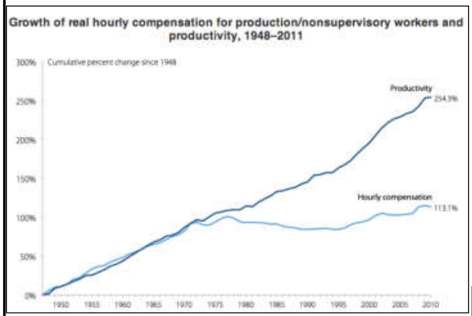
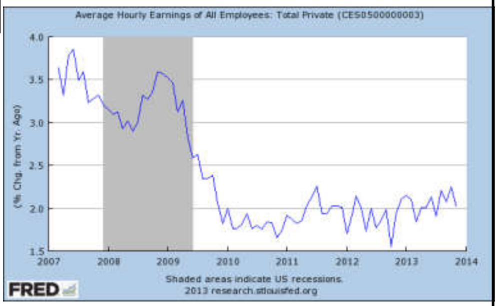
EXAMPLES

Other points of view



Salaries detached from productivity: one's consumption is another's income…

… but as a result of crisis, unemployment pushes wages down



EXAMPLES

Other points of view

Inequality: does it matter?

Too much finance?

EXAMPLES

The case of Zimbabwe:

- 1980: independence and strong growth
- Disastrous economic reforms in 1990s (also with IMF/WB): weak protection of property and lack of entrepreneurial skills
- High corruption rates, involvement in Congo wars, misreporting, heavy repression of internal opposition,
- Wide printing of ZWD, lack of trust on future
- 2000s: economic/banking collapse (unemployment: 80%)
- Hyperinflation: 7-20% from 1980-1990, 20%-60% from 1991-2000, 100-1,200% from 2001-2006, … up to 80,000,000,000% *per month* in 2008 (luckily the government declared in 2007 inflation "illegal"…): prices adjusted several times *a day*
- Increasing role of foreign currencies, even if restrictions to use only ZWD were present (and just fueled a black market)
- In 2009 the ZWD was abandoned, in 2015 the switch to USD will be completed

In 1980, 0.68 ZBD per USD…

In 2009, 10^{32} ZBD per USD…

(atoms in human body are around 10^{28})

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EXAMPLES