

B9 FINANCIAL CRISES

FINANCIAL MARKETS AND INSTITUTIONS

A.A. 2022/23

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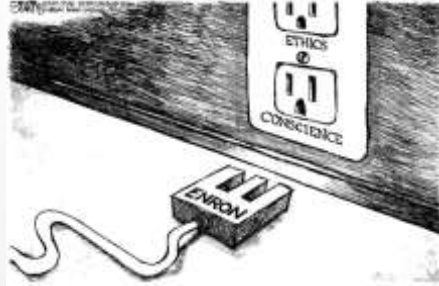


TOPICS



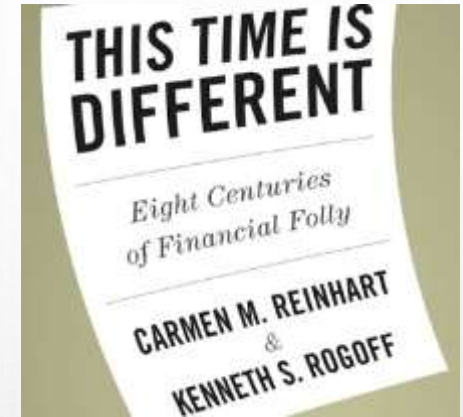
- WHY FINANCIAL CRISES? ARE THEY SIMILAR? ARE THEY AVOIDABLE?
- KEY STORIES:
 - THE GREAT DEPRESSION
 - THE 2007-09 GLOBAL FINANCIAL CRISES
- WHAT HAPPENS IN EMERGING MARKETS?

WHY FINANCIAL CRISES?



PERCHÉ ESISTONO LE CRISI FINANZIARIE?

- A **shock** triggers the quick correction of an **imbalance** accumulated over time
- Increase of **asymmetric information** issues
- Inefficient allocation of capital: **financial crisis**
- **Credit crunch and recession**: bubbles, market crashes, bank runs, country defaults...



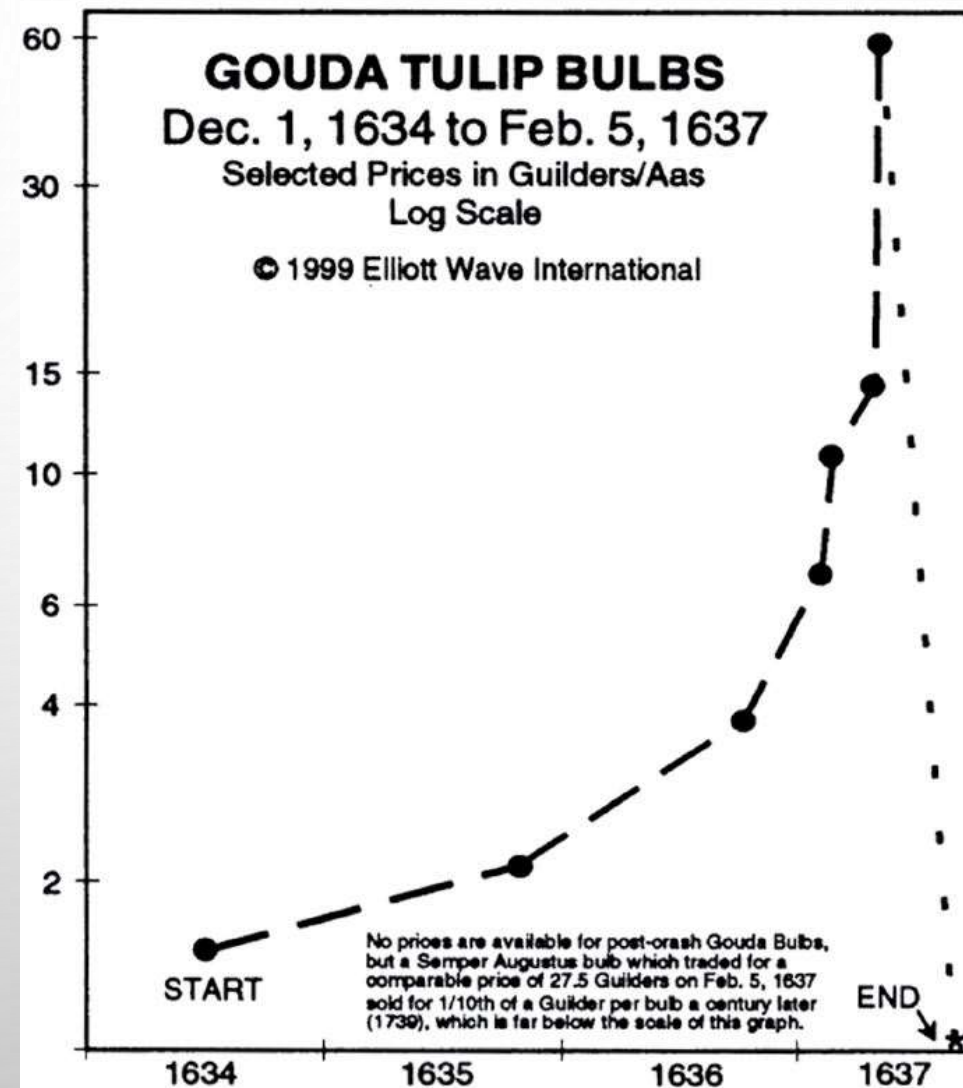
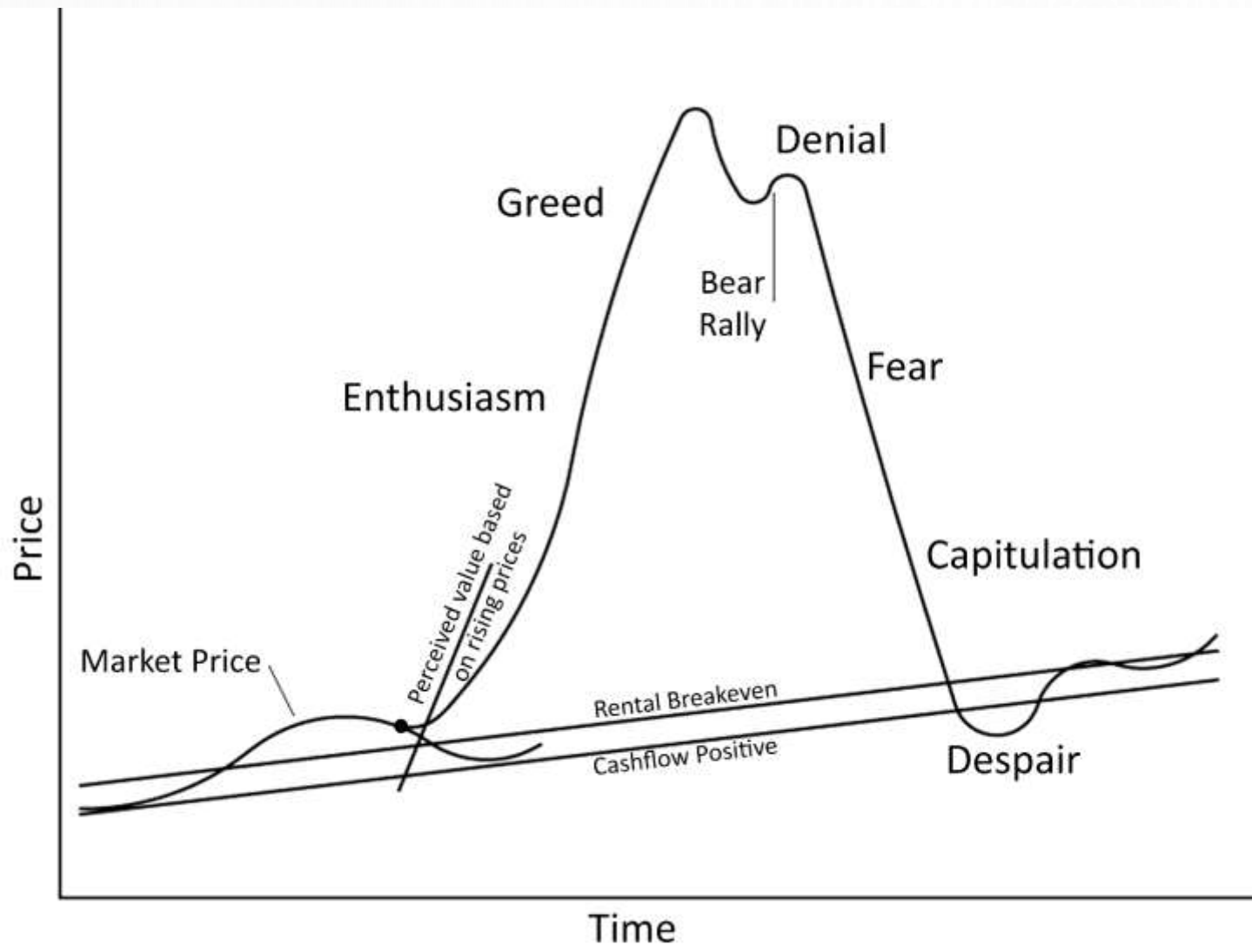
*"Throughout history, **rich and poor countries alike** have been lending, borrowing, crashing -- and recovering - their way through an **extraordinary range of financial crises**. Each time, the experts have chimed, '**this time is different**', claiming that the **old rules of valuation no longer apply** and that the new situation bears little similarity to past disasters."*

WHY?

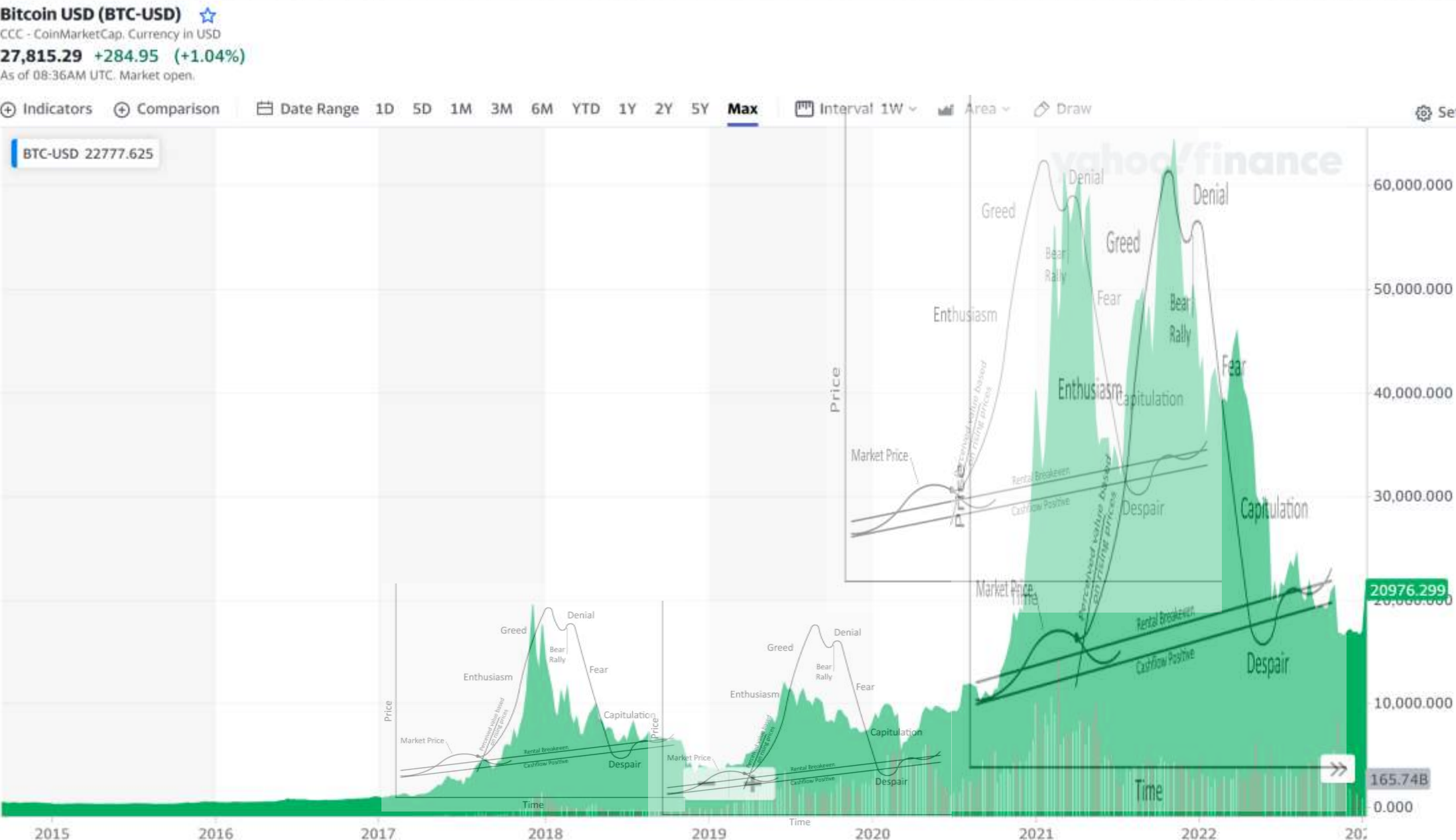
- Imagine a **new luxury asset** is invented, that requires time to be produced
- After taking off, trading goes 20 times the average annual salary
- Demand is strong: purchased before production or during planning
- What happens when someone notes the imbalance between supply and demand?



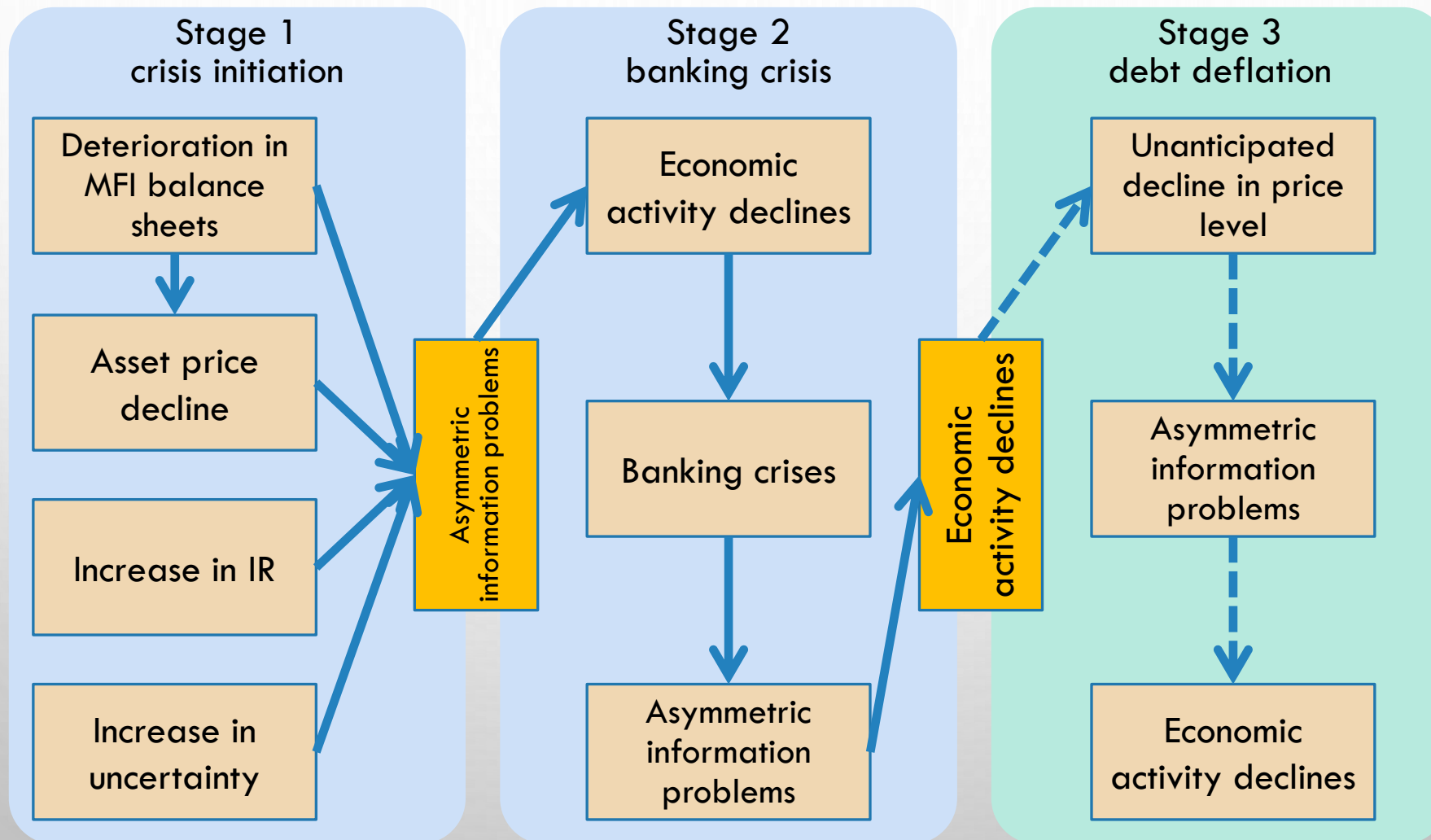
WHY?



WHY?



THE COMMON PATH



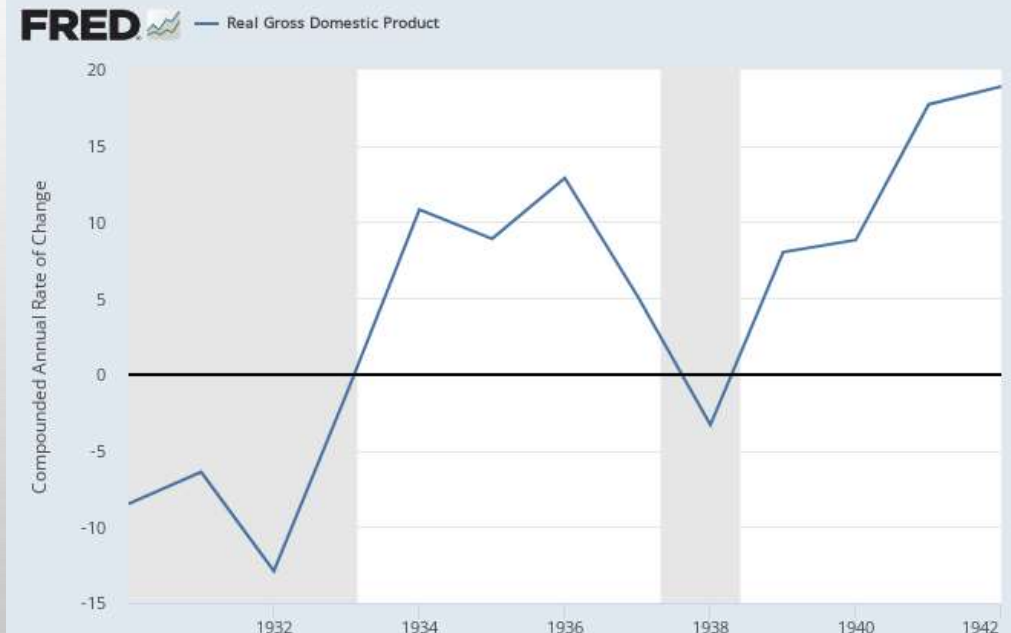
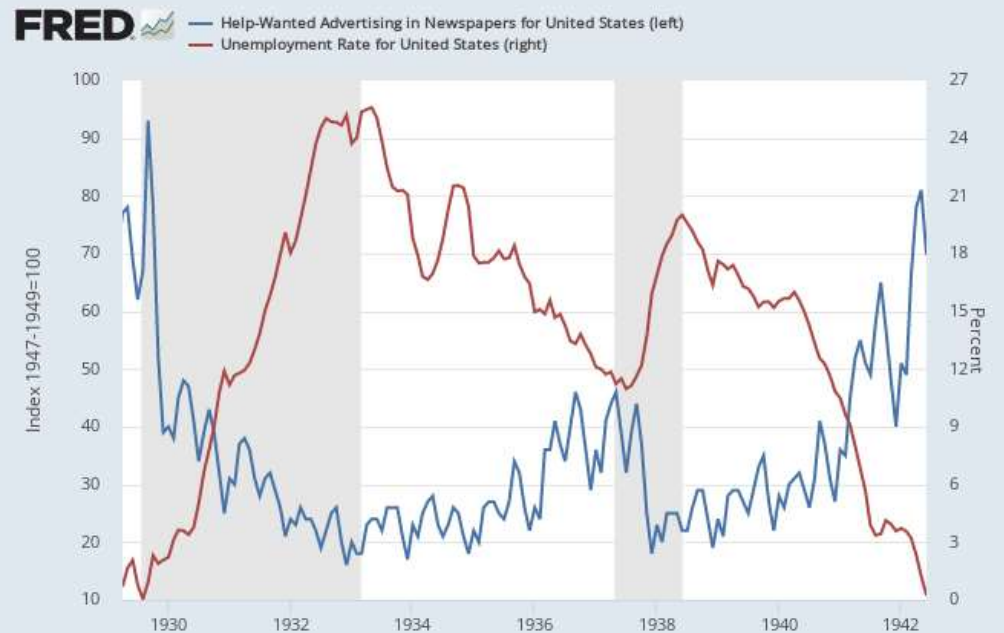
GREAT DEPRESSION: KEY FACTS

Longest (1929-39), largest (global) and deepest (MLNs unemployed, 50% of banks collapsed) recession:

- Following the “**Roaring Twenties**”
- **Farming crises** (drought, ...) impacted regional banks (defaults), mild recession
- **Stock market crash** of 1929: unsold goods accumulated while stocks grew fast fueled by credit (Black Thursday/Tuesday: fire sales)
- CB **increases IR** and accelerates a **spiral**: lower consumption, lower investments, failures, unemployment
- **Gold Standard** worsens contagion, but stocks **halve losses** in 1 year
- **1930-31**: 5mln unemployed in US, production -50%
- **Bank failures** (thousands by 1933), and unemployed are 15mln (20% rate)
- **Hoover**: bank loans with empty Treasury...
- **Roosevelt: New Deal**
 - Reforms: banking, industrial, farming (f.i. deposit insurance, access to exchange)
 - Public spending in infrastructure, unemployment insurance and welfare (1935)
 - Recovery strong since 1933 (+9% real GDP), recession in 1937 (increase of bank reserves)
- **1/9/1939**



GREAT DEPRESSION: KEY FACTS



THE GFC: KEY FACTS

A recipe for the perfect storm:

1. **Low IR** make credit easy, **growing IR** promote risky lending...
2. **House bubble** (peak in 2004-05):
 - **easy credit** from foreign capital inflows
 - **financial innovation**: MBS, CDO, ... on a “new” segment
 - **originate-to-distribute**
3. **Deregulation** and **lax lending** standards, **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, recovery lags: **deleveraging**



THE GFC: SOME ANECDOTES

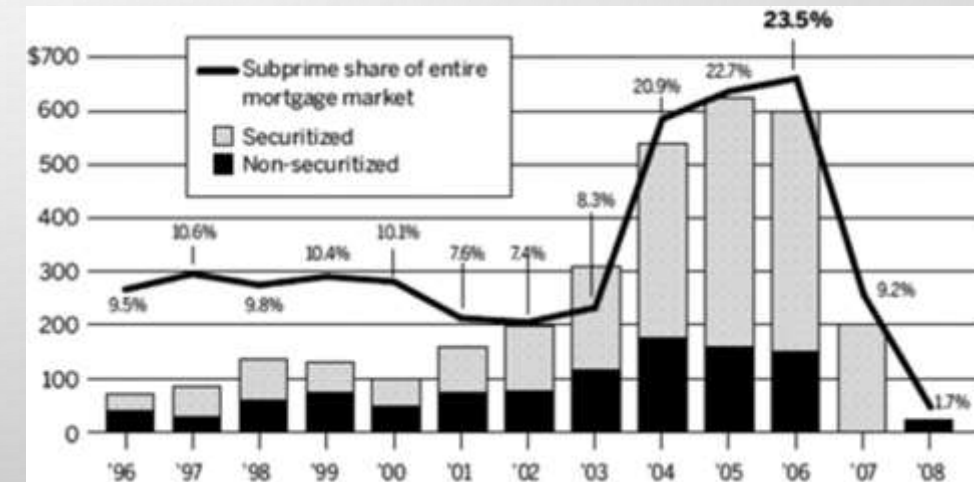
- **2007:** in September, Northern Rock (UK) faces liquidity crisis from securitizations (first strong signal)
- **2008**
 - MAR: Bear Stearns bought by JP Morgan to avoid bankruptcy
 - **MAY: US Treasury says “the worst is over”**
 - SEP: bailouts/distress involves Freddie Mac, Fannie Mae, Lehman Brothers, HBOS, Washington Mutual, Wachovia, Ireland promises bailout of whole banking system
 - OCT: US government project for “toxic” assets, collapse of Iceland’s 3 biggest banks, joint cut of IR by BoE/ECB/FED/other 5, bailouts continue in the UK (RBoS, Lloyds TBS, HBOS)
 - NOV: 1m unemployment for US +240,000, cash injections in US banks, G20 summit (**Gordon Brown**): **“we saved the world”**
- **2009-11:** eruption of the EU’s sovereign debt crisis (GRE, IRL, POR, ESP, CYP, LVA, HUN, ROM - bailouts)
- **2012:** **“Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.”**



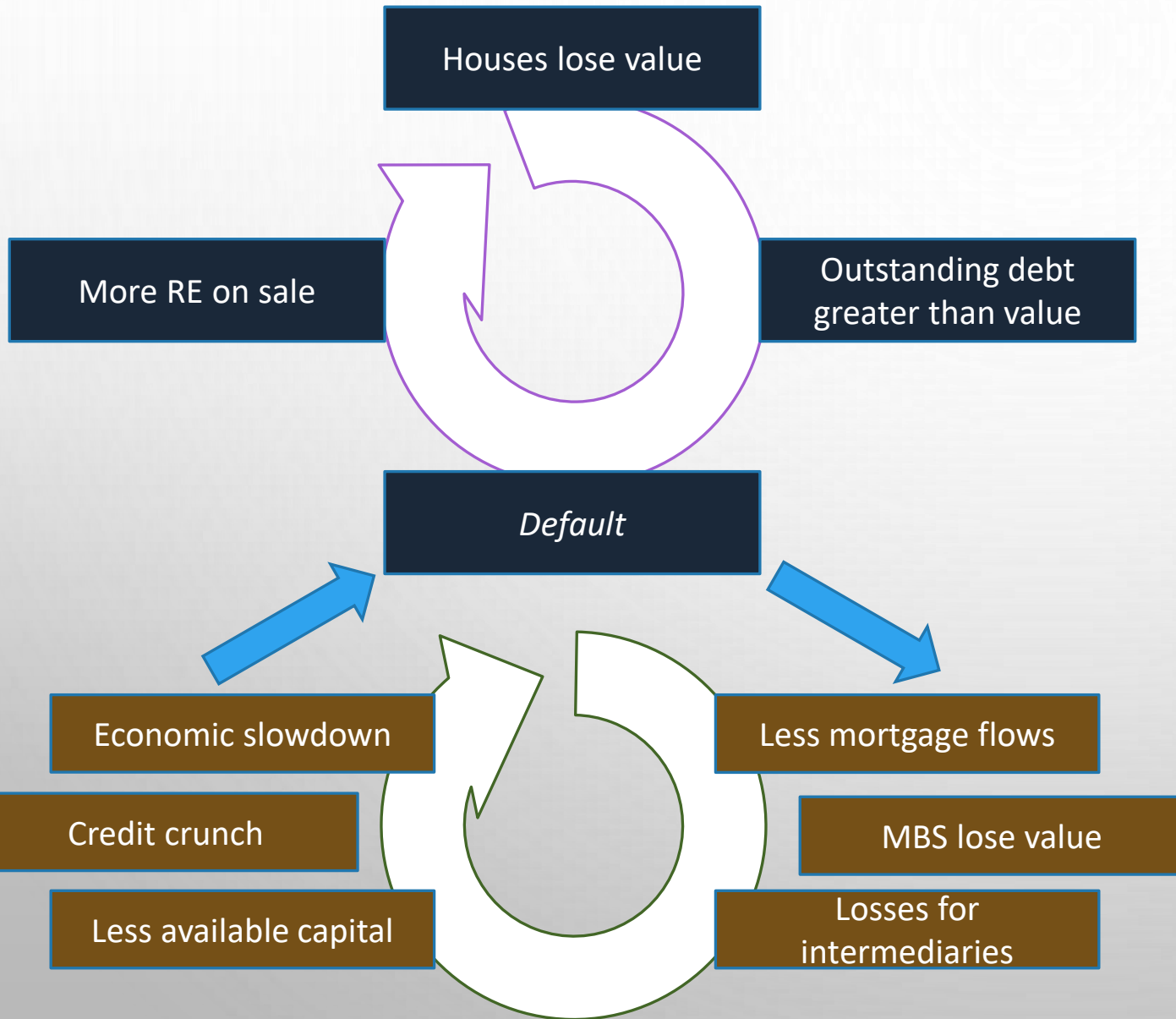
WHO DID IT?

Subprime mortgages:

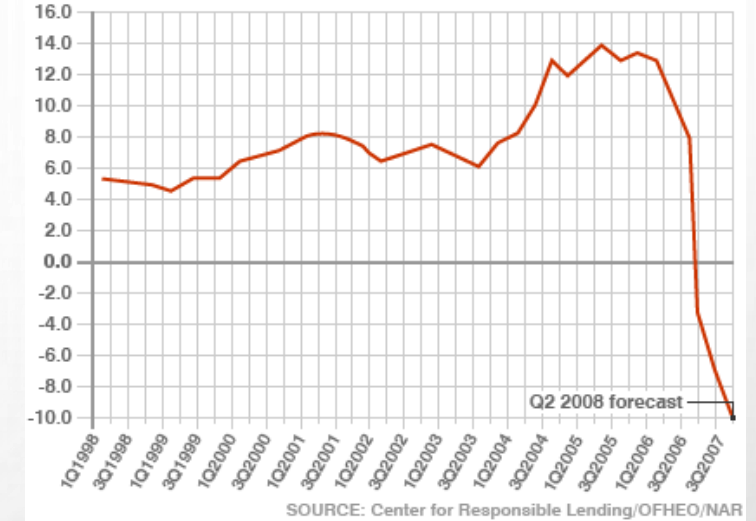
- Many lenders (flow of foreign capital), few good borrowers: lax standards and risky loans
- A relatively small percentage (23,5% max) of a relatively small market
- Government-sponsored institutions facilitating market growth: conflicts of interest
- House values “always grow” and “who does not pay its mortgage?": multiple refinancing on appreciation
- Demand for higher and “safe” returns: credit ratings conflicts, predatory lending, aggressive tranching, ...
- OTD: agency issues and asymmetric information problems



WHO DID IT?



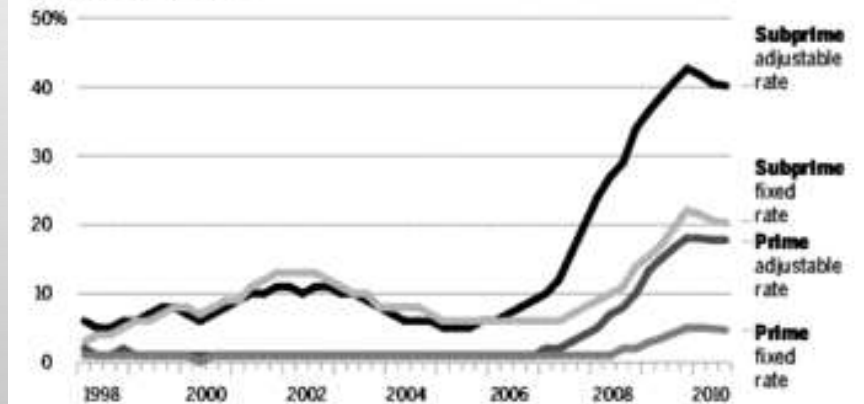
US HOUSE PRICE TRENDS
% increase/decrease year-on-year



Mortgage Delinquencies by Loan Type

Serious delinquencies started earlier and were substantially higher among subprime adjustable-rate loans, compared with other loan types.

IN PERCENT, BY TYPE

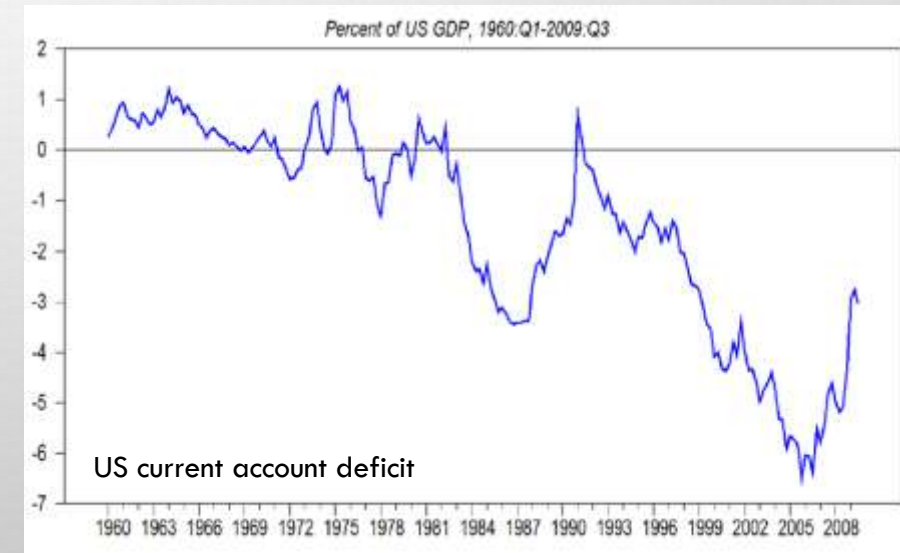


NOTE: Serious delinquencies include mortgages 90 days or more past due and those in foreclosure.
SOURCE: Mortgage Bankers Association National Delinquency Survey

WHO DID IT?

Easy credit and predatory lending:

- Low IR, after “dot-com” and 9/11 shocks
- US current account deficit → inflow of foreign funds (emerging, oil)
- Fast growing IR until the peak of the crisis: more risk-taking (denial?)
- Higher costs/risks than advertised (f.i. ARM with very low initial interest-only payments and negative amortization), forgery of documents
- Conflicts of interests: in rating agencies, in originators, in servicing securitizations

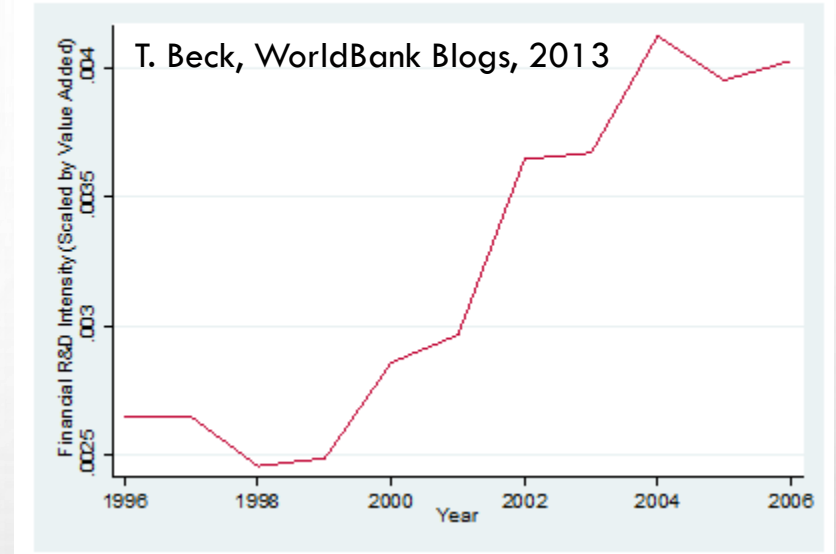


WHO DID IT?

Financial innovation

- Complexity VS accountability: ARM (adjustable rate mortgages), MBS (mortgage backed securities, CDO (collateralized debt obligations), CMO (collateralized mortgage obligations), CDS (credit default swaps), ...
- Securitization may spread and accumulate risks, increasing the chances of contagion
- Multiple layers add to concentration again
- Innovation sometimes sought/used to circumvent regulation
- Unknown/underestimated risks are not priced

Figure 2: Average financial innovation, 1996 to 2006



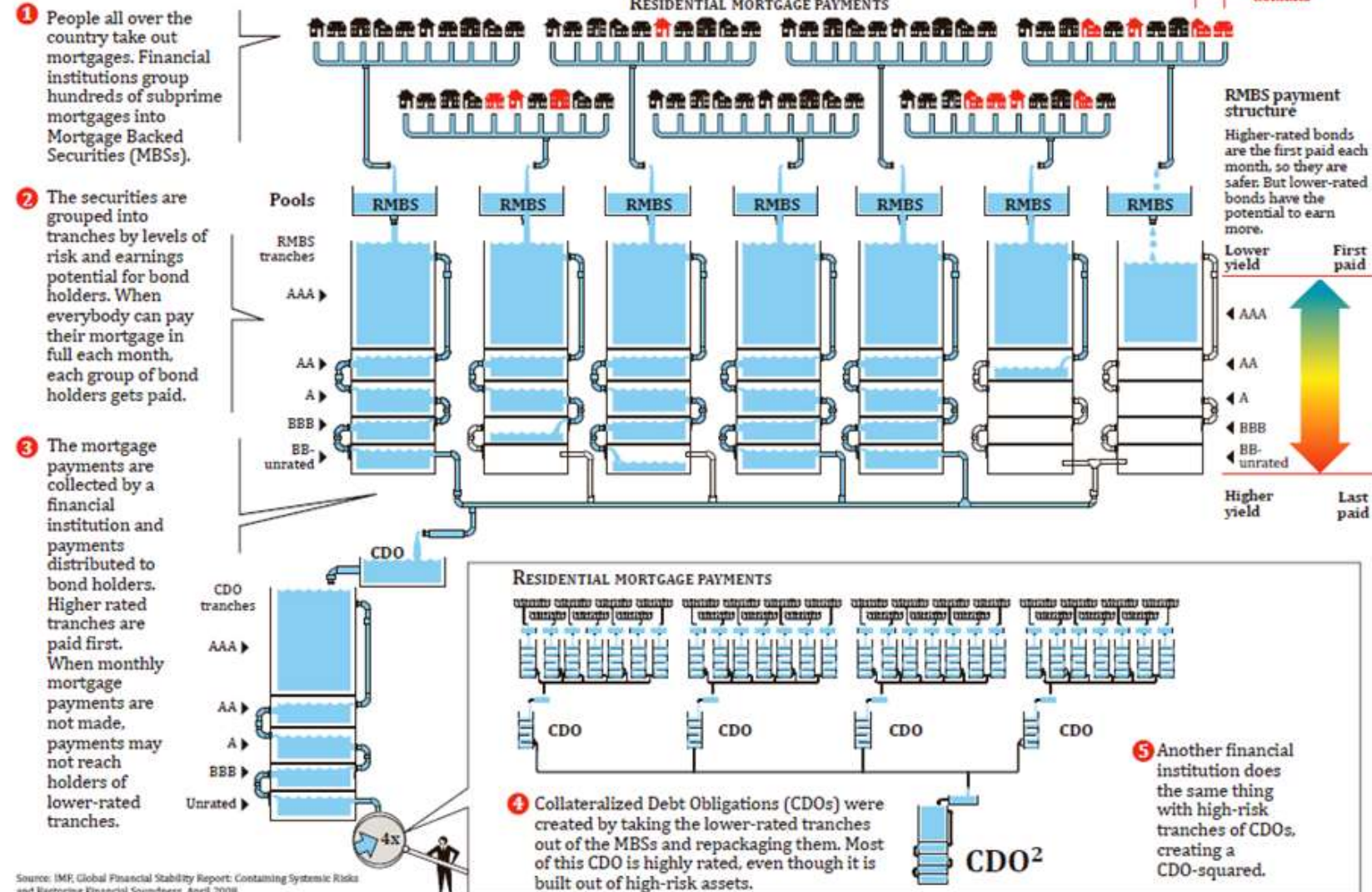
- Financial innovation → GDP per capita growth
- Financial innovation → Innovative firms and externally funded grow faster but with more volatility
- Financial innovation → more fragile banks (if smaller market share, growing fast, less traditional) due to profit volatility
- Financial innovation → greater reductions in profit after crisis

WHO DID IT?

THE THEORY OF HOW THE FINANCIAL SYSTEM CREATED AAA-RATED ASSETS OUT OF SUBPRIME MORTGAGES

In the financial system, AAA-rated assets are the most valuable because they are the safest for investors and the easiest to sell. Financial institutions packaged and re-packaged securities built on high-risk subprime mortgages to create AAA-rated assets. The system

worked as long as mortgages all over the country and of all different characteristics didn't default all at once. When homeowners all over the country defaulted, there was not enough money to pay off all the mortgage-related securities.



WHO DID IT?

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 leverage of financial institutions, but also households and firms

Shadow banking

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

Leverage Ratios For Major Investment Banks

The leverage ratio is a measure of the risk taken by a firm; a higher ratio indicates more risk. It is calculated as total debt divided by stockholders equity. Each firm's ratio increased between 2003-2007.

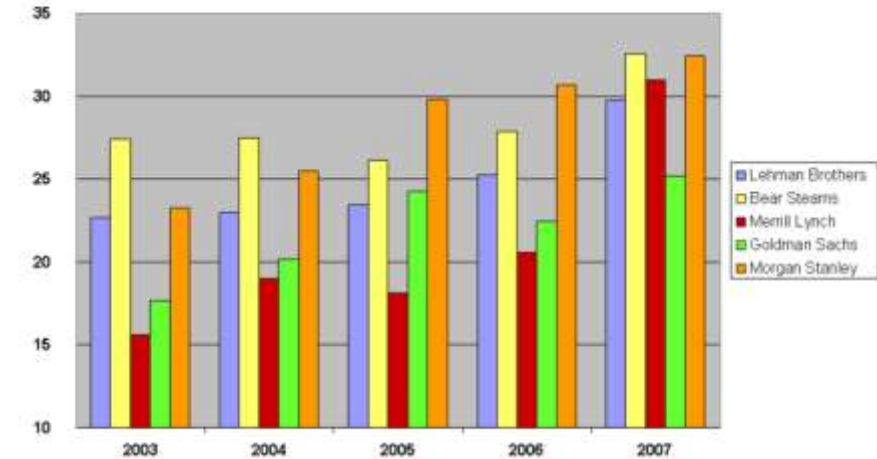
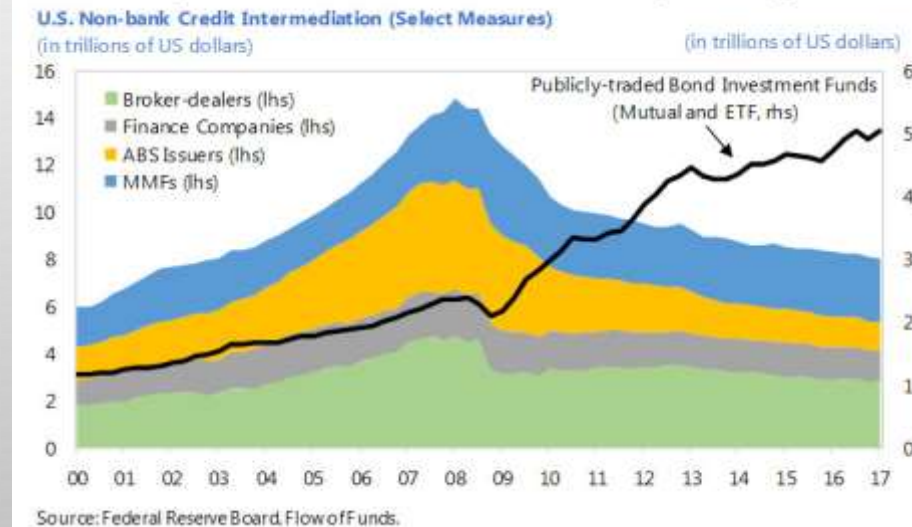


Figure 2. U.S. Non-Bank Credit Intermediation, by Vehicle Type



WHAT FOLLOWED?

Main consequences:

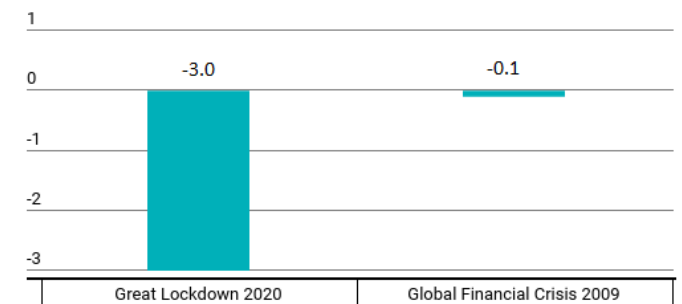
- **Real estate bubble, extending to bonds/stocks and outside financial institutions**
- **Deterioration of financial institutions**
- **Run on shadow-banks**
- **Liquidity crisis: injections are insufficient**
- **Contagion to public sector**
- **Recession, unemployment**
- **Innovations:**
 - **TBTF paradigm** under scrutiny
 - **Re-regulation**
 - **end of pure investment bank paradigm**



The Great Lockdown

The world economy will experience the worst recession since the Great Depression.

(real GDP growth, year-on-year percent change)



EMERGING MARKETS?

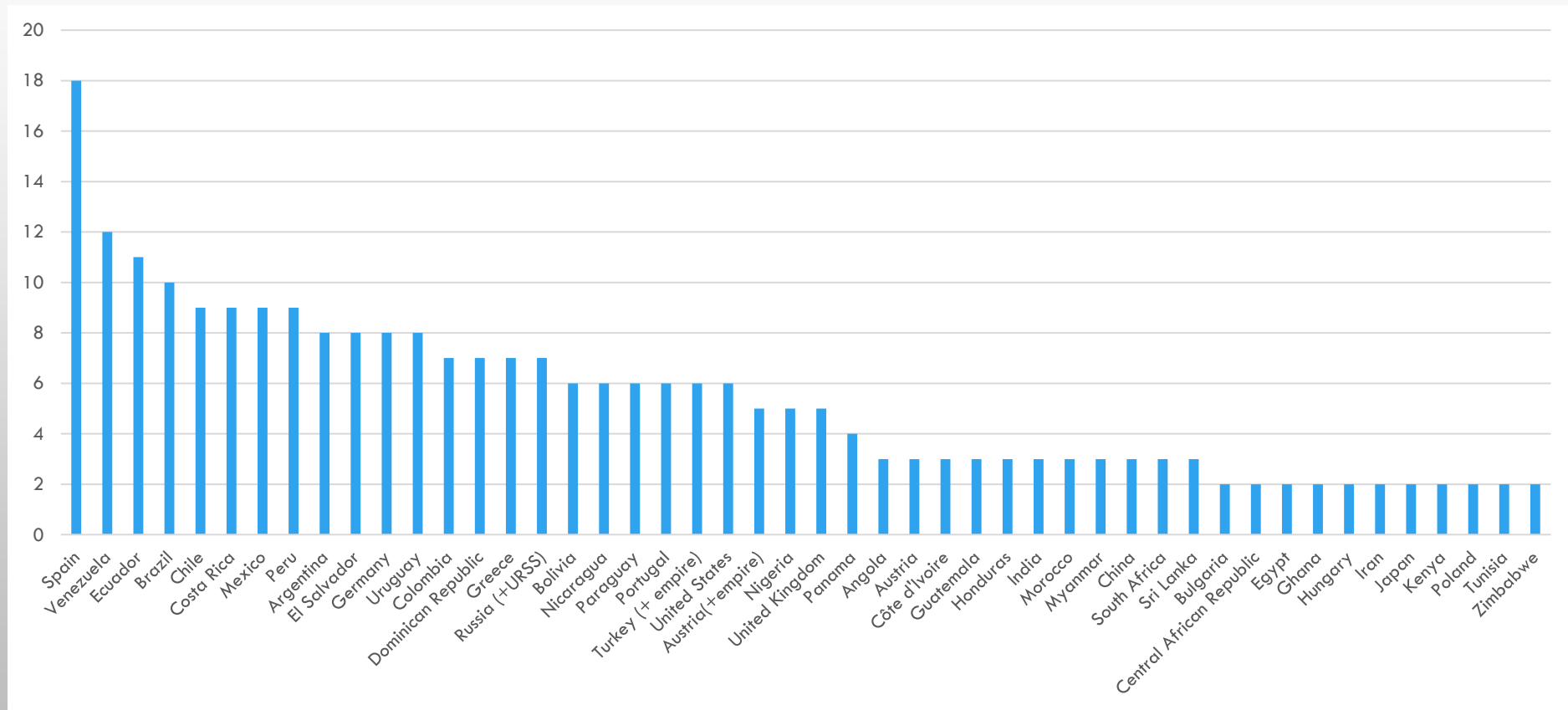
Similar steps, although with some differentiations:

- **Regulation/supervision weaker, riskier lending**
- **Fiscal imbalances**, central banks not independent
- **Less collateral** available
- **Foreign monetary policies can increase dependent countries' IR**
- **Instability of political systems**
- Usually a **currency crises** is involved, **hyperinflation**
- To attract capitals **IR are increased**, leading to **issues for highly leveraged institutions**
- Banks and debtors **default**
- **Whole countries default** or call for debt restructuring



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

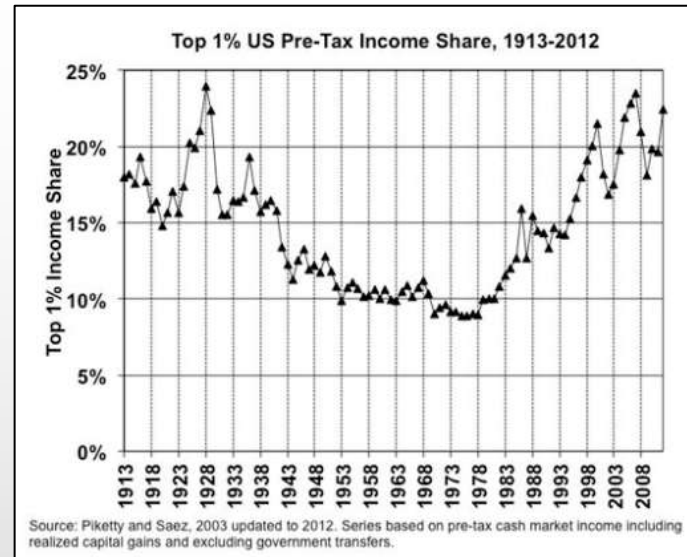
EXAMPLES



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

EXAMPLES

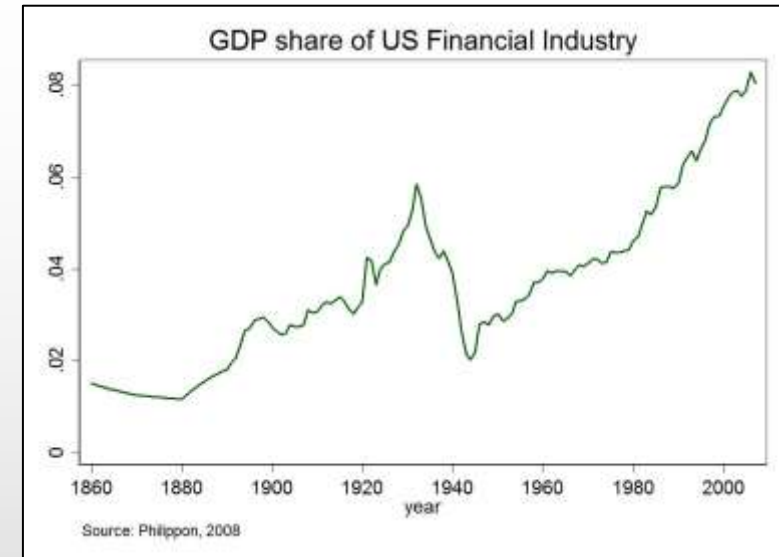
Other views?



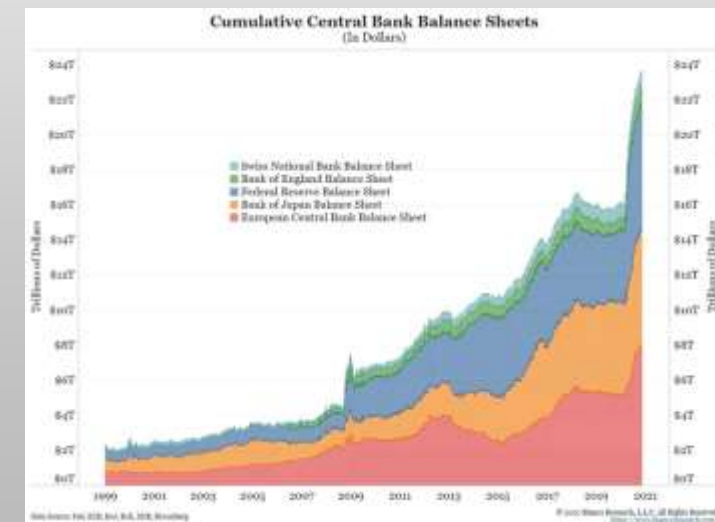
Inequality matters?



Wages vs productivity?



Too much finance?



Bad monetary policies?

EXAMPLES

The case of Zimbabwe:

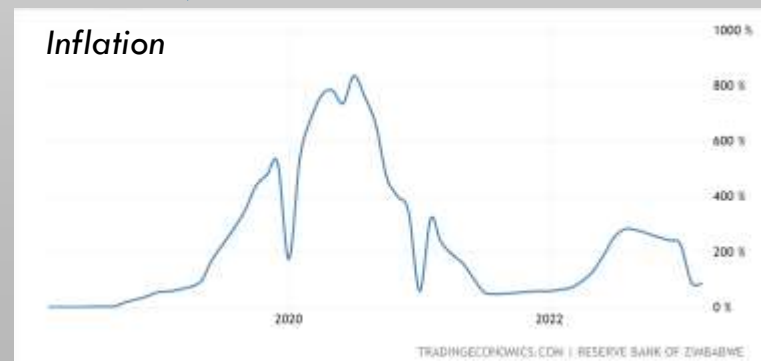
- 1980: independence and strong growth
- Disastrous economic reforms in 1990s (with IMF/WB): weak protection of property, weak entrepreneurship
- High corruption, Congo wars, misreporting, heavy repression of opposition
- Wide printing of ZWD, lack of trust on future
- 2000s: economic/banking collapse (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 abandoned, in 2015 switch to USD
- Drained currency reserves + parallel market: in 2019 new ZWL, pegged, multicurrency again in 2020, lost peg again, ...



In 1980, 0.68
ZWD per
USD...



In 2009, 10^{32} ZWD per USD...
(atoms in human body are around 10^{28})



Are we ready for the coming spate of debt crises?

MARCELLO ESTEVÃO | MARCH 28, 2022

Suriname Stranded in Default as Bondholders Ogle Oil Royalties

- Creditors rejected former Dutch colony's restructuring offer
- South American nation mired in debt crisis for over two years

For the first time, Lebanon defaults on its debts

Restructuring will be a struggle. Fixing the country's rentier economy will be even harder

Belarus defaults on its Eurobond payments

Argentina Avoids Default Event, but Faces Mounting Vulnerability

Wed 01 Feb, 2023 - 10:41 ET

Default-stricken Zambia's debts creep higher

Reuters

LONDON, March 29 (Reuters) - Default-stricken Zambia published figures on Wednesday showing that its total public debt stock climbed to \$32.8 billion, including interest arrears at the end of last year, of which \$18.6 billion was external.

At the end of June 2022 its total debt including interest arrears was \$32.5 billion, with \$17.5 billion external.

Zambia has been looking to restructure its debt after becoming the first African country to default during the COVID-19 pandemic in late 2020.

Ukraine spiralling towards default, according to Fitch

Egypt's Crisis Redux Stokes Debt Distress, Devaluation Fears

Will Nigeria Go The Way Of Sri Lanka To Default On Eurobonds?

There is Now a Significant Risk that Ethiopia Will Default on its Sovereign Debt

EL SALVADOR: GOVERNMENT IS FACING DEBT DEFAULT AMID WORSENING RELATIONS WITH THE USA

Ghana on Cusp of Debt Default as Grace Period Winds Down

- Ghana restructuring about \$30 billion of its \$46 billion debt
- Nation becomes fourth nation in Africa to default on Eurobond

US issues Kenya a default notice for Sh57bn KQ debt

Sri Lanka: Why is the country in an economic crisis?

The International Monetary Fund is lending Sri Lanka \$3bn (£2.4bn) to help it deal with its worst economic crisis in its history as an independent nation.

Soaring prices, shortages of essential goods and crippling international debts sparked nationwide protests last year which caused the president to flee the country.

Russia Slips Into Historic Default as Sanctions Muddy Next Steps

- Grace periods on two eurobond coupons expired on Sunday
- Russia's Finance Minister calls the default label a 'farce'

Is Tunisia Heading Toward Debt Default Amid Further Constraints To Economic Growth?

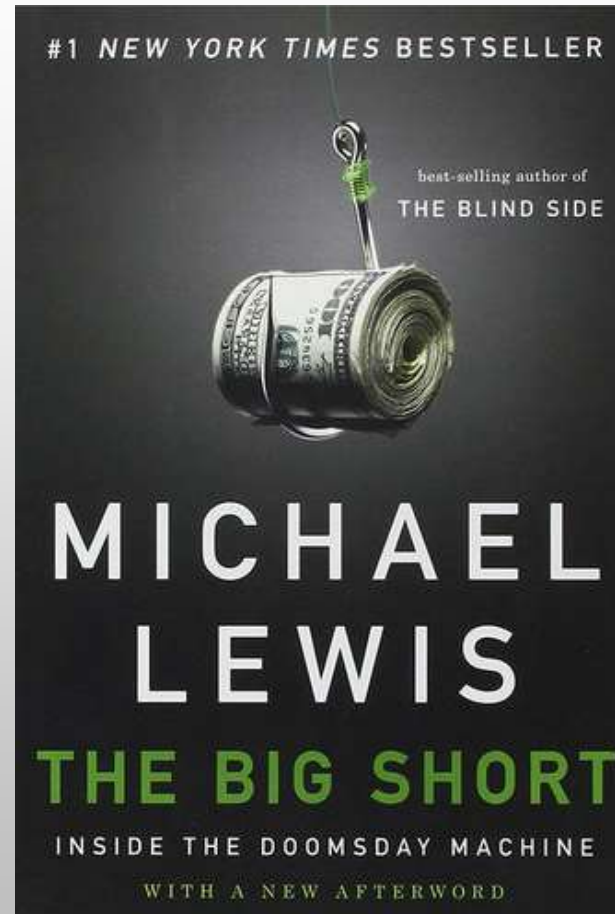
Ecuador Bonds Slump as Protests Revive Memories of 2020 Default

- Nation's bonds are worst performing in world this month
- Spread over US Treasuries has widened to most since April 2021

Pakistan Crisis: Video Shows People Running Behind Wheat Flour Truck; IMF Demands External Financing

As the Pakistani government negotiates financial assistance from global agencies, the country is rolling under an extreme economic crisis as the signs are visible on roads also now.

EXAMPLES



"No one can see a bubble. That's what makes it a bubble."

"People hate to think about bad things happening so they always underestimate their likelihood."

"It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so"

"I have a feeling, in a few years people are going to be doing what they always do when the economy tanks. They will be blaming immigrants and poor people."