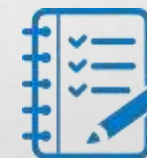
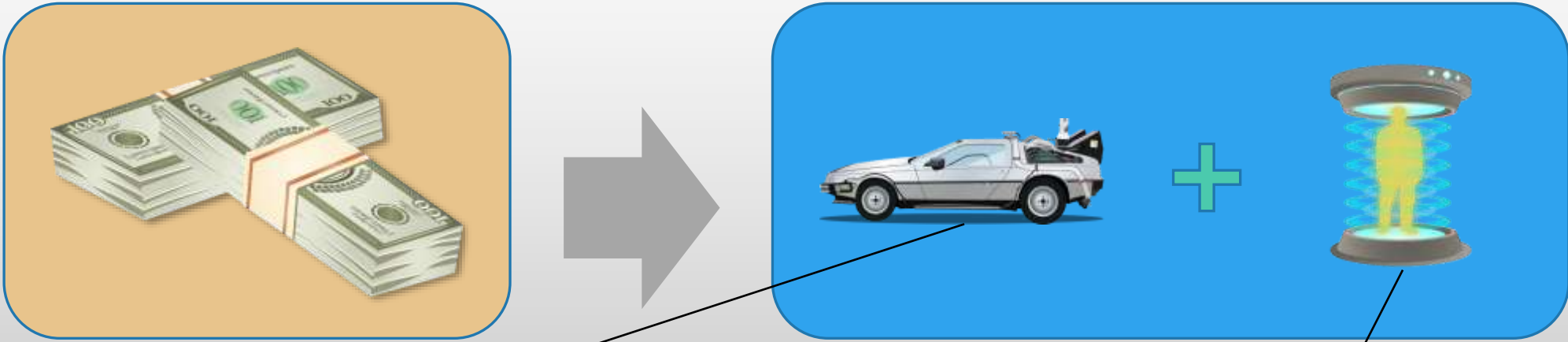


A1. THE FINANCIAL SYSTEM



- WHY DO FINANCIAL MARKETS EXIST?
- WHAT DO THEY DO AND HOW DO THEY WORK?
- WHAT ARE ASYMMETRIC INFORMATION ISSUES?
- WHAT MARKETS/INTERMEDIARIES ARE THERE?
- WHY REGULATION? HOW?

PURPOSE



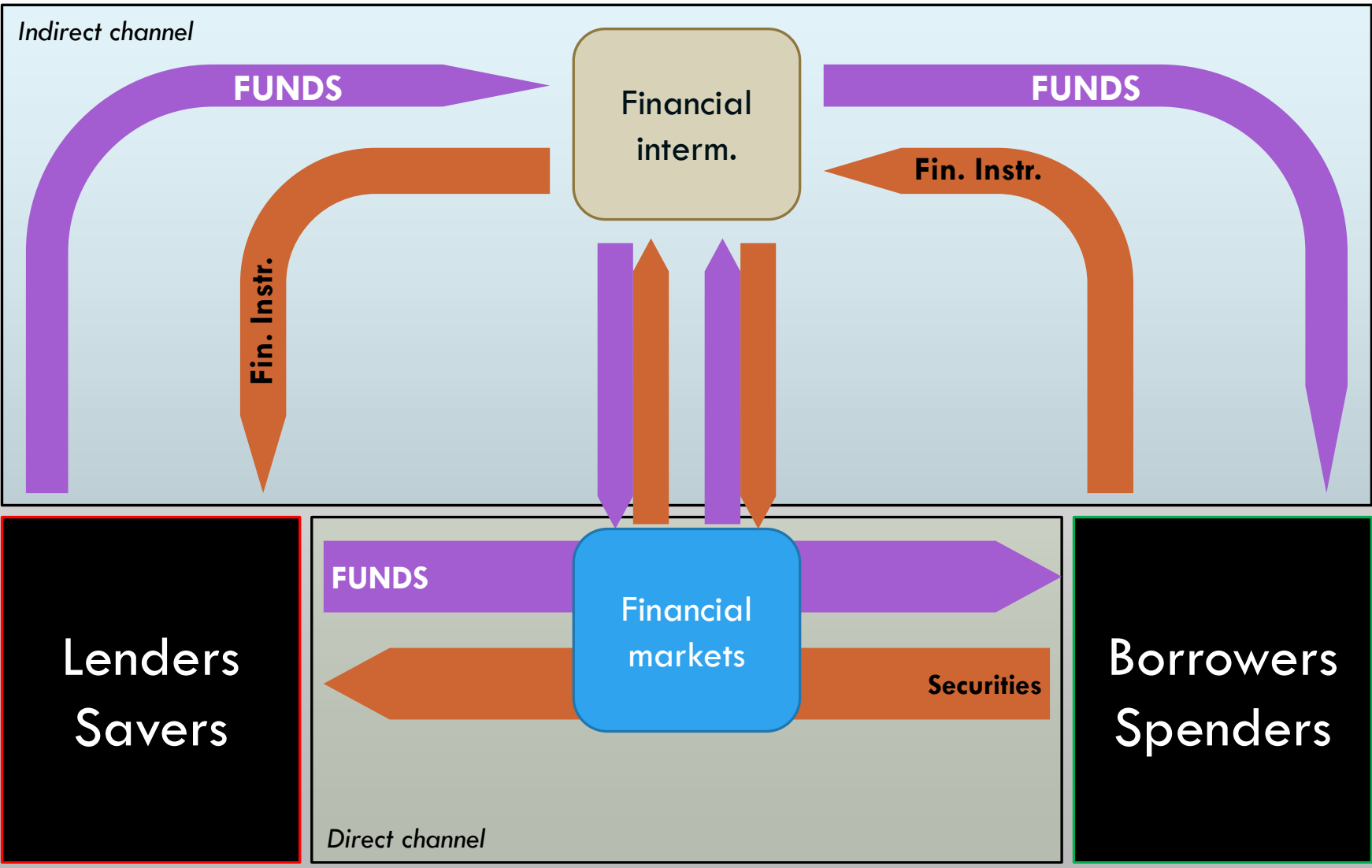
Help needed:

- Access to information
- Divergent knowledge, skills, trust, preferences, ...
- Borrowers can become lenders and the other way around



Cash VS payment systems (bank transfers, cards, e/m payments, ...): stability, safety, costs, flexibility, ...

STRUCTURE



Financial system: organized combination of:

- **Markets:** where demand and supply meet
- **Intermediaries:** produce/trade instruments and related services
- **Instruments/services:** contracts that regulate the transfer of financial assets or liabilities and rights/obligations

Aim:

- **Settling transactions** (payments system)
- **Accumulate savings and fund investments** (transferring surpluses and deficits)
- **Manage risks** (insurance, derivatives)
- **Pricing of instruments**
- **Liquidity**

WHY?



- FIRMS ISSUE **MORE BONDS THAN STOCKS**
- BONDS AND STOCKS, TOGETHER, ARE **NOT THE MAIN SOURCE** OF FUNDING (ALMOST ALWAYS)
- **INDIRECT FINANCE** (ESPECIALLY BANKS) PREVAILS ON DIRECT FINANCE
- MARKETS, INTERMEDIARIES AND PRODUCTS ARE HEAVILY **REGULATED**
- MANY **DIFFERENT KINDS OF BONDS, STOCKS AND OTHER PRODUCTS** EXIST
- **DEBT INSTRUMENTS** USUALLY REQUIRE **GUARANTEES AND COVENANTS**
- **UNDERDEVELOPED FINANCIAL SYSTEMS** ARE ASSOCIATED WITH **LOW ECONOMIC GROWTH**

WHY THE INDIRECT CHANNEL?



- **Lower transaction costs** (experience, time, money) due to **scale economies**
- **Additional services** (scope economies)
- **Risk sharing and reduction of uncertainty**
- **Diversification**
- **Less asymmetric information**

ASYMMETRIC INFORMATION?



In every transaction, one knows better...

- Adverse selection (ex-ante): worst borrowers are more active in seeking counterparties, sick people look for health insurance, ...
- Moral hazard (ex-post): borrowers may behave against the interests of lenders misusing loan's proceedings, insureds don't take enough care of their wealth, ...

Solutions?

- Finding ways to distinguish «good» from «bad» risks: **experience, monitoring, guarantees, covenants** (but: contracts get complex, and costs increase)
- Specialising in gathering and managing information (but: **free-riding** and **conflicts of interest**)
- Increase **regulation and supervision** (but: usually catching up, and costly to enforce)



SIMULATION



GET TO THIS LINK OR USE THE QR CODE
AND FOLLOW THE INSTRUCTIONS

<http://tinyurl.com/48e2kddu>



adverse selection:

- A borrower can be Good or Bad
- Good can pay 5% tops. Bad, instead, 10%
- A bank can't take less than 4% from Good, 8% from Bad
- If we know who is Good or Bad, it's just fine
- But if we can't:
 - Banks would offer an average rate (6%)
 - But only Bad will apply (and happily!)
 - Banks would lose, and not offer loans...



moral hazard:

- Your house value: 100.000
- You insure it at 100% against fire
- 0,01% probability of a total loss from fire
- Insurers ask $0,01\% \times 100.000 = 10$
- Every 10.000 houses, 1 will burn, costing 10.000×10
- But what if there is no control, and somebody in need for cash burn his/her own house down?



EXAMPLES

TRANSACTION COSTS?



- **Getting to markets bears costs**, especially if your funds are limited
- **Some products have huge denominations**
- With little money, hard to diversify

Solutions?

- **Scale economies**: financial intermediaries are BIG
- **Scope economies**: financial intermediaries offer a wide range of products
- **Liquidity services and information** to attract clients

CONFLICTS OF INTEREST?



Multiple incentives induce opportunistic behaviour, such as hiding information, damaging others' interests, ...

Examples:

- Underwriting and placing of financial instruments in banks: three diverging interests at play (issuer, buyer, bank)
- Auditing and advising: the advisor profits more by having more clients, clients want easy checks, investors want strict scrutiny
- Rating agencies: issuers want good scores, markets trust information, agencies look for more clients (and clients pay for solicited ratings...)

Solutions?

- **Regulation and supervision:** they cost, separation reduces economies of scope, sanctions are enforced afterwards, compliance reduces efficiency, ...
- **Teaching ethics...?**



Are you honest?

WHAT MARKETS AND INTERMEDIARIES?

Rights

• DEBT:



- Borrowers pay a predetermined amount at given points in time until maturity
- Short (<1y), medium (1-5/10y) and long term (>5/10y)

• EQUITY:



- Right to distributed earnings and residual interest in net worth
- Voting rights

Transferability

• CREDIT (and also INSURANCE):



- Difficult or impossible to transfer
- Customized
- Complex (clauses, ...)

• SECURITIES:



- Quickly and easily transferable
- Standardized
- Uniform contractual features

WHAT MARKETS AND INTERMEDIARIES?

Source

• Primary:



- New issues
- Natural liquidity
- Mainly for institutional investors

• Secondary:



- Old issues
- Many intermediaries but also retail players
- *Artificial liquidity*
- Prices influence primary markets

Organization

• Exchange:



- Centralised management of standardized trades
- Many segments
- Liquid, low counterparty risks, transparent, influential

• Over-the-Counter (OTC):



- Intermediaries offer to buy/sell with their own portfolio
- May have weak transparency/controls
- Technology and competition lower distance from exchanges (es. NASDAQ)

WHAT MARKETS AND INTERMEDIARIES?

Maturity

• Money:



- Short term debt
- Huge volumes, high liquidity
- Huge denominations
- Treasury management

• Capital:



- Longer debt, equity
- More volatile/risky
- Managing savings and investments

Role

• Credit institutions:



- Banks: collect deposits, bonds and stocks, invest in loans, bonds, stocks
- Non-banks: no deposits

• Insurance intermediaries:



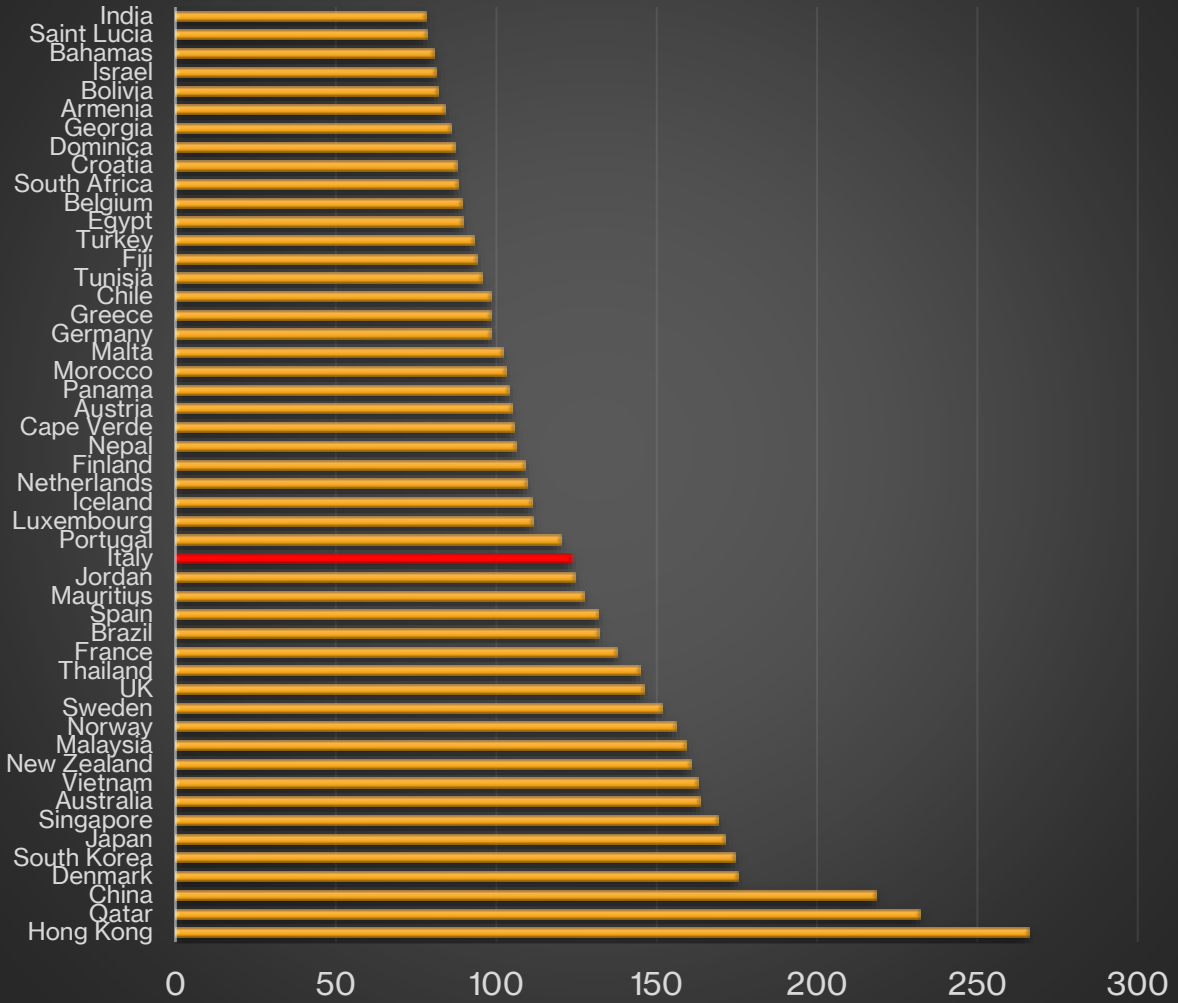
- Life/P&C/pension funds: raise premiums or contributions, invest in debt, stocks

• Securities' industry:

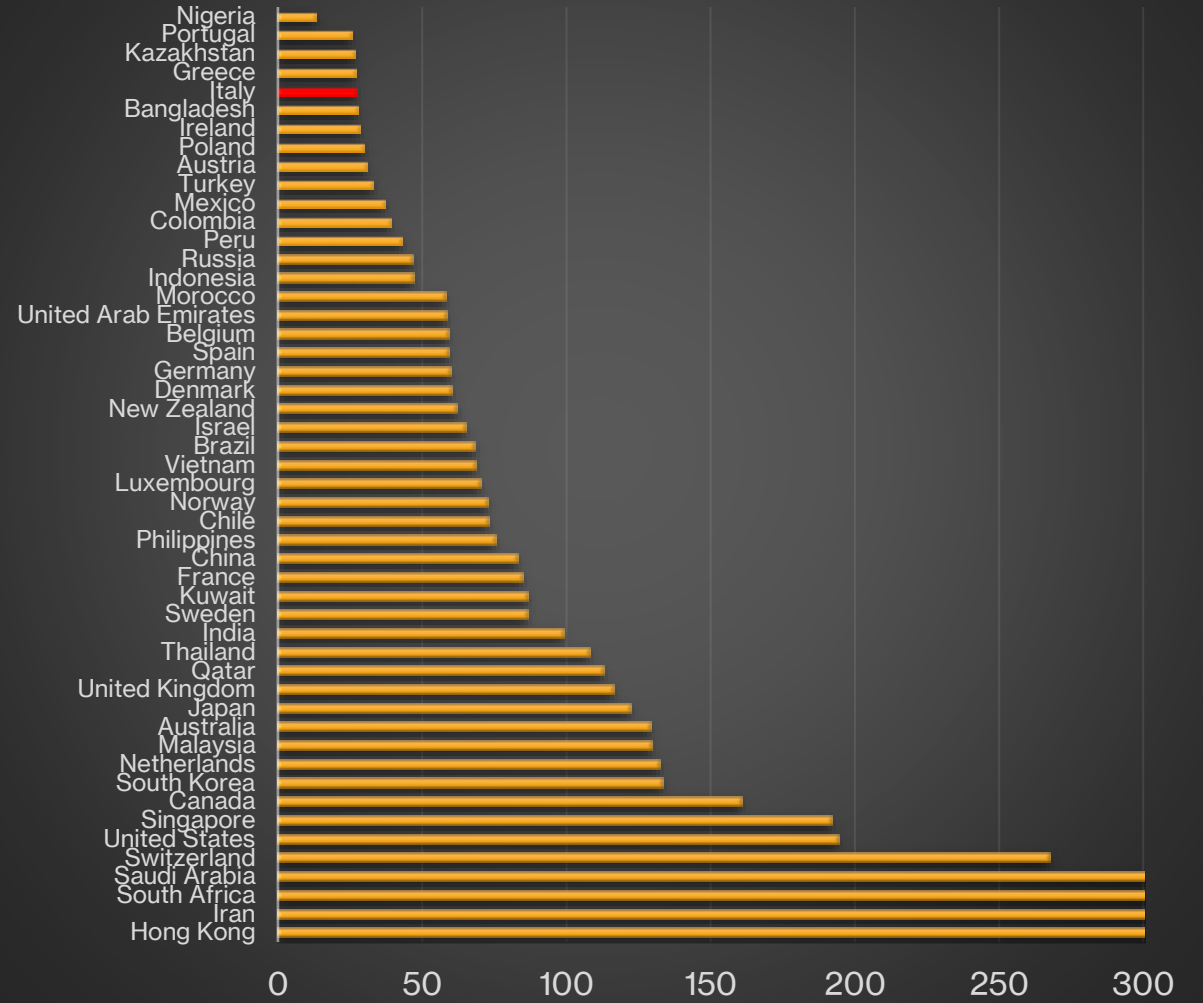


- Investment banks, asset managers, mutual funds, and many more: raise through bonds/equity, invest in bonds/equity
- Many «servicers»: broker, ...

Bank assets to GDP (2020)



Stock cap / GDP (2020)



EXAMPLES

REGULATION AND SUPERVISION



Scope:

- protection of “customers” (depositors and other creditors)
- financial stability

How?

- Transparency requirements: reduce asymmetric information and lower adverse selection and moral hazard (f.i. contracts, annual reports, ...)
- Soundness and financial stability:
 - Restrictions on entry to and exit from market, on assets and operations (risk taking)
 - Deposit insurance and safety nets
 - Restrictions on competition (f.i. opening new branches) or pricing (f.i. min/max interest rates)
 - Prudential supervision: capital requirements, governance, market discipline

A patchwork of authorities: BCBS/EBA/ECB/NCB/anti-trust/...

Vai su **wooclap.com** e usa il codice **FMAI23**



Imagine that you saved 1,000 € and that you decided to invest it. How do you rank the following, from the most to the least attractive?



1 One of your classmates needs it now, and will give 1,100 in 1 year

2 A small enterprise issued a bond that costs 90 and delivers 100 in 3 years

Clicca sullo schermo di proiezione per avviare la domanda

3 A bank offers you a demand deposit with a quarterly 0,3% interest rate

4 A government bond is available for 97, with a 1% annual coupon, maturity in 5 years



Vai su **wooclap.com** e usa il codice **FMAI23**

A sales agent can earn 40,000 € a year, but needs a car costing 50,000 €. A bank offers the loan, with monthly instalments, with a 50% interest rate for 3 years. The job lasts 5 years. This offer:

1 Is clearly unethical

0% 0

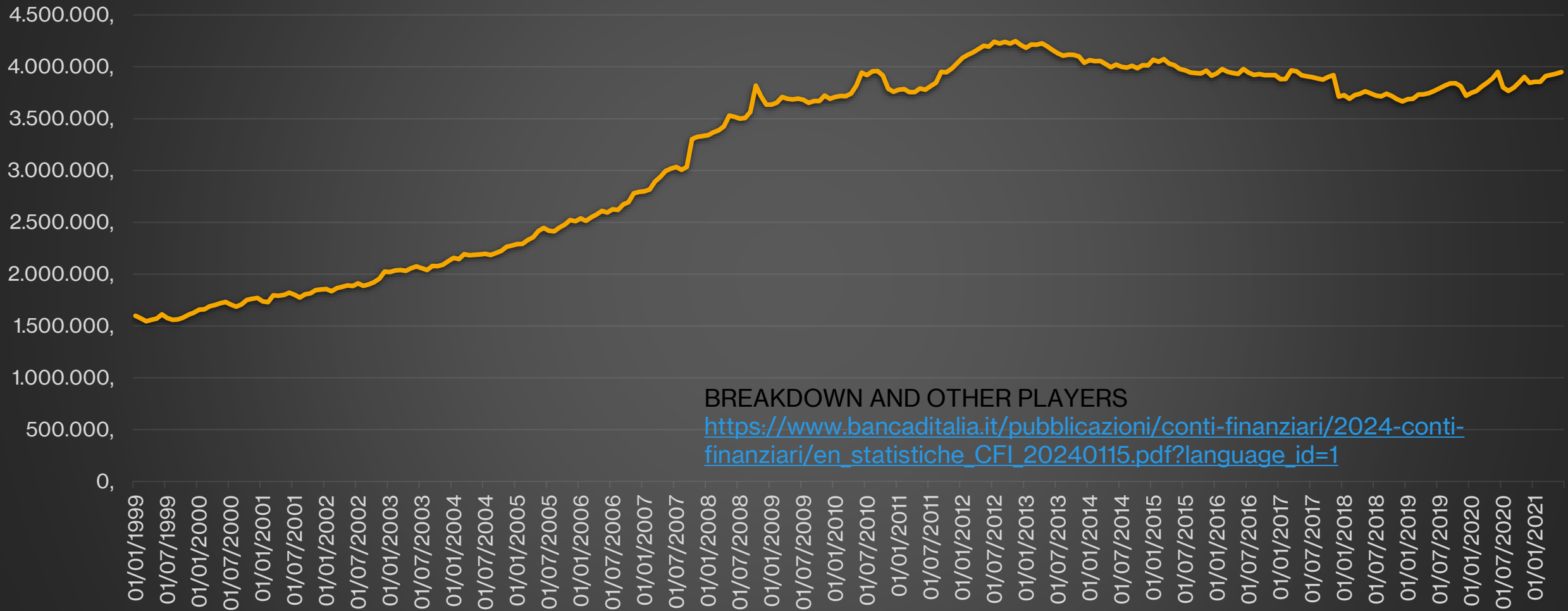
2 Does not allow the agent to buy a car
Clicca sullo schermo di proiezione per avviare la domanda

0% 0

3 May be a deal

0% 0

Italy – bank assets



BREAKDOWN AND OTHER PLAYERS

https://www.bancaditalia.it/pubblicazioni/conti-finanziari/2024-conti-finanziari/en_statistiche_CFI_20240115.pdf?language_id=1

EXAMPLES



LIBOR (London InterBank Offered Rate): reference IR (1d-1y), main currencies (GBP, USD, CHF, EUR, JPY, ...) and basis for cost of borrowing and derivatives for as high as 800-1000 trn USD globally

HOW? Survey to major banks asking «what would be an acceptable current interbanking market rate for fund your operations?». F.i.: 18 players for USD, truncation of low/high answers, average → fixing

What can go wrong?

Sorry to be a pain
but just to remind
you the importance
of a low fixing for
us today

Morning
skipper... will
be submitting
an obscenely
high 1m again
today

its just amazing how
libor fixing can make you
that much money

Aftermath:

- BLN\$ sanctions to many banks, very few people got jailtime
- Similar issues with forex (evidence of intense transactions around the fixing) and the Euribor

EXAMPLES