FINANCIAL MARKETS AND INSTITUTIONS
A.Y. 2024/25
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A7. MORTGAGE MARKETS

- WHY DO MORTGAGE LOANS EXIST?
- HOW DO THEY WORK?
- SECONDARY MARKETS AND THE FINANCIAL CRISES

PURPOSE AND MAIN FEATURES

- **Long-term** loan **secured** by **real estate**
- Both **residential** and **commercial/industrial**
- Repayment with periodic payments of C and I (**amortisation**)
- IR fixed, variable, or a combination
- Global size (StraitsResearch): 13 TRN USD (2024), estimated 30 TRN USD (2033)

Many variations:

- can be **guaranteed by public agencies** (f.i. veterans, young couples, …)
- IR: adjustable rate mortgage (ARM), caps/floors, fixed installment + variable rate
- **Additional risks if increasing installments** (f.i. growing equity – GEM) or **decreasing optional installments** (preamortisation below nominal rate, interest-only, …)
- **multiple mortgages** on same collateral are possible
- **reverse annuity (RAM)**

Go to **wooclap.com** and use the code **FMAI**

Which is the best FIXED interest rate that today, for a 20 years residential mortgage, one can obtain in Trieste?
(in %, number only)

Let's vote!

Click on the projected screen to start the question

0%

of participants have already answered

wooclap

100 %

0 / 688

Go to **wooclap.com** and use the code **FMAI**

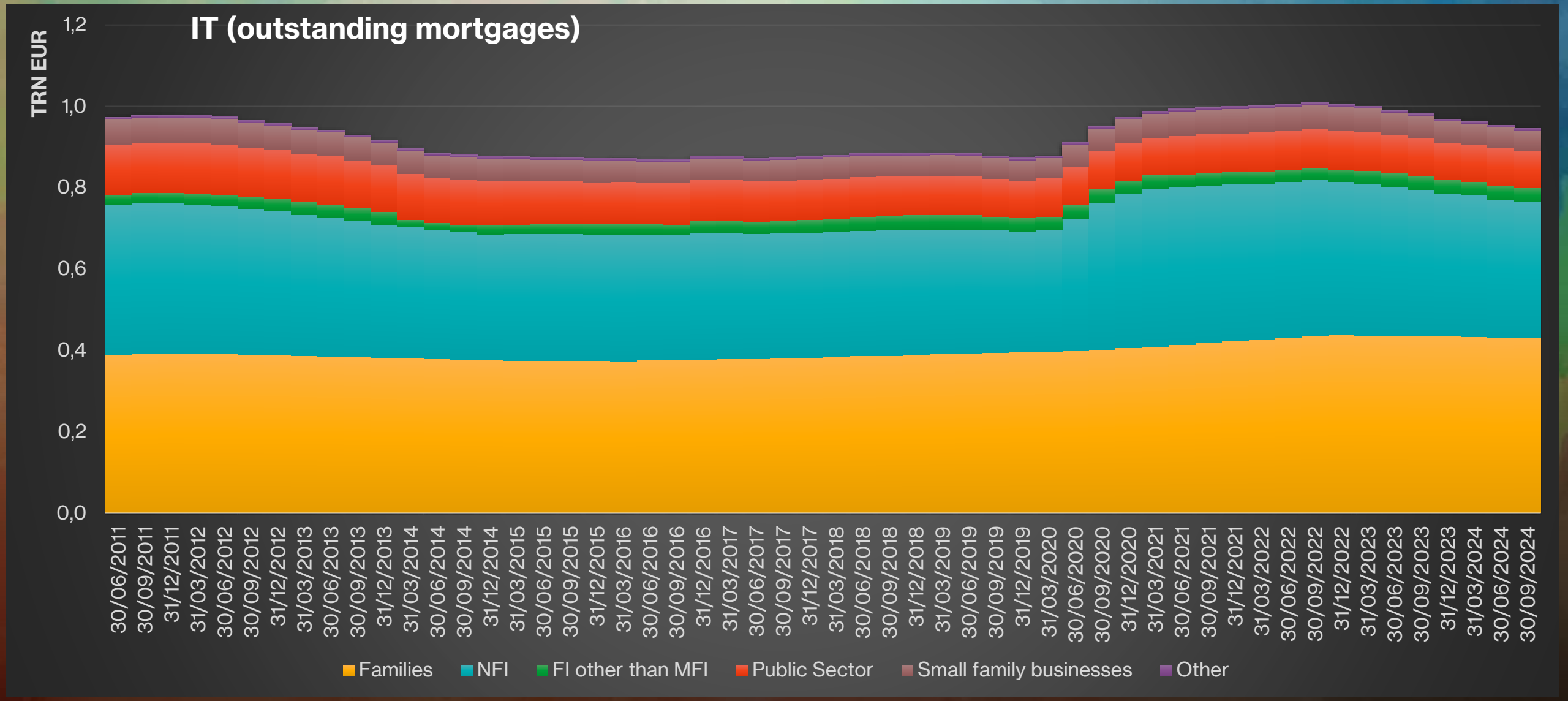
Which is the best VARIABLE interest rate that today, for a 20 years residential mortgage, one can obtain in Trieste? (in %, number only)

Let's vote!

Click on the projected screen to start the question

0 %

of participants have already answered


IT (outstanding mortgages)
TRN EUR
1,2
1,0
0,8
0,6
0,4
0,2
0,0
30/06/2011
30/09/2011
31/12/2011
31/03/2012
30/06/2012
30/09/2012
31/12/2012
31/03/2013
30/06/2013
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31/12/2022
31/03/2023
30/06/2023
30/09/2023
31/12/2023
31/03/2024
30/06/2024
30/09/2024
Families
NFI
FI other than MFI
Public Sector
Small family businesses
Other

EXAMPLES

PRICING

$$i\% = \text{Market} + \text{Spread}$$

Variable: EURIBOR, EONIA …
Fixed: EURIRS

Lender:

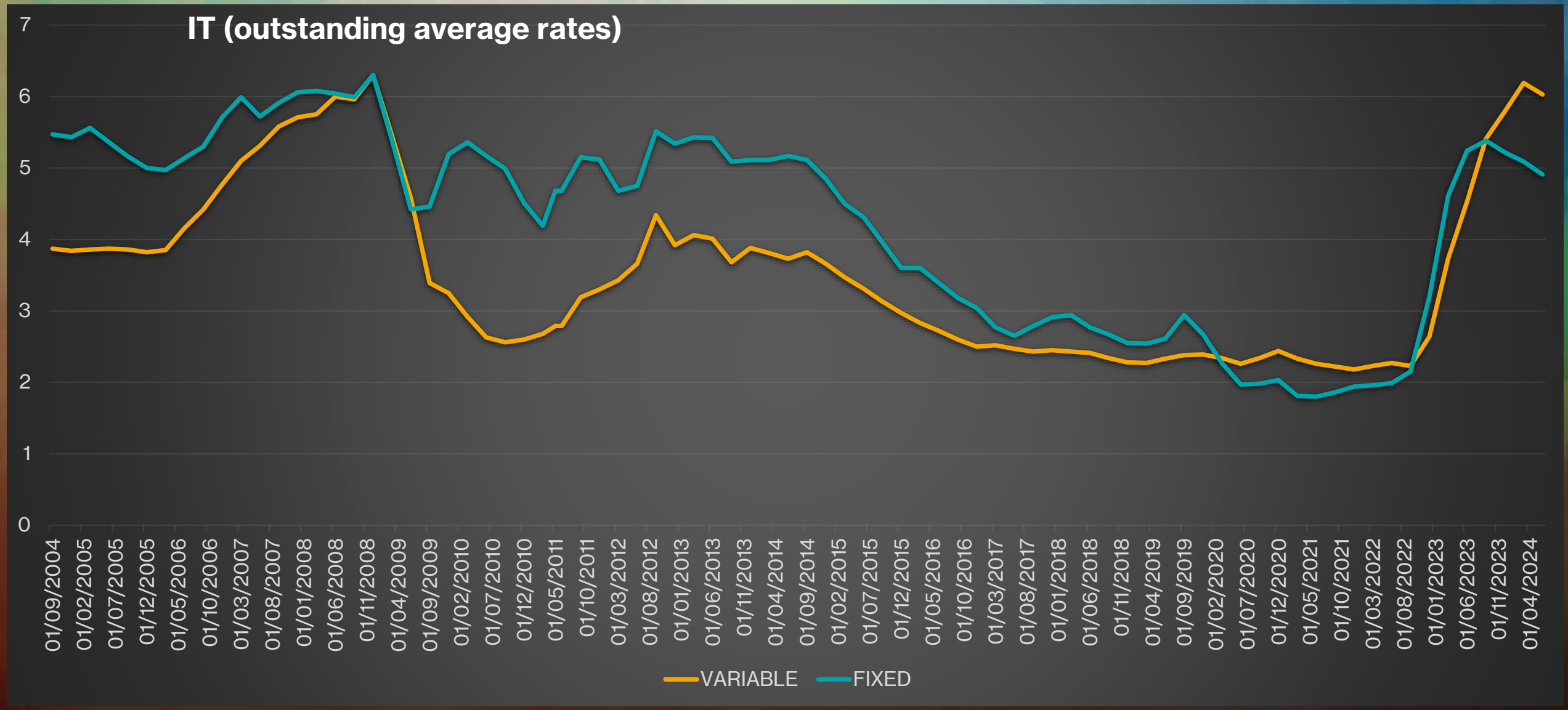
- Strategy and competition
- Funding
- Existing portfolio
- Expectations

Borrower:

- Creditworthiness, net worth and income
- Outstanding debt
- Past behavior and credit scores

Operation:

- Duration, rate and amortization plan, purpose
- Down payments (f.i. 80/20) and loan-to value
- Collateral, insurance


IT (outstanding average rates)
7
6
5
4
3
2
1
0
01/09/2004
01/02/2005
01/07/2005
01/12/2005
01/05/2006
01/10/2006
01/03/2007
01/08/2007
01/01/2008
01/06/2008
01/11/2008
01/04/2009
01/09/2009
01/02/2010
01/07/2010
01/12/2010
01/05/2011
01/10/2011
01/03/2012
01/08/2012
01/01/2013
01/06/2013
01/11/2013
01/04/2014
01/09/2014
01/02/2015
01/07/2015
01/12/2015
01/05/2016
01/10/2016
01/03/2017
01/08/2017
01/01/2018
01/06/2018
01/11/2018
01/04/2019
01/09/2019
01/02/2020
01/07/2020
01/12/2020
01/05/2021
01/10/2021
01/03/2022
01/08/2022
01/01/2023
01/06/2023
01/11/2023
01/04/2024
VARIABLE
FIXED

EXAMPLES

SECONDARY MARKET

- Mortgages are **illiquid** for lenders
- Partially also for borrowers (but: laws and regulation)
- Illiquidity threatens lenders:
  - IR risk (A/L mismatch, reinvestment of future flows)
  - default risk / market risk of collateral
  - loan servicing is expensive (administrative costs)

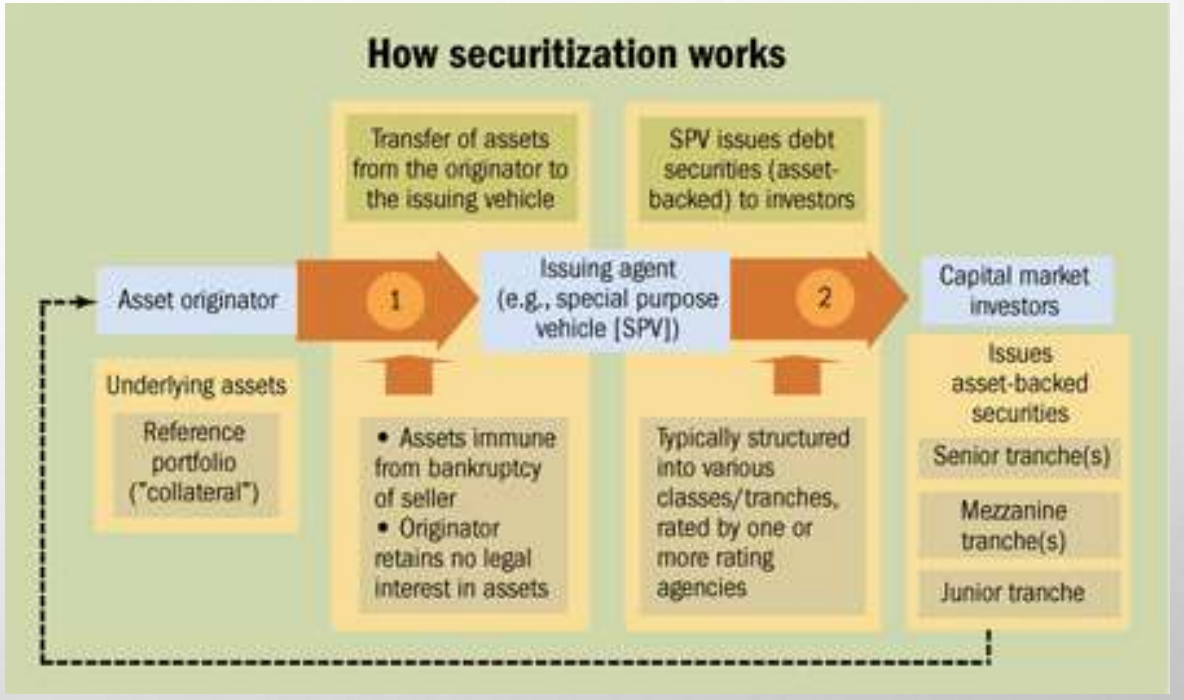
Secondary markets can be useful, but are difficult:

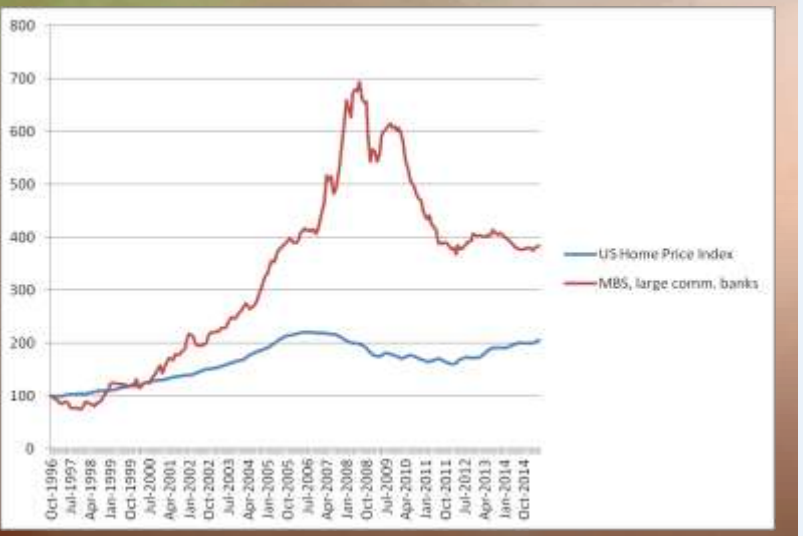
- Initially, **ceding loans** to other investors (but costly and time consuming)
- Then, funded by (and transferred to) **public repurchase programs** (in bulk, with asymmetric information issues)
- More recently, trough **securitization**

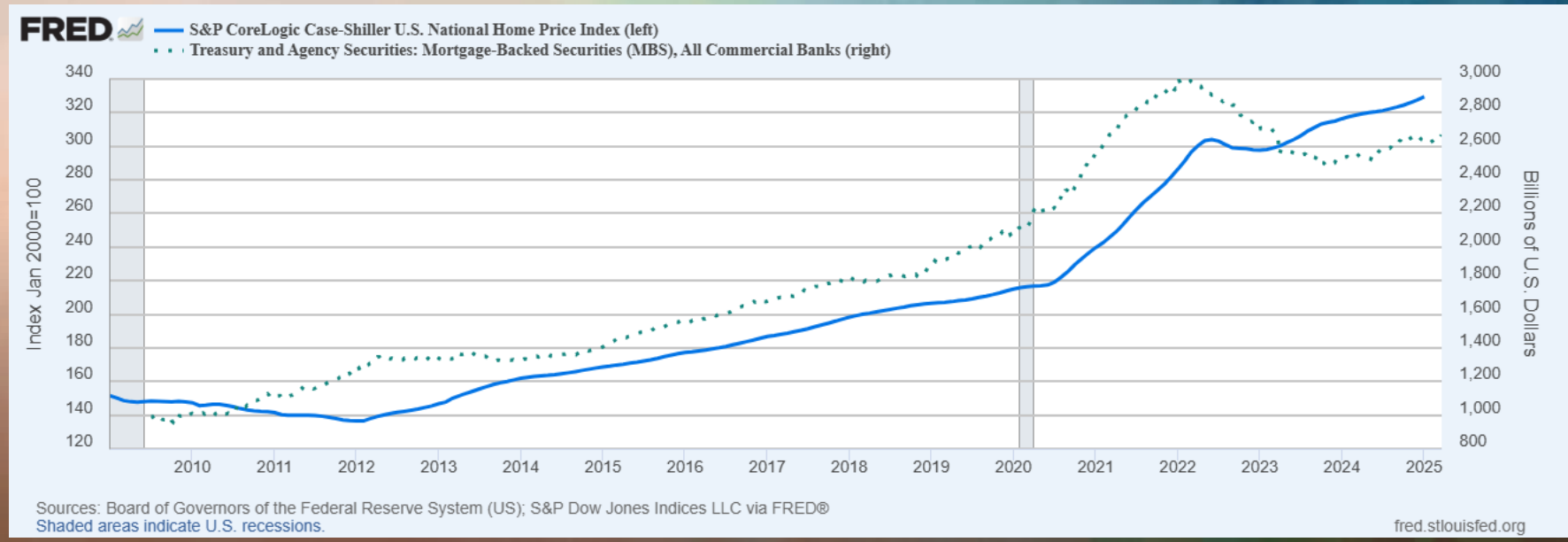
SECONDARY MARKET & SECURITIZATION

Securitisation:

- Securities backed by assets (mortgages, **MBS**) to fund new acquisitions
- Useful for a number of small-size loans, unstandardised, with different maturities and other economic features, towards borrowers with different credit scores, costly to service, uncertain in default rates
- Allows **liquidity** to originator, **diversification** to investors
- Dangers: distance between risk-bearer and risk-assessment and complexity/pricing



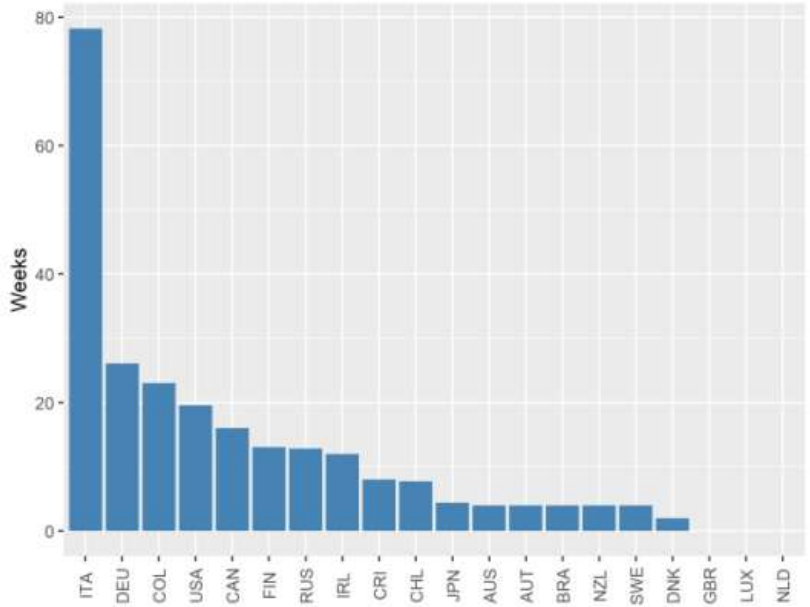

800
700
600
500
400
300
200
100
0
US Home Price Index
MBS, large comm. banks
Oct-1996
Jul-1997
Apr-1998
Jan-1999
Oct-1999
Jul-2000
Apr-2001
Jan-2002
Oct-2002
Jul-2003
Apr-2004
Jan-2005
Oct-2005
Jul-2006
Apr-2007
Jan-2008
Oct-2008
Jul-2009
Apr-2010
Jan-2011
Oct-2011
Jul-2012
Apr-2013
Jan-2014
Oct-2014


FRED
S&P CoreLogic Case-Shiller U.S. National Home Price Index (left)
Treasury and Agency Securities: Mortgage-Backed Securities (MBS), All Commercial Banks (right)
Index Jan 2000=100
340
320
300
280
260
240
220
200
180
160
140
120
Billions of U.S. Dollars
3,000
2,800
2,600
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Sources: Board of Governors of the Federal Reserve System (US); S&P Dow Jones Indices LLC via FRED®
Shaded areas indicate U.S. recessions.
fred.stlouisfed.org

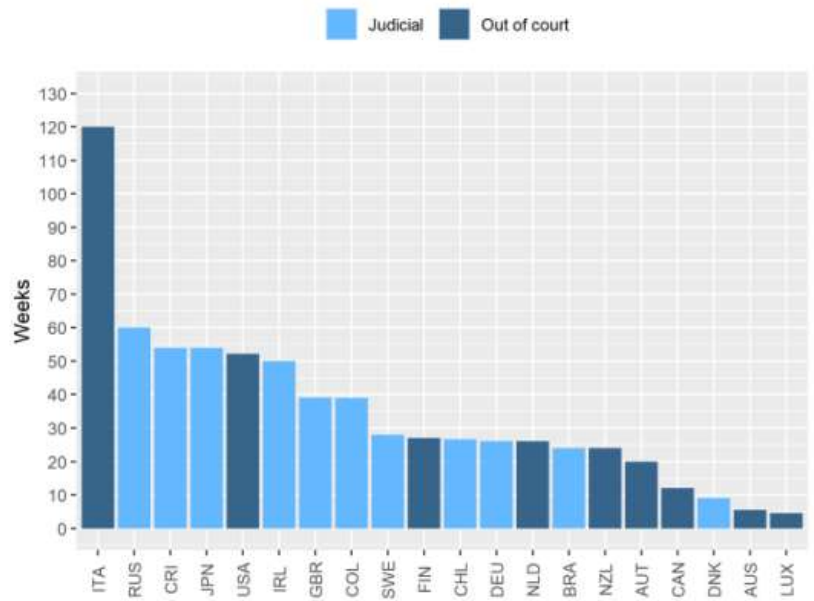
EXAMPLES

Figure 13. Foreclosure proceedings' characteristics across jurisdictions

Panel A:Weeks after first missed payment that foreclosure procedure starts

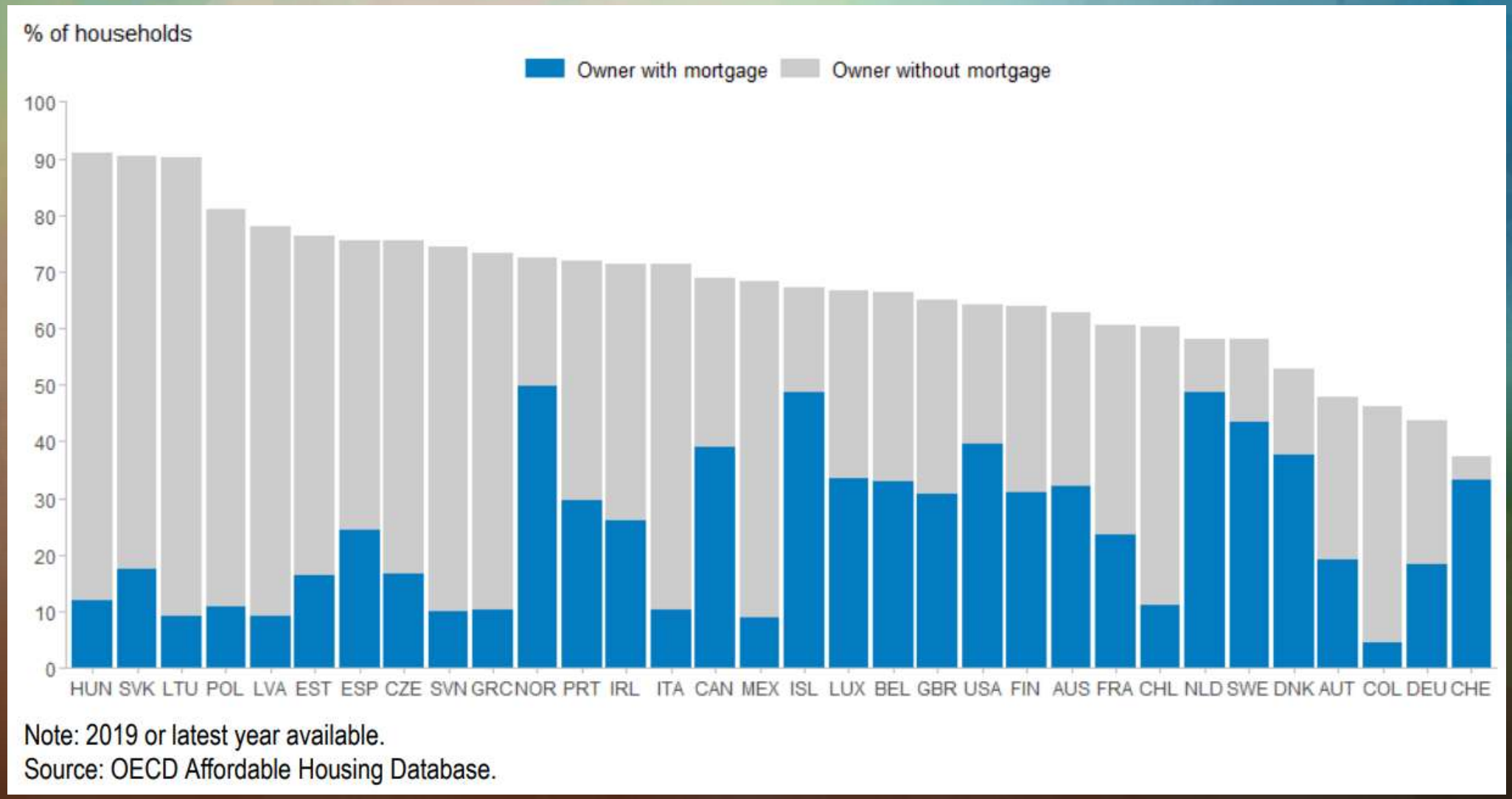


Panel B:Duration of foreclosure proceedings



Note to Panel B: Typical duration of the foreclosure process for the most common procedure in the respective country (out of court or in court).
Source: OECD QUASH survey and various public sources.

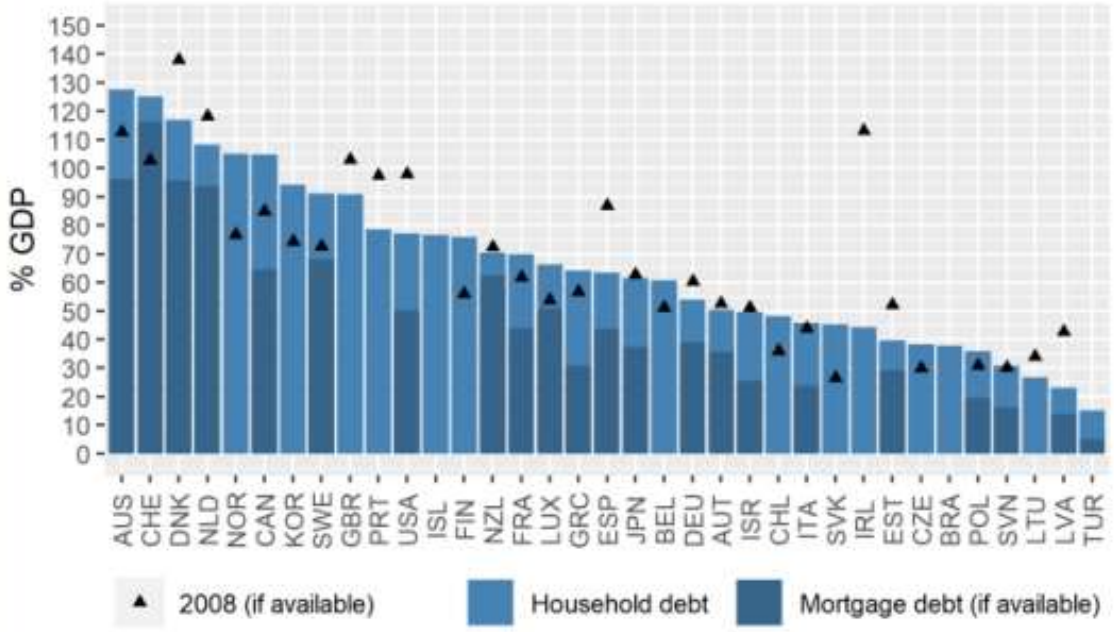
EXAMPLES


% of households
Owner with mortgage
Owner without mortgage
100
90
80
70
60
50
40
30
20
10
0
HUN SVK LTU POL LVA EST ESP CZE SVN GRC NOR PRT IRL ITA CAN MEX ISL LUX BEL GBR USA FIN AUS FRA CHL NLD SWE DNK AUT COL DEU CHE
Note: 2019 or latest year available.
Source: OECD Affordable Housing Database.

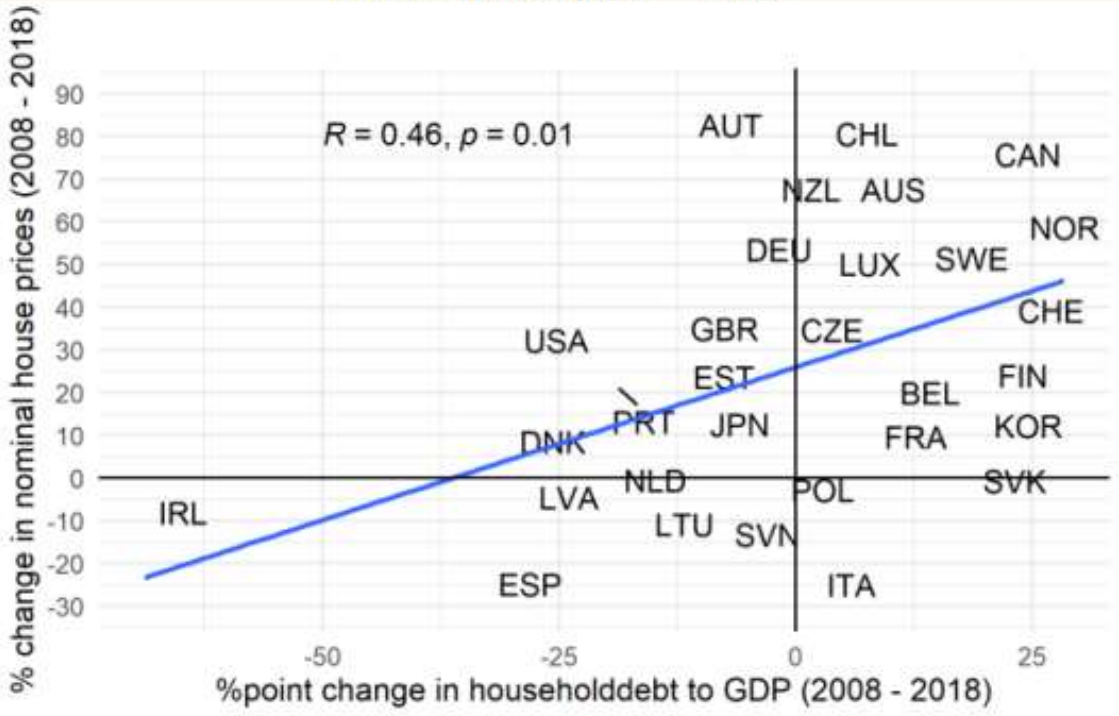
EXAMPLES

Figure 9. Total household (including mortgage) debt to GDP

Panel A: Household debt to GDP in 2018 and 2008



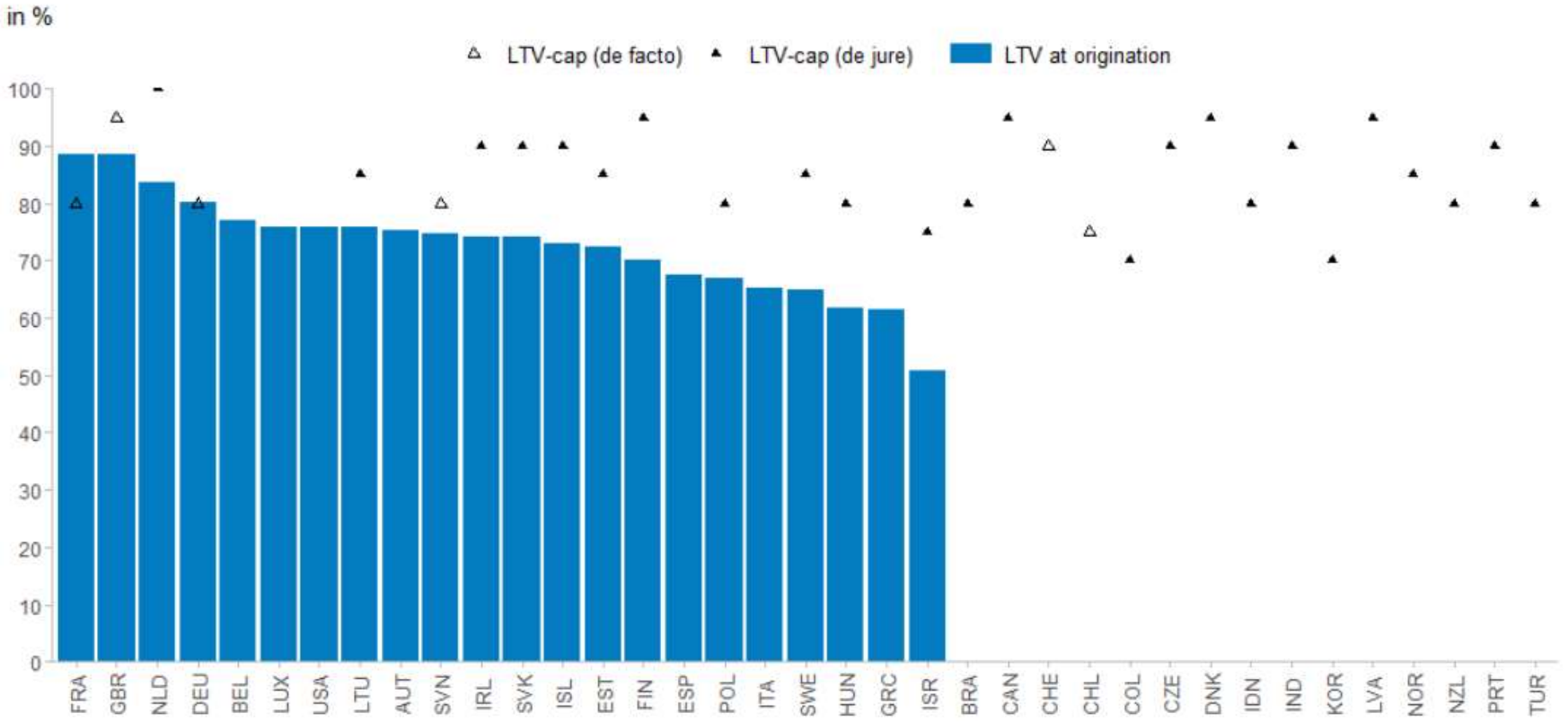
Panel B: Change in household debt to GDP versus change in house prices (2008 – 2018)



Source: OECD Household Accounts, doi:0.1787/na-data-en; OECD Housing Prices, doi:10.1787/63008438-en and EMF.

EXAMPLES

Figure 10. Loan-to-value at origination and loan-to-value caps



Note: De jure LTV-caps refer to official regulation of government institutions. The de facto caps are caps that follow from self-imposed constraints by financial institutions or recommendations from governments.

Source: ESRB (2021) Macroprudential database; OECD QUASH 2019 survey; IMF Macroprudential database; ECB (2020[30]); Bank of England.

EXAMPLES