BANCA NAȚIONALĂ A ROMÂNIEI

The effectiveness of borrower-based measures in Romania

Simona Ichim, Financial Stability Department

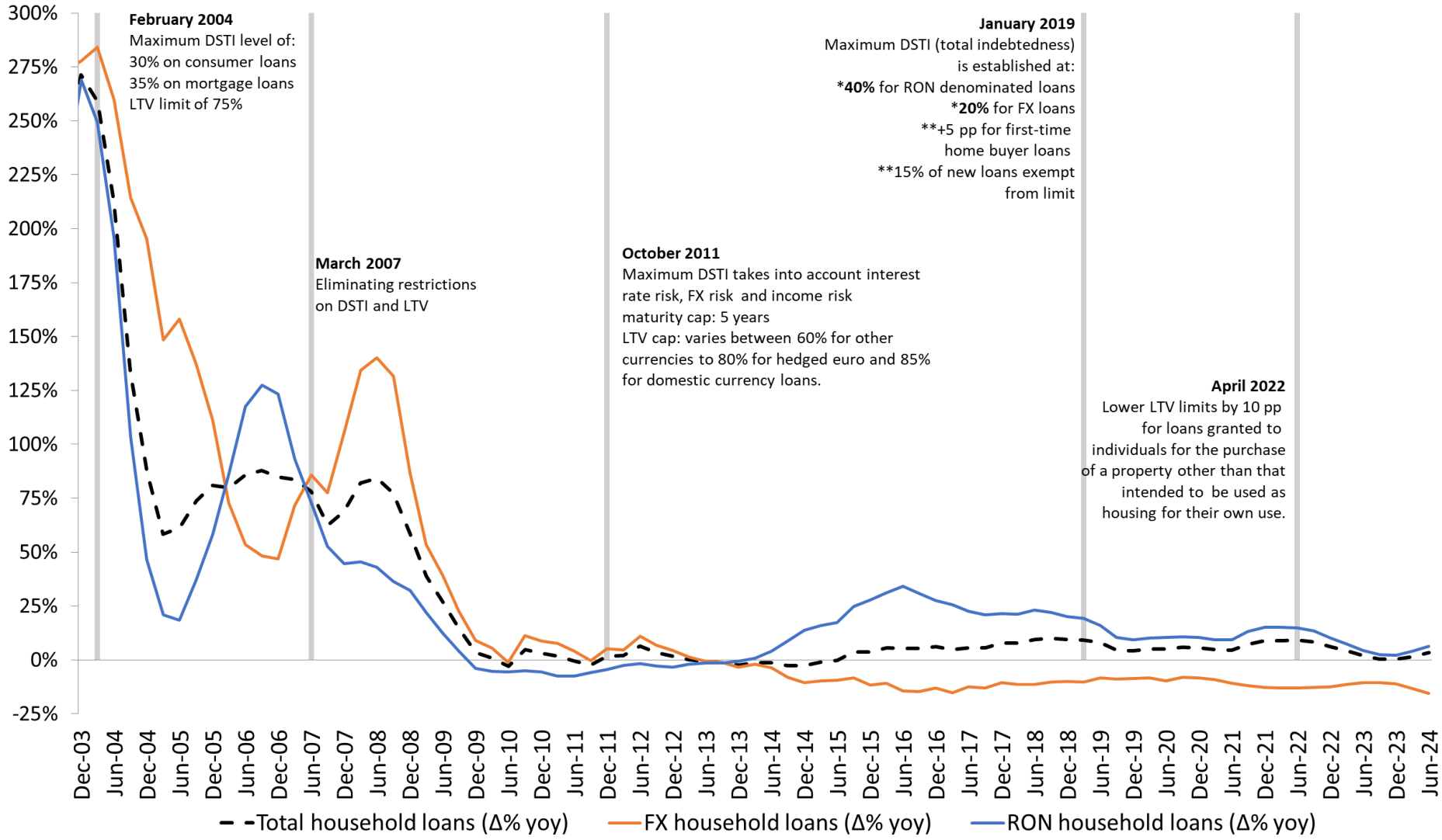
Sinaia, October 3rd, 2024

The views expressed in this paper are those of the author and do not necessarily reflect the views of the National Bank of Romania.

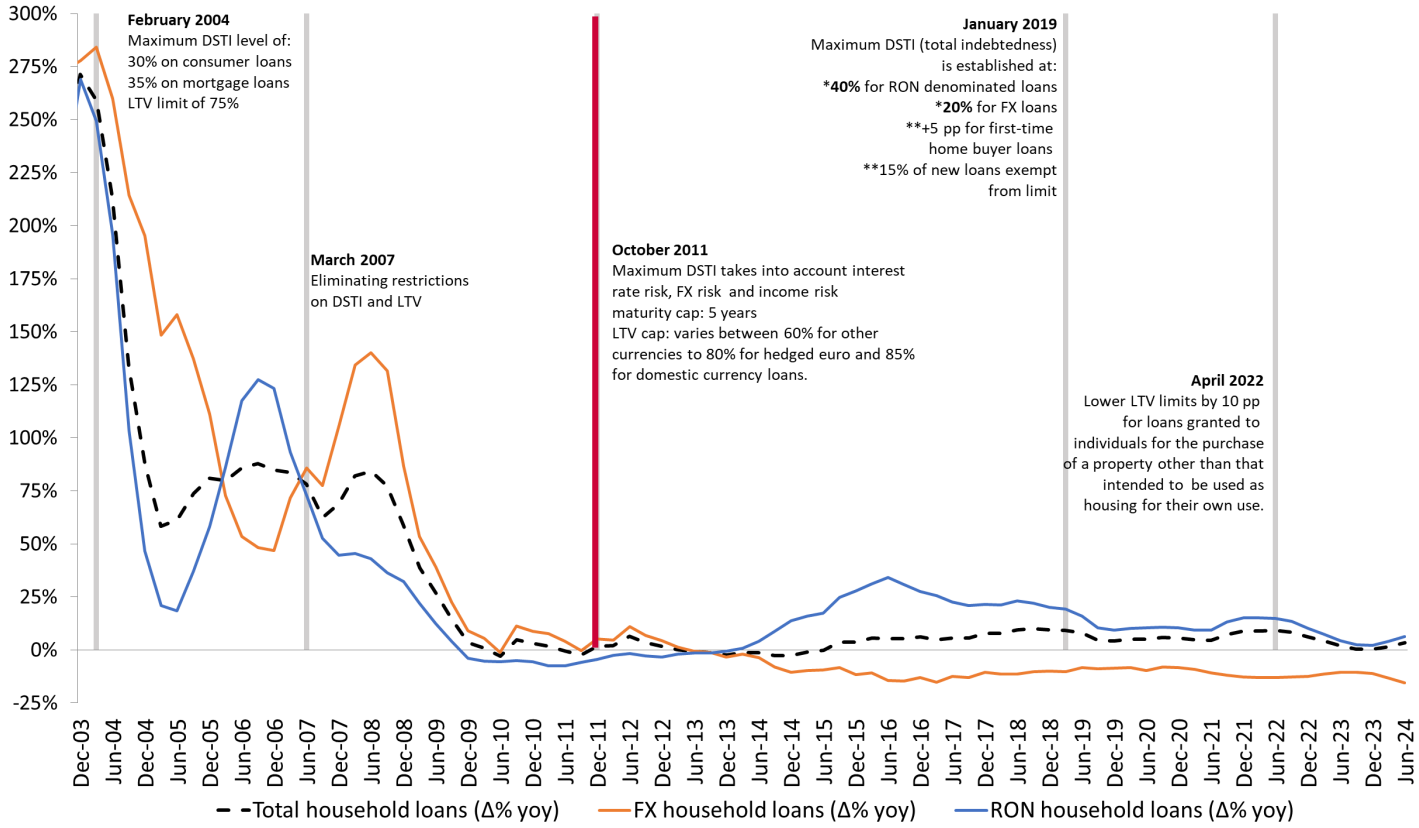
Agenda

- Overview of Romania's experience with BBMs
- LTV and maturity cap, since October 2011
- DSTI limit, since January 2019
- LTV for borrowers who own a house at the time of the loan request, since April 2022
- Concluding remarks

Romanian experience with borrower-based measures



The LTV and maturity cap measures, implemented in October 2011



Maximum loan-to-value (LTV):

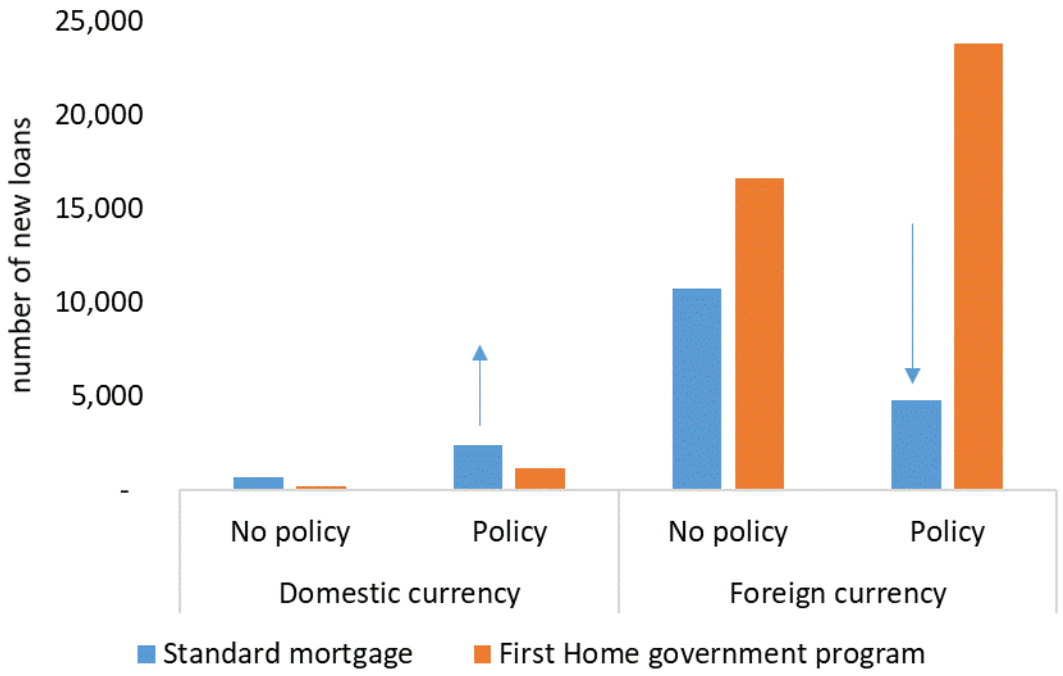
- **85%** for domestic currency,
- **80%** for foreign currency to hedged debtors
- **75%** for euro to not hedged debtors
- **60%** for other currencies to not hedged debtors.

*95% for First Home government financing program

Maturity cap: **5 years** for consumer loans

The regulation supported loan origination in national currency

Number of new housing loans granted, by currency and policy

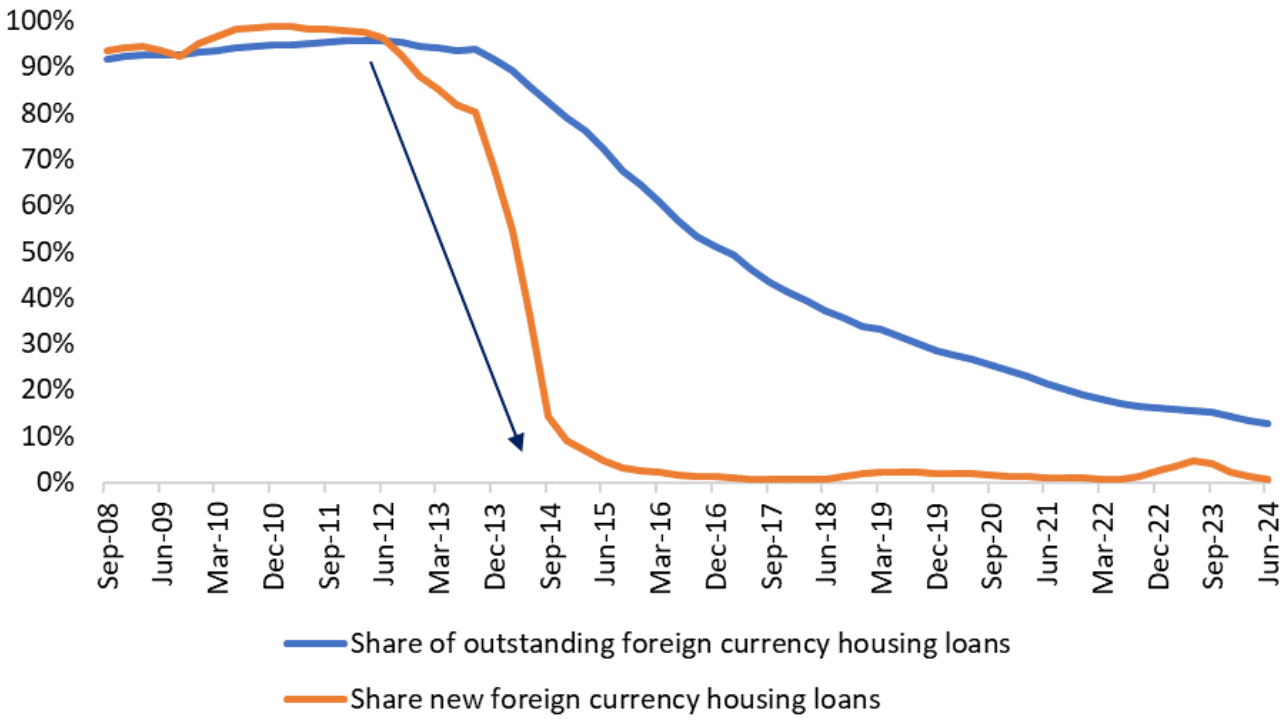


- The introduction of the LTV limit in October 2011 led to a **decrease in the number of standard mortgage loans** that were granted in the following year (-38% no policy period vs. policy period).
- The decrease was caused mainly by **foreign currency denominated loans,** which fell by 56%.
- **Domestic currency denominated loans more than doubled**.

Source: Popa,R., Ichim, S., Neagu, F., Andrieș, A., Alupoaiei, A., (2024). "Asymmetric effects of borrower-based measures on household access to finance".

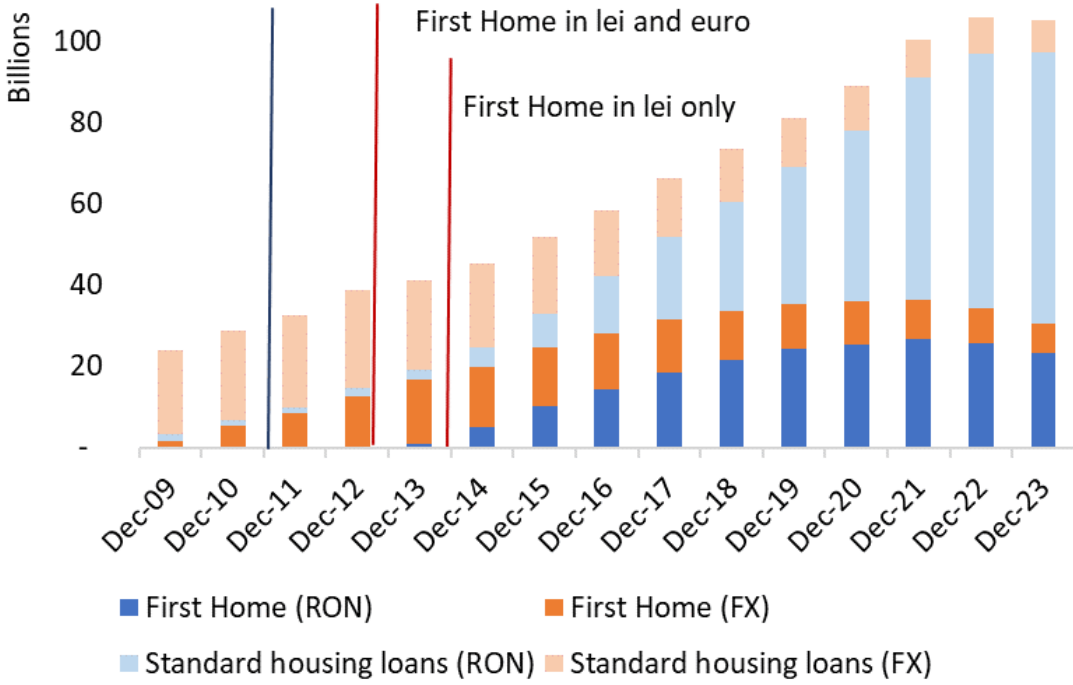
New foreign currency denominated housing loans share decreased from 98% to a single digit figure

Share of foreign currency housing loans



Source: NBR

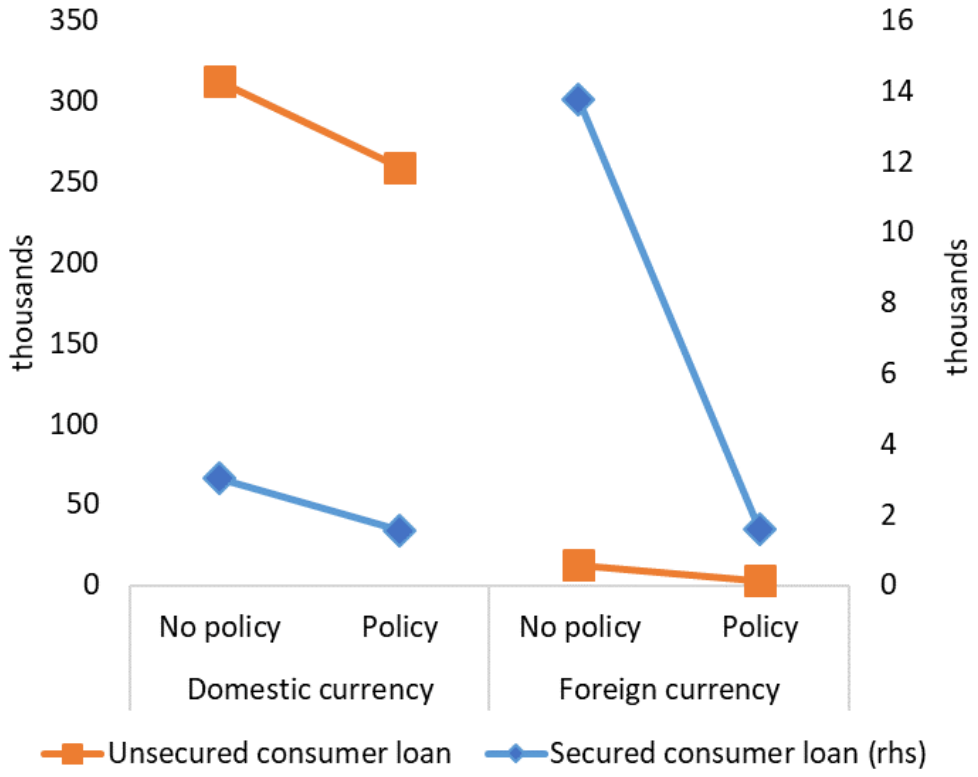
Housing loans, by type and currency



Source: NBR

The maturity cap prevented consumer loans origination for real estate purchase

Number of new consumer loans granted, by currency and policy

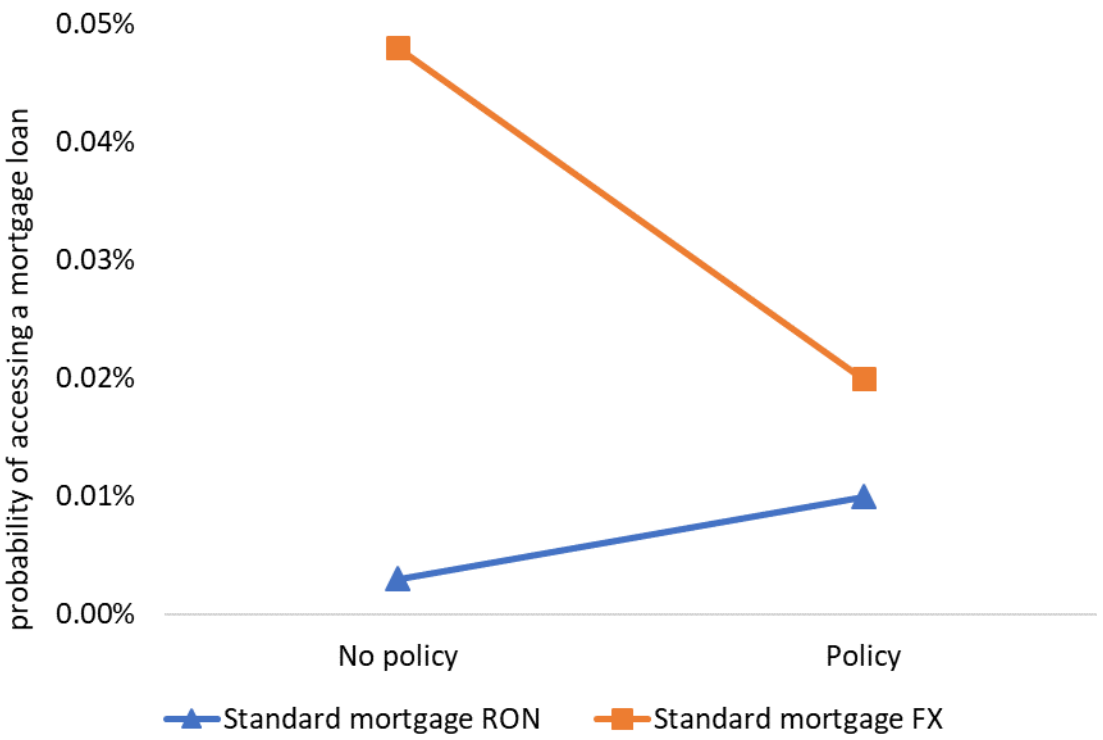


Source: Popa, R. et al.(2024)

- The **5-year maturity cap had a significant effect** on secured consumer loans (-81%) and, to a lesser extent, on unsecured consumer loans (-19%).
- **Secured consumer loans** before the policy intervention had an **average maturity of 18.5 years** and 39,000 EUR average amount.
- This was significantly influenced by the maturity cap, which led to a reduction of the **average maturity to 8.5 years** and to an average amount of 17,000 EUR.
- The maturity cap also **encouraged domestic currency lending**, the share of newly issued RON-denominated consumer loans increased from 18% to 49%.

The probability of accessing a housing loan in domestic currency increased

The probability of accessing a standard mortgage loan, by currency



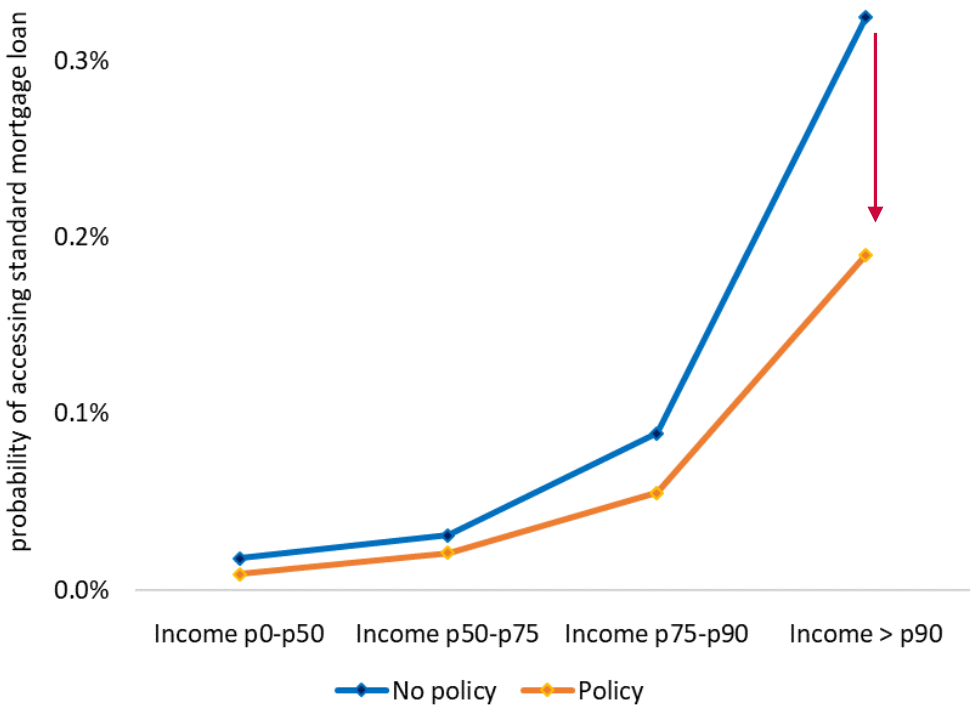
Source: Popa,R. et al. (2024)

- The probability of accessing a standard mortgage loan in **foreign currency decreased** (from 0.05% to 0.02%), while for **domestic currency housing loans increased** by +0.01 pp.

- The regulation was **successful in supporting loan origination in domestic currency** through stricter LTV limits for foreign currency loans, reducing the vulnerability of the debtors and banking system to future currency depreciations.

Asymmetric impact of borrower-based measures by income category

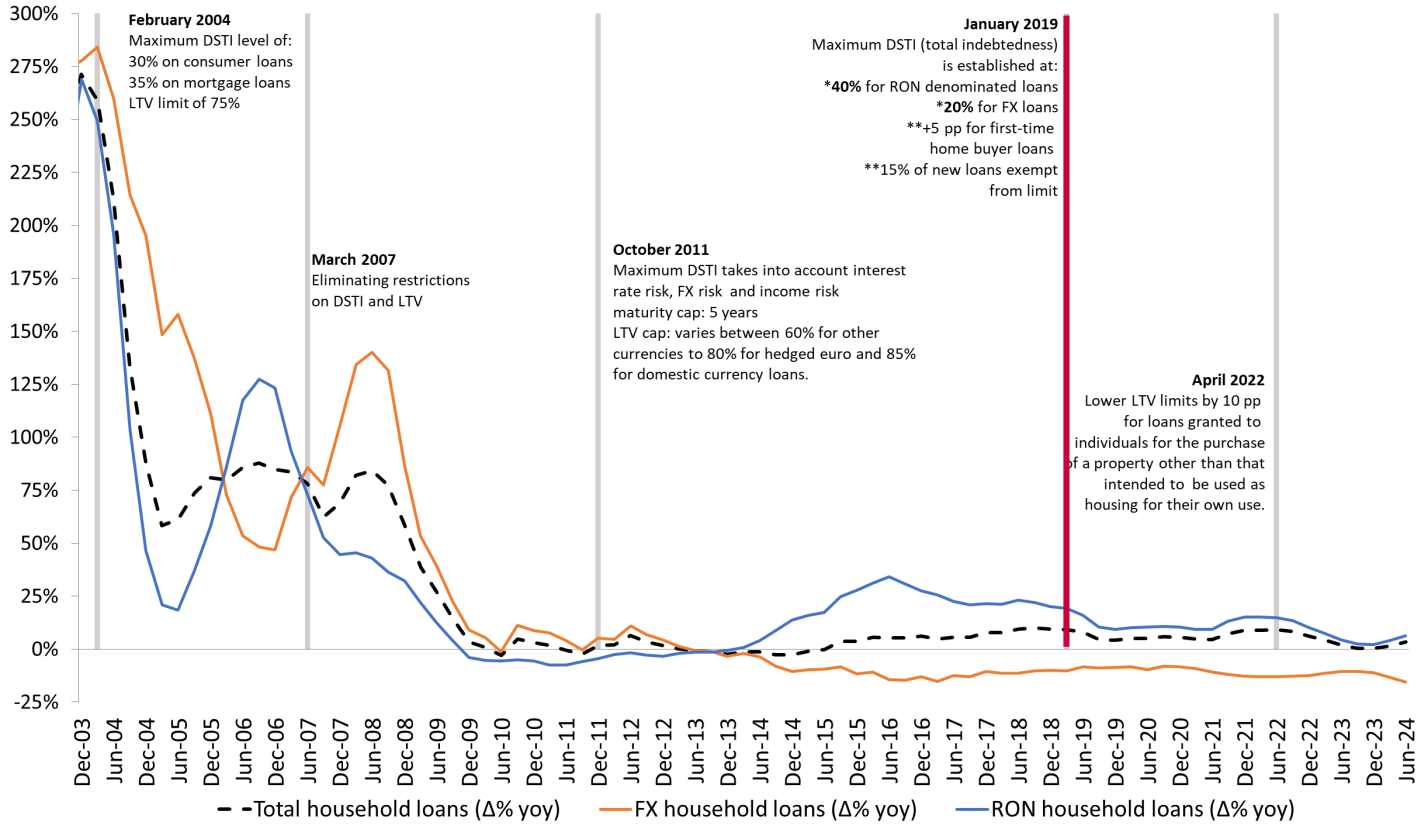
The probability of accessing a standard mortgage loan, by income category



Source: Popa,R. et al. (2024)

- The new macroprudential regime reduced the probability of accessing a standard mortgage loan for all income categories.
- But **to a greater extent in case of higher income individuals.**
- Those with income above the 90th percentile were impacted to a greater extent (-0.14 pp vs. -0.03 pp for those with income between the median and the 75th percentile and -0.01 pp for those below the median).

The DSTI limit, implemented in January 2019



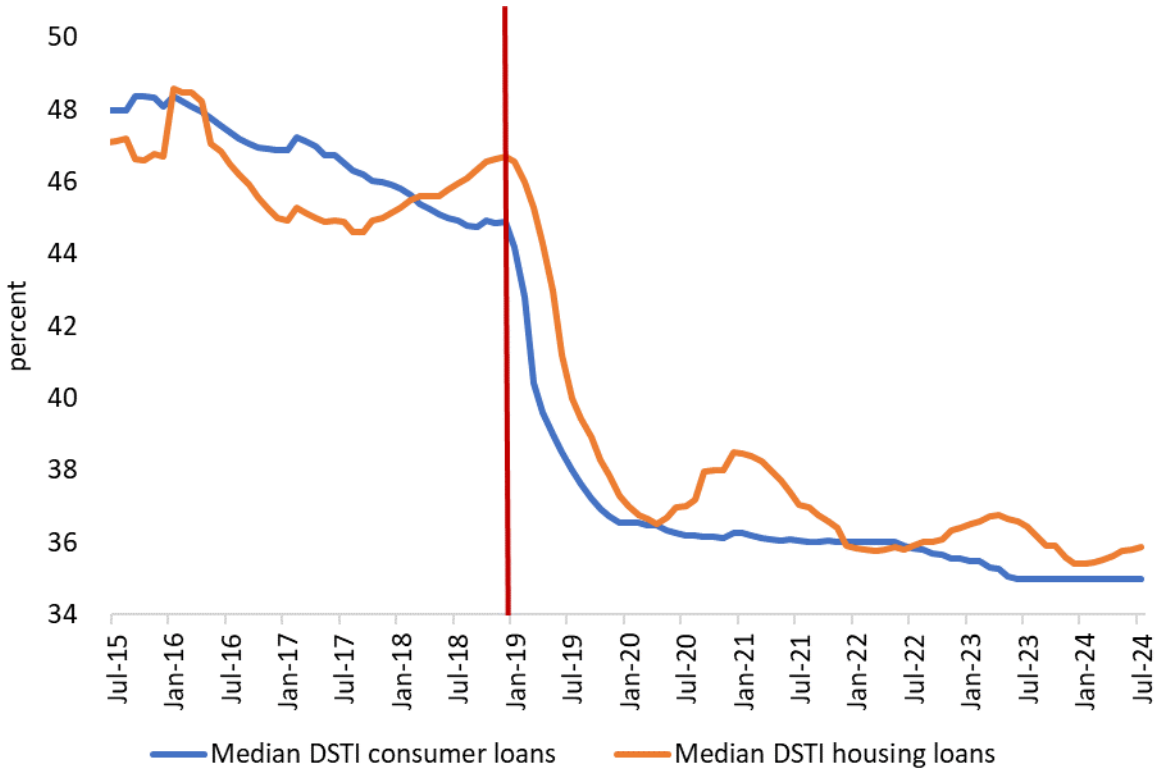
Maximum debt-service-to-income (DSTI):

- **40%**, for domestic currency, irrespective of the credit type (consumer/mortgage).
- **20%**, for foreign currency loans granted to a person not naturally hedged against foreign currency risk.
- In case of mortgage loans, for first time buyers, the DSTI limit was set at **45%** and **25%** respectively.

* exemption of 15% of the volume of newly granted loans each quarter

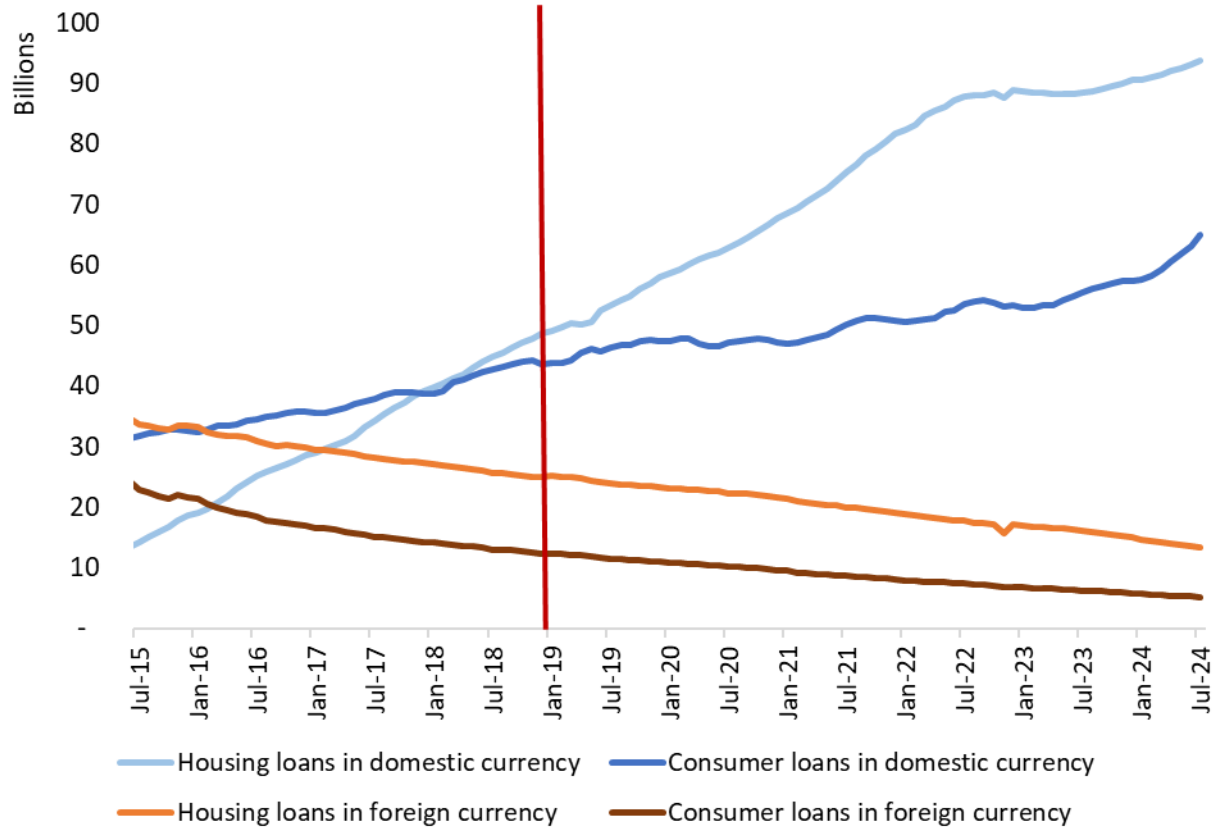
After the measure was implemented, DSTI-O for new loans significantly dropped

Median DSTI-O for new loans



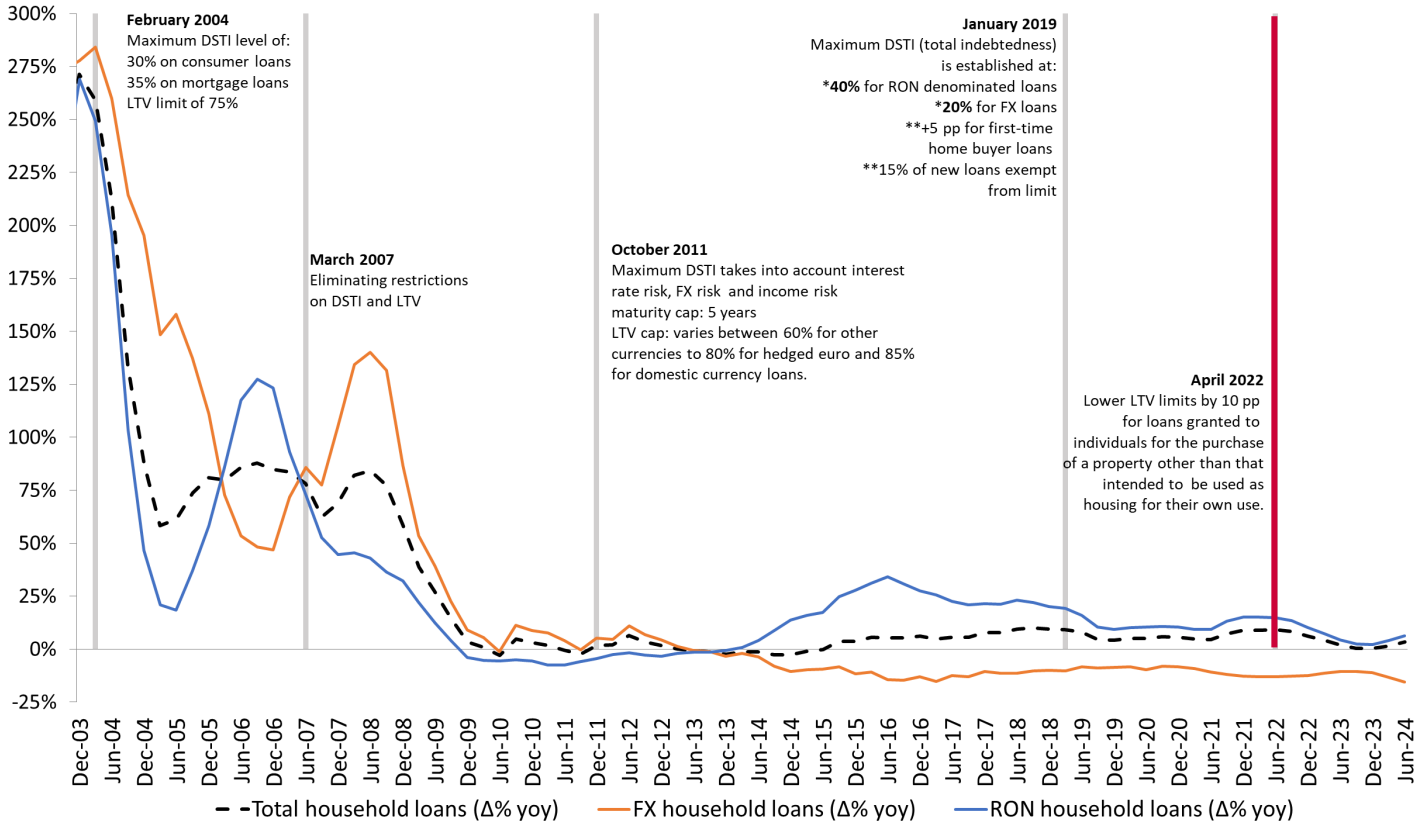
Source: NBR

Outstanding housing and consumer loans, by currency



Source: NBR

Stricter LTV limits for borrowers who own a house at the time of the loan request (April 2022)

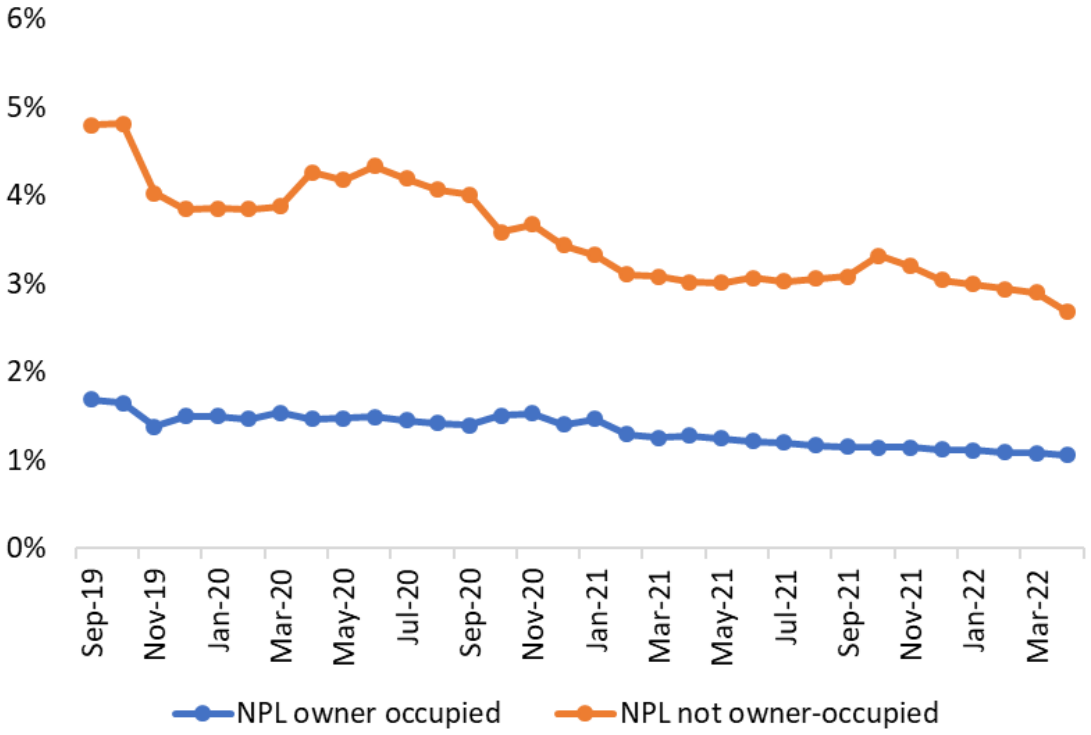


The previous LTV limits are reduced by **10 percentage points**:

- 75% vs. 85% for domestic currency,
- 70% vs. 80% for foreign currency granted to hedged debtors
- 65% vs. 75% for euro and
- 50% vs. 60% for other currencies to debtors not protected against currency risk.

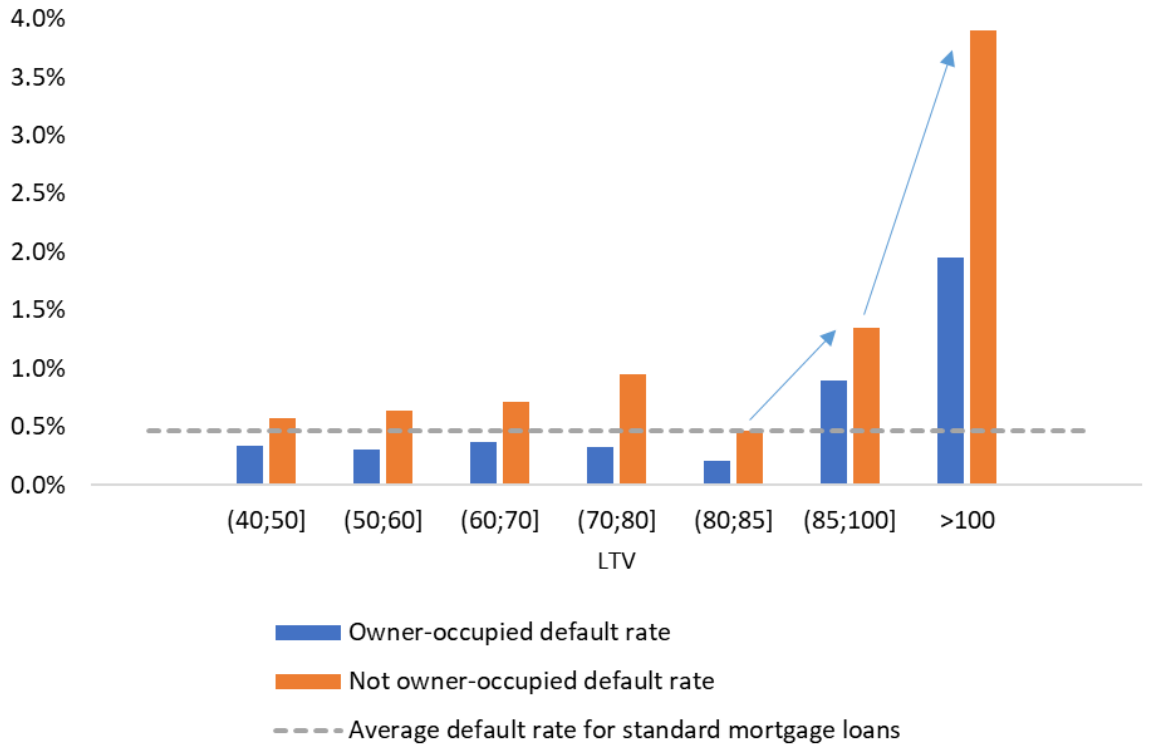
Motivation of the stricter LTV limits

NPL* rates for owner-occupied vs. not owner-occupied housing loans



Source: NBR
**EBA definition*

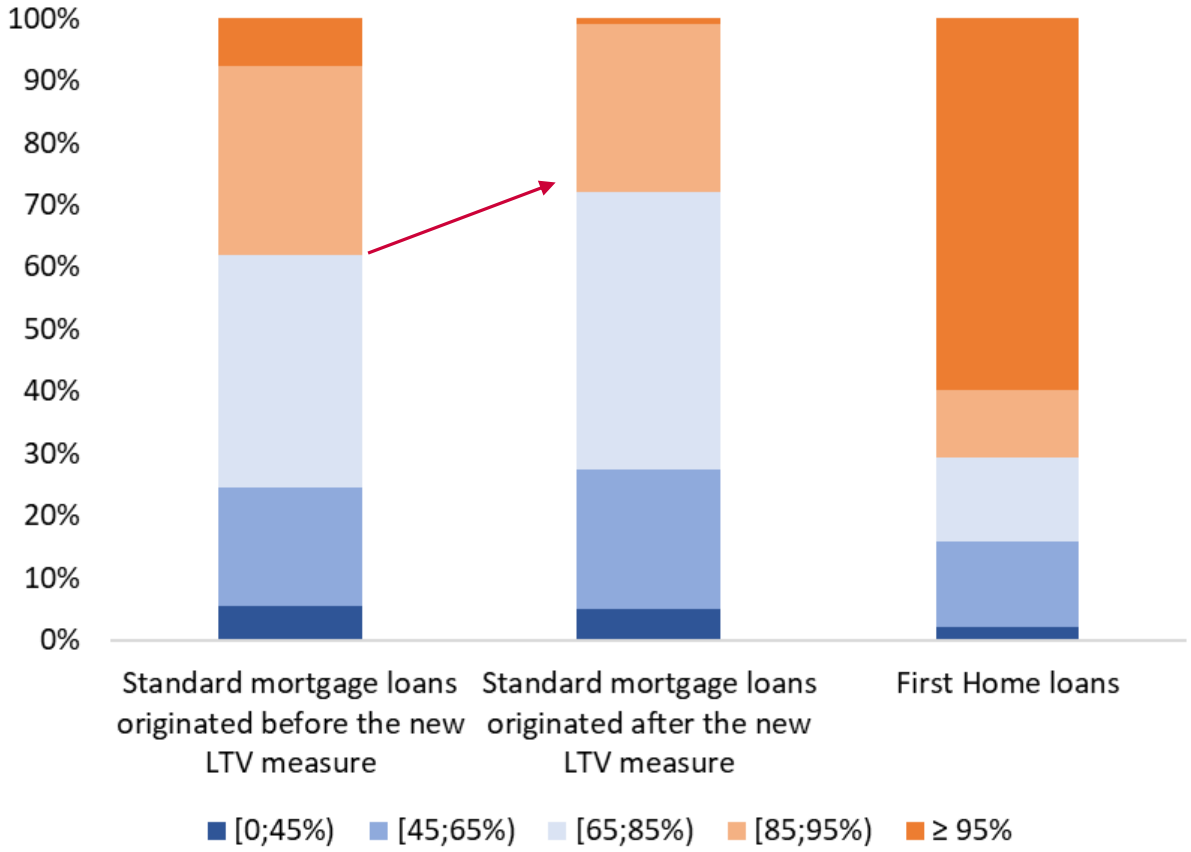
Default rates* for owner-occupied vs. not owner-occupied housing loans (Dec. 2021)



Source: NBR
**90+ days past due payment*

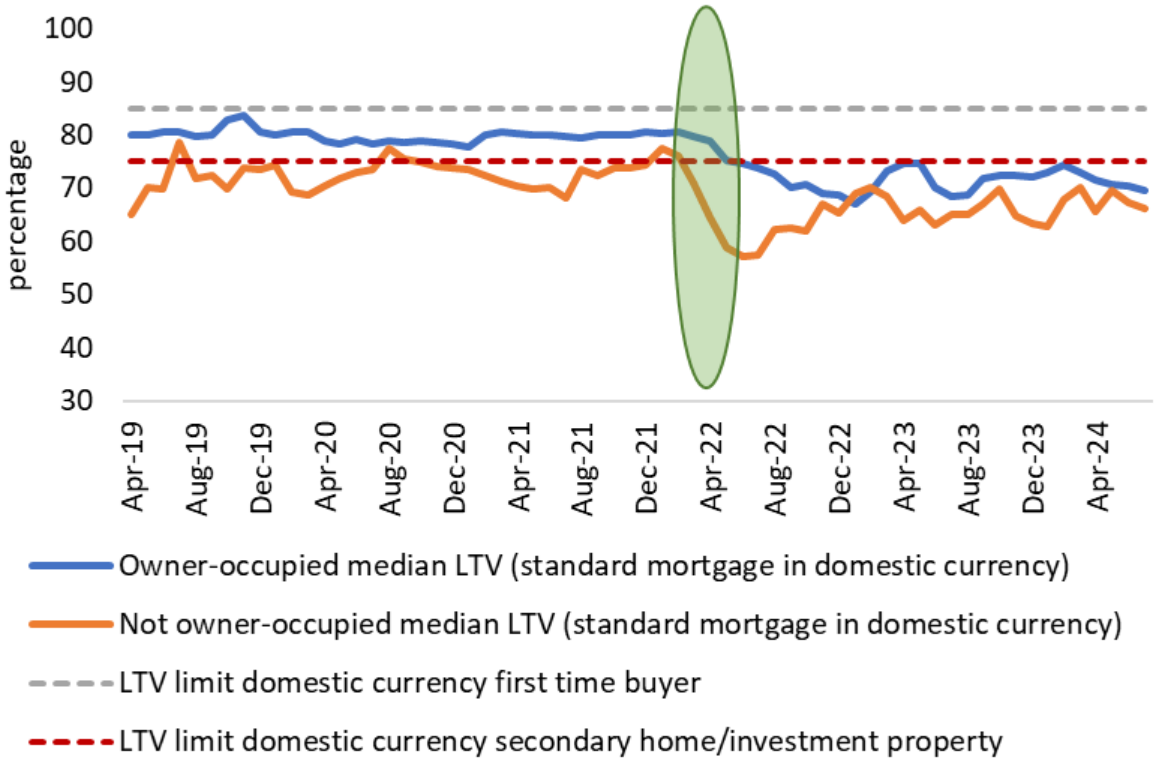
The effectiveness of the stricter LTV limits

Housing loans, by LTV bucket, moment of origination and type (July 2024)



Source: NBR

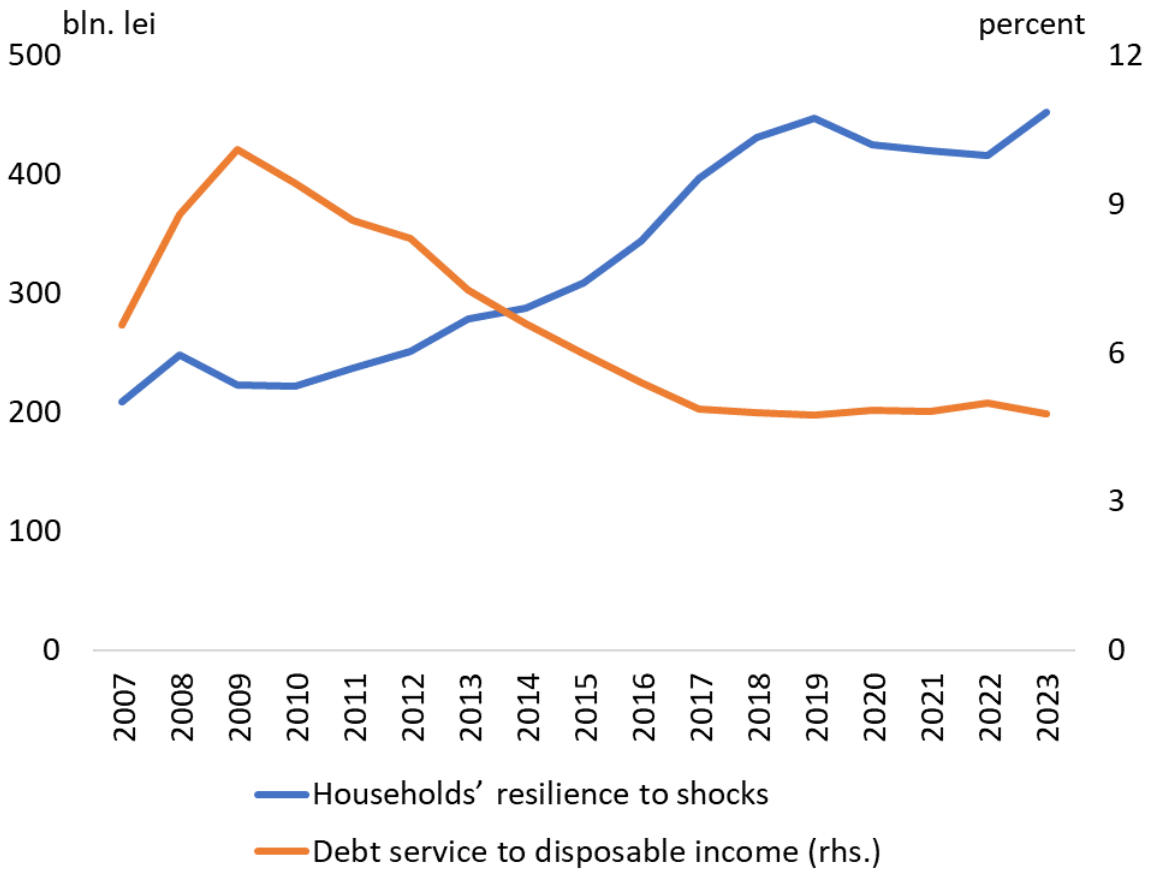
Median LTV for new standard housing loans



Source: NBR

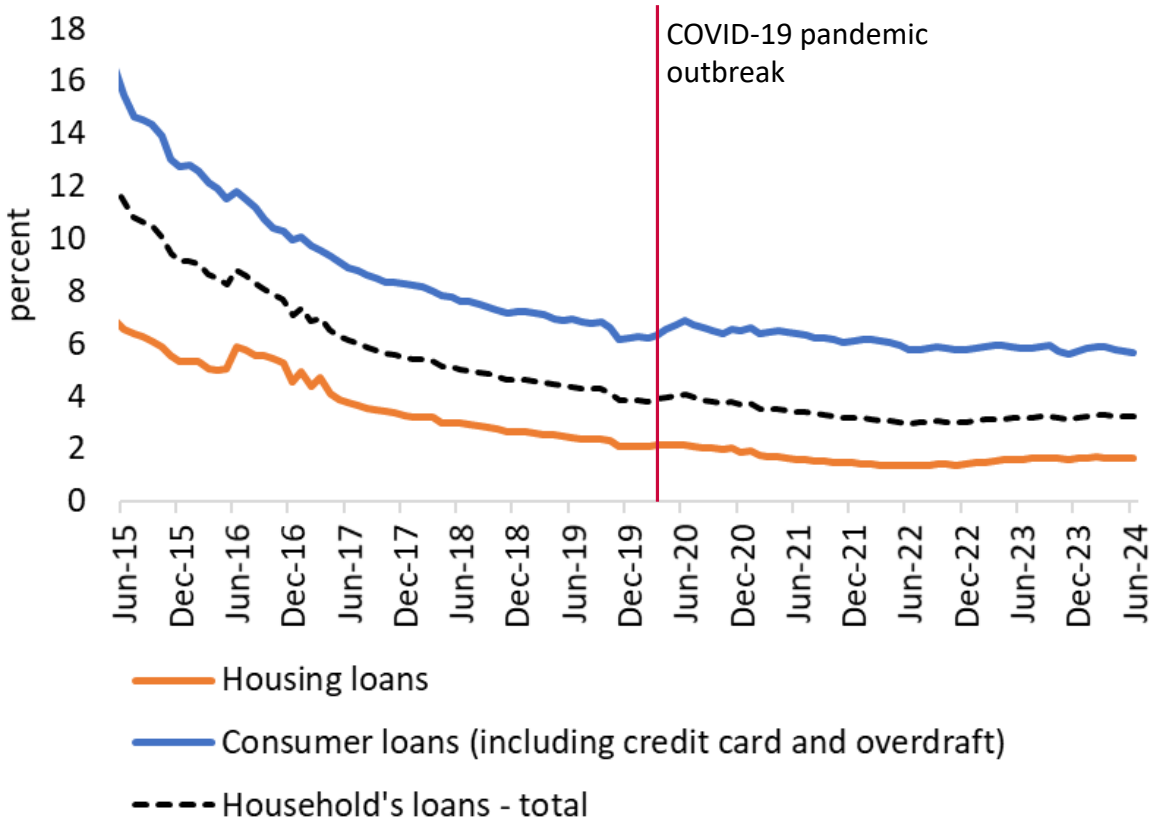
Households' resilience remained robust despite the multiple shocks experienced in the recent years

Households' resilience* to shocks



Source: NBR, Eurostat, NBR calculations

Banks' non-performing loan ratio by loan type



Source: NBR, Eurostat, NBR calculations

**Resilience is defined as the value of households' disposable income remaining after covering debt service and subsistence expenses. Subsistence expenses are defined as 50 percent of the median income, in line with the OECD's approach.*

Concluding remarks

- Both DSTI and LTV are increasingly recognized as **bolstering borrowers' resilience** to shocks.
- They cap the maximum borrowing to sustainable levels, thereby **lowering the likelihood of default**.
- **DSTI caps complement LTV caps**, in the sense that they help to address pro-cyclicality (a constant LTV limit value is pro-cyclical, given that the potential loan value increases with the collateral value), since revenues do not usually change as quickly as real estate prices.
- **Maturity limits** are also an **important complement for DSTI limits**. As consumers can extend maturities in order to keep their DSTI level within the required limits, while increasing the maximum amount they are eligible.
- **Asymmetric effects** of borrower-based measures can arise in terms of access to finance, for instance by income category.

References

- Nier, E., Popa, R., Shamloo, M., Voinea, L., (2019). *Debt Service and Default: Calibrating Macroprudential Policy Using Micro Data*, IMF Working Paper WP/19/182.

- Popa, R., Ichim, S., Neagu, F., Andrieș, A., Alupoaiei, A., (2024). *Asymmetric effects of borrower-based measures on household access to finance*. To be published.

Why did the macroprudential policy bring an umbrella at the meeting?

Because it wanted to be prepared for any unexpected *financial storms*!



Source: AI generated image

Thank you for your attention!

Asymmetric impact of borrower-based measures – methodological notes

Our empirical specifications examine the impact of borrower-based measures activation on access to finance, controlling for differences in loan and borrower characteristics, separately for mortgage loans and consumer loans.

- **Logistic regression**

$$y_{i,j,t} = \beta_0 + \beta_1 * Policy_{t_1} + \beta_2 * Income_{i,t} + \sum_{k=1}^{4} \beta_3^k * Policy_t * Income\ cat_i + \beta_4 * Age_i + \beta_5 * Quarter_t + \beta_6 * existing_loan_{i,j,t} + \varepsilon_{i,t}$$

$y_{i,j,t}$ equals 1 if the individual *i*, has taken a loan type *j* in the respective period *t* and 0 otherwise.

- **Bank-level panel**

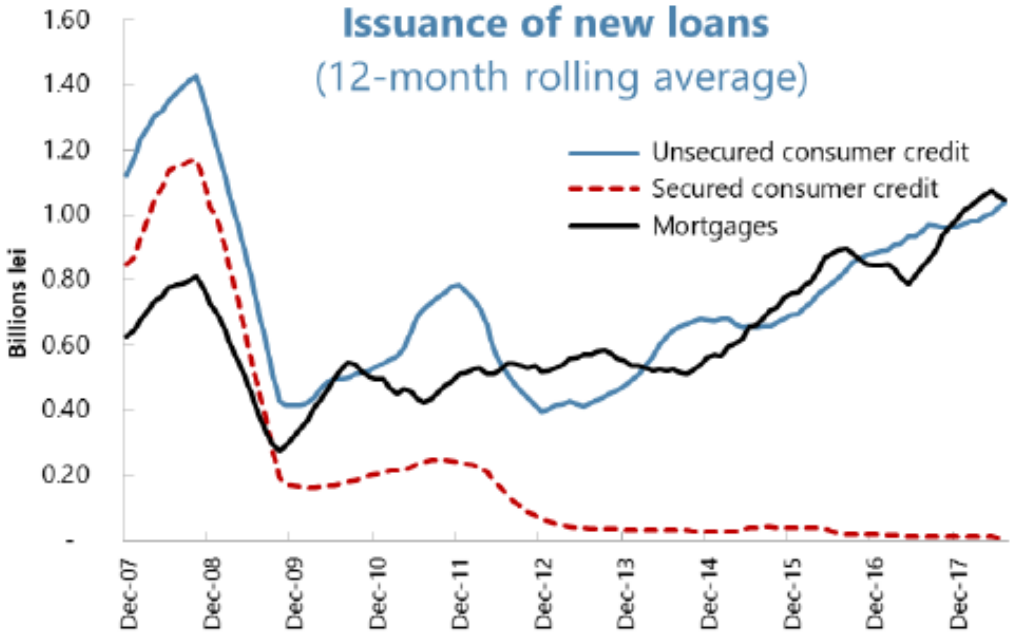
$$x_{i,j,t,b} = \beta_0 + \beta_1 Policy\ dummy_t + \beta_2\ income\ cat_i + \sum_{k=1}^{4} \beta_3^k * Policy_t * Income\ cat_i + \beta_4 age_cat_i + \beta_5 * Quarter\ FE + Bank_b FE + \varepsilon_{i\ ,j,t,b}$$

$x_{i\ ,j,t,b}$ measures the share of debtors in each income and age bucket of the overall population which took out a loan of type *j* within quarter *t* from bank *b.*

The estimated probability of accessing a loan (PAL) of type *j* for borrower *i* at vintage *t* is calculated as:

$$PAL_{i,j,t} = \frac{e^{y_{i,t}}}{1 + e^{y_{i,t}}}.$$

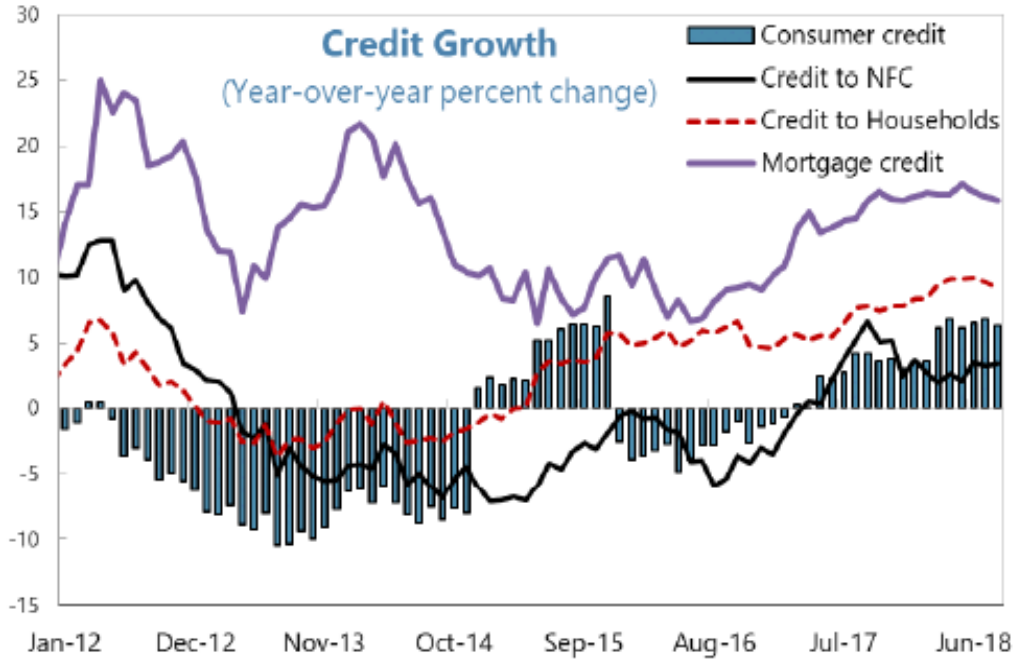
Motivation of the DSTI measure (January 2019)



Source: Nier et al. (2019)

…and credit growth has reached **double digits** for mortgages.

Credit flows to households have risen significantly



Source: Nier et al. (2019)