NATIONAL BANK OF ROMANIA

The 13th Edition of the Seminar on Financial Stability Issues

Triggers of mortgage loan defaults: Evidence from changes in laws governing the housing market

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Bucharest, September 13th 2019

Note: The opinions expressed in this presentation are those of the authors and do not necessarily reflect the views of the National Bank of Romania

Brief introduction

- *Datio in solutum law* allows the borrowers to **fully settle their liability** by **transferring to the banks the ownership right** over **mortgages used as collateral for loans**.
- The law would apply to all existing contracts (retroactive applicability), with some restrictions:
  - Loans granted under 'First Home' governmental program
  - Loans larger than the equivalent of 250,000 EUR at time of origination
  - Only mortgages that qualify as dwellings and were contracted by 'consumers'.

- **<u>Main objective</u>: Analyze the impact of requesting** *Datio in Solutiom* ***on debtor decision to default***

Brief timeline

- November 2015 – Law was passed by Parliament
- December 2015 – President of Romania requests law to be reexamined
- April 2016 - The law was signed by President of Romania
- May 2016 – Law comes into force
- October 2016 – Constitution Court starts debate over law
- January 2017 – The law is declared unconstitutional, debtors can only benefit from *Datio in Solutum* under **extraordinary and unforeseen circumstances**

Literature review

- Different theories explaining default:
  - **Ability-to pay** : individuals default involuntarily when they are unable to meet current payments (Lydon and McCarthy 2013, Kukk 2016, Nier et al 2019)
  - **Strategic default** : households choose to default voluntarily after a rational analysis of all future costs and benefits
  - **Dual trigger hypothesis** : combination high indebtedness and negative equity lead to default (Gerlach and Lyons 2017, McCarthy 2014, Connor and Flavin 2015)
  - Impact of **institutional quality** and judicial efficiency (Ghent and Kudlyak 2011, Stanga et al 2017)
  - Role of **macroeconomic factors** (Klein 2013)

- **Our contribution:** Permitting borrowers to default without recourse encouraged strategic behavior of debtors with negative equity and low levels of indebtedness

Constructing the dataset

- **Use credit registry data**
  - Analyze debtors with **standard mortgage loans** who at the moment of the request *Datio in Solutiom* did not register delays above 90 days.
- Exclude
  - Debtors with other types of loans (consumer loans)
  - Debtors with multiple mortgage loans
  - Debtors with First Home mortgage loans
  - Debtors with mortgage loans that have delays > 90 days
- Data regarding income collected from Ministry of Finance to calculate debt service to income ratio (*DSTI*)
- Time period: quarterly vintages from Q3 2014 to Q1 2017

Model description

- Deploy **logit model** to evaluate main determinants of becoming **non-performant** (defined as 90+ days delay) over a 3-month time interval
- Probability of default defined as

$$p(x_{it}) = \frac{e^{f(x_{it})}}{1+e^{f(x_{it})}}, \text{ where:}$$

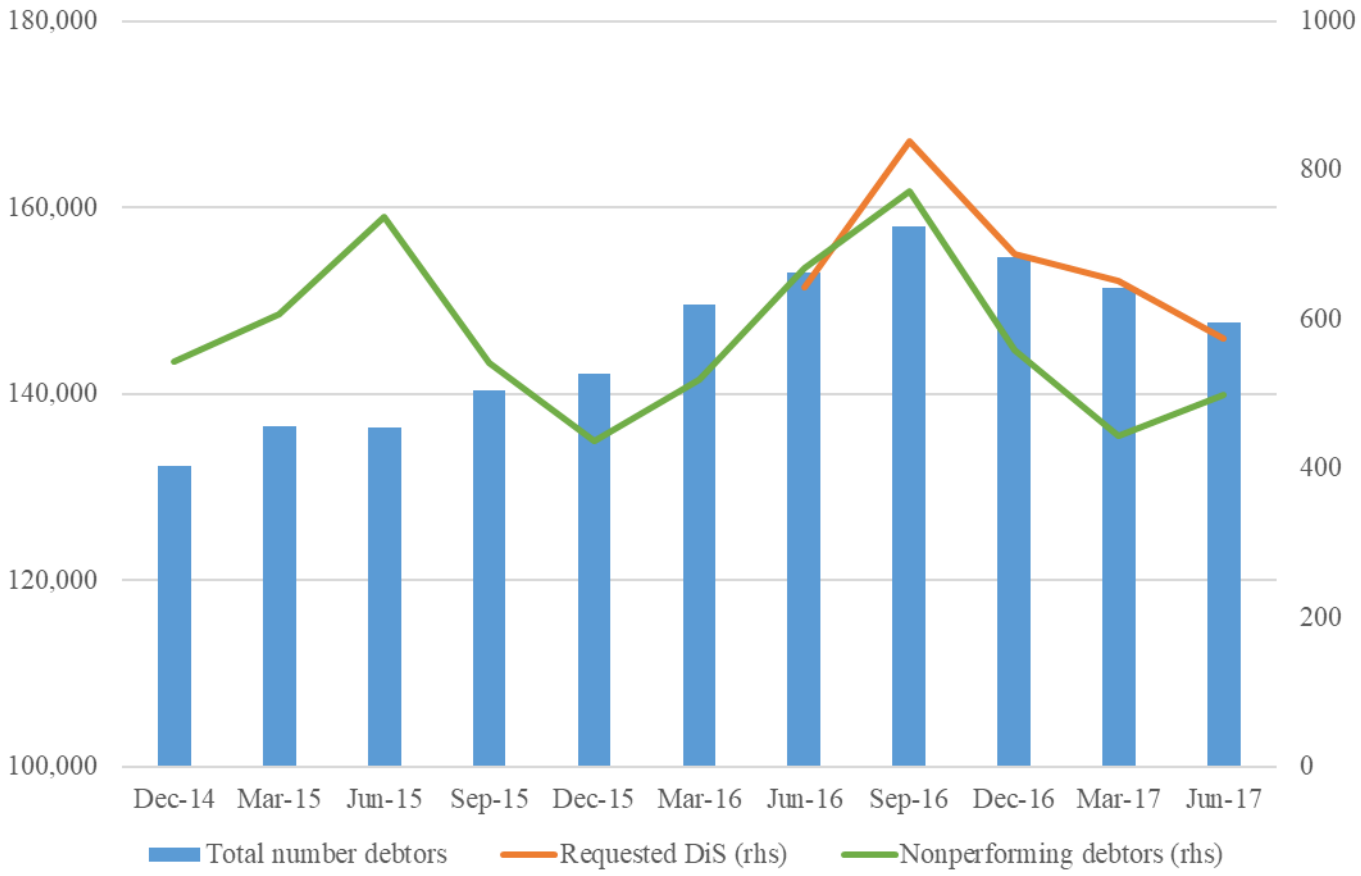
$$f(x_{it}) = \beta_0 + \beta_1 * \boldsymbol{Request_{DiS}} + \beta_2 * Delay_{it} +$$

$$\beta_3 * Currency_{it} + \beta_4 * Income_{it} + \beta_5 * LTV_{it} + \beta_6 * DSTI_{it} +$$

$$\beta_7 * Amount_{it} + \beta_8 * Interest\ rate_{it} + \beta_9 * Residual\ maturity_{it} +$$

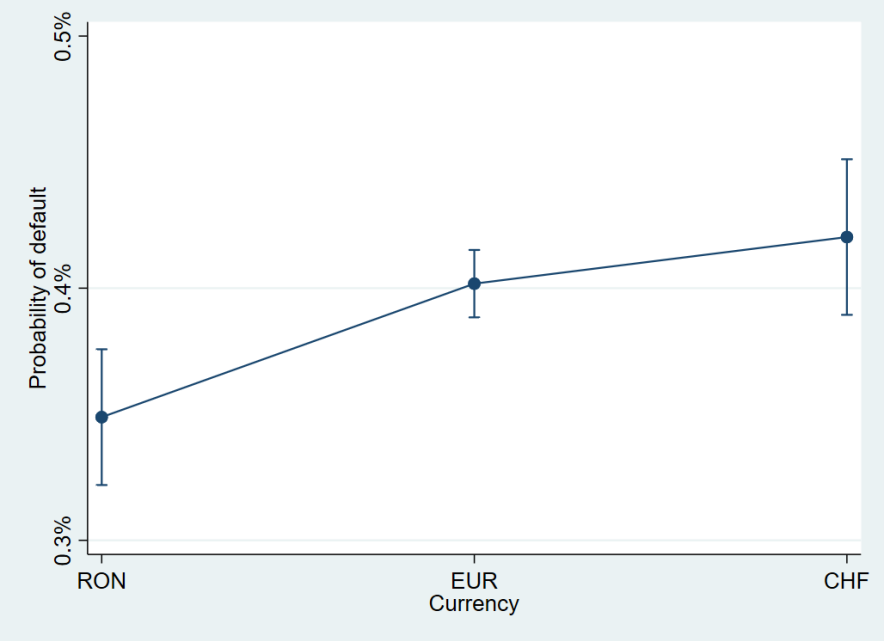
$$Year\ Origination\ FE + Bank\ FE + Time\ FE$$

Descriptive statistics – Datio in Solution requests

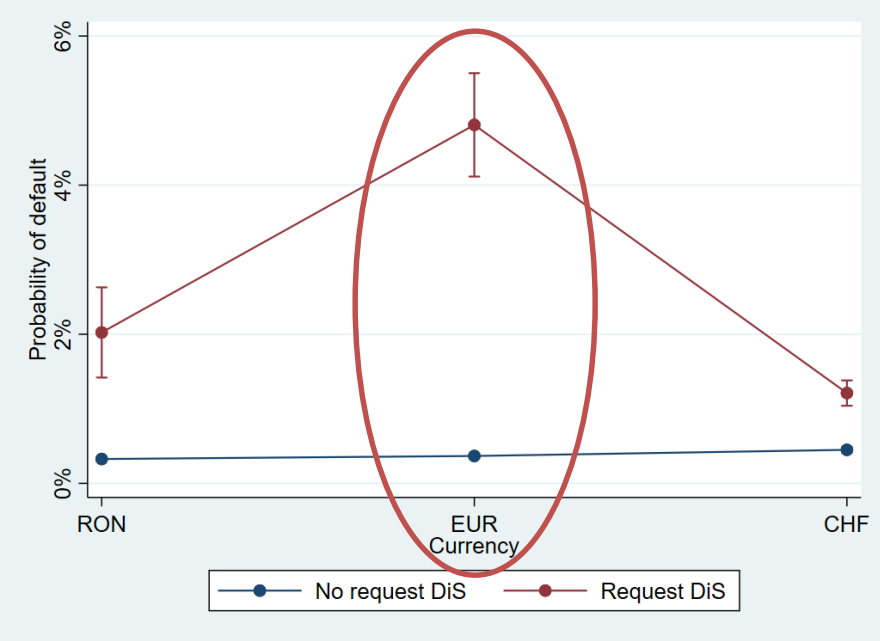


Results – impact of currency and *Datio in solutum*

Mean probability of default by currency

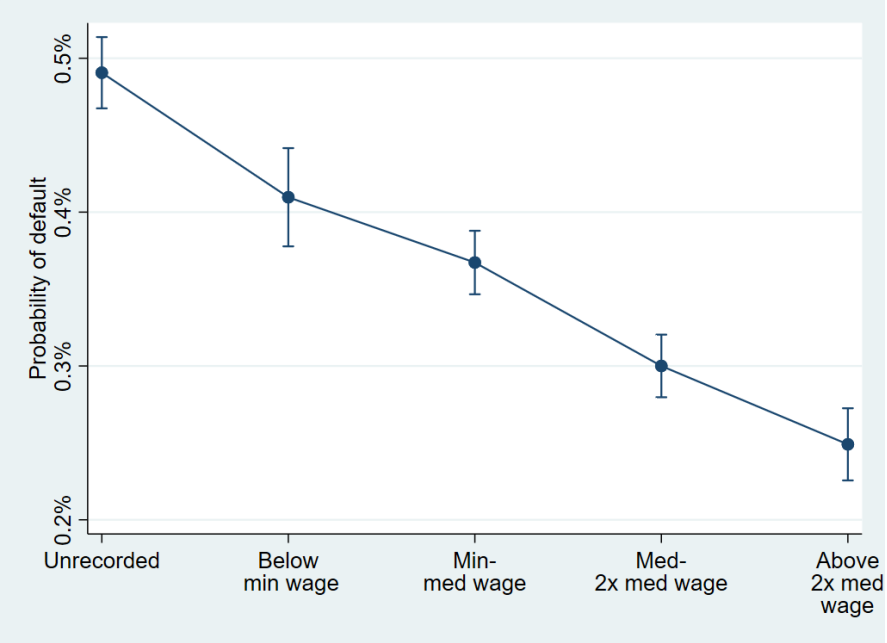


Mean probability of default by currency and DiS request

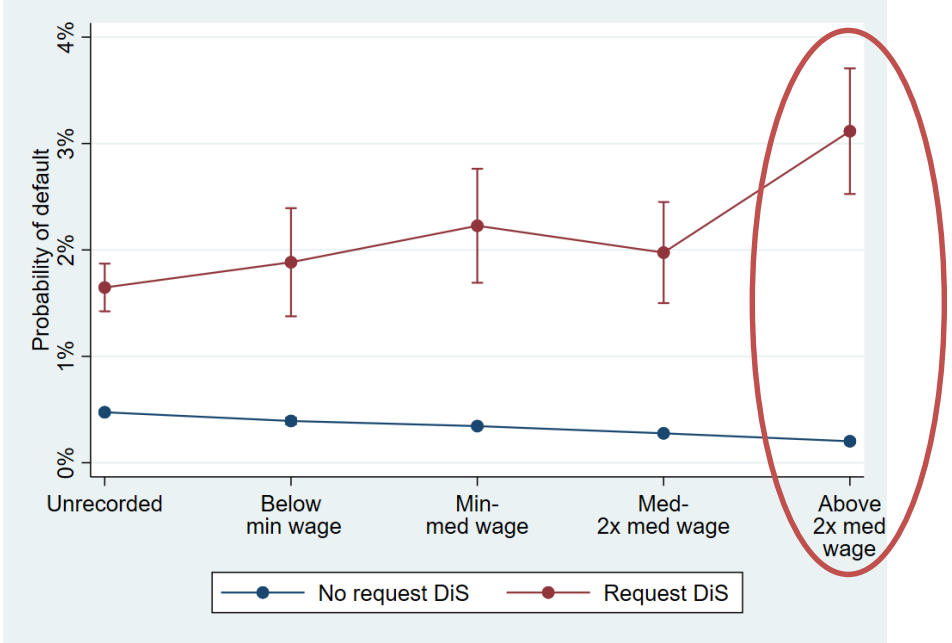


Results – impact of income category and *Datio in solutum*

Mean probability of default by income group

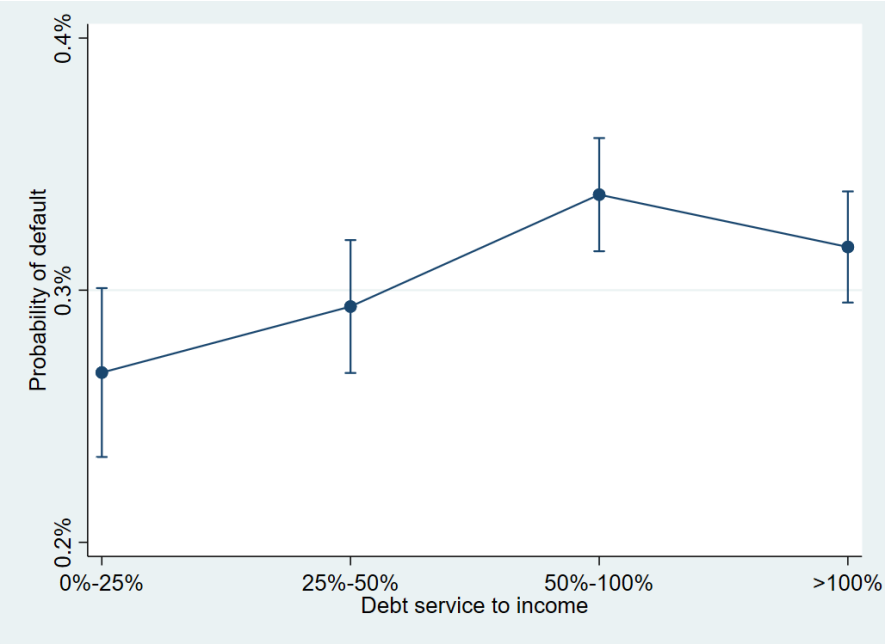


Mean probability of default by income group and DiS request

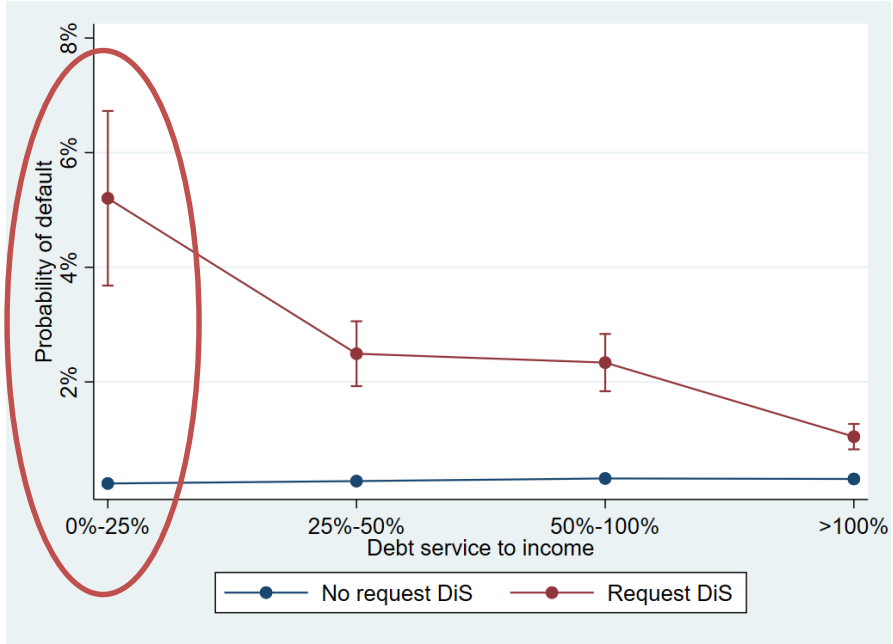


Results – impact of indebtedness and *Datio in solutum*

Mean probability of default by DSTI

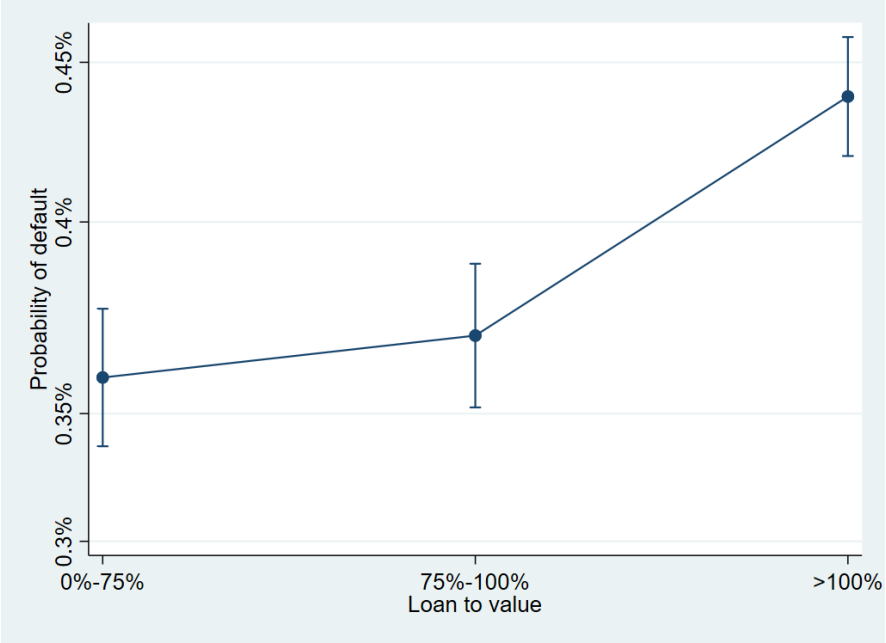


Mean probability of default by DSTI and DiS request

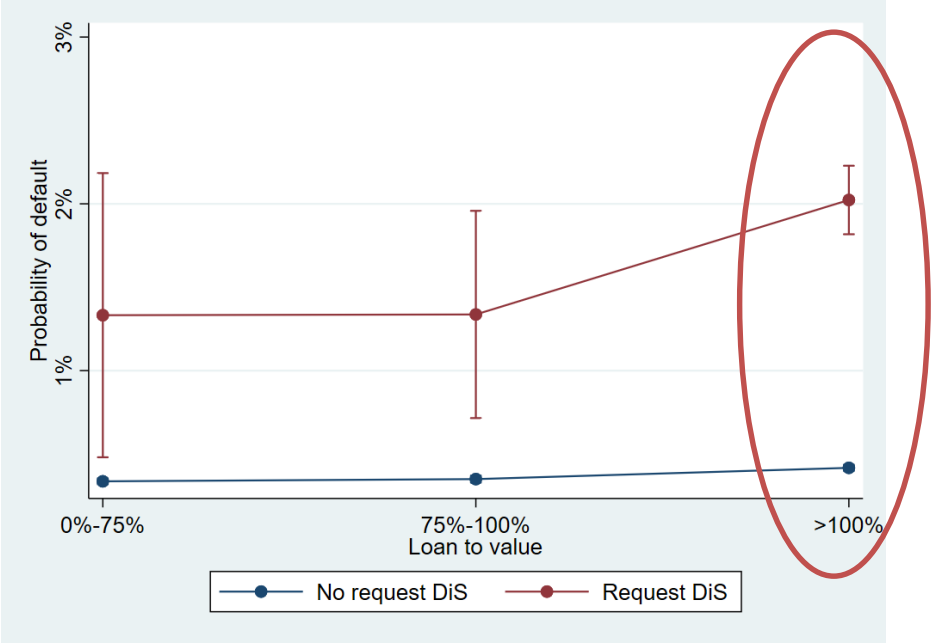


Results – impact of LTV and *Datio in solutum*

Mean probability of default by LTV

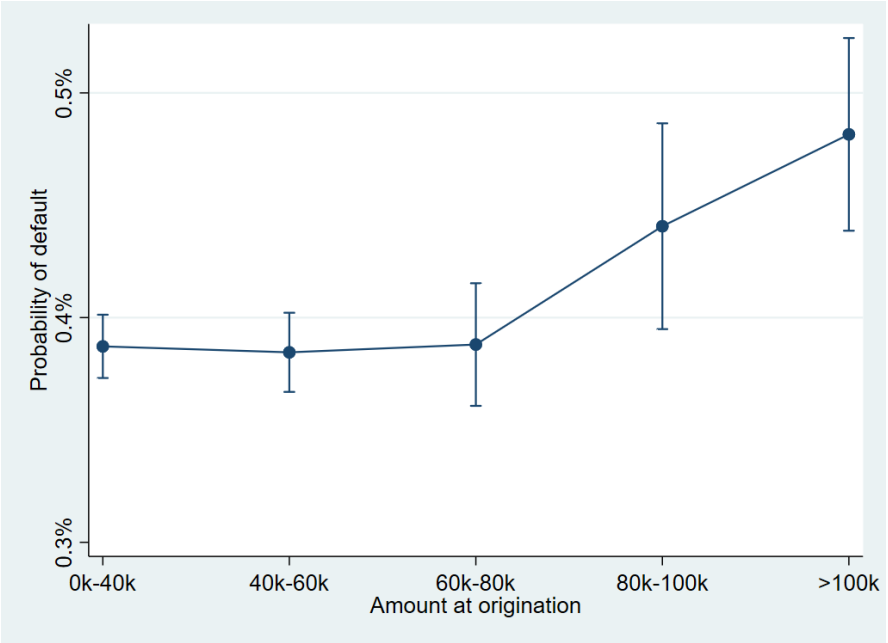


Mean probability of default by LTV and DiS request

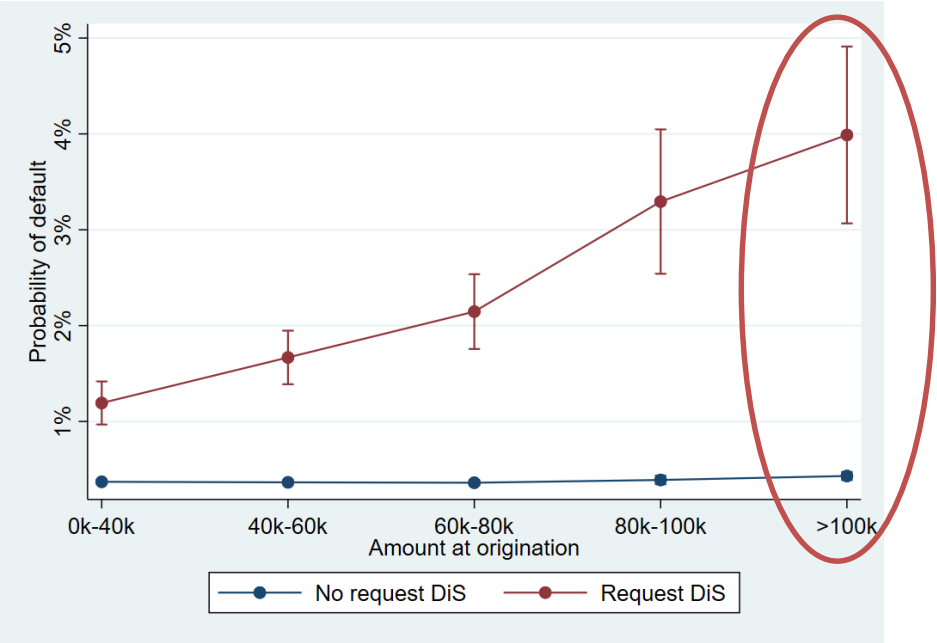


Results – impact of amount of origination and *Datio in solutum*

Mean probability of default by amount at origination



Mean probability of default by amount at origination and DiS request



Main take-aways

Highest impact of requesting *Datio in Solutum* is for debtors with

- Loans denominated in **euro**
- With **high levels of income**
- With **low levels of DSTI**
- With **high levels of LTV**
- With **large loan amounts**

Indicates the law **supported opportunistic behavior** and **did not benefit debtors who encountered payment difficulties**

Conclusion and policy implications

- Legislative uncertainty creates a barrier for increasing financial intermediation and diminishes access to finance for households
- *Datio in Solutum* law encouraged strategic default for debtors who did not face financial difficulties
- Swift repeal by Constitutional Court led to limited impact for financial stability
- Many of the defaulted loans taken out during boom phase were already written-off by 2016, therefore less debtors were eligible to request DiS

Thank you!

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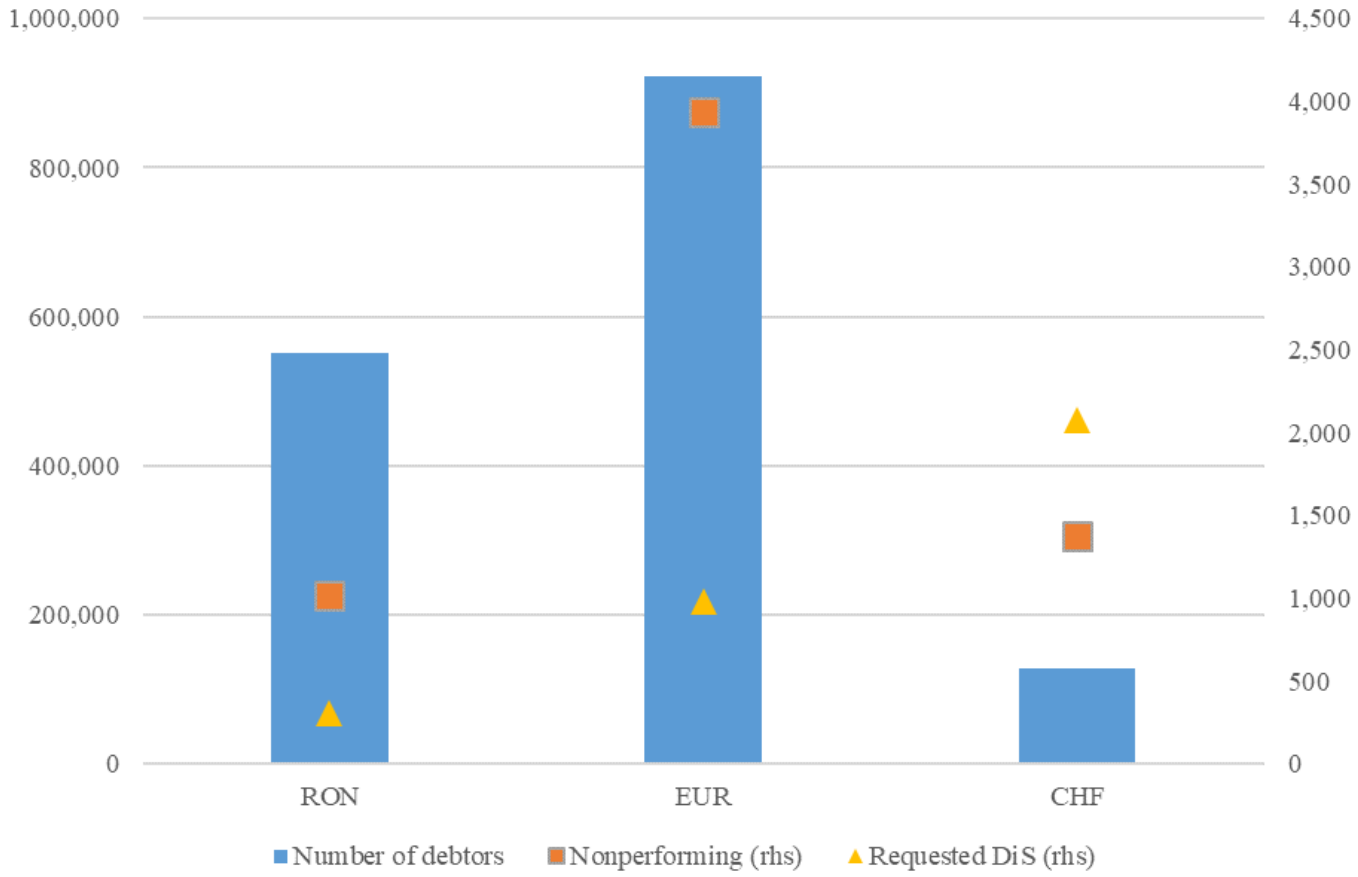
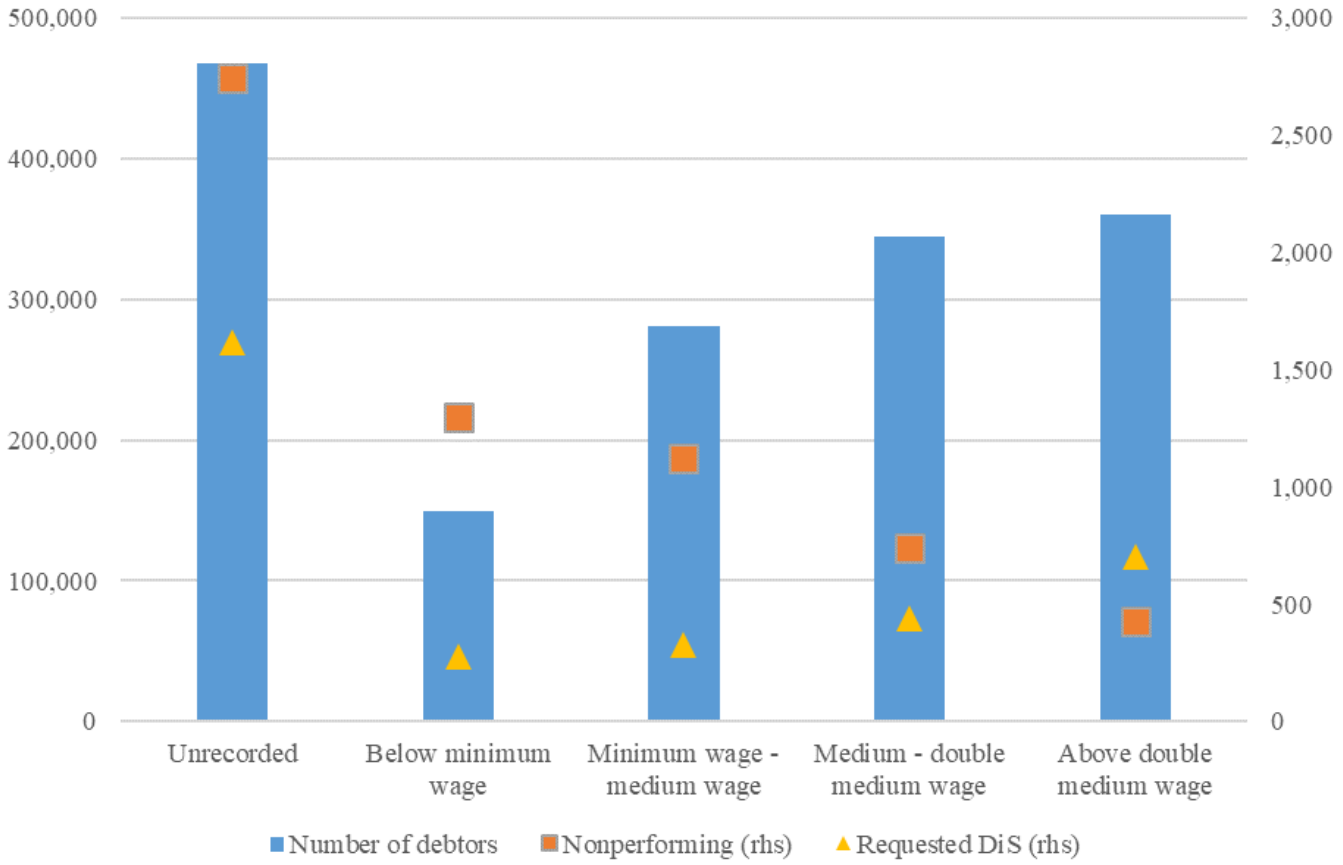
Additional descriptive statistics

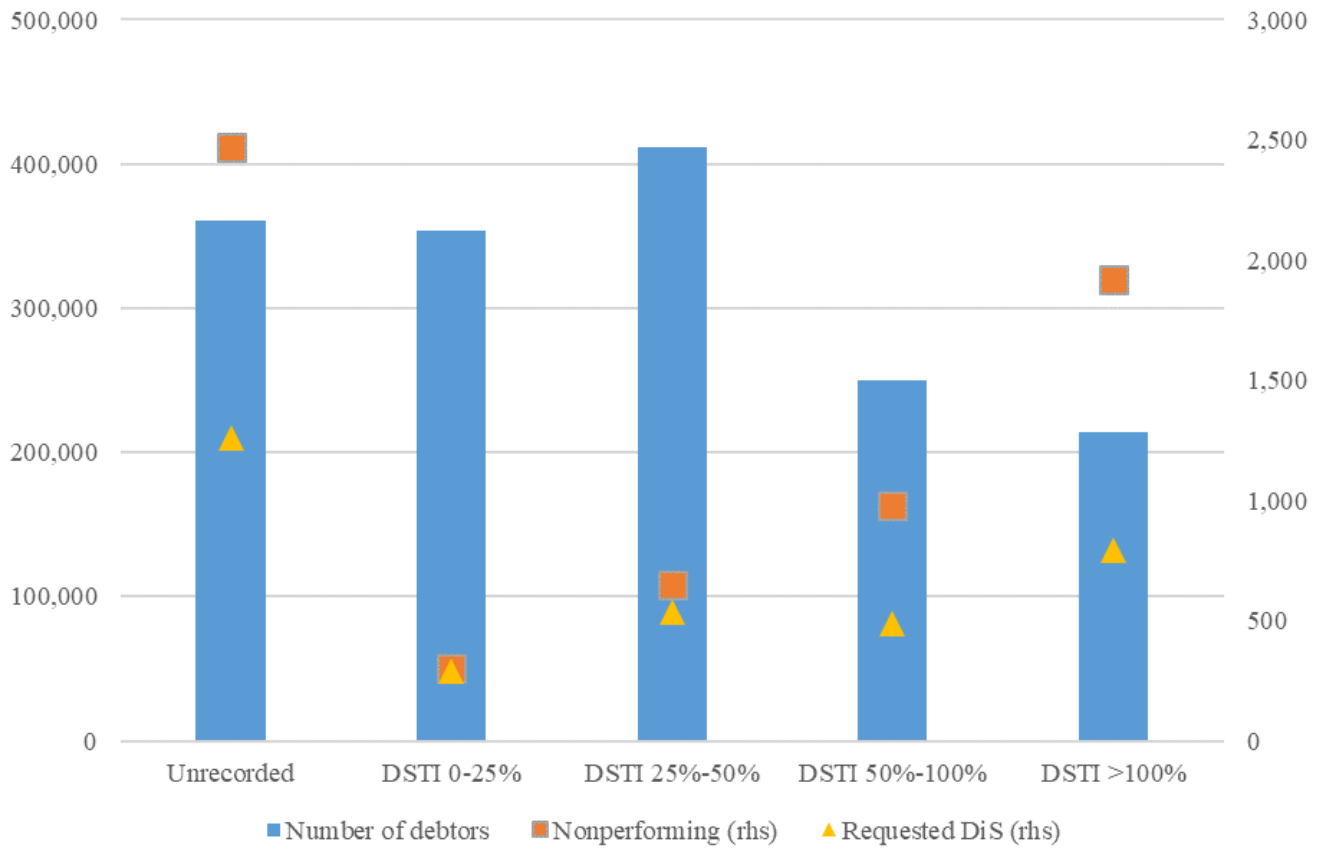
Descriptive statistics –by currency



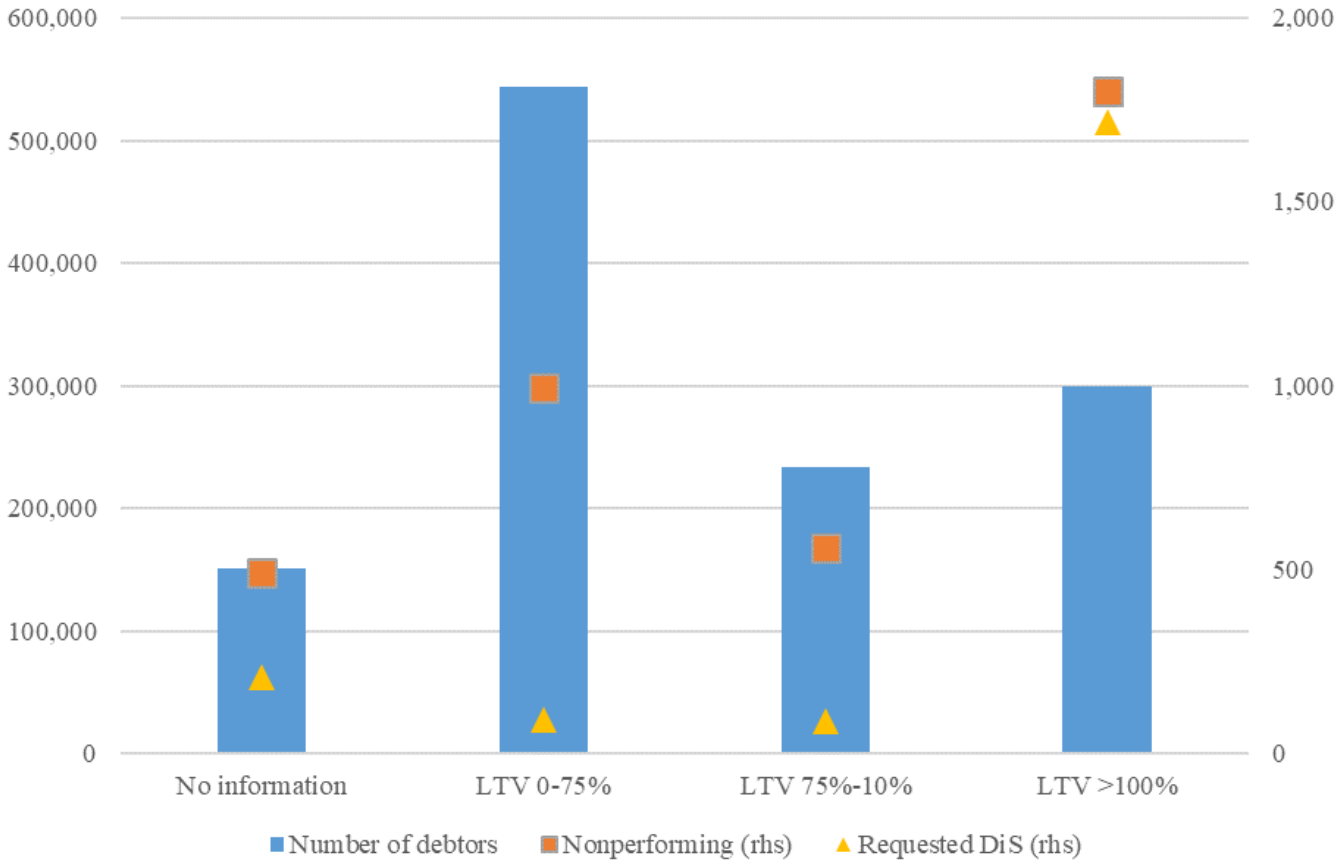
Descriptive statistics –by income group



Descriptive statistics –by indebtedness



Descriptive statistics –by LTV



Descriptive statistics –by amount at origination