



CREDIT DEMAND AT THE HOUSEHOLD LEVEL: RCC MEETS ENAHO

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Discussion by: Sergio Mayordomo

These views are the author's ones and do not represent those of Banco de España or the Eurosystem



- Estimates the **elasticity of demand** of Peruvian households for different segments of credit (2008-2014) based on a Heckman model:
 - **Total credit (-0.29)**
 - **Consumer credit (-0.4)**
 - **Micro-firms (-0.1)**
 - **Mortgages (~0).**
- Elasticity also varies by **(i) currency, (ii) region, (iii) type of employment.**
- This elasticity is lower than the one obtained in previous literature.
- This low elasticity could be due to (i) low competence (ii) high economic growth, (iii) enhancement of financial inclusion.



- **Relevant research question**
- **Good dataset**
 - **Credit register (RCC) + household survey (ENAHO): 95,037 households with info in both dataset (more than 500,000 individuals from ENAHO).**
- **Potential for important contribution**
- **Methodology and identification could be improved to enhance the results and their interpretation**



- It is not obvious what the **non-participation** in credit markets collects.

Households with no credit at that time but because:

- (i) they do not apply
- (ii) they applied but the application was rejected.

- In Jiménez et al (2014) the first stage refers to whether the credit is granted or not and they rely on **credit applications**.
- What about considering participation separately for different **segments of credit**?



- Observed interest rates may correlate with individual-specific investment opportunities or financing alternatives.
- Potential **endogeneity** concerns when regressing loan balance on interest rates.
 - Solution (see for instance Alessie et al, 2005)
 - Changes in usury laws as an instrument
 - Potential changes in regulation to deal with this?



- Attanasio, Goldberg, and Kyriazidou (2004) show that the elasticity of demand for credit with respect to **loan maturity** is an important parameter as well.
- Households that are credit constrained value more mortgages with higher **loan-to-value** ratios.
 - Different sensitivity in terms of LTV (especially for mortgages)
 - Different sensitivity in terms of households credit constraints?
 - Wealth constraint (downpayment)
 - Income (monthly payments over total income).



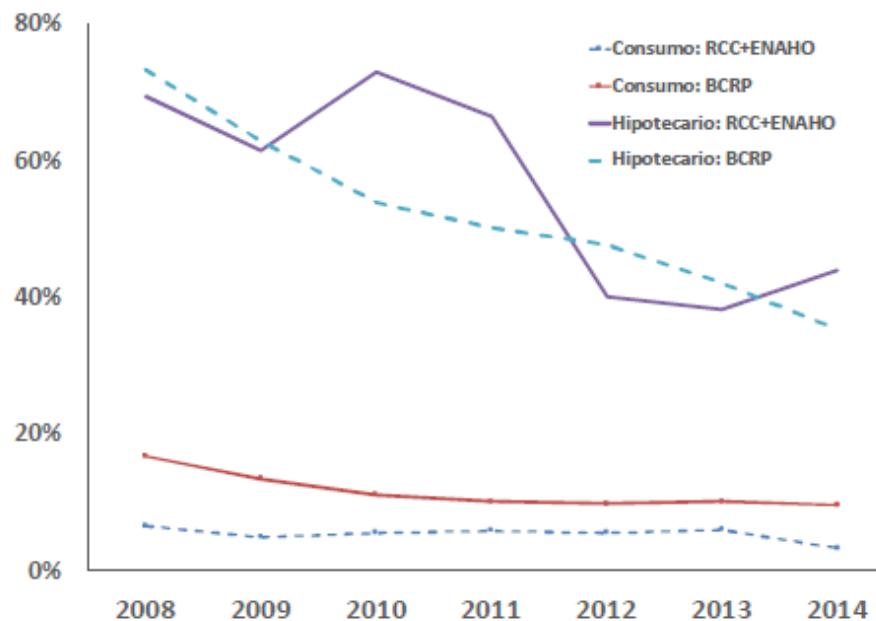
- Dealing with supply of credit:
 - **Bank-time-currency FE.**
 - 26 dummy variables for banks: 25 for the largest and the rest are included in the remaining one.
 - Why not using one for each bank?
 - How many banks are there in the sample?
 - What about **bank-time-currency-product type FE?**

DATA (I). SAMPLE REPRESENTATIVENESS



- Are the households **representative of the population**:
 - The authors compare their sample of households with the population based on the share of credit in dollars.

Gráfico 2: Dolarización de créditos según datos de BCRP y de RCC-ENAHO



- Income, wealth, ... of the households used in the analysis vs the population?

RESULTS (I). DRIVERS OF LOW ELASTICITY



- The authors explain the results in terms of: (i) low competence (ii) high economic growth, (iii) enhancement of financial inclusion.
- What about using regional heterogeneity to check these statements.
- **Growth:** regional differences in growth or natural disasters affecting growth:
 - Carhuaz flood (April 2010) or Loreto flood (January 2012)
 - Earthquakes (2011, 2013)
 - El nio (2016-2017)
- **Concentration and financial inclusion:** Banking structure in specific areas.
- However, what explains the differences in the different segments of credit?



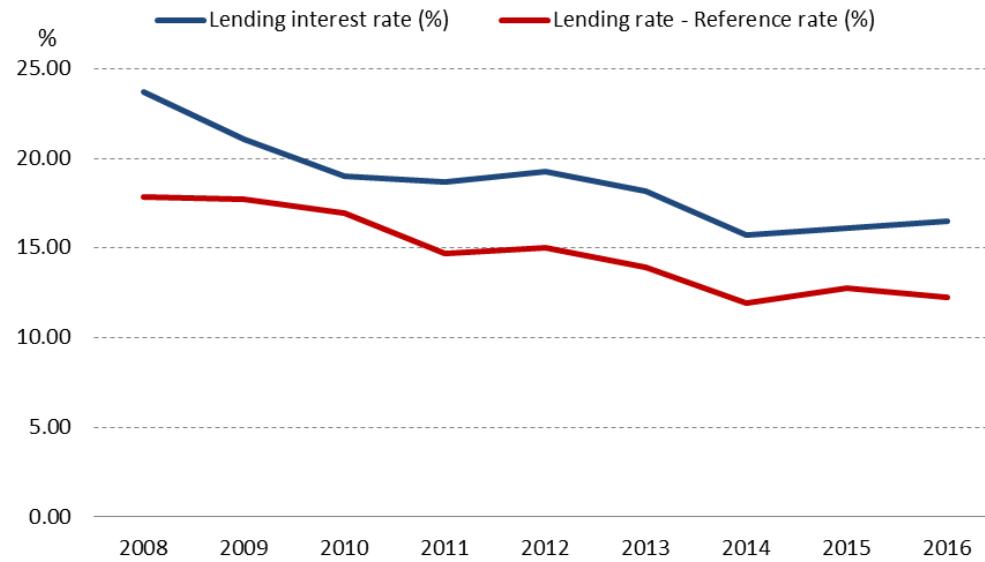
- It could be more informative to present the analyses for the **three segments of credit and the two currencies separately** (both for the first and second stage)...
- ... or given that housing credit is much less relevant, focus just on consumer and credit to micro firms separately.

	Micro Firms	Mortgages	Consumer credit
Local currency			
Foreign currency			

RESULTS (III). INTEREST RATES



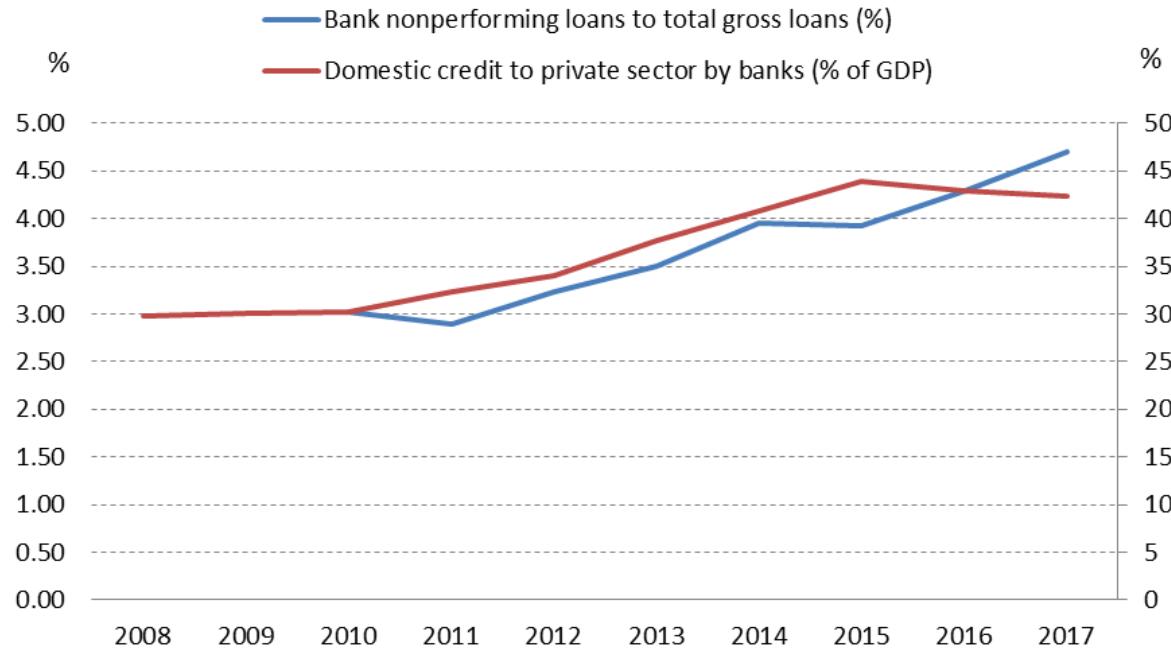
- The **interest rate** is not directly observed. The author infers it from the monthly interest income of each loan.
- The relevant interest rate to estimate elasticity should be that at origination but some interest rates are imputed after origination. Are they floating/fixed rates?
- “Banks keep interest high because lower rates would not increase demand significantly”.



RESULTS (IV). INTEREST RATES (CONT'D)



- Could the lower **payment of interests** be due to loans in arrears?



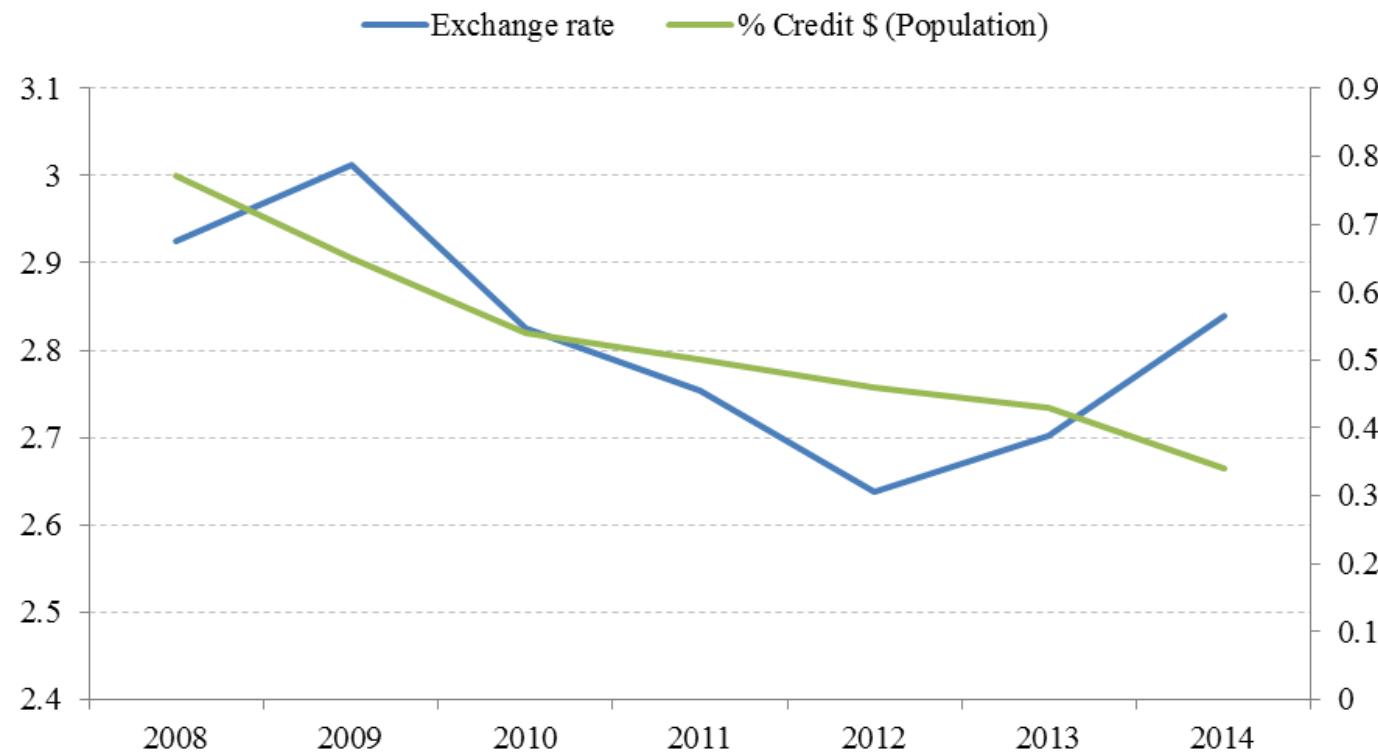
Source: World Bank

- What about focusing on **new loans**?
- However, when using new loans elasticity is even lower (section 5.4)...

RESULTS (VI). HOUSEHOLDS AS CARRY TRADERS



- Are Peruvian households **carry traders?**



RESULTS (VII). HOUSEHOLDS AS CARRY TRADERS (CONT'D)



- Use interest rates to obtain a synthetic spread between interest rates in local and foreign currencies and study **carry trades** based on this spread.
 - See Liao (2018) for the case of corporate interest rates.
 - The results on different segments of credit and type of households could:
 - Help to understand the type of households more sensitive to this interest rates differential.
 - Infer policy implications about household default risk on foreign currency loans.



- First stage of Heckman analysis:
 - Category of reference when dummy variables are used?
- Second stage:
 - If the interaction of FE is used, then why are the FE also reported individually in the corresponding table?
- Column 2 Table 4 (OLS) is equal to column 4 (second stage Heckman).
Selection bias is not so relevant or not properly captured in the first stage.
- Use households **shocks** (labour, demographics and natural disasters).
- Clarify what happens with loans in traded in the secondary market.
- Clustering of standard errors?



THANK YOU FOR YOUR ATTENTION

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