REM RESEARCH IN ECONOMICS AND MATHEMATICS

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The Latest REM Working Papers

The center of **Research in Economics and Mathematics** (REM) circulates research, notably by its affiliated members, as working papers intended for professional and public discussion and comment. The papers have not been peer reviewed.

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Events

26/02/2019, 17:00h. BPLIM, Paulo Guimarães, Banco de Portugal.

REM Working Papers

1. Stock Flow Adjustments in Sovereign Debt Dynamics: The Role of Fiscal Frameworks António Afonso, João Tovar Jalles, *Working Paper 066-2019.*

We assess, via system GMM, how Stock Flow Adjustments (SFA) affect the debt-to-GDP ratio in 65 countries (covering developed and emerging and low-income countries) between1985-2014. We find that SFAs positively contribute to the change in the debt-to-GDP ratio with a coefficient close to one. The existence of fiscal rules with monitor compliance contributes to lower the debt level. The fall in the debt ratio due to fiscal rules before the crisis was between 1.7%-4.2% of GDP while after the crisis, revenue and debt-based rules did not contribute to the reduction of debt, which was reinforced with large SFAs.

2. The Transmission of Unconventional Monetary Policy to Bank Credit Supply: Evidence from the TLTRO, António Afonso, Joana de Sousa Leite, *Working Paper 065-2019.*

We assess the transmission of the Targeted Longer-Term Refinancing Operations (TLTRO) to the bank credit supply for the Euro area (2014:05-2018:01) and for Portugal (2011:01-2018:01), using a panel data setup. For the Euro area, we find a positive relationship between the TLTRO and the amount of credit granted to the real economy. For the vulnerable countries, the effects of the TLTRO on the stock of credit increased from 2016 to 2017. Among the group of small banks, the effects are stronger in less vulnerable countries. We also find that competition has no statistically significant impact on the transmission of the TLTRO to the bank credit supply for the Euro area. For Portugal, using a difference-in-differences model, we find no statistically significant impact of the TLTRO on credit granted by banks. Finally, bidding banks set lower interest rates than non-bidding banks and the difference seems to be larger in 2017. In Portugal, the effects of the TLTRO on loan interest rates also increased from 2016 to 2017 and are stronger for small banks.

3. On the use of Hedonic Regression Models to Measure the Effect of Energy Efficiency on Residential Property Transaction Prices: Evidence for Portugal and Selected Data Issues, Rui Evangelista, Esmeralda Ramalho, João Andrade e Silva, *Working Paper 064-2019.*

Using a unique dataset containing information of around 256 thousand residential property sales , this paper discloses a clear sales premium for most energy efficient dwellings, which is more pronounced for apartments (13%) than for houses (5 to 6%). Cross-country comparisons support the finding that energy efficiency price premiums are higher in the Portuguese residential market than in central and northern European markets. Results emphasize the relevance of data issues in hedonic regression models. They illustrate how the use of appraisal prices, explanatory variables with measurement errors, and the omission of variables associated with the quality of the properties, may seriously bias energy efficiency partial effect estimates. These findings provide valuable information not only to policy-makers, but also to researchers interested in this area.

4. Demographic Changes in a Small Open Economy with Endogenous Time Allocation and Age-Dependent Mortality, João Pereira, *Working Paper 063-2019.*

We calibrate an endogenous overlapping generations model of a small open economy to study the effects of population aging and population decline. In an invariant scenario public and foreign debt explode and GDP growth decreases markedly. Among the tested policies to control public nances, the best for the individuals is an increase in the retirement age, which needs to increase 6 years, a similar magnitude as the increase in life expectancy at birth. However, this increase has to happen before the increase in life expectancy materializes itself. Aging has a stronger negative impact on public debt than population decline. We find a positive, but quantitatively modest, behavioral effect in reaction to a higher life expectancy with an impact on the GDP growth rate of only 2 basis points.

5. A DSGE Model to Evaluate the Macroeconomic Impacts of Taxation, José Alves, *Working Paper 062-2018.*

As recognized, taxation is not only an instrument for government to collect revenues from the economic agents but also an instrument of fiscal policy to influence the agents' behaviour. In this work, we develop a DSGE model to assess the macroeconomic impact of three tax items (taxes on individual income, on firms' income and on consumption) on the dynamics of both individual tax items and on the aggregate revenues as well. Moreover, we also intend to evaluate how macroeconomic aggregates behave in a presence of stochastic shocks in taxation.

6. The Relationship between Fiscal and Current Account Imbalances in OECD Economies, António Afonso, Philemon Kwame Opoku, *Working Paper 061-2018.*

This study re-examines the nexus between the fiscal balance and the current account balance for 18 OECD countries for the period 1995Q1 to 2018 Q1 using panel cointegration, and panel vector autoregressive (VAR) methods. Our results indicate that a strengthening in the fiscal balance by one percentage point of GDP leads to an improvement in the current account balance of about 0.1-0.3 percentage point of GDP. On the other hand, an increase in real government consumption generally leads to a deterioration in the current account balance. The impact of the real effective exchange rate is not statistically significant. The findings also confirm that there is a long-run relationship between the fiscal balance and the current account balance.

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