REM Newsletter 13/2020

April 29, 2020

Editors: António Afonso, Isabel Proença, Joana Pais
https://rem.rc.iseg.ulisboa.pt/
Contacts: Phone: +351 213 925 912. e-mail: rem@iseg.ulisboa.pt

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 The papers have not been peer reviewed.

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REM Vacancies – Open positions

Post-Doctoral Fellowship
Closing date: 31/05/2020
Post-Doctoral Position
Closing date: 31/05/2020
Call for Applications for PhD Research Grants
Closing date: 31/05/2020

Events

8th UECE Conference on Economic and Financial Adjustments, ISEG/UL – School of Economics and Management / University of Lisbon, Lisbon, 10th July 2020.

REM Working Papers

The Disposition Effect among mutual fund participants: A Re-Examination, Paulo Silva, Victor Mendes, Margarida Abreu, *Working Paper 0126-2020*

Using information on mutual fund trades executed from 1998 to 2017 by 31,513 individual investor clients of a major Portuguese financial institution, we study the relationship between the disposition effect, financial literacy and trading experience. We find that mutual fund investors exhibit strong disposition effect. The tendency to hold losers is partially offset with literacy: not only holding a university degree reduces the propensity to hold on to loser funds but also higher financial knowledge and stronger math skills reduce the disposition effect.

Literacy also plays a role in shaping the way experience affects this bias. Evidence of the disposition effect persists after accounting for redemption fees, bad emotions, irrational beliefs, market sentiment and the existence of someone to blame.

Labour Productivity in State-Owned Enterprises, António Afonso, Maria João Guedes, Pankaj C. Patel, *Working Paper 0125-2020*

In the aftermath of the Global and Financial Crisis (GFC), between 2013 and 2015, the Portuguese government revoked four holidays for both public sector and private employees. We test whether the revocation had an effect on labour productivity in State-Owned Enterprises (SOEs) in Portugal. Moreover, we also study whether such effects are different taking into account the SOEs managed by the Central Government or the Local and Regional Governments. Our results show that revocation of holidays did not impact labour productivity for either central or local and regional government managed SOEs. Though revocation of holidays espoused to improve productivity, the policy seems to have served a ceremonial purpose, but not an economic one.

Self-defeating austerity in Portugal during the Troika�s economic and financial adjustment programme, José Carlos Coelho, *Working Paper 0124-2020*

In 2011, Portugal agreed with the Troika (European Commission, European Central Bank and International Monetary Fund) to implement an economic and financial assistance programme during the period 2011-2014. One of the objectives of the programme was to guarantee the sustainability of public accounts, by setting targets for reducing the weight of the budget balance on GDP. Between 2010 and 2013, the weight of the budget deficit on GDP decreased by six percentage points. However, in that period, there was a colossal destruction of jobs and the unemployment rate grew by five percentage points. In an Input-Output framework, we show the existence of a negative relationship between the unemployment rate and the budget deficit and we revisit the concept of neutral budget balance proposed by Lopes and Amaral (2017), and also we consider the use of alternative fiscal policies and a mix of fiscal policies. In an empirical application to the Portuguese case, in 2013, we concluded that: (i) the balance of public accounts in that year would imply a very high unemployment rate; (ii) the larger the budget balance in that year, the greater the negative impact on the budget balance in 2014; and (iii) the budget balance actually verified in 2013 had a detrimental effect on the reduction of the budget deficit in 2014.

The Interaction Between Macroprudential Policy and Financial Stability, Zoe Venter, *Working Paper 0123-2020*

In this paper, an index of domestic macroprudential policy tools is constructed and the effectiveness of these tools in controlling credit growth is studied using a dynamic panel data model for the period between 2000 and 2017. The empirical analysis includes two panels namely an EU panel of 27 countries and a Latin American panel of 7 countries, and the paper also looks at a case study of Chile, Colombia, Japan, Portugal and the UK. Our main results find that the cumulative index of macroprudential policy tools does not have a statistically significant impact on credit growth when considering a panel of 27 EU countries. When considering the case of Japan, a tighter capital conservation buffer leads to a decrease in the credit supply. When looking at a panel of 7 Latin American countries, our main results show that a tightening of the capital conservation buffer results in an increase in the credit supply. A tightening of the loan-to-value ratio results in a decrease in the credit supply in the panel of 7 Latin American countries. Lastly, a tightening in the overall macroprudential policy tool stance results in a decrease in credit supply in Japan and an increase in credit supply in Portugal.

Neural Network pricing of American put options, Raquel Gaspar, Sara D. Lopes, Bernardo Sequeira, *Working Paper 0122-2020*

In this paper we use neural networks (NN), a machine learning method, to price American put options. We propose two distinct NN models – a simple one and a more complex one. The performance of two NN models is compared to the popular Least-Square Monte Carlo Method (LSM). This study relies on market American put option prices, with four large US companies as

underlying – Bank of America Corp (BAC), General Motors (GM), Coca-Cola Company (KO) and Procter and Gamble Company (PG). Our dataset includes all options traded from December 2018 to March 2019. All methods show a good accuracy, however, once calibrated, NNs do better in terms of execution time and Root Mean Square Error (RMSE). Although on average both NN models perform better than LSM, the simpler model (NN model 1) performs quite close to LSM. On the other hand our NN model 2 substantially outperforms the other models, having a RMSE ca. 40% lower than that of the LSM. The lower RMSE is consistent across all companies, strike levels and maturities.