
REM Newsletter 31/2022

March 31, 2022

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The Latest REM [Working Papers](#)

[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 The papers have not been peer reviewed.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



REM Young Researcher Award 2021. 31.03.2022

	Thesis
Carolina Vasconcelos	GENERALIZED MULTIVARIATE MARKOV CHAINS: ESTIMATION, INFERENCE AND IMPLEMENTATION IN R
Francisco Carvalho	CYCLICALITY OF FISCAL POLICY: HOW DO EUROZONE'S FISCAL STANCES CHANGE DURING RECESSIONS?
Luís García	Are you a discriminator? A Lab Experiment: Gift Exchange and the impact of information on the wages of immigrants

[10th UECE Conference on Economic and Financial Adjustments](#), ISEG/UL – Lisbon School of Economics and Management/University of Lisbon, **July 22, 2022** (rooms and online). **5 June 2022**, submission deadline.

Keynote speakers:

[Xavier Debrun](#) (National Bank of Belgium); [Cecilio Tamarit](#) (University of Valencia)



Papers presented at the conference can be considered for the Special Issue of the [European Journal of Political Economy](#), according to selected topical guidelines to be set up.

REM [Working Papers](#)

[Long-range connections and mixed diffusion in fractional networks](#), R. Vilela Mendes, Tanya Araújo, *Working Paper 0223-2022*

Networks with long-range connections, obeying a distance-dependent power law of sufficiently small exponent, display superdiffusion, Lévy flights and robustness properties very different from the scale-free networks. It has been proposed that these networks, found both in society and in biology, be classified as a new structure, the fractional networks. Particular important examples are the social networks and the modular hierarchical brain networks where both short- and long-range connections are present. The anomalous superdiffusive and the mixed

diffusion behavior of these networks is studied here as well as its relation to the nature and density of the long-range connections.

[How Money relates to value? An empirical examination on Gold, Silver and Bitcoin](#), José Alves, João Quental Gonçalves, *Working Paper 0222-2022*

The present work offers a review on two divergent schools of thought regarding the subject of money and highlights why understanding it is important to grasp the workings and nature of the concept of money. We adopt a spontaneous order perspective on social institutions, considering money as one. Such framework allows for the construction of axioms from which we formulate our problem allowing us to ask how old forms of money such as Gold and Silver hold up in today's world regarding their hedging properties. Moreover, we also do so for Bitcoin since we consider it an appropriate asset due to its specific characteristics and its (at the time of writing) more than 10-year life span. We resort to the Autoregressive Distributed Lag (ARDL) methodology in order to study our three assets in the context of the US dollar and the US Economy for two different time periods. We analyse price dynamics from 1980 to 2020 for gold and silver resorting to annual data. Regarding bitcoin we employ quarterly data from 2009 to 2020. We conclude that the theories that explain what money is, how it comes to be so and how certain types of "money assets" may serve both as an indirect hedge against inflation in the two interpretations of the word and as a "stock of value" have merits that might deserve further investigation.

[Long-range connections, real-world networks and rates of diffusion](#), Tanya Araújo, R. Vilela Mendes, *Working Paper 0221-2022*

Long range connections play an essential role in dynamical processes on networks, on the processing of information in biological networks, on the structure of social and economical networks and in the propagation of opinions and epidemics. Here we review the evidence for long range connections in real world networks and discuss the nature of the nonlocal diffusion arising from different distance-dependent laws. Particular attention is devoted to exponential and power laws.

[Technological waves and economic growth: thoughts on the digital revolution](#), João Ferreira do Amaral, *Working Paper 0220-2022*

This paper develops concepts and theoretical models that can prove useful for the study of technological revolutions both from the point of view of economic growth theory and of economic history. The basic concepts are innovative capital, technological wave and technological revolution and a comparison is made with other concepts such as industrial revolution and social revolution in the Marxian sense.

[Fiscal sustainability, fiscal reactions, pitfalls and determinants](#), António Afonso, José Carlos Coelho, *Working Paper 0219-2022*

We examine the sustainability of public finances and its determinants for 19 Eurozone countries from 1995 to 2020. We conclude for the existence of panel cointegration between government revenues and expenditures; primary government balance and one-period lagged public debt-to-GDP ratio; and public debt-to-GDP ratio and one-period lagged primary government balance. The estimated fiscal reaction functions suggest the existence of a Ricardian fiscal regime. Finally, modelling via time-varying coefficients, we find that fiscal sustainability increases with growth, fiscal balances and fiscal rules indices, and decreases with trade openness, current account balances, government effectiveness index, after 2010, and with sovereign ratings assigned by the main rating agencies.

[Unconventional Monetary Policy in the Euro Area. Impacts on Loans, Employment, and Investment](#), António Afonso, Francisco Gomes Pereira, *Working Paper 0218-2022*

Using a difference-in-differences identification strategy on a micro panel at the bank and firm level, we study the transmission effectiveness of ECB's large-scale asset purchasing programs (i.e. APP and PEPP) in the Euro area. Our findings show: first, balance sheet composition of banks is an important determinant of monetary policy transmission. We tested this hypothesis by showing that banks more exposed to government debt securities had higher

loan growth than less exposed banks after the APP announcement. By extension, this could lead to heterogeneous economic impacts depending on the geographical location of exposed banks. For the PEPP, contrary to the APP, we did not find a portfolio-rebalancing channel for banks that were more exposed to government debt securities. Second, using balance sheet data on corporates, we verify that firms that borrowed more increased employment and fixed capital investment, albeit to a lesser degree than before the APP announcement. Furthermore, our sample shows that corporations in countries with banks more exposed to government debt securities had higher borrowing growth and fixed capital growth versus countries with less exposed banks.

[To consolidate or not to consolidate? A multi-step analysis to assess needed fiscal sustainability](#), António Afonso, José Alves, João Tovar Jalles, *Working Paper 0217-2022*

We assess the specific need (or its absence) of a country to implement a fiscal consolidation programme by focusing specifically on their degree of success, notably in terms of fiscal sustainability. The “need” to consolidate is based on having a primary balance above or below the debt-stabilizing primary balance (provided by the IMF’s Debt Sustainability Analysis) for each country. We then link the need for and the actual (historical) existence of fiscal adjustments to their sustainability impact. Looking at a large sample of developed and developing economies over the period 1980-2018, we find that, on average, there is a higher need of consolidations in advanced economies than in developing economies. In addition, the implementation of a fiscal consolidation program implies an improvement in the degree of public finances’ sustainability, for both advanced and developing economies. Finally, fiscal sustainability deteriorates when the need to implement a fiscal retrenchment arises.

[Determinants of non-performing loans: a panel data approach](#), Cândida Ferreira, *Working Paper 0216-2022*

This paper analyses the evolution of the bank non-performance loans to total loans ratio using three categories of explaining variables: bank performance indicators (bank credit to bank deposits ration, bank cost to income ratio, bank net interest margin, bank noninterest income to total income, and bank return on assets), market conditions and financial structure indicators (bank concentration, Lerner index, bank Z-score, bank regulatory to risk-weighted assets, and bank crisis dummy), and economic growth indicator (natural logarithm of real GDP per capita). The paper applies panel fixed effects and dynamic Generalised Method of Moments (GMM) estimates to a panel of 80 countries spread by all Continents, over the period 1999-2017. The results obtained clearly demonstrate that bank performance, bank market conditions, and bank capital regulation are relevant to explain the evolution of nonperformance loans, but the promotion of economic growth is always much more important to assure the decrease the levels of non-performing loans, preventing the losses of the banking system as well as potential financial crisis.

[Decentralisation and the environment: Survey-based and cross-country evidence](#), Luiz de Mello, João Tovar Jalles, *Working Paper 0215-2022*

Attitudes towards the environment have evolved over the years around the world, in part due to growing awareness among the population of the challenges posed by climate change. The decentralisation of policymaking, administrative and political responsibilities to the subnational levels of administration may also have played a part to the extent that creates room for bottomup policy experimentation and citizen participation in policy design, including in areas related to the environment, that may influence people’s preferences and attitudes. To shed light on these linkages, this paper provides both individual-level survey-based and aggregate cross-country empirical evidence. Individual-level analysis based on data from the World Values Survey shows that decentralisation contributes to more favourable attitudes to the environment, controlling for personal and household characteristics of respondents, as well as country and cohort effects. Country-level analysis based on national accounts data shows that decentralisation is associated with higher government spending on environment-related

programmes, as well as higher collection of environmental taxes in the advanced economies, controlling for conventional public finance covariates.