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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 The papers have not been peer reviewed.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

25-26/10/2019, 09:00h. 6th International Workshop on the Socio-Economics of Ageing, ISEG/UL – School of Economics and Management.
07-09/11/2019, 09:00h. The Lisbon Meetings in Game Theory and Applications, ISEG/UL – School of Economics and Management.
22/11/2019, 09:00h. INFER Workshop on New Challenges for Fiscal Policy, ISEG/UL – School of Economics and Management.

REM Young Researcher Award

REM - Research in Economics and Mathematics, launches in 2019 the REM Young Researcher Award, with a monetary value of 1000 EUR. The prize awards the best Master thesis defended at ISEG, in the period October 2018 - December 2019, and whose supervisor is a member of REM in one ISEG Master courses. To apply, the candidates should send their thesis, together with the proof of the public defense and approval, by 31 December 2019, to rem@iseg.ulisboa.pt.

REM Working Papers

Fiscal episodes in the EMU: Elasticities and non-keynesian effects, António Afonso, Frederico Silva Leal, *Working Paper 097-2019*

We estimate short-and long-run elasticities of private consumption for fiscal instruments, using a Fixed Effects model for the19-euroarea countries during the period of 1960-2017, to assess how fiscal elasticities vary during fiscal episodes. According to the results, positive "tax revenue" elasticities indicate that consumers have a Ricardian behaviour, whereby they perceive an increase in taxation to be a sign of future government spending. "Social benefits" appear to have a non-keynesian effect on private consumption. In addition, using a narrative approach to identify fiscal consolidations, it is seen that private consumption continues to exhibit a non-keynesian response to tax increases, both in the short and long-run, and"other expenditures" have a recessive impact during "normal times". Furthermore, "social benefits" are more contractionary in consolidations than in both expansions and "normal times". Additionally, after the launch of the EMU, expansionary fiscal consolidations became harder to observe, and "other expenditure" and "investment" lost their non-keynesian role.

The Interaction Between Conventional Monetary Policy and Financial Stability: Chile, Colombia, Japan, Portugal and the UK , Zoe Venter, *Working Paper 096-2019*

The relationship between monetary policy and financial stability has gained importance in recent years as Central Bank policy rates neared the zero-lower bound. The need to coordinate policy choices, to expand the scope of monetary policy measures and lastly, the need to target financial stability objectives while maintaining a primary objective of financial stability, has become essential. We use an SVAR model and impulse response functions to study the impact of monetary policy shocks on three proxies for financial stability as well as a proxy for economic growth. Our main results show that the Central Bank policy rate may be used to correct asset mispricing due to the inverse relationship between the policy rate and the stock market index. The results also show that, in line with theory, the exchange rate appreciates following a positive interest rate shock. Although the impact is only statistically significant for industrial production for the case of the UK, conventional monetary policy may indeed be able to contribute to financial stability when used in conjunction with alternative policy choices.

Young farmers as innovation enablers in rural areas: the role of the EUs support in a Portuguese peripheric region, Trás-os-Montes, Ana Isabel Guerra and João Carlos Lopes, *Working Paper 095-2019*

The European Union has suggested several approaches to decrease regional asymmetries and develop rural areas around member states. The main purpose of this paper is to study one of these policies, the Young Farmers Program, in a rural and peripheric region of Portugal, Trás-os-Montes. Since severe depopulation and ageing are some of this region's biggest threats, initiatives like the Young Farmers Program might represent a gradual reversion of such phenomenon and contribute to the attractiveness of the rural lifestyle to the younger generations. But do these farmers truly bring innovation and modernization to Trás-os-Montes? Do they have a significant environmental and sustainability awareness? Is the digital usage already a reality? Are the associative leaders encouraging the sustainable development of the region? Is this new generation aware of the meaning and potentialities of the circular economy? Does it intend to adopt its innovative and modern practices? A tentative answer to these questions is searched by means of a detailed survey by questionnaire to a representative sample of young farmers in the region and by directly interviewing their main associative leaders.

On Pathdependency of Constant Proportion Portfolio Insurance strategies, João Carvalho, Raquel M. Gaspar and João Beleza Sousa, *Working Paper 094-2019*

This paper evaluates the path–dependency/independency of most widespread Portfolio Insurance strategies. In particular, we look at Constant Proportion Portfolio Insurance (CPPI) structures and compare them to both the classical Option Based Portfolio Insurance (OBPI)and naive strategies such as Stop-loss Portfolio Insurance (SLPI) or a CPPI with a multiplier of one. The paper is based upon conditional Monte Carlo simulations and we show that CPPI strategies with a multiplier higher than 1 are extremely path-dependent and that they can easily get cash-locked, even in scenarios when the underlying at maturity can be worth much more than initially. The likelihood of being cash-locked increases with the size of the multiplier and the maturity of the CPPI, as well as with properties of the risky underlying's dynamics. To emphasize the path dependency of CPPIs, we show that even in scenarios where the investor correctly "guesses" a higher future value for the underlying, CPPIs can get cash-locked, losing the linkage to the risky asset. This cash-lock problem is specific of CPPIs, it goes against its European-style nature of traded CPPIs, and it introduces into the strategy a risks not related to the underlying risky asset – a design risk.

Design risk does not occur for path-independent portfolio insurance strategies, like the classical case of OBPI strategies, nor in naive strategies. This study contributes to reinforce the idea that CPPI strategies suffer from a serious design problem.

Pulled-to-Par Returns for Zero Coupon Bonds - Historical Simulation Value at Risk
J. Beleza Sousa, Manuel L. Esquível and Raquel M. Gaspar, *Working Paper 093-2019*
Due to bond prices pull-to-par, zero coupon bonds historical returns are not stationary, as they tend to zero as time to maturity approaches. Given that the historical simulation method for computing Value at Risk(VaR) requires a stationary sequence of historical returns, zero coupon bonds historical returns can not be used to compute VaR by historical simulation. Their use would systematically overestimate VaR, resulting in invalid VaR sequences. In this paper we propose an adjustment of zero coupon bonds historical returns. We call the adjusted returns "pulled-to-par" returns. We prove that when the zero coupon bonds continuously compounded yields to maturity are stationary the adjusted pulled-to-par returns allow VaR computation by historical simulation. We first illustrate the VaR computation in a simulation scenario, then we apply it to real data on euro zone STRIPS.

Investors' Perspective on Portfolio Insurance - Expected Utility vs Prospect Theories
Raquel M. Gaspar and Paulo M. Silva, *Working Paper 092-2019*
This study supports the use of behavioural finance to explain the popularity of portfolio insurance. Portfolio insurance strategies are important financial solutions sold to institutional and individual investors, that protect against downside risk while maintaining some upside valuation potential. The way some of these strategies are engineered has been criticised, and portfolio insurance itself blamed for increasing market volatility in depressed markets. Despite this, investors keep on buying portfolio insurance that has a solid market share. This study contributes to understand the phenomenon. We compare investors' decision using two distinct frameworks: expected utility theory and behavioural theories. Based upon Monte Carlo simulation techniques we compare portfolio insurance strategies against uninsured basic benchmark strategies. We conclude that cumulative prospect theory may be a viable framework to explain the popularity of portfolio insurance. However, among portfolio insurance strategies, naïve strategies seem to be preferable to most commonly traded strategies.

Labour Productivity, Wages and the Functional Distribution of Income in Portugal: A Sectoral Approach,
João Carlos Lopes, José Carlos Coelho, Vítor Escária, *Working Paper 091-2019*
The main purpose of this paper is to study the functional distribution of income in Portugal in the long run, considering the period between 1953 and 2017. The labour share in income or value added depends on two fundamental variables, the labour productivity and the average labour compensation. The trends of these variables are quantified, for the aggregate economy and for its main productive sectors. An interesting result emerges, namely the different dynamics across sectors, both for the (unadjusted) wage share (considering only the wages of employees) and for the adjusted labour share (considering also as labour compensation one fraction of mixed income). Moreover, a shift-share analysis is used, in order to distinguish the importance of each sector's wage share evolution ("within"effect) and the changes in each sector's weight (structural changes, or "between"effect). Finally, a first attempt to incorporate the effect of wage inequality on the functional distribution of income is made, subtracting the labour compensation of the highest paid workers (top 10%, 5% and 1%) in order to calculate the wage share of the (so-called) typical workers.

The dynamic relationship between stock market indexes and foreign exchange, Maria Teresa Medeiros Garcia, Ana Catarina Gomes Rodrigues, *Working Paper 090-2019*
This empirical study analyses the dynamic relationship between the FTSE100 Index and the EuroSTOXX50 Index and the USD/EUR and USD/GBP exchange rates, from January 2007 to April 2017. The Johansen co-integration tests suggest that these variables have a long-term relationship. The Granger causality test was conducted through the use of VECM equations, showing that the FTSE100 and the EuroSTOXX50 Index both have a causal feedback relationship. A unidirectional relationship was found between the FTSE100 Index stock prices and the USD/EUR exchange rate. The presence of a unidirectional relationship between the USD/GBP exchange rate and FTSE100 and EuroSTOXX50 Index stock prices was also detected.