

## **António Rua**

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### **Formação académica**

Universidade Técnica de Lisboa

Doutoramento em Economia, 2011 (Distinção)

Universidade Nova de Lisboa

Mestrado em Economia, 2003 (Prémio “Amélia de Mello” ao aluno com classificação mais elevada)

Universidade Nova de Lisboa

Licenciatura em Economia, 1999

### **Experiência profissional**

Banco de Portugal, Departamento de Estudos Económicos

Economista Coordenador, desde 2006

Área de Economia Portuguesa, desde 2003

Área de Política Monetária, 2000-2003

Área de Economia Portuguesa, 1999-2000

### **Experiência académica**

Nova School of Business and Economics

Professor Associado, desde 2016

Investigador Principal, 2014-2016

Professor Auxiliar, 2003-2010

### **Áreas de especialização**

Econometria Aplicada; Previsão; *Wavelets*.

### **Publicações**

Duarte, C., Rodrigues, P. e Rua, A. (2016) “A Mixed Frequency Approach to Forecast Private Consumption with ATM/POS Data”, *International Journal of Forecasting*, forthcoming.

de Carvalho, M. e Rua, A. (2016) "Discussion of 'Of quantiles and expectiles: consistent scoring functions, Choquet representations and forecast rankings' by Ehm, W., Gneiting, T., Jordan, A. and Kruger, F. ", *Journal of the Royal Statistical Society Series B*, vol. 78, no. 3, 539-540.

de Carvalho, M. e Rua, A. (2016) "Real-time nowcasting the US output gap: Singular spectrum analysis at work", *International Journal of Forecasting*, forthcoming.

Bobeica, E., Esteves, P. S., Rua, A. e Staehr, K. (2016) "Exports and domestic demand pressure: a dynamic panel data model for the euro area countries", *Review of World Economics*, vol. 152, no. 1, 107-125.

Esteves, P. S. e Rua, A. (2015) "Is there a role for domestic demand pressure on export performance?", *Empirical Economics*, vol. 49, no. 4, 1173-1189.

Dias, F., Pinheiro, M. e Rua, A. (2015) "Forecasting Portuguese GDP with factor models: pre- and post-crisis evidence", *Economic Modelling*, vol. 44, 266-272.

Rua, A. e Lopes, A. S. (2014) "Cohesion within the euro area and the U. S.: a wavelet-based view", *Journal of Business Cycle Measurement and Analysis*, vol. 2014/2.

de Carvalho, M. e Rua, A. (2014) "Extremal dependence in international output growth: Tales from the tails", *Oxford Bulletin of Economics and Statistics*, vol. 76 (4), 605-620.

de Carvalho, M., Rua, A. e Turkman, K. F. (2013) "Dynamic threshold modelling and the US business cycle", *Journal of the Royal Statistical Society Series C*, vol. 62, no. 4, 535-550.

Rua, A. (2013) "Worldwide synchronization since the nineteenth century: a wavelet-based view", *Applied Economics Letters*, 20, 773-776.

Pinheiro, M., Rua, A. e Dias, F. (2013) "Dynamic factor models with jagged edge panel data: Taking on board the dynamics of the idiosyncratic components", *Oxford Bulletin of Economics and Statistics*, vol. 75, no. 1, 80-102.

Dias, F., Pinheiro, M. e Rua, A. (2013) "Determining the number of global and country-specific factors in the euro area", *Studies in Nonlinear Dynamics & Econometrics*, 17(5), 573-617.

Rua, A. (2012) "Money growth and inflation in the euro area: a time-frequency view", *Oxford Bulletin of Economics and Statistics*, vol. 74, no.6, 875-885.

Rua, A. e Nunes, L. C. (2012) "A wavelet-based assessment of market risk: The emerging markets case", *Quarterly Review of Economics and Finance*, vol. 52, 84-92.

de Carvalho, M., Rodrigues, P. C. e Rua, A. (2012) “Tracking the US business cycle with a singular spectrum analysis”, *Economics Letters*, vol. 114, 32-35.

Rua, A. (2011) “A wavelet approach for factor-augmented forecasting”, *Journal of Forecasting*, vol. 30, 666-678.

Rua, A. (2010) “Measuring comovement in the time-frequency space”, *Journal of Macroeconomics*, vol. 32, 685-691.

Dias, F., Duarte, C. e Rua, A. (2010) “Inflation expectations in the euro area: Are consumers rational?”, *Review of World Economics*, vol. 146, no. 3, 591-607.

Dias, F., Duarte, C. e Rua, A. (2010) “Inflation (mis)perceptions in the euro area”, *Empirical Economics*, vol. 39, 353-369.

Dias, F., Pinheiro, M. e Rua, A. (2010) “Forecasting using targeted diffusion indexes”, *Journal of Forecasting*, vol. 29, no. 3, 341-352.

Rua, A. e Nunes, L. C. (2009) “International comovement of stock market returns: a wavelet analysis”, *Journal of Empirical Finance*, vol. 16, 632-639.

Reis, H. e Rua, A. (2009) “An input-output analysis: linkages vs. leakages”, *International Economic Journal*, vol. 23, no. 4, 527-544.

Rünstler, G., Barhoumi, K., Benk, S., Cristadoro, R., den Reijer, A., Jakaitiene, A., Jelonek, P., Rua, A., Ruth, K. e Van Nieuwenhuyze, C. (2009) “Short-term forecasting of GDP using large datasets: A pseudo real-time forecast evaluation exercise”, *Journal of Forecasting*, vol. 28, no. 7, 595-611.

Duarte, C. e Rua, A. (2007) “Forecasting inflation through a bottom-up approach: How bottom is bottom?”, *Economic Modelling*, 24, 941-953.

Valle e Azevedo, J., Koopman, S. J. e Rua, A. (2006) “Tracking the business cycle of the Euro area: a multivariate model-based band-pass filter”, *Journal of Business & Economic Statistics*, vol. 24, no 3, 278-290.

Rua, A. e Nunes, L. C. (2005) “Coincident and leading indicators for the euro area: A frequency band approach”, *International Journal of Forecasting*, vol. 21, no 3, 503-523.

### ***Working papers***

Rua, A. (2016) “A wavelet-based multivariate multiscale approach for forecasting”, Working Paper no. 12/2016, Banco de Portugal.

Pereira, J, Pesquita, V., Rodrigues, P. e Rua, A. (2016) “Market integration and the persistence of electricity prices”, Working Paper no. 9/2016, Banco de Portugal.

Duarte, C., Rodrigues, P. e Rua, A. (2016) “A Mixed Frequency Approach to Forecast Private Consumption with ATM/POS Data”, Working Paper no. 1/2016, Banco de Portugal.

de Carvalho, M. e Rua, A. (2014) “Real-time nowcasting the US output gap: Singular spectrum analysis at work”, Working Paper no. 16/2014, Banco de Portugal.

Bobeica, E., Esteves, P. S., Rua, A. e Staehr, K. (2014) “Exports and domestic demand pressure: a dynamic panel data model for the euro area countries”, Working Paper no. 15/2014, Banco de Portugal (also available as European Central Bank Working Paper no. 1777).

Esteves, P. S. e Rua, A. (2013) “Is there a role for domestic demand pressure on export performance”, Working Paper no. 3/2013, Banco de Portugal (also available as European Central Bank Working Paper no. 1594).

Rua, A. e Lopes, A. S. (2012) “Cohesion within the euro area and the U. S.: a wavelet-based view”, Working Paper no. 4/2012, Banco de Portugal.

Rua, A. e Nunes, L. C. (2012) “A wavelet-based assessment of market risk: The emerging markets case”, Working Paper no. 3/2012, Banco de Portugal.

Pereira, J. P. e Rua, A. (2012) “Asset pricing with a bank risk factor”, Working Paper no. 2/2012, Banco de Portugal.

Rua, A. (2011) “Money growth and inflation in the euro area: a time-frequency view”, Working Paper no. 22/2011, Banco de Portugal.

de Carvalho, M., Rodrigues, P. C. e Rua, A. (2010) “Tracking the US business cycle with a singular spectrum analysis”, Working Paper no. 9/10, Banco de Portugal.

de Carvalho, M. e Rua, A. (2010) “Extremal dependence in international output growth: Tales from the tails”, Working Paper no. 8/10, 2010, Banco de Portugal.

Rua, A. (2010) “A wavelet approach for factor-augmented forecasting”, Working Paper no. 7/10, Banco de Portugal.

de Carvalho, M., Rua, A. e Turkman, K. F. (2010) “Nonstationary extremes and the US business cycle”, Working Paper no. 3/10, 2010, Banco de Portugal.

Rua, A. (2010) “Measuring comovement in the time-frequency space”, Working Paper no. 1/10, Banco de Portugal.

Pinheiro, M., Rua, A. e Dias, F. (2009) “Dynamic factor models with jagged edge panel data: Taking on board the dynamics of the idiosyncratic components”, Working Paper no. 13/09, Banco de Portugal.

Rua, A. e Nunes, L. C. (2009) “International comovement of stock market returns: a wavelet analysis”, Working Paper no. 4/09, Banco de Portugal.

Dias, F., Duarte, C. e Rua, A. (2008) “Inflation expectations in the euro area: Are consumers rational?”, Working Paper no. 23/08, Banco de Portugal.

Dias, F., Pinheiro, M. e Rua, A. (2008) “Determining the number of factors in approximate factor models with global and group-specific factors”, Working Paper no. 9/08, Banco de Portugal.

Dias, F., Pinheiro, M. e Rua, A. (2008) “Forecasting using targeted diffusion indexes”, Working Paper no. 7/08, Banco de Portugal.

Barhoumi, K., Benk, S., Cristadoro, R., Reijer, A., Jakaitiene, A., Jelonek, P., Rünstler, G., Rua, A., Ruth, K., e van Nieuwenhuyze, C. (2008) “Short-term forecasting of GDP using large datasets: A pseudo real-time forecast evaluation exercise”, ECB Occasional Paper Series no. 84, European Central Bank.

Dias, F., Duarte, C. e Rua, A. (2007) “Inflation (mis)perceptions in the euro area”, Working Paper no. 15/07, Banco de Portugal.

Reis, H. e Rua, A. (2006) “An input-output analysis: linkages vs. leakages”, Working Paper no. 17/06, Banco de Portugal.

Duarte, C. e Rua, A. (2005) “Forecasting inflation through a bottom-up approach: the Portuguese case”, Working Paper no. 2/05, Banco de Portugal.

Valle e Azevedo, J., Koopman, S. J. e Rua, A. (2003) “Tracking growth and the business cycle: a stochastic common cycle model for the euro area”, Working Paper no. 16/03, Banco de Portugal (also available as Discussion Paper no. 03-069/4, Tinbergen Institute).

Rua, A. e Nunes, L. C. (2003) “Coincident and leading indicators for the euro area: a frequency band approach”, Working Paper no. 7/03, Banco de Portugal.

### **Outras publicações**

Dias, F., Pinheiro, M. e Rua, A. (2016) “A bottom-up approach for forecasting GDP in a data rich environment”, Banco de Portugal Economic Studies, vol. 2, no. 3, 1-19, Banco de

Portugal (disponível em português como “Previsão do PIB através de uma abordagem bottom-up num contexto rico em informação”, Revista de Estudos Económicos, vol. 2, no. 3, 1-20, Banco de Portugal).

Rua, A. (2015) “Revisiting the monthly coincident indicators of Banco de Portugal”, Banco de Portugal Economic Studies, vol. 1, no. 1, 49-64, Banco de Portugal (disponível em português como “Indicadores coincidentes mensais do Banco de Portugal revisitados”, Revista de Estudos Económicos, vol. 1, no. 1, 51-67, Banco de Portugal).

Dias, F., Pinheiro, M. e Rua, A. (2014) “Forecasting Portuguese GDP with factor models”, Economic Bulletin June 2014, 85-100, Banco de Portugal (disponível em português como “Previsão do PIB para Portugal com base em modelos de fatores”, Boletim Económico Junho 2014, 89-104, Banco de Portugal).

Cardoso, F., Esteves, P. S. e Rua, A. (2013) “The import content of global demand in Portugal”, Economic Bulletin, Autumn 2013, 107-121, Banco de Portugal (disponível em português como “O conteúdo importado da procura global em Portugal”, Boletim Económico Outono 2013, 111-126, Banco de Portugal).

Esteves, P. S. e Rua, A. (2012) “Short-term forecasting for the Portuguese economy: A methodological overview”, Economic Bulletin, Autumn 2012, 137-149, Banco de Portugal (disponível em português como “Previsões económicas de curto prazo para Portugal: uma síntese metodológica”, Boletim Económico Outono 2012, 143-155, Banco de Portugal).

Rua, A. (2012) “Wavelets in Economics”, Economic Bulletin, Summer 2012, 71-79, Banco de Portugal (disponível em português como “Wavelets em Economia”, Boletim Económico Verão 2012, 77-86, Banco de Portugal).

Cardoso, F. e Rua, A. (2011) “The quarterly national accounts in real-time: an analysis of the revisions over the last decade”, Economic Bulletin, Autumn 2011, 137-154, Banco de Portugal (disponível em português como “As contas nacionais trimestrais em tempo real: uma análise das revisões na última década”, Boletim Económico Outono 2011, 147-164, Banco de Portugal).

Dias, F., Duarte, C. e Rua, A. (2009) “Inflation perceptions and expectations in the euro area and Portugal”, Economic Bulletin, Spring 2009, 167-180, Banco de Portugal (disponível em português como “Percepção e expectativas de inflação na área do euro e Portugal”, Boletim Económico Primavera 2009, 179-193, Banco de Portugal).

Rua, A. (2005) “A new coincident indicator for the Portuguese private consumption”, Economic Bulletin, Autumn 2005, 65-72, Banco de Portugal (disponível em português como “Um

novo indicador coincidente para o consumo privado em Portugal”, Boletim Económico Outono 2005, 69-76, Banco de Portugal).

Rua, A. (2004) “A new coincident indicator for the Portuguese economy”, Economic Bulletin June 2004, 21-28, Banco de Portugal (disponível em português como “Um novo indicador coincidente para a economia portuguesa”, Boletim Económico Junho 2004, 21-29, Banco de Portugal).

Rua, A. (2002) “Composite indicators for the euro area economic activity”, Economic Bulletin September 2002, 87-100, Banco de Portugal (disponível em português como “Indicadores compósitos para a actividade económica na área do euro”, Boletim Económico Setembro 2002, 95-109, Banco de Portugal).

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