

| | | |
|---------------------|---|--|
| CONTACT INFORMATION | 53 Kabanbay Batyr Avenue Nur-Sultan 010000, Kazakhstan | <i>Web:</i> sites.google.com/view/ruzicka <i>Email:</i> josef.ruzicka@nu.edu.kz |
| CURRENT POSITION | Assistant Professor, Department of Economics, Nazarbayev University, 2021–present | |
| EDUCATION | Universidad Carlos III de Madrid, Spain Ph.D. (<i>cum laude</i>), Economics, 09/2018–06/2021 <ul style="list-style-type: none">• Thesis: <i>Dynamic Quantile Causal Inference and Forecasting</i> M.Sc., Economics, 09/2015–09/2017 University of Bonn, Germany M.Sc., Economics, 10/2013–09/2015 Charles University, Prague, Czech Republic B.Sc. (<i>summa cum laude</i>), Economics, 09/2010–06/2013 | |
| REFERENCES | Jesús Gonzalo (advisor) Department of Economics Universidad Carlos III de Madrid jesus.gonzalo@uc3m.es | Juan José Dolado Department of Economics Universidad Carlos III de Madrid dolado@eco.uc3m.es Nazarii Salish Department of Economics Universidad Carlos III de Madrid nsalish@eco.uc3m.es |
| RESEARCH INTERESTS | Macroeconometrics, Forecasting, Machine Learning | |
| WORKING PAPERS | Quantile Local Projections: Identification, Smooth Estimation, and Inference (previously circulated as “Smooth Quantile Projections”) Standard impulse response functions measure the average effect of a shock on a response variable. However, different parts of the distribution of the response variable may react to the shock differently. A popular method to capture this heterogeneity are quantile regression local projections. We study their identification by short-run restrictions, long-run restrictions, and external instruments. To overcome their excessive volatility, we introduce two novel estimators: Smooth Quantile Projections (SQP) and Smooth Quantile Projections with Instruments (SQPI). The SQPI inference is valid under weak instruments. We propose information criteria for optimal smoothing and apply the estimators to shocks in financial conditions and monetary policy. We demonstrate that financial conditions affect the entire distribution of future GDP growth and not just its lower part. Quantile Structural Vector Autoregression Standard impulse response functions measure the effects of shocks on the expectation of response variables. We introduce a framework to measure the effects of shocks on the entire distribution of response variables, not just on the mean. Various identification | |

schemes are considered: short-run and long-run restrictions, external instruments, and their combinations. Asymptotic distribution of the estimators is established. Simulations show our method is robust to heavy tails. Empirical applications reveal causal effects that cannot be captured by the standard approach. For example, the effect of oil price shock on GDP growth is statistically significant only in the left part of GDP growth distribution, so a spike in oil price may cause a recession, but there is no evidence that a drop in oil price may cause an expansion. Another application reveals that real activity shocks reduce stock market volatility.

OTHER
PUBLICATIONS

Anticipating the bust: a new cyclical systemic risk indicator to assess the likelihood and severity of financial crises (2019, with Jan Hannes Lang, Cosimo Izzo, Stephan Fahr)

ECB Occasional Paper No. 219

This paper presents a tractable, transparent and broad-based domestic cyclical systemic risk indicator (d-SRI) that captures risks stemming from domestic credit, real estate markets, asset prices, and external imbalances. The d-SRI increases on average several years before the onset of systemic financial crises, and its early warning properties for euro area countries are superior to those of the total credit-to-GDP gap. In addition, the level of the d-SRI around the start of financial crises is highly correlated with measures of subsequent crisis severity, such as GDP declines. Model estimates suggest that the d-SRI has significant predictive power for large declines in real GDP growth three to four years down the line, as it precedes shifts in the entire distribution of future real GDP growth and especially of its left tail. The d-SRI therefore provides useful information about both the probability and the likely cost of systemic financial crises many years in advance. Given its timely signals, the d-SRI is a useful analytical tool for macroprudential policymakers.

The Real-Time Information Content of Financial Stress and Bank Lending on European Business Cycles (2019, with Jakob Fiedler, Thomas Theobald)

IMK Working Paper No. 198

We integrate newly created financial stress indices (FSIs) into an automated real-time recession forecasting procedure for the Euro area and Germany. The FSIs are based on a large number of financial indicators, each of them potentially signaling financial stress. A subset of these indicators is selected in real-time and their stress signal is summarized by principal component analysis (PCA). Besides conventional measures of realized financial stress, such as volatilities, we include variables related to the financial cycle, such as different types of credit growth, for which strong increases may anticipate future financial market stress. Building blocks in our fully automated realtime probit forecasts are then i. the use of a broad set of widely acknowledged macroeconomic and financial variables with predictive power for a real economic downturn, ii. the use of both general-to-specific and specific-to-general approaches for variable and lag selection, and iii. the averaging of different specifications into a composite forecast. As a real-time out-of-sample analysis shows, the inclusion of financial stress leads to an improved recession forecast for the Euro area, while the results for Germany are mixed. Finally, we also evaluate the predictive power of the change in bank lending (credit impulse) and find that it adds little additional information.

WORK IN
PROGRESS

Smooth Quantile Projections in a Data-Rich Environment

| | |
|-------------------------|--|
| WORK EXPERIENCE | <p>European Central Bank, Frankfurt am Main, Germany</p> <p>Consultant, Systemic Risk and Financial Institutions Division, 05/2021–08/2021</p> <p>Trainee, Macroprudential Policy Division, 08/2017–07/2018</p> <ul style="list-style-type: none"> • Contribution to the calibration of capital-based measures <p>Macroeconomic Policy Institute (IMK), Düsseldorf, Germany</p> <p>Intern, Financial Markets and Business Cycle Unit, 06/2015–08/2015</p> <ul style="list-style-type: none"> • Contribution to the development of the IMK financial stress indicator |
| TEACHING EXPERIENCE | <p>Time Series, 2019/20 (1 group), 2020/21 (1 group)</p> <p>Econometric Techniques, 2019/20 (2 groups)</p> <p>Economics of European Integration, 2016/17 (3 groups), 2018/19 (3 groups)</p> <p>Introduction to Econometrics, 2018/19 (2 groups)</p> <p>Microeconomics, 2018/19 (1 group)</p> |
| PRESENTATIONS | <p>EEA-ESEM, August 2021 (scheduled)</p> <p>International Association for Applied Econometrics (IAAE) Conference, June 2021</p> <p>14th RGS Doctoral Conference, March 2021</p> <p>European Winter Meeting of the Econometric Society, December 2020</p> <p>Symposium of the Spanish Economic Association (SAEe), December 2020</p> <p>Tilburg University, October 2020</p> <p>Universidad Carlos III PhD Workshops</p> <p>European Central Bank, June 2018</p> |
| AWARDS AND SCHOLARSHIPS | <p>Award for the best paper presented by a PhD student, Annual IAAE Conference, 2021</p> <p>Best paper award at the 14th RGS Doctoral Conference, 2021</p> <p>SAEe 2020 grant, Fundación Ramón Areces/SAEe</p> <p>Vice-rector's praise for excellent teaching, 2020 and 2021</p> <p>Econometric Game 2019 Finalists</p> <p>Spanish Ministry of Education PhD scholarship (FPU), 2018–2021</p> <p>Universidad Carlos III PhD scholarship, 2018</p> <p>Universidad Carlos III master scholarship, 2015–2017</p> <p>German Academic Exchange Service (DAAD) master scholarship, 2013–2015</p> <p>Dean's award for bachelor thesis, 2013</p> <p>Charles University scholarship for excellent academic performance, 2010–2013</p> |
| COMPUTER SKILLS | <p>R, C/C++, MATLAB, EViews, MS Office, VBA, Bash, L^AT_EX</p> |
| LANGUAGES | <p>English (fluent), German (fluent), Spanish (fluent), Czech (native)</p> |