

LIST OF ABSTRACTS • 2022

2022 / 01

MultiATSM: An R Package for Arbitrage-free Multicountry Affine Term Structure of Interest Rates Models with Unspanned Macroeconomic Risk

Rubens Moura

The R package MultiATSM provides several estimation routines and additional outputs for eight classes of affine term structure of interest rates models (ATSMs). All the ATSMs from this package build on the single-country unspanned macroeconomic risk framework by Joslin, Priebsch, and Singleton (2014). The MultiATSM package also features alternative multicountry extensions based on the settings of Jotikasthira, Le, and Lundblad (2015), which imposes the existence of a dominant (global) economy, and Candelon and Moura (2021), where the joint dynamics of the risk factors are captured by a GVAR setup. For each ATSM, the MultiATSM package produces a set of model outputs that includes: (i) the graphical representations from the model fit, the orthogonalized and generalized versions of impulse response and forecast error variance decomposition from bond yields and risk factors; (ii) a number of bootstrap procedures for constructing confidence intervals, and (iii) out-of-sample forecasting of bond yields.

2022 / 02

Dynamic Autoregressive Liquidity (DARLiQ)

Christian Hafner, Oliver Linton, Linqi Wang

We introduce a new class of semiparametric dynamic autoregressive models for the Amihud illiquidity measure, which captures both the long-run trend in the illiquidity series with a nonparametric component and the short-run dynamics with an autoregressive component. We develop a GMM estimator based on conditional moment restrictions and an efficient semiparametric ML estimator based on an iid assumption. We derive large sample properties for both estimators. We further develop a methodology to detect the occurrence of permanent and transitory breaks in the illiquidity process. Finally, we demonstrate the model performance and its empirical relevance on two applications. First, we study the impact of stock splits on the illiquidity dynamics of the five largest US technology company stocks. Second, we investigate how the different components of the illiquidity process obtained from our model relate to the stock market risk premium using data on the S&P 500 stock market index.

2022 / 03

Forecasting total energy's CO2 emissions

Leonardo Iania, Bernardina Algieri, Arturo Leccadito

In recent years, the international community has been increasing its efforts to reduce the human footprint on air pollution and global warming. Total CO2 emissions are a key component of global emission, and as such, they are closely monitored by national and supranational entities. This study evaluates the performance of a broad set of forecasting models and their combinations to predict energy's carbon dioxide releases using an in-sample and out-of-sample analysis. The focus is on the US for the period 1973-2021 using quarterly observations. The results show that economic variables, energy and interannual climate variability indicators help forecast short-/medium- term CO2 emissions. In addition, a combination of models sharpens quantile predictions.

LIST OF ABSTRACTS • 2022

2022 / 04

Should we care about ECB inflation expectations?

Francesco Roccazzella, Bertrand Candelon

We use optimal combination of forecasts to introduce a novel forecast encompassing test to evaluate time-series and institutional inflation projections in the euro area. Combination weights reveal which forecasts are the most informative. Although, ECB is the most informative forecaster on average, it does not encompass its competitors and its weight varies over time. Macro-financial conditions and monetary policy actions explain this variability. The greater the uncertainty surrounding inflation and the difference between current and the 2% inflation target, the less informative ECB's forecasts are. The more contractionary the monetary policy, the more informative they are. ECB's declining weight and the relation with its determinants raise a warning flag: the potential loss of informativeness damages ECB's leading role at anchoring inflation expectations and questions whether the goal of preserving financial stability is compatible with the inflation targeting objective.

2022 / 05

Testing for Causality between Climate Policies and Carbon Emissions Reduction

Bertrand Candelon, Jean-Baptiste Hasse

In this paper, we evaluate the causal effects of climate policies on carbon emissions reductions. Using Sweden as a case study, we compare the effects of the domestic carbon tax and the Kyoto Protocol over the period 1965–2018. A simulation exercise shows that the test for causality in the frequency domain offers policy-makers a useful tool for evaluating the effect of public policies. The empirical results indicate a significant causal effect of the carbon tax policy on carbon intensity dynamics in the long run.

2022 / 06

On the optimal combination of naive and mean-variance portfolio strategies

Nathan Lassance, Rodolphe Vanderveken, Frédéric Vrans

A disheartening fact in portfolio choice is that the naive equally weighted portfolio often outperforms the estimated optimal mean-variance portfolio out of sample. In an influential paper, Tu and Zhou (2011) reaffirm the value of portfolio theory by combining the two portfolios to optimize out-of-sample performance. They achieve this under a seemingly natural convexity constraint: the two combination coefficients must sum to one. We show that this constraint is unnecessary in theory and has several undesirable consequences relative to the unconstrained portfolio combination we derive. In particular, it leads to an overinvestment in the sample mean-variance portfolio, and a worse performance than the risk-free asset for sufficiently risk-averse investors. However, although wrong in theory, we demonstrate that the convexity constraint acts as a bound constraint on combination coefficients and thus can help improve performance when they are estimated. Our empirical analysis shows that the Tu and Zhou rule performs well for investors with small risk aversion, but quickly deteriorates as risk aversion increases. In contrast, our portfolio rules perform consistently well. Finally, we show theoretically and empirically that there are larger out-of-sample diversification gains from combining the sample mean-variance portfolio with the equally weighted portfolio instead of the minimum-variance portfolio.

LIST OF ABSTRACTS • 2022

2022 / 07

Number 19: Another Victim of the COVID-19 Pandemic?

Patrick Roger, Catherine D'Hondt, Daria Plotkina, Arvid Hoffmann

Conscious selection is the mental process by which lottery players select numbers nonrandomly. In this paper, we show that the number 19, which has been heard, read, seen, and googled countless times since March 2020, has become significantly less popular among Belgian lottery players after the World Health Organization named the disease caused by the coronavirus SARS-CoV-2 “COVID-19”. We argue that the reduced popularity of the number 19 is due to its negative association with the COVID-19 pandemic. Our study triangulates evidence from field data from the Belgian National Lottery and survey data from a nationally representative sample of 500 Belgian individuals. The field data indicate that the number 19 has been played significantly less frequently since March 2020. However, a potential limitation of the field data is that an unknown proportion of players selects numbers randomly through the “Quick Pick” computer system. The survey data do not suffer from this limitation and reinforce our previous findings by showing that priming an increase in the salience of COVID-19 prior to the players’ selection of lottery numbers reduces their preference for the number 19. The effect of priming is concentrated amongst those with high superstitious beliefs, further supporting our explanation for the reduced popularity of the number 19 during the COVID-19 pandemic.

2022 / 08

The risk premium in New Keynesian DSGE models: the cost of inflation channel

Leonardo Iania, Pavel Tretiakov, Rafael Wouters

We study the role of the cost of inflation channel in determining the risk premium in a (nonlinear) New Keynesian DSGE model. Relying on a Calvo (or Rotemberg) price setting, we show that while the cost of inflation channel generates the desired term premium moments, it suffers from nontrivial, counterintuitive approximation errors in the price dispersion function. In addition to documenting the issues, we propose ways to alleviate them, including a quasikinked demand function as a risk-generating mechanism.

2022 / 09

A general firm value model under partial information

Cheikh Mbaye, Abass Sagna, Frédéric Vrins

We introduce a new structural default model which purpose is to combine enhanced economic relevance and affordable computational complexity. Our approach exploits the information conveyed by a noisy observation of the firm value combined with the firm’s actual default state. Moreover, it is rather general since any diffusion can be used to depict the firm’s dynamics. However, this realistic setup comes at the expense of important computational challenges. To mitigate them, we propose an implementation based on recursive quantization. A thorough analysis of the approximation error resulting from our numerical procedure is provided. The power of our method is illustrated on the pricing of CDS options. This analysis reveals that the observation noise has a significant impact on the credit spreads’ implied volatility.

2022 / 10

Macroprudential Policies, Economic Growth and Banking Crises

Mohamed Belkhir, Sami Ben Naceur, Bertrand Candelon, Jean-Charles Wijnandts

Using a sample covering emerging market and advanced economies, we assess the impact of macroprudential policies on financial stability. Our empirical setup is designed to account for the potential direct and indirect effects that macroprudential policies can have on banking crises. We find that while macroprudential policies (MPPs) exert a direct stabilizing effect, they also have an indirect destabilizing effect, which works through the depressing of economic growth. It turns out that mitigating effects of MPPs on the likelihood of banking crises is more pronounced in emerging market economies relative to advanced economies.

LIST OF ABSTRACTS • 2022

2022 / 11

A Novel Robust Method for Estimating the Covariance Matrix of Financial Returns with Applications to Risk Management

Arturo Leccadito, Alessandro Staino, Pietro Toscano

In this paper we introduce the dynamic Gerber model (DGC) and compare its performance in the prediction of VaR and ES compared to alternative parametric, nonparametric and semiparametric methods to estimate the variance-covariance matrix of returns. Based on ES backtests, the DGC method produces, overall, accurate ES forecasts. Furthermore, we use the Model Confidence Set (MCS) procedure to identify the superior set of models (SSM). For all the portfolios and VaR/ES confidence levels we consider, the DGC is found to belong to the SSM.

2022 / 12

Retail Investors' Disposition Effect and Order Choices

Rudy De Winne, Nhung Luong, Stefan Palan

Retail investors are prone to the disposition effect and submit many more limit orders than market orders. Mechanical effects stemming from the price-contingency conditions for order executions can lead these limit orders to inflate an investor's measured disposition effect (Linnainmaa 2010). Our paper is the first to demonstrate that the relationship between the disposition effect and order choices is bi-directional. Using a controlled experiment on the one hand and empirical trading data of thousands of investors on the other hand, we show that investors who are prone to the disposition effect differ from others in their use of limit orders and in their choice of limit prices.