Econometric Research in Finance Workshop 2019

Workshop program

13.09.2019

<u>Session 1: Aula I (9:30-10:30)</u>

Soohun Kim, **Robert A. Korajczyk**, Andreas Neuhierl

Arbitrage Portfolios

We propose new methodology to estimate arbitrage portfolios by utilizing information contained in firm characteristics for both abnormal returns and factor loadings. The methodology gives maximal weight to risk-based interpretations of characteristics' predictive power before any attribution to abnormal returns. We apply the methodology in simulated factor economies and to a large panel of U.S. stock returns from 1965–2014. The methodology works well in simulation and when applied to U.S. stocks. Empirically, we find the arbitrage portfolio has (statistically and economically) significant alphas relative to several popular asset pricing models and annualized Sharpe ratios ranging from 1.35 to 1.75.

Andrea Bartolucci

Dynamic asset allocation under regime switching: an in-sample and out-of-sample study under the Copula-Opinion Pooling framework.

My work consists of a comparative study of the performances of the multivariate Markov regime switching model against the single regime model in terms of portfolio performance in the context of dynamic asset allocation. The study was conducted through the practical application, both in-sample and out-of-sample, of the two models under various portfolio optimization approaches. In the out-ofsample portfolio construction the Copula-Opinion Pooling approach is applied to implement in the asset pricing model the views on the asset returns produced by both the single regime model and the Markov regime switching model. The over-performance can be achieved by the more efficient and desirable risk-reward combinations on the state-dependent frontier that can be obtained only by systematically altering portfolio allocations in response to changes in the investment opportunities as the economy switches back and forth among different states. An investor who ignores regimes sits on the unconditional frontier, thus an investor can do better by holding a higher Sharpe ratio portfolio when the low volatility regime prevails. Conversely, when the bad regime occurs, the investor who ignores regimes holds too high a risky asset weight. An investor would have been better off shifting into the risk-free asset when the bear regime hits. Consequently, the presence of two regimes and two frontiers means that the regime switching investment opportunity set dominates the investment opportunity set offered by one frontier.

Wanling Rudkin, Charlie X. Cai

Abnormal returns and Dow Jones Sustainability Index listing: A generalised synthetic control approach.

Listing on the Dow Jones Sustainability Index is seen as a gold-standard, verifying to the market that a firm is fully engaged with a corporate social responsibility agenda. Quantifying the impact of listing through a generalised synthetic control approach delivers a robustness to any industry level shocks as well as evolution in the competitive relationship between firms within the industry absent in existing works. Consistent with the pre-announcement hypothesis it is shown that cumulative abnormal returns on stocks added to the index are significantly positive in the three trading weeks prior to the official announcement. The post-listing correction result posited to date is also demonstrated to hold; for the three trading weeks subsequent cumulative abnormal returns are significantly negative. Considering periods straddling the listing date no significant abnormal returns are found. Whilst there are considerable gains to be made, they come pre-announcement date with only a very short term correction seen in the days post announcement. Investors may gain from shorting announced new members.

Marcin Borsuk, **Konrad Kostrzewa**

Systemic risk metrics for Poland. How systemic risk effects banks' credit growth?

The main purpose of the article is to review key systemic risk measures based on market data for Poland and to verify whether they can serve as an effective tool for monitoring and assessing the level of systemic risk. The subordinate goal is to examine the impact of systemic risk on bank lending. We use modern systemic risk metrics calculated on the basis of data from the Polish banking sector. To assess the strength of macro-financial linkages we apply the panel regression model using the system-GMM estimator. We cover the activity of all commercial banks operating on the Polish market between 2007–2017. We show that systemic risk indicators are useful in monitoring the current level of risk intensity in the banking sector, but they do not generate signals ahead of the crisis. Materialization of systemic risk leads to a significant decline in banks' lending.

Paweł Miłobędzki, Sabina Nowak

The Components of the Bid-Ask Spread on the Warsaw Stock Exchange

We apply the bid-ask spread decomposition model of McGroarty, Gwilym and Thomas (Journal of Business Finance & Accounting, 2007, 34 (9-10), 1635-1650) to stocks included in the main Warsaw Stock Exchange index WIG 20

to show what portions of their spreads can be attributed to the private information, the existence of temporary buy-sell imbalances and the price clustering (order processing). We estimate it using the GMM on the transaction data from May 2, 2017 through September 29, 2017. The analysis shows that on average the private information, the temporary buy-sell imbalances and the price clustering components account for 32, 11 and 57 per cent of the spread, respectively. Their shares in the spread change over the trading day as the informational handicap of informed traders declines. The size of transaction volume does not impact on the magnitude of spread components.

Session 2B: Aula II (11:00-13:00)

Paweł Baranowski, Hamza Bennani, Wirginia Doryn
Does a Sentiment Shock Help to Predict Monetary Policy: Evidence from the ECB

This paper aims to assess whether sentiment shock is helpful to predict ECB monetary policy decisions. We use a computational linguistic approach and several dictionaries on ECB's President introductory statement to derive a measure of sentiment. Next, we orthogonalize the sentiment measure on a set of macroeconomic and financial variables to compute sentiment shock. Finally, we test whether sentiment shock is useful to predict ECB monetary policy decisions. We find that sentiment shock is significantly and positively related to future ECB policy decisions even when controlling for future economic conditions and market expectations about monetary policy. Additional extensions show that the predictive power of sentiment shock is robust to (i) the measure chosen to compute sentiment, (ii) alternative expectations about monetary policy and (iii) the macroeconomic forecasts used in the monetary policy Taylor rule. However, we find that the predictive power of sentiment shock is sensitive to the dictionaries used to compute the measure of sentiment.

Gábor Dávid Kiss, Mercédesz Mészáros
Monetary policy spill-over on FX volatility – with gravity model.

Following the subprime crisis, the spread of financialisation in Europe was combined with the introduction of unconventional monetary instruments. As a result of the late quantitative easing, there was a shift from stimulating lending to the immediate stimulation of the securities market in the monetary policy of the European Central Bank and of the smaller central banks, too. These securities purchase programs, first and second-market transactions, asset purchases has led to an increase in the stock of securities held by central banks, whose spill-over effects have not been fully explored yet.

The aim of our research is to identify the spill-over effects of the central banks' quantitative easing currency volatility considering the relative size of the issuing central bank and the situation of small open economies. By running gravity panel regressions, we analyzed a sample of 6 European central banks and the ECB. Based on our results balance sheet size, interest differential, unconventional practices and considerations about safe havens are having a reducing power on volatility.

Jakub Rybacki
ECB policy consistency, its independence and the real estate bubble.

During the period of 2015-2018 European Central Bank (ECB) implemented a large scale asset purchases program in order to revive inflation expectations and achieve sustainable annual HICP dynamics close to 2%. Furthermore for a long time bank communicated that policy should remain accommodative in the foreseeable future. We analyzed discretionary deviation from the extended Taylor rule with Wu-Xia shadow rates and variable Holston-Laubach-Williams natural rate for ECB, US Federal Reserve (Fed) and Bank of England. We identified an extraordinary dovish bias in mentioned period in the ECB policy. Based on a VAR analysis we found the direct result of Board of Governors decisions was increase of real estate prices and the risk of bubble measured by the UBS index. The adverse effects of policies were not directly connected to the ECB decisions by the media sector and public opinion. The independence of Fed with hawkish bias was much more often questioned, than the euro area central bank.

Demetrio Lacava, Edoardo Otranto
Measuring the Effect of Unconventional Policies on Market Volatility.

As a response to the great recession, ECB resorted to unconventional monetary policies, i.e. central bank's balance sheet expansions. Our research aims to analyse the impact of unconventional monetary policy by ECB on stock market volatility in four Eurozone countries (France, Germany, Italy and Spain) within the Multiplicative Error Model framework. Basing on Otranto (2015), we further modify this model to allow volatility to depend on unconventional monetary policy: in particular, we quantify the part of market volatility depending directly on unconventional policies by distinguishing between the announcement effect and the implementation effect, measured through a dummy variable and a proxy for securities held for monetary policy purpose, respectively. While we observe an increase in volatility on announcement days, we find a negative implementation effect, which causes a remarkable reduction in volatility in the long term. Moreover, we extend the analysis implementing a Markov Switching model to test the ECB ability to keep volatility in low and high regimes. In this case, it emerges an average duration of the QE effects on volatility of about 15 days for France, Italy and Spain.

Session 2C: Room 1A (one floor above the ground floor) (11:00-13:00)

Nicolas Himounet, Francisco Serranito, Julien Vauday

Uncertainty is bad for Business. Really?

A growing empirical literature on how to measure uncertainty has emerged following the 2007-2008 financial crisis. Using a principal component analysis that includes the various measures of uncertainty provided by the literature, we develop a monthly global measure of uncertainty for the United States on the period 1990-2015 and we determine the factors explaining fluctuations in uncertainty. We investigate the impact of uncertainty shocks using local projection methods and our general measure of uncertainty. We find a significant negative impact of our general measure on economic activity. However, we find a significant positive impact on industrial production and employment when we use a mix between our general measure of uncertainty and macroeconomic uncertainty related to technology (the second factor of our PCA). Results are robust using a Structural VAR.

Helmi Jedidi, Georges Dionne
Using Machine Learning Algorithms to Detect Asymmetric Information: Application to the U.S. Mortgage Servicing Market.

The main objective of this paper is to use Machine Learning (ML) algorithms to detect the presence of asymmetric information in the U.S. mortgage servicing market. We use six supervised Machine Learning algorithms that differ in their learning scheme. Our candidate algorithms are Decision Trees, Naïve Bayes, *k*-Nearest Neighbors, Support Vector Machines, Random Forests, and Gradient Boosting. Our selection considers both basic learners and meta-algorithms that belong to ensemble learning. In the first part, we use various algorithms to predict the likelihood of mortgage default using a big sample of U.S. mortgages that were originated then securitized through the private-label channel during the period from January 2000 to December 2013. Our empirical results show that Machine Learning algorithms outperform the classic Logistic regression model in predicting mortgage default. Our results also document that tree-based algorithms, notably Decision Tree and Random Forest, deliver the most precise default prediction. We then use feature importance estimation techniques to stress out the informational content of the originator's decision to sell the underlying Mortgage Servicing Right (MSR) as the agent's action in a principal-agent context. We also use various non-parametric tests to show that the decision to switch the servicer of the deal represents a crucial piece of information that increases the predictive power of machine learning models.

Nora Marija Laurinaityte
Household Financial Risk Tolerance in Europe.

This is a study of household financial risk tolerance across the Eurozone countries and over time. Using the Household Finance and Consumption Survey (HFCS) data, household subjective financial risk tolerance, stock ownership, and mutual fund ownership are all found to be increasing with household income, wealth, education, and homeownership. Younger households are more willing to take financial risks while at the same time being less likely to hold any investments into the stock markets. Using matching estimation, the differences in risk tolerance between Southern and Northern European households remain statistically significant and are highly persistent over time, suggesting that institutions are behind the level differences. In a strictly balanced German Panel on Household Finances (PHF), the changes in household´s willingness to take financial risk over time correlate positively with changes in household income and negatively to changes in financial literacy. Changes in home-ownership status have a negative relation to changes in stock ownership, in line with the "crowding-out" hypothesis.

Anna Zamojska
Another look at the Bloom Countercyclical Hypothesis.

In this article we first investigate the countercyclical hypothesis in the context of the economic policy uncertainty presented in Bloom's paper (2009) in BRIC countries, and we compare this to the uncertainty in the US and the UK. Secondly, we examine the hypothesis using the theory formulated by Kelly, Pastor and Veronesi (2016) that high levels of economic uncertainty and recession should be accompanied by high levels of volatility in capital markets. Finally, we propose to verify all this using the mixed frequencies VAR model. Our results show that industrial production indicators have a negative reaction to both economic policy uncertainty shocks and stock market volatility shocks. We can also observe an asymmetric relationship between the uncertainty proxies used and the usefulness of mixed frequencies modelling.

Session 2D: Room 1B (one floor above the ground floor) (11:00-13:00)

Tho Pham, Mustafa Caglayana, Oleksandr Talavera, Xiong Xiong
Asset mispricing in loan secondary market.

This study documents the degree of mispricing in loan secondary market. Using data from Bondora, a leading European peer-to-peer lending platform, over the 2016-2019 period, we find evidence for the existence of mispricing: poor quality assets are successfully sold while good assets are not sold. We argue that mispricing is mainly driven by the differences in market participants' perceptions about asset values. Once sellers learn about the belief dispersion, they revalue their assets according to buyers' perception and exploit the mismatch in the subsequent listings.

Zuzanna Wośko
Modelling supply and demand for loans.

The paper investigates the problem of most important determinants of bank lending in Poland with the strong focus on the qualitative information of banks from the Senior Loan Officer Opinion Survey. The analysis takes into consideration banks' answers on the purpose of the change of their lending before and after the crisis. The research which bases on the panel regressions as well as disequilibrium econometrics models on aggregated data allows to decide, which factors – supply or demand had more important influence on lending growth in particular periods of time. Estimated models use bank-level and aggregated quarterly data concerning three loan segments – corporate, housing and consumer credit. The novelty of the analysis is the system of variable selection for regime-switching model of disequilibrium. Final specification of such nonlinear model is found by testing possible specifications from the set of regressors suggested by literature and assumption on number of variables drawn.

Anna Duszak
The role of financial literacy and financial counseling in choosing between adjustable- and fixed-rate mortgages.

This paper aims to empirically investigate determinants of choosing adjustable- (ARM) or fixed-rate mortgages (FRM) by households. The analysis is conducted using new loan-level data coming from the National Survey of Mortgage Originations (NSMO). The results from a binary logistic regression point towards the importance of financial literacy and financial counseling for the ARM/FRM choice. ARMs are preferred by borrowers with lower level of financial literacy, those who were told more information by financial counselors and those who depend on others in making decisions related to mortgages. The findings suggest that there exists information assymetry between borrowers with ARMs and FRMs resulting from different set of received financial counseling. The paper also reviews the results of Campbell and Cocco (2003) and finds that ARMs are more likely to be chosen by risk takers and borrowers who plan to early terminate their mortgage contract in the future, while FRMs are preferred by households whose volatility of housing expenses is significant.

Agata Wierzbowska, **Sylwester Kozak**
Bank efficiency and concentration of the banking sector in the CEE countries.

The relationship between the structure of the banking market and efficiency of banks has been a subject of many studies for several decades. Most of them point to a positive correlation between these variables. This research investigates this relationship for 96 banks operating in eleven CEE countries in the years of 2005-2017. The results show that the efficiency of banks is positively affected by the concentration of the market on which they operate, as well as by the size of individual banks. This relationship is valid for the entire examined area as well as for individual countries. It indicates that banks in the CEE countries in the

studied period followed the efficiency structure theory. Banks' efficiency is also positively impacted by the level of the county's banking system development. On the contrary, the GDP per capita, inflation rate and bank's capital ratio are not conducive to the bank's efficiency.

Session 3A: Aula I (14:00-16:00)

Piotr Zegadło, Roald Versteeg
Bull and bear market regimes within a heterogeneous agent model.

This paper examines the influence of the heterogeneity of market participants on the characteristics of bull and bear markets within a heterogeneous agent model. Heterogeneity is shown to significantly contribute to the formation of distinct bull and bear regimes. Sensitivity analysis of the price dynamics furthermore reveals strong links between agent group characteristics and metrics such as the duration and amplitude of regime periods. The three most influential factors are (1) the relative strength of influence of agent groups, (2) the moving average memory parameter of trend-extrapolating agents (chartists) and (3) their sensitivity to sample variance. The reaction of market participants to recent fluctuations in return volatility appears to be an important driver of market regime asymmetry. Our findings also suggest that extrapolation of recent price movements by a group of market participants may contribute to high kurtosis in financial data.

Katarzyna Bień-Barkowska
Forecasting the timing and size of extreme returns in financial markets.

Forecasting the occurrence of extreme returns is at the forefront of modern financial econometrics and allows for effective management of financial risk. We propose a self-exciting probability model for the occurrence of extreme losses in financial markets which allows to explain apparent bursts of volatility and clustering of extreme returns. The conditional probability that the loss exceeds a large threshold on a given day exhibits the self-exciting property, where recently observed days with extreme returns increase the likelihood of experiencing further large losses. Moreover, the magnitudes of negative returns exceeding given large threshold (so called peaks-over-threshold) are depicted with the generalized Pareto distribution with the time-varying scale parameter that can capture serial correlation in the sizes of extreme losses. We show that the model outperforms the standard peak-over-threshold and GARCH-based methods for forecasting value at risk in stock and FX markets.

Matthijs Lof**, Jos van Bommel**
Cointegration, Information Transmission, and the Lead-Lag Effect between Industry Portfolios and the Stock Market.

We propose the Volume Coefficient of Variation (VCV), the ratio of the standard deviation to the mean of trading volume, as a new and easily computable measure of information asymmetry in security markets. We use a microstructure model to demonstrate that VCV is strictly increasing in the proportion of informed trade. Empirically, we find that firm-year observations of VCV, computed from daily trading volumes, are correlated with extant firm-level measures of asymmetric information in the cross-section of US stocks. Moreover, VCV increases following exogenous reductions in analyst coverage induced by brokerage closures, and steeply decreases around earnings announcements.

Małgorzata Pawłowska, Georgios Kouretas, **Grzegorz Szafrański**
The Market Structure and Credit Procyclicality: Lessons from Loans Markets in the EU Banking Sectors

The aim of this research is to investigate the impact of market structure in the EU including foreign ownership and market concentration on credit procyclicality. The issue is analysed for corporate, consumer, and residential mortgage loans, separately. We ask whether the differences in banking sector organization across EU countries call for general, countryspecific or market-specific regulations in micro- and macroprudential policy. Our analysis proposes both macro-level and micro-level assessment of relationship between the market structure and credit growth. Our macro- and microeconomic panel data include the period when EU economies were under the influence of both, the Global Financial Crisis, and sovereign debt crisis. For micro-level assessment we used annual bank-level panel data sample which start earlier (in 1999) but overrepresent advanced economies. Using the two methodologies: the linear interacted panel Vector Autoregression model (interacted panel VAR) and panel regression for multiple levels of fixed effects, this study finds differences in the credit procyclicality for foreign ownership and market concentration measures in two groups of countries: one from the last big EU enlargement (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Romania, Malta, Cypr) and the old members of the EU (Austria, Belgium, Denmark, Finland, France, Greece, Italy, Spain, the Netherlands, Ireland, Luxembourg, Germany, Portugal, Sweden, the United Kingdom). Panel data analysis of CEE-12 countries against other EU countries finds significant differences in procyclical reactions of mortgage loans to output gap only.

Robert Mullings
International Financial Networks, Financial Development and Economic Growth

The co-evolution of international stock markets creates a complex system of dynamic interactions which can, in turn, influence economic growth outcomes; as observed in the recent global financial crisis. While most prior studies tend to focus on the volatility networks of stocks within a given country, index or exchange, this study leverages index returns from sixty (60) major developed- and -developing country stock market indices over the period 2000- 2014 to explore the relationship between international financial market network centralities and economic growth. Using a well-known Euclidean distance metric based on bootstrapped, pairwise return correlations, international financial networks are generated covering the period 2000 - 2014. The relationships between the estimated market centralities, financial development and financial globalization are explored. A convex relationship between financial market centralities and financial development is documented; implying that financial development increases at an increasing rate as one moves inwards from the periphery toward the core of the international financial network. Financial market centralities are also positively related to financial development and (real) average income levels. After controlling for these level effects the paper finds that variations in financial market centrality over time significantly affect real GDP per capita growth outcomes; having a relatively greater impact within more highly developed countries at the centre of the network. This result holds after controlling for i) levels of financial development iii) effects of financial crises and iv) "feedback effects" between financial market centrality and growth. The results are robust to multiple measures of market-centrality, signalling a greater need to incorporate the role of international financial market network dynamics in modelling real economic outcomes.

Lidiya Guryanova, Stanislav Milevskyi, Sergey Razumovskiy
Econometric models for evaluating the effectiveness of the financial decentralization mechanisms development.

The paper deals with the problem of modeling the effectiveness of the financial decentralization mechanisms development. A complex of models has been proposed, which includes the following main modules: country

classification models according to the level of socio-economic development and competitiveness for the formation of a comparable research base; models of the formation of diagnostic classes of the financial decentralization level; models for assessing the impact of the decentralization level on the territories socio-economic development; models for assessing the stability of the financial system; models of industrial and institutional functions. Classification econometrics methods (main components, canonical correlations, developmental level method, hierarchical agglomerative cluster analysis methods, iterative cluster analysis methods, Kohonen neural network models, two-way integration), panel data analysis methods, territorial development convergence models, VAR-, ECM-, SAR- models, production and institutional functions were used to build a complex of models.

The simulation results showed that a high level of financial decentralization is characteristic for countries with a high level of economic development, in which there is a high quality of the institutional environment and administrative decentralization, which leads to an increase in the efficiency of the public sector and, consequently, economic growth. Decentralization in income is associated with a stronger effect on economic growth than decentralization in expenses. A consequence of the strengthening of leveling federalism and tax autonomy is the slowdown in economic growth. At the same time, the negative effect of tax autonomy is stronger than the effect of leveling federalism. Financial decentralization has a positive effect on improving the quality of the population life, the human development index. The increase in the level of financial decentralization increases the rate of regional development convergence. At the same time, there is a gap between the growth rates of income and expenditure powers of budgets of various levels and GDP growth rates for countries with a high level of competitiveness and socio-economic development, which reduces the level of budget and debt security. The implementation of production and institutional functions models allowed to determine the "threshold" value of the financial decentralization level, the excess of which will lead to a slowdown in economic growth. The countries with a "reference" development model are identified, as well as groups of countries that would get a higher effect from re-centralization or financial decentralization.

The proposed complex of models can be considered as a tool to support decision-making on enhancing the effectiveness of fiscal decentralization policies aimed at eliminating fiscal imbalances, leveling the impact of "shocks" on the regional economy and ensuring sustainable development, both of individual regions and the country as a whole.

Session 3C: Room 1A (one floor above the ground floor) (14:00-16:00)

Michał Gradzewicz, Jakub Mućk
Globalization and the fall of markups.

This paper provides the evidence of a fall of markups of price over marginal costs in Poland over the last 15 years. Markups were calculated using a census of firms and the methodology proposed by De Loecker and Warzynski (2012). The fall of markups, by 18.6% for median and by 13.1% for weighted mean and experienced by 70% of firms, is robust to several empirical identification strategies. Moreover, the decline of markups is not related to changes in a sectoral composition and firms demography and is most severe in exporting firms. Our empirical results relate the fall of markups to globalization and emergence of the Global Value Chains. We show that the increasing reliance on imported components in production, together with rising concentration of domestic firms on export markets are the main factors behind the observed compression of markups. We also document a hump-shaped (U-shaped) relationship between foreign value added in exports (distance from final demand) and markups.

Demian Macedo, Victor Troster
Liquidity Shocks and Interbank Market Failures: The Role of Deposit Flights, Non-Performing Loans, and Credit Market Competition.

Banks may be reluctant to remove bad loans from their portfolio during liquidity shortfalls, giving rise to a moral hazard problem in the interbank market. This paper develops a model to analyze how liquidity shortfalls can affect the ability of the interbank market to provide liquidity in a moral hazard setting. We distinguish two types of liquidity shocks that arise due to a deposit flight (a contraction in the deposit supply) or a cash-flow shock (an increase in the non-performing loans). We show that the source of a liquidity shortfall is the main determinant of the decision of banks to stop lending in the interbank market, rather than the extra amount of funds that banks need to cover. An increase in the non-performing loans has more adverse effects on balance sheets than a deposit flight. We also find that credit market competition increases financial instability not only by undermining the role of the interbank market as a liquidity provider but also by exacerbating liquidity shortfalls.

Mariusz Górajski, Zbigniew Kuchta
Measuring uncertainty of optimal simple policy rules in linear rational expectations models.

This paper proposes a new approach to measuring parameter uncertainty for optimal simple policy rules in the class of linear rational expectations models. More precisely, we introduce a new algorithm to find and compare distributions of the optimal policy response coefficients and minimized welfare losses treating joint posterior distribution as a source of uncertainty. We consider an optimal policymaker without predetermined preferences who assesses the effectiveness of policy actions by comparing the distributions of the minimized losses. Using stochastic ordering for random outcomes, we show how to correctly rank alternative simple policy rules when policymakers face parameter uncertainty. The proposed algorithm is applied to the Erceg, Henderson and Levin (2000, JME) small-scale closed economy model estimated for the U.S. economy. We show that the current-looking monetary policy rule minimizes the welfare-loss distribution with respect to the third-order stochastic dominance.

Session 4: Aula I (16:15-17:45)
Paul Henry Kupiec *Policy Uncertainty, Financial Stability, and Stress Testing.* Since the 2009 Supervisory Capital Assessment Program (SCAP), US regulators have employed a representative bank model as the benchmark of comparison in mandatory stress test exercises. For risk management functions, a bank's own stress model must be calibrated to reflect the bank's historical performance. I analyze stress test forecasts produced by individual bank and a representative bank stress test models. Each model is calibrated using different data, but an identical statistical approach similar to the Fed's 2009 SCAP CLASS model. I compare stress test forecasts to actual institution performance over the first 3 years of the financial crisis. Forecasts from the representative bank model differ dramatically from those produced by bank specific models and actual outcomes. The results highlight the policy uncertainty inherent in using stress tests, both to set minimum bank capital requirements and to assess the capital adequacy needed to maintain banking system stability.
Wojciech Charemza *Testing for policy-affected uncertainty.* The paper proposes tests for detecting effects of policy decisions in forecast uncertainty generated from a univariate time series model. It is assumed that neither timing nor the magnitude of such decisions is known, and the outcomes can be detected by testing the distribution of innovations of the model. It is proved that the Lagrange Multiplier-type tests have well defined asymptotic properties. It is also shown that the power is reasonable for a range of alternatives. Finite sample critical values are obtained by simulation. Empirical application of an ARMA-GARCH model leads to identifying countries with significantly policy-affected uncertainty in series of daily and monthly 10-year government bonds for 37 countries.

Wifi network

Network name: ERFIN

Password: SGH092019