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BOOK OF ABSTRACTS

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Foreword

We are delighted to write this Foreword to the Proceedings of the Ioannina Meeting on Applied Economics and Finance 2016 (IMAEF 2016), held in Corfu, Greece, June 29-July 1, 2016.

This is the sixth year of the international meeting on Applied Economics and Finance, which is organized by the Department of Economics of the University of Ioannina. IMAEF offers an international forum for the exchange of ideas in the application of theory to wide ranging issues in economics and finance.

The recent global financial crisis has revealed weaknesses of the financial system which can have widespread consequences through global markets and economies. In addition, the efficiency of public policies is questioned. As the global economy is slowly recovering, a series of challenges appears so that risks, shocks and crises can be better predicted and economies become more shock proof. Growth remains on the focus of policies, with emphasis on human capital and especially the young generation. On the other hand, the abundance of data pinpoints the need for more efficient empirical methods and tools capturing the multiple factors affecting economic behavior so that decisions and policy formulation are supported.

In this framework, the research outlined in these proceedings offers new directions for research in a wide spectrum of areas ranging from applied economics to financial markets and financial econometrics. The proceedings include Abstracts from 116 papers. All the contributed papers have been accepted for presentation in the Meeting and inclusion in the Meeting proceedings after peer review. Presenting authors come from institutions from 18 different countries.

Plenary speeches from Bruce E. Hansen, (Department of Economics, University of Wisconsin-Madison, USA), Christos Kotsogiannis (Business School, University of Exeter, UK), Kose John (New York University Stern School of Business, USA) and Haluk Ünal (Robert H. Smith School of Business, University of Maryland, USA) covered advanced issues in the areas of applied Economic Theory, Econometrics, Public Finance and Financial Markets.

This year the meeting has been supported by the Financial Engineering and Banking Society (FEBS).

Concluding, the Organizing Committee of IMAEF 2016, would like to express their thanks to the contributors of the meeting, which will hopefully make it a great success.

Spyros Symeonides, Nikos Benos, Yorgos Goletsis

Session 1

Financial Econometrics

A multivariate stochastic volatility model applied to a panel of S&P500 stocks in different industries

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Abstract

We estimate a multivariate stochastic volatility model for a panel of stock returns for a number of S&P 500 firms from different industries. As in the case of a univariate model we use an efficient importance sampling (EIS) method to estimate the likelihood function of the given multivariate system that we analyze. As opposed to univariate methods where each return is estimated separately for each firm, our results are based on joint estimation that can account for potential common error term interactions based on industry characteristics that cannot be detected by univariate methods. In our analysis we follow a similar methodology of Jung et al. (2009). Considering the joint behavior of the volatility for different stocks in the same industry, we allow for a single common industry factor and J stock-specific factors, where J is equal to the number of stocks in each industry. Hence in total for each industry we have J+1 factors. Each stock loads the common-industry factor by a factor loading Γ_i and each idiosyncratic factor specific to itself with the factor loading parameter equal to 1. In this specific application we use three different stocks from each of the six different sectors. The stocks covered in this paper are Coca Cola, Proctor and Gamble and Walmart from Consumer Staples sector, Chevron, Conoco Phillips and Exxon from Energy sector, American Express, CitiBank and JP Morgan from Finance sector, Bristol-Squibb-Myers, Pfizer and Merck from Health sector, Boeing, Caterpillar and General Electrics from Industrials sector and finally IBM, Motorola and Oracle from Technology sector. Our main aim for choosing these specific sectors and stocks is to be able compare our results with the results of Ozturk and Richard (2015). The data covers the period from January 1st 1990 to September

23rd 2014. We analyze each sector separately and as such the volatility of each stock is formed as a linear combination of the factor specific to the industry and its own idiosyncratic factor. Our results reveal that there are important differences in the industry effects, something that suggests differential gains to portfolio allocations in the different industries that we examine. There are differences due to idiosyncratic factors and the common industry factors that suggest that each industry requires a separate treatment in arriving at portfolio allocations. In three of the industries we examine the common factor is more persistent however on the remaining three industries the idiosyncratic factor is more persistent. This may suggest that when a portfolio allocation is done with the stock coming from the same industry with highly persistent common factor efficiency gains may not be as much as it is expected. Therefore investors should treat their portfolio allocation carefully and differently based on the industry they are investing in.

Keywords: multivariate stochastic volatility, efficient important sampling.

JEL Codes: G170, C150

Tests for an End-of-Sample Bubble in Financial Time Series

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Abstract

Recent papers in the finance and econometrics literature have explored the possibility of modelling asset price bubbles as an explosive autoregressive process, and have developed tests based on these assumptions that have identified a number of historical bubble episodes. Among the historical bubble episodes identified in the literature, Phillips, Wu and Yu (2011) find evidence of explosive behaviour in the NASDAQ composite stock price and dividend index prior to the dot-com bubble in 1995, Gilbert (2010) identifies bubble episodes in a number of commodity future prices in the period 2000-2009 and Phillips, Shi and Yu (2014) identify a number of explosive episodes prior to historic collapses in the S&P500 index. Based on the aforementioned evidence for the presence of explosive asset price bubbles, and the detrimental impact to the economy often caused by the collapse of such bubbles, it is imperative that bubbles are detected as early as possible. Arguably, the most useful application of tests for asset price bubbles to policy makers is detecting an ongoing asset price bubble as soon as possible, rather than the ex-post analysis currently undertaken in the literature. Thus, in this paper we examine the issue of detecting explosive behaviour in economic and financial time series when an explosive episode is both ongoing at the end of the sample, and of finite length. We propose a testing strategy based on the sub-sampling method of Andrews (2003), in which a suitable test statistic is calculated on a finite number of end-of-sample observations, with a critical value obtained using sub-sample test statistics calculated on the remaining observations. This approach also has the practical advantage that, by virtue of how the critical values are obtained, it can deliver tests which are robust to, among other things, conditional heteroskedasticity and serial correlation in the driving shocks. We also explore modifications of the raw statistics to account for unconditional heteroskedasticity using studentisation and a White-type correction. We evaluate the finite sample size and power properties of our proposed procedures, and find that they offer promising levels of power, suggesting the possibility for earlier detection of end-of-sample bubble episodes compared to existing procedures. A simulation exercise replicating the pseudo-real time detection exercise of Phillips, Shi and Yu (2014) confirms that the proposed test procedures would have often given an earlier warning signal of past bubble episodes in the S&P500 index than extant tests.

Keywords: Rational bubble; Explosive autoregression; Right-tailed unit root testing: Subsampling

JEL Codes: C22; C12; G14

Quantile Regression Estimation on Time-Varying Factor Models

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Abstract

This paper investigates estimation, inference, and prediction in a quantile regression formulation of the factor model with time-varying factor loadings. We propose a quantile factor model (QFM) where the parameters of interest are the factor loadings associated with the quantiles $\tau \in (0,1)$. Instead of having a grand summary for the distributions, we aim to go further and compute several different regression curves corresponding to the various percentage points of the distributions and thus get a more complete picture of the set. In other words, we allow for a different factor model depending on the quantile, thus allowing heterogeneity across quantiles. We wish to obtain more information about the distribution of factor loadings. In this respect, such heterogeneity is quite useful for the purposes of conducting certain type of policy analysis. The proposed method extracts and combines distributional information across different quantiles. To the best of our knowledge, this paper is the first to link factors with quantiles in this sense. Quantile regression (QR) reveals the important heterogeneity in dynamic responses; in this case it will be in terms of factor loadings.

In the literature, QR has been studied extensively both in theoretical statistics and in many empirical studies; see Koenker and Bassett (1978), Portnoy (1991), Chaudhuri, Doksum, and Samarov(1997), Portnoy and Koenker (1997), Koenker and Machado (1999), Portnoy (2001), Koenker andXiao (2006), Cai and Xiao (2012) and He and Zhu (2003). Estimation of the quantile-specific effects that describe the impact of covariates not only on the center but also on the tails of the outcome distribution is one appealing feature of quantile regression. Particularly, there has been some study on a time-varying coefficient quantile regression model, which is potentially useful to see whether the quantile regression changes over time (See Wei, Pere, Koenker and He (2006), Wei and He (2006), and Kim (2007)). Hence, as in our model, it would be

interesting to see how factor loadings behave especially both on the lowand high tails of the distribution.

We propose a two-stage procedure. In the first step, we simultaneously estimate the latent factors and time-varying factor loadings, defined by a nonparametric smooth function, using a local version of the principal component method. Unlike conventional factor models we assume that factor loadings are changing over time and it is an unknown smooth function of t/T on (0,1] for each random variable i. We check the stability of the loadings via L2–distance-based statistic. We use a BIC-type information criterion to determine the number of common factors. We also discuss the limiting distributions of the estimated factors and factor loadings. In the second step, we use the estimated loadings in our quantile framework. The performance of the proposed method is investigated through simulation studies to evaluate the finite sample properties of the estimator. The experiments suggest that the quantile regression with variable factor loadings turns out to be advantageous when innovations are heavy-tailed. We also use real data example; Stock and Watson’s (2009) U.S. macroeconomic data set. The results provide strong evidence of variable factor loadings in the given quantiles.

Keywords: Factor model, Quantile regression, Nonparametric, Time-varying parameter

JEL Codes: C12; C14; C33; C38

Financial and Monetary Stability across Euro-zone and BRICS: An Exogenous Threshold VAR Approach

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Abstract

In this paper we examine the relationship between financial stability and monetary stability in Euro-zone and BRICS countries that have common characteristics (e.g these are heterogeneous group in the responses to financial and macroeconomic shocks) and seemingly are unrelated areas. However, the continuous increase in the degree of interdependence among financial markets and the presence of crisis create a different frame (new conditions) where a shock either financial or monetary is transmitted from one area to another. Testing for the robustness of this relationship via the transmission of shocks we shall define a fiscal policy that will provide effective response reducing the negative effects in both areas. Thus, we create the fundamentals for further cooperation and trading between these areas that could lead to growth.

The implications of our paper are relied on a new methodological frame. We use a new econometric approach the Exogenous Threshold VAR. The ETVAR like TVAR uncover important non-linearities that are related with specific mechanisms and structural factors. In addition, like TVAR cover on the one hand differences in the characteristics of shocks (positive vs negative shocks and small vs large shocks) and on the other hand differences in initial conditions (regime-dependencies). Using the ETVAR, in contrast to TVAR, we examine effects of international factors that affect the endogenous system including a vector of exogenous variables. Thus, we are in place to test for exogenous effects without changing the structure of endogenous system.

The results are very interesting. A detrimental financial shock in Euro-zone negatively affects the inflation. However, this impact presents two lags which is the result of

negative significance of interest rates that are used as exogenous variable. This shock is transmitted to BRICS but the response has higher rate in inflation where the interest rates are insignificant. On the other hand, a detrimental financial shock in BRICS has immediate negative impact in inflation (because of insignificance of interest rates). This shock is transmitted to Euro-zone and the inflation is negatively affected without lags.

A positive inflation shock in Euro-zone reduces financial stress in the short term without significance in interest rates. This shock is not transmitted to BRICS. On the other hand, a positive inflation shock in BRICS reduces financial stress in long term with positive significance of interest rates. This shock is transmitted to Euro-zone reducing financial stress in the short term.

In general the results exhibit that the zone of BRICS is better protected from exogenous inflation shocks but an endogenous inflation shock derive significance disturbance in economic activities. In Euro-zone the view that low inflation promotes financial stability is rejected that holds also for exogenous effects. On the contrary the financial shocks affect the inflation for both areas with greater significance in BRICS area.

The BRICS are mostly export oriented countries (with concrete directions) hence an inflation shock in other area has not the same impact as an internal shock. However, the export orientation must be amplified in more business activities as well as they need to adopt a modern institutional frame for reinforcing their instable financial system. The Euro-zone has to emphasize on improvement of productivity with export orientation applying better control in financial trades.

Keywords: Monetary Stability, Financial Stability, Euro-zone and BRICS, Exogenous TVAR

JEL Codes: C51, E00, E50

Improved Yield Curve Forecasting

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Abstract

The yield curve plays an important role in finance and economics. It has been proved that the yield curve can predict the GDP and also it greatly affects financial markets. Therefore, an accurate forecast of the yield curve (as a whole) is a useful tool for investment managers and policy-makers. The current literature suggests a two-step procedure: (i) first, extract the factors which affect the yield curve using an established model, e.g. the Nelson-Siegel model, and (ii) forecast these parameters. Then, by inserting the predicted values in the model the research can obtain the prediction for the yield curve. Diebold and Li (2006) suggest to model the time-varying Nelson-Siegel parameters as autoregressive processes. In this paper, we extend the above framework by allowing the time-varying Nelson-Siegel parameters to be modelled as long memory processes. We adopt the long memory forecasting methodology of Papailias and Dias (2015) which is able to provide robust forecasts even in the presence of spurious long memory. We provide empirical evidence for the US yield curve and compare it to the standard Diebold and Li (2006) methodology. The hereby suggested method provides more accurate forecasts of the yield curve which could be used in investments, hedging, macroeconomic forecasting and policy-making.

Keywords: Term Structure; Yield Curve; Nelson-Siegel; Forecasting

JEL Codes: G1; E4; C5

Session 2

Macroeconomics

Do positional preferences for wealth and consumption cause inter-temporal distortions?

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Abstract

Within the endogenous growth framework of an Ak model, this paper derives necessary and sufficient conditions for positional preferences to be non-distortionary, when labor supply is inelastic. By positional preferences we mean a situation in which households not only derive utility from own consumption and wealth, but also from own consumption and wealth relative to some reference levels. The nature of the distortions we analyze is inter-temporal (in contrast to intra-temporal distortions when labor supply is elastic).

Social distinction or status is an important motivation of human behavior. Easterlin (1995) demonstrated that while national incomes have increased over the decades, happiness levels have not grown. One explanation for this Easterlin Paradox is that people have positional preferences, as emphasized by Clark et al. (2008).

The recent literature provides abundant significant empirical evidence for positional preferences. The prior literature argues that, in a standard framework (with neoclassical production), positional preferences with respect to consumption have no impact on the steady state equilibrium, once labor supply is exogenous. However, it has not been generally explored whether the same holds when households also exhibit positional preferences for wealth at the same time.

This paper contributes to the prior literature in two ways. First, the paper provides necessary and sufficient conditions for positional concerns for consumption to be non-distortionary, in a framework with exogenous labor supply. Second, the paper explores necessary and sufficient conditions for positional preferences to be non-

distortionary when households have positional preferences with respect to both consumption and wealth.

This paper displays three main results. First, if households do not exhibit a preference for wealth, positional preferences with respect to consumption do not cause a distortion if and only if a constant marginal rate of substitution-property is satisfied. Under this property, the marginal utility of consumption of individual households is proportional to that of a social planner, and the market equilibrium path equals that of the social optimum. As argued below, a great deal of the prior literature implicitly assumes a constant marginal rate of substitution-property and, thereby, concludes that positional preferences with respect to consumption do not cause a distortion.

In addition, and in contrast, if households are positional with respect to wealth but not with respect to consumption, the market equilibrium path is always inefficient. While this result was shown for specific models so far, here we demonstrate that this is a general case, irrespective of the specific preference structure.

Second, if households exhibit a preference for wealth - but are not positional with respect to wealth -then positional preferences with respect to consumption always introduce a distortion.

Third, if households exhibit positional preferences for both consumption and wealth, then, under restrictive assumptions, the market equilibrium path can be socially optimal. The key property is that the marginal rates of substitution of reference consumption for consumption and of reference wealth for wealth must be constant and identical. Under this property, the opposing effects of positional concerns (for consumption and wealth) on savings exactly offset each other.

Keywords: Status, keeping up with the Joneses, positional preferences, distortion, endogenous growth, Ak model

JEL Codes: D91, O40

Tradability of Output and the Current Account: An empirical investigation for Europe

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Abstract

In this paper we put forward the hypothesis that increasing specialisation in the production of non-tradable output has a negative impact on the current account balance. To test this tradability hypothesis empirically we proceed in two steps. Firstly, we develop a tradability index which captures specialisation patterns with regard to the tradability of output. Secondly, we embed the tradability index into an empirical current account model for the full sample of European countries.

The tradability index (TI) captures a country's specialisation pattern regarding the tradability of its output and as such reflects an economy's entire economic structure. The TI is an empirical measure derived from actual trade data and has two main advantages over other indicators: Firstly, the TI is calculated based on (sector-specific) values added exports not gross exports. Secondly, global export and value added data is used in the calculation in order to avoid country specific characteristics (such as country size) distorting the measure. Intuitively the TI is the predicted export openness of a country given its specialisation in the production of tradable output.

We test the tradability hypothesis by regressing the TI on the current account in per cent of GDP, controlling for a large set of control variables, in a sample of 46 European countries over the period 1995-2014. We find strong evidence for a positive relationship between current account balance and the tradability confirming our hypothesis. This finding has an important policy implication: the anxieties about 'de-industrialisation' in many parts of Europe seem justified because the resulting loss of export capacity increases the risk of external imbalances.

The obtained result holds both in the long term specification of our model which uses cross-section regression and in a short term specification which, due to the time series properties of the data, is estimated using a panel with first differenced data.

Also, all coefficients of our control variables are as expected: higher GDP growth tends to create current account deficits (convergence effect), countries with higher per capita income tend to run surpluses (in line with the stages of development theory), positive net asset positions tend to improve the current account (as creditors earn interest on accumulated assets), higher dependency ratios worsen the current account balance (children and old people do not save). What we do not find, however, is evidence for the twin deficit hypothesis (no significant coefficient is found for the government balance).

When repeating the estimations using a variant of our tradability index based on gross exports all results are confirmed. Finally, we find that the tradability-current account nexus is stronger for emerging economies in Europe than for developed countries.

Keywords: current account, tradability index, tradable goods, structural change, value added exports

JEL Codes: F41, F32, F10, F14

Exchange-rate pass-through and exposure under various oligopolistic frameworks

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Abstract

We develop simple models of imperfect competition that arise in an international setting to capture the effects of the exchange rate fluctuations on the strategic behavior of firms offering differentiated consumable goods.

At a theoretical level, we contribute to the literature by studying three novel formulations of Bertrand and Cournot models in an international setting. A unified model of both Bertrand and Cournot competition in the duopoly between two firms, one home and one abroad; the 1x1 differentiated goods duopoly model and we study exchange rate pass-through and foreign economic exposure as simple elasticities. An example is the duopoly, between Nike and Adidas (Economist, 2013).

A special case is one where one of the two firms is domestic while the other operates in both domestic and exports abroad. In this way we study the phenomenon that exchange rate fluctuations affect even firms which only operate in their home country (Marston; Aggarwal and Harper).

Finally, in the third model there are 2 home and 2 foreign firms; the 2x2 differentiated goods duopoly model. The home (foreign) firm competes with the other home (foreign) firm – within countries competition and with the foreign (home) firms in the other market–between countries competition. In this way we study the impact of exchange rates in these more complicated competition structures concluding that some results of the 1x1 model do not carry over. In the 1x1 Bertrand model, a foreign-exchange rate appreciation decreases (increases) the price of the appreciating (depreciating) country. However, in the 2x2 Bertrand model; the introduction of the

within countries competition may dominate the between countries competition and overturn the results.

At an empirical level, we contribute to the literature in three important ways. First, we investigate profits exposures to real and bilateral exchange rates using profit along with stock price data from 25 multinational firms from nine industries in nine developed markets during 1980-2015. All existing empirical studies estimate currency exposures of stock prices or corporate cash flows. In this way we provide new evidence on the foreign exchange rate exposure of multinational firms.

Second, we recognize that we need to take consumable products to be consistent with a profit maximizing model. Hence, our choice of consumable goods is not arbitrary. We study a static framework and for this we assume that profits of period t+i do not spill over in period t+i+1. This assumption implies non-durable goods.

Finally, we diverge from the majority of the literature that studies Japan ignoring that Japanese firms put the interests of employees and customers equal to the interests of shareholders (Brealey, et al., 2010); making Japanese firms inappropriate to test a profit maximizing model.

The empirical part of our paper relates to the classical 2-factor model which has as a dependent variable either the changes in stock prices (see e.g. Jorion, 1990; Bodnar and Gentry, 1993; He and Ng, 1998; Williamson, 2001) or in cash flows of the firm (Stulz and Williamson, 1997; Bartram, 2007).

Keywords: Oligopoly Market Structure; Differentiation; Firm Behaviour; Foreign Exchange; International corporate finance

JEL Codes: L13, D21, D22, F31, G39

Fiscal policy with heterogeneous agents, banks and financial frictions

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Abstract

The paper examines the role of banks to the transmission of a set of fiscal and borrowing shocks and their impact to the economy. In particular, we built-up a dynamic stochastic general equilibrium model with patient and impatient households, entrepreneur and a bank. Our model follows the setup outlined by Iacoviello (2014) with a housing sector that can be used as collateral for borrowing from banks and we extend it with the addition of a government sector and fiscal rules. Our main findings are that: i) the existence of banks can mitigate the negative spillover effects to the economy from higher taxes under debt financing fiscal policy reforms; ii) Housing taxes exhibit negative spillover effects to the economy in the short-run, with positive long-run effects only if they are directly welfare enhancing; iii) Shocks that decrease the net worth of loan suppliers amplify the negative spillover effects to the economy; iv) Borrowers' welfare exhibits the most significant negative reaction from the increase in housing tax and government spending; v) Income redistribution via transfers due to higher labour income taxes is mainly beneficial for the patient households for the case without banks; vi) For the case of higher consumption tax the income redistribution is beneficial for the impatient households only when banks are present. In addition, the entrepreneurs are consistently better off from the income redistribution irrespective of banks; vii) Every agent is worse-off under higher real estate tax on patient households and entrepreneurs; viii) Our main results are robust in changes to the specification of the financial frictions.

Keywords: fiscal policy, fiscal rules, financial frictions

JEL Codes: E21, E44, E47, E62, H24

Volatile Capital Flows and Economic Growth: The Role of Macro-prudential Regulation

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Abstract

Macroprudential policies, their use, implementation and effectiveness, have been at the centre of a heated debate since the onset of the global financial crisis. This note sets the emphasis on the long-run growth effects of financial regulation. It finds that macroprudential regulation promotes economic growth by mitigating the adverse effects of financial volatility.

Purpose and method: The global financial and economic crisis of 2007–09 has highlighted weaknesses in macroeconomic and regulatory practices and market failures that contributed to a buildup of systemic risks. At the international level, this led to the setup of macro-prudential oversight frameworks with the aim to contain systemic risks and achieve greater financial stability, and in this way reduce the adverse consequences of financial volatility for the real economy.

Although recent work has examined the effectiveness of macroprudential regulation in reducing systemic risk and financial instability, by focusing on the credit and housing markets, little is known about the effectiveness of these rules on the broader objective of economic growth. To close this gap, this paper examines empirically the relationship among macroprudential regulation, financial volatility, and economic growth. In particular, it assesses the success of macroprudential policy in reducing systemic risks by dampening the procyclicality and volatility of financial flows, thereby giving rise to a growth-promoting effect.

Broadly defining financial volatility as the volatility of international capital flows and using aggregated indicators of macroprudential regulation, it investigates the effect of volatile capital flows on growth in the presence of macroprudential policies. In a panel data framework, the sample covers about 80 countries over the period 1973-2013.

Findings: The results indicate that although more variable capital flows reduce economic growth, macroprudential regulation mitigates this negative growth effect. This means that macroprudential policies, by encouraging a greater buildup of buffers, attenuate the adverse growth effects of unstable capital flows and, by so doing, are effective in limiting financial system vulnerabilities.

Further findings are summarised as follows:

i. The outcomes are mainly restricted in the sample of middle-income countries, since it is this group of countries that have relied more on macroprudential policies.

ii. In Sub-Saharan Africa macroprudential regulation has the capacity to attenuate the growth-distorting effect of volatile flows to a much greater degree.

iii. The effectiveness of macroprudential regulation diminishes in magnitude in economies that are relatively open, with deeper financial systems, and exposed to greater macroeconomic instability.

Policy implications: Traditionally economists have examined the implications of monetary and fiscal policies for economic growth. With the recent design of regulatory frameworks in the form of macroprudential rules, another set of policies has emerged that could be used to enhance economic growth by simultaneously ensuring financial stability. The analysis shows that macroprudential regulation can achieve this dual objective making it an important part of a policymaker's toolkit, especially for countries exposed to large and volatile movements in financial flows. This, in turn, justifies efforts for international cooperation and coordination in setting macroprudential rules and standards as a way of combating and minimizing financial volatility and its consequences on the real economy.

Keywords: Macro-prudential regulation; Capital flows; Volatility; Economic growth

JEL Codes: C23; E44; F21; F43; G18; 047

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Session 3

Education Economics

The Impact of Education on Income in Thailand

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Abstract

To date few studies have investigated the effect of education on individual earnings in Thailand. Since the causal effects of the number of years of schooling on income in Thailand have not been analysed, this paper is the first attempt to exploit a natural quasi-experiment initiated by the two educational reforms (1978 and 2000) in the context of Thailand to explore the impact of education on income. There is a positive correlation between completing high education and higher incomes in Thailand.

However, most Thai citizens only completed the primary level of education. Investigating the causal relationship between education attainment and improvement in livelihoods – as measured, for instance, by income – raises endogeneity concerns, both in terms of reverse causality and omitted variables. To overcome such limitations, the wage of individuals is estimated by using Two-stage least squares (2SLS) models. The years of schooling is instrumented by the year of birth of the individuals who were born around the cutoff year imposing pupils to attend, respectively, 6 and 9 years of compulsory education, following the schooling laws of 1978 and 2000. Significantly, the Treatment and Control groups' characteristics were classified by the year-of-birth, with the former begin born after the cutoff year defined by the each reform, and the latter after. Therefore, the way we chose cohorts eliminates the individual heterogeneity such as abilities or motivations across individuals since they were born closely to each other. Moreover, the instrumental variable employed in this paper is the shock on the education system, which randomly assigned comparable individuals in two distinct groups. The province fixed-effects were also used since the economic incidences and schools' quality differ highly across province. Additionally, the compulsory schooling laws of Thailand have not been evaluated in terms of economic outcomes. This cross-section analysis of the causal effects of the level of education on income focuses on Thailand across 76 provinces from 2006 to 2015. With the 6-year compulsory schooling reform, the fixed effect model with IV gives the statistically significant result that an additional year of schooling positively impacts individual incomes by roughly 13 to 28 percent. As evidence on the estimations of 9-year compulsory schooling, it is found that an additional year of schooling increases the monthly income of an individual on average by approximately 9 percent which has statistically significance at the 10% level.

Significantly, the results are statically significant at the 1 % threshold when we extend the analysis to pupils having completed the upper-secondary education level. This shows that one more year of schooling is found to increase on average by 2.4 units the expected log of incomes. The significant results of our study lead to further studies on poverty and income inequality in the later stage since the years of schooling is found to have a positive causal impact on wages. Therefore, rising investment in education may also lead to the average income of Thai citizens to rise, thus, implying a reduction in poverty incidence.

Keywords: Returns to Education, Income, Causality, two stage least squares, IV estimators, Thailand

JEL Codes: C01, C21, C26

Intergenerational Education Mobility and Internal Migration

Celia Patricia Vera

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Abstract

This paper examines the educational aspect of internal immigrant assimilation in Peru. Using the Peru Household Survey, I examine whether second-generation internal migrants, namely those born in urban areas to rural-born parents differ in their educational attainment to children of urban-born parents. I further examine whether whether these differences, if they exist, are greater for migrants of certain ethnic groups.

I assess educational attainments along three dimensions : (1) total years of education, (2) categorical/hierarchical schooling levels attained, and (3) the probability of lagging behind in compulsory school; and assign individuals to one of the three ethnic groups according to the rural region where their parents were born: (1) the Coast, (2) the Andes, and (3) the rainforest.

The raw data indicate that the educational attainment gap between natives and immigrants diminishes across generations. Natives are better off, but the difference is not as substantial as it was in their parents' generation. Despite this improvement, second generation immigrants are less likely than natives to enroll in a higher education institution. Data also reveal a sizeable dispersion in skills among ethnic groups for both parents and children. While migrants from the rainforest are the lowest-educated, they are also the ones with the largest upward mobility, although this is not large enough to eliminate the gap observed in their parents' generation. Migrants from the Coast, on the other hand, is the closest group to natives in terms of parental and children educational attainment and also the group that exhibits the lowest upward mobility. The improvement in education among immigrants from the Coast is large enough to receive almost the same years of education than natives and to outperform natives in the share of respondents enrolling in a higher education

institution. However, this responds to a smaller parental disadvantage (relative to that of the other ethnic groups) rather than to a larger intergenerational mobility. Finally, children of internal immigrants, regardless of their ethnic group, are more likely to lag behind in school than their native peers.

Because the endogenous variables are continuous (total years of education), ordinal (school- ing level), and binary (probability of lagging behind), I use OLS, ordinal probit, and binomial probit as the respective estimation techniques.

My major findings are (1) parental education has an important effect on the educational attainment of both natives and second-generation internal immigrants, being the effect of the mother's education more important than the effect of the father's education, (2) the ethnic achievement gap vanishes after accounting for the influences of parental and ethnic capital. Specifically, (3) second-generation internal immigrants, regardless of their ethnic group, do not differ to natives in their probabilities of delaying ehbnrollment, (4) when assessing the ethnic achievement gap with the total years of education and schooling levels, the educational disadvantage of individuals with an immigration background from the rainforest disappears (or becomes statistically not significant), and (5) children with immigration backgrounds from the Coast and the Andes outperform natives using the same educational measures.

Keywords: Internal Migration, Intergenerational Education Mobility, Educational Attainment

JEL Codes: J15, J62, I24

Entrepreneurial Universities – Industries Local Knowledge spillovers: A relevant to literature review SWOT ANALYSIS and a cross country exploratory comparative study

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Abstract

The present paper analyses, both from a theoretical and from an empirical viewpoint the impact of the financial crisis on Universities' role and the necessity of their transformation from social institutions in knowledge – based business, relying on the relevant literature review of the Triple Helix Theory and of the one of the Entrepreneurial University. Thus, at the first theoretical part of our survey, our main purpose is to Highlight the major role of universities, which is not only the creation and the diffusion of knowledge but, also, their contribution to the development and growth of an economy according the Triple Helix Model. The used methodology here is a SWOT ANALYSIS process.

As regards, the main objectives of our empirical research is to compare 2 transnational case studies (i.e. Greek high education/universities' sector with the Hungarian one), in order to identify the problems in relevant strategic policy making on both sides. In this phase, we conduct a set of field research on Greek and Hungarian Universities and scientific institutions to gauge the degree to which the crisis has affected the funding of the Universities, mainly for teaching and research programs and to evaluate how they have reacted (or should react) to this sort of changes in order to be helped to stay afloat. More specifically, we conducted 2 formalized questionnaires, for the universities and scientific institutions in Greece and Hungary. The results demonstrate that relevant industry policies have influenced or affected the sustainability of the Greek and Hungarian high education sector passively or negatively, accordingly.

In general, we can say that from our main findings, it is revealed that, in any case, in crisis period the universities can find a new source of funding by “advertising” their main mission, which is the diffusion of Knowledge and especially, the innovative one that enterprises need, in order to succeed and to overcome the crisis bad effects. Consequently, we can observe that the results of our empirical analysis are strongly related to the used literature as far as to the relevant SWOT ANALYSIS, presented, in the theoretical part of our paper. Finally, considerable general conclusions, policy proposals and questions/ challenges for further research are included in our study, as well.

Keywords: Universities, Triple Helix Theory, Local Entrepreneurship, Endogenous regional growth, cross country cooperation – collaboration in knowledge economy

JEL Codes: O30, 031, O33, O38, R11

Does schooling reduce household income poverty overtime? A case study of Sri Lanka from 1990 to 2013

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Abstract

Purpose: Improvements in formal educational attainment is being used as a key tool in reducing inequalities and encouraging household welfare in post-war Sri Lanka. The Sri Lankan civil war lasted nearly 20 years from 1983 to 2009. But does historical evidence suggest that education has been significant in reducing income poverty specially in the poorer quintiles? To answer this question, this paper looks at whether increases in household level education overtime has reduced household income poverty during the 1990-2013 period across the welfare distribution.

Methodology: The paper uses data from 5 cross section data sets conducted by the Department of Census and Statistics (Household Income Expenditure Surveys) for 1990/91, 1995/6, 2001/2, 2005/6 and 2012/13 to estimate the impact of household education on various household level indicators for welfare (household level consumption) and poverty (head count, poverty gap and severity) using quantile regression analysis. We account for the endogeneity of schooling using instrumental variable estimation and the uncensored version of the new censored quantile instrumental variable (CQIV) estimator developed in Chernozhukov, Fernandez-Val and Kowalski (2015). The instruments we use exploit the 'Free education policy' implemented in 1945 and the liberalisation of the economy 1978 that increased substantially employment opportunities within and outside the country (Atukorale and Jayasuriya 1994, Hettige 2005). The former policy change is expected to have encouraged schooling substantially by reducing costs of schooling while the latter discouraged schooling as it increased the opportunity cost of schooling.

Findings and implications: The results show that an extra year of schooling can increases welfare by 3.8 per cent on average. However, the impact varies considerably across the welfare distribution: At the 20th and 25th quantiles an extra year of education tends to increase welfare by 6 and 5 per cent, respectively, while at the median it is around 3.5 per cent. At the 90th it is much less, at 1 per cent. Thus although the marginal effect of schooling on welfare is significant and positive at all levels of the welfare distribution, the highest impact is on the lower and middle quartiles. We find similar results across the various indicators for poverty that we use. We interpret this as providing strong support for post-war efforts in expanding and deepening education provision and access, both to enhance welfare and to reduce inequalities.

Keywords: Sri Lanka, Education, Welfare, Quantile Regression, Endogeneity, Poverty

JEL Codes: I00, I20, I21, I38, 053

The progressivity of public education in Greece in the era of economic depression

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Abstract

This paper examines the progressivity of publicly provided education services in Greece during the tumultuous period of 2009-2013; that is hardly before the severe economic contraction erupted and at its peak. The empirical analysis is based on two micro-datasets; the 2009 and 2013 Greek Household Budget Surveys (HBS) conducted by the National Statistical Service of Greece. The analysis employs two approaches in estimating the monetary value of public education transfers. Firstly, the 'objective' progressivity of public education is measured through static incidence analysis under the assumption that the value of public transfers to the beneficiaries is equal to the average cost of producing the corresponding public services. Secondly, the 'perceived' progressivity of public education is measured via demand analysis using a two-stage budgeting framework for modelling household consumption decisions. The econometric estimation of the demand model allows us to derive a money metric of households' willingness to pay for public education. Our results suggest that the overall progressivity of in-kind public education transfers increased during the period of reference, meaning that every euro spend in public education has had a larger inequality-reducing effect as crisis deepens. On that basis, these results suggest that, under certain conditions, there is considerable scope for redistribution through the education system. Furthermore, the juxtaposition of the two approaches (demand analysis approach and production cost approach) yields an interesting finding; households' perceptions of the progressivity of public policies, in some cases, might fall short of the initial aspirations of those who designed the corresponding policies.

Keywords: Public education, Income distribution, Demand analysis

JEL Codes: D12, H12

Session 4

Banking I

National Culture and Bank Risk

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Abstract

Purpose: Bank risk - taking is essential to bank performance but could become detrimental to the stability of the domestic and global financial system. To control bank risk and potential ruinous consequences, we need to identify all its possible origins. Prior literature identifies financial factors influencing bank risk including bank size, loan loss provisions, bank leverage and interest rates (García-Kuhnert et al. (2015); Craig and Dinger (2013); Delis and Kouretas (2011); Jordà et al. (2011)). Our paper adds national culture to the financial factors influencing bank risk. We identify three specific national cultural values (individualism, trust and hierarchy) which are associated with bank risk after controlling for country macroeconomic and legislative differences.

Methodology: We apply a multi-level linear model to observations for the years 1999 to 2014 inclusive. We measure risk as the volatility of the earnings on a five year rolling basis. Independent variables include the three national culture variables (data obtained from the World / European Values Survey which is used extensively by academics and numbers over 400 publications), macroeconomic and legislation variables at country level as well as financial variables at bank level. We include year fixed effects to control for significant changes in the world market valuations and macroeconomic shocks. We test our results for robustness first by controlling for endogeneity. Even though reverse causality is not a concern in our setting, given that national cultures evolve slowly over very long periods, our results could be affected by omitted variable bias. We instrument for national culture variables using GMM instrumental variables regressions with 2SLS. Our findings remain robust to these tests. To further strengthen the robustness of our conclusions, we test our hypotheses using two alternative risk proxies, z-score and loan loss provisions. Finally, we add country - level fixed effects to our specification that help mitigate concerns about the impact of unobservable time-invariant country characteristics. The results remain unchanged.

Findings: First, we find that cultural values are important determinants of bank risk. There is a positive and significant association of individualism and hierarchy with bank risk, and a negative and significant association between trust and bank risk, controlling for bank and country-level characteristics. Second, we show that national culture influences affect primarily domestic systemically important financial institutions (D-SIFIs) as opposed to global systemically important financial institutions (G-SIFIs). Finally, we demonstrate that during financial crises the relationship between bank risk and national cultural values weakens.

Implications: One would expect managerial decisions to be free of cultural influences given the market efficiency and heavy regulatory global oversight of the banking sector. However, we find strong evidence of an economically significant impact of cultural values on bank risk. Excessive risk which leads to financial crises costs governments a significant GDP percentage (European commission report 2014). Given that international banking integration transmits financial instability between sovereigns, identifying and addressing factors associated with bank risk safeguards the global financial system and could contribute to the success of the imminent European banking union.

Keywords: Bank risk; National culture; Financial crisis; Globalisation; Domestic banks; Global banks

JEL Codes: F65, G21, G28

The Impact of Banking Reforms on Competition in Ghana's Banking Sector

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Abstract

To enhance competitiveness of their banking sector and improve financial development, African countries are undertaking various financial reforms to address inhibitions to competition and efficiency of the sector. In the case of Ghana, key pro-competition reform policies undertaken during 2002–2006 included: (i) the introduction of universal banking in 2003; (ii) the adoption, in 2006, of an open licensing policy to enhance contestability and competition; and (iii) the abolition of the huge secondary reserve requirements in 2006.

This paper therefore investigates the impact of these recent reforms on competition in the banking sector. The study uses both the persistence of profit (POP) and the Boone indicator models of competition, with a unique unbalanced panel dataset of 25 banks for the period 2000-14. In the POP model, we formulate a partial adjustment model of loan price overcharge, interacted with a policy dummy variable to measure both the pre- and post- reform persistence parameters in the loans market, while accounting for macroeconomic and industry-specific variables and the global financial crisis. We also use the Boone indicator to examine the relationship between bank performance (in terms of loan market share) and efficiency to track evolution of competition in the loans market from 2000 to 2014.

The results from the POP model suggest that, notwithstanding the financial reforms pursued by the Central Bank, competition in the banking sector declined during the post–reform period. However, this does not in the least suggest that the decline in competition was a direct consequence of the reforms undertaken. On the contrary, the annual Boone estimates of competition show an increase in competition during 2005-8 compared to 2001-4, and seem to suggest that competition benefitted from the

reforms initially. It was observed that the enhanced competition was supported by a strong macroeconomic environment, with consistent increase in real GDP growth rate, steady decline in interest rates, sharp decline in fiscal deficits and moderate depreciation of the local currency during 2003–2007. However, the gains in competition were not sustained with macroeconomic weaknesses, partly caused by the indirect effects of the global economic crisis, undermining banking competition post-2008.

The policy implications from the study are that for African countries to benefit from banking reforms there is the need for these reforms to be anchored on strong macroeconomic fundamentals and fiscal discipline. Further, alternative means of financing fiscal deficits must be explored to minimise recourse to the domestic banking system to finance these deficits, as this is at variance with the policy of abolishing the secondary reserves and raises the issue of policy credibility.

Keywords: Bank competition, reforms, persistence of profit, Boone indicator, panel data

JEL Codes: D4, G21, G28, L1, O55

Bank Enforcement Actions and the Terms of Lending

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Abstract

Formal enforcement actions issued against banks for violations of laws and regulations related to safety and soundness can theoretically have both positive and negative effects on the terms of lending. Using hand-collected data on enforcement actions issued against U.S. banks, we show that enforcement actions have a strong negative effect on price terms (loan spreads and fees) for corporate loans and a positive one on non-price terms (loan maturity and size). The results also indicate that in the absence of enforcement actions, the cost of borrowing during the subprime crisis would have been much higher.

Keywords: Bank supervision; Enforcement actions; Syndicated loans; Price and non-price terms of lending

JEL Codes: E44; E51; G21; G28

Asymmetric information and income smoothing in banking

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Abstract

The existing literature has proposed several reasons for income smoothing by banks. Among them, tax incentives, managerial self-interest, concerns about financial fragility triggered by worsening investor perceptions, meeting capital requirements, and avoiding supervisory scrutiny. With the exception of the first, these reasons rely upon the asymmetry of information between bank insiders and outsiders. Hence, reducing the level of asymmetric information is expected to weaken the incentives and leeway of bank-managers for income-smoothing and, thus, to be associated with smaller smoothing.Which is the subject of this research.

To test for this, we estimate typical income-smoothing equations in which loan-loss provisions, as share of total loans or total assets, is regressed on several bank-specific and economy-wide variables. The existence and extent of income-smoothing is judged from the sign and size of a bank-specific variable, i.e., earnings – also as share of total loans or total assets. A positive sign of this variable is consistent with income smoothing: higher earnings are associated with higher provisions, and vice-versa. The estimated equation also includes time dummies.

The sample consists of 543 US bank holding companies and covers the period 1999 – 2011. Using US banks only controls for time-invariant country-specific variables which have been explored in the literature, such as, regulations, supervisory power, creditor rights, quality of institutions and financial development. The time dummies additionally take into account the effect of time-varying country-specific variables.

To account for the degree of asymmetric information, we use a dummy that takes the value 1 for the years for which a mutual fund that is a member of USSIF has invested in the shares of a particular bank. USSIF stands for US Sustainability Investment Forum, US's membership association for socially and environmentally responsible

investment professionals, firms, institutions and organizations. USSIF funds base their investment decisions on firms' ESG (Environment, Social, Governance) performance.

The USSIF funds compensate for the lack of readily available and reliable ESG data and ratings with an intrusive screening and monitoring process. During this process there is active engagement of the top management of the funds and the firms –here, banks—, with annual and, occasionally, quarterly meetings.

Our identifying hypothesis is that this process, which amounts to stronger monitoring and, hence, stronger market discipline, is associated with lower asymmetric information. Thus, we expect that income smoothing will be smaller for the banks in which USSIF funds invest. To test for this, we use the interaction term between this dummy with the earnings variable.

The preliminary results indicate that there is income smoothing. Yet, confirming our expectations, the negative coefficient of the interaction term indicates that income smoothing is smaller for the banks in which USSIF funds invest.

Keywords: Banking, Income-smoothing, Loan-loss provisions, Asymmetric information, Sustainability, Sustainable funds

JEL Codes: G21, G23, G28, G32

The role of Net Stable Funding ratio on Bank Lending Channel

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Abstract

This paper is motivated by the ongoing debate about the Basel III impact on market functioning and financial stabilization. We empirically examine the effect that the implementation of one of the most important pillars of Basel III – the Net Stable Funding Ratio (NSFR) - has on real economy. The NSFR expresses the way that under stressed circumstances a bank finances its' required funding, adjusted by an expected haircut, through its available funding, imposing greater weights to sources that are least likely to disappear under these conditions.

Using data from the EU banking sector we provide our own NSFR estimations and intervene on the traditional Bank Lending Channel (BLC) of Bernanke and Blinder (1992) by incorporating the interaction of NSFR with the monetary policy tool. According to the BLC a restrictive monetary policy could decrease the core deposit funding of bank loans due to reserve requirements. Thus, banks with limited access to non-reservable funds should be expected to dampen their loan supply affecting, thus, real economy. Consequently, banks with lower NSFR would strangle to disobey the central bank's imposed monetary policy in contrast to those with higher NSFR.

Our panel data consists of a set of 4,733 EU banks for a period of 15 years, from 2000 to 2014. By application of the two stage GMM method of Blundell and Bond (1998) we examine empirically the abovementioned hypothesis controlling for several country, specialization, status and 18 bank specific characteristics, according to the following generic model specification:

$$\Delta\left(\log\left(L_{i,t}\right)\right)=b_0+b_1\cdot\Delta\left(\log\left(L_{i,t\text{-}1}\right)\right)+b_2\cdot\Delta\left(r_{t\text{-}1}\right)+$$
$$\mathrm{z}_1\cdot\Delta\left(NSFR_{i,t\text{-}1}\right)+z_2\cdot\left(\Delta\left(r_{t\text{-}1}\right)\cdot\Delta\left(NSFR_{i,t\text{-}1}\right)\right)+$$
$$\sum_{j=1}^{18}q_{1,j}\cdot x_{i,j,t-1}+g\left(country,specialization,status,macros\right)$$

It is worth mentioned that our research hypothesis is examined by consideration of several categories of loans, such as mortgages, consumer loans, corporate loans, etc. questioning the alignment of banks' responsiveness on more regulation, by different type of loans.

According to our findings there is evidence of heterogeneous responses of financial intermediaries' loan supply (due to changes of interest rates) with respect to the Basel III NSFR factor and to the control variables. Our results are robust under alternative model specifications and shed much light on the effects of the implementation of Basel III on the EU BLC. This finding could be considered by policy makers in the implementation of tailor made regulation schemes that would potentially contribute substantially to the fulfillment of their objectives, without imposing more often than usual extraordinary and tough rules that could possibly diminish the flexibility of the banking sector to act as a stabilizing and developing factor of the real economy.

Keywords: Basel III; Net Stable Funding Ratio; Bank Lending Channel

JEL Codes: G21; E58

Session 5

Finance I

Risky Profit shifting

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Abstract

Is there a role for macroeconomic and fiscal risk in identifying the magnitude of profit-shifting activity of multinational enterprises (MNEs)? The answer to this question is important for understanding the profit flows from parent firms to subsidiaries for tax-related reasons, identifying the true level of profit shifting, and informing policy. We argue that the macroeconomic and fiscal risk in the subsidiaries' countries are decisive elements in shifting profit and this empirical observation has important policy implications for the way resources and policy tools are used to limit international profit shifting.

Macroeconomic and fiscal risks provide a possible explanation to the identification of relatively low levels of profit shifting when examining average estimates across a number of countries (e.g., Dharmapala, 2014). We begin by providing a formal argument in which the degree of costly profit shifting varies with an exogenous country-specific uncertainty component, related to either macroeconomic or fiscal risk. We thus hypothesize that in periods (or countries) with low macroeconomic and/or fiscal risk, the profit-shifting activity is quite higher compared to periods (or countries) with high macroeconomic and/or fiscal-risk.

Our empirical analysis employs a panel dataset of parent firms from 25 countries, subsidiaries in 62 countries, and a maximum of approximately 38,000 subsidiary-year observations for the period 2007-2013. To examine the role of macroeconomic risk, we exploit the outbreak of the global financial crisis as a semi-natural experiment. This period entails a massive increase in macroeconomic risk, which represents an exogenous shock to the decision of MNEs to shift profits abroad. Further, countries

changing their corporate tax rates more frequently should pose higher fiscal risk for MNEs to shift profits to their subsidiaries residing in such countries.

Our main empirical identification method builds on the differences-in-differences (DID) model introduced by Dharmapala and Riedel (2013). This model exploits earnings shocks at the parent level and examines their propagation toward subsidiaries. The main premise is that an exogenous increase in the profits of the parent company will imply partial shifting of profits to subsidiaries in low-tax countries. We restrict the empirical analysis to subsidiaries operating in a different industry (and of course country) than the parent companies, and this further restraints the profit shocks to directly impact the subsidiaries.

Our results using the full sample suggest very limited profit-shifting activity. In contrast, when differentiating between periods of high and low macroeconomic and fiscal risk in the countries of subsidiaries' residence, we identify quite potent profit-shifting activity. Economically, the results show that an increase in the parent profits by 10% leads to 0.54% higher reported earnings before taxes for the subsidiaries during the post-crisis period of 2011-2013. Moreover, a 10% increase in the parent firm's profits, results to a 0.74% higher earnings before taxes for the subsidiaries located in low country-specific macroeconomic-risk. Finally, and perhaps most importantly, a 10% increase in the parent firm's profits increases by 0.92% the earnings before taxes of the subsidiaries located in low fiscal-risk countries, even within periods with a stable macroeconomic environment.

Keywords: International taxation, profit-shifting, multinational firms, macroeconomic and fiscal risk

JEL Codes: F23, H25, H26, H32, M41; M48

Investigating the Valuation Effects of Reverse Takeovers: Evidence from Europe

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Abstract

Employing a sample of 222 reverse takeovers that took place in Europe between 1991 and 2011, our study examines whether reverse takeovers are value-increasing transactions, especially for the shareholders of public firms as well as for those of the new entities emerged. Hence, our paper intends to bring about evidence from a sample of firms that are thinly traded, barely followed or analyzed by professional analysts, suffering also from stock price manipulation that may adversely affect market efficiency. Using the classical event study methodology and regression analysis, we explore the short-run market reaction around reverse takeovers as well as the market reaction in the post-reverse takeover era. We also examine the market response to reverse takeover deals in countries with different corporate governance structures in order to assess their role in explaining stock price movements in markets where the protection of investors and minority shareholders differs considerably. Finally, we explore the long-term operating performance of those firms engaged in reverse takeovers by employing a gamut of fundamentals such as performance, liquidity and capital structure ratios. The results show that the market reaction is stronger when stricter corporate governance structures prevail in the countries where public firms trade. However, the short-term gains seem to revert to substantial losses over the long-term lending support to the overreaction phenomenon. We further detect negligible improvement in the post-reverse takeover financial performance of the new entity raising further concerns about the efficacy of such transactions.

To the best of our knowledge, this is the first study that probes into the wealth effects of reverse takeovers using pan-European data. The previous geographical preference to the US and Chinese market leaves ample space for exploring the UK and continental Europe, which are considered heterogeneous markets in terms of capital market culture and developments, legal framework and regulation and corporate governance mechanisms. Based on these marked differences, we are motivated to investigate reverse takeovers under the diverse corporate governance structures among European countries, thus allowing us to bring new insights from the interaction of corporate governance and corporate actions. Furthermore, we contribute to the pertinent literature by providing evidence from the post-reverse takeover era and relate our results with business diversification (focus vs non-focus business activities), shareholder and investor protection in countries that host reverse takeovers.

The empirical findings of the current research could be appealing to stock market authorities, firm managers and investors alike. In specific, our results from the short-run stock price reaction to reverse takeovers in association with corporate governance standards will help policy makers to optimize relevant regulations to ensure market fairness and proper investor protection. Our results will also be useful to private firms which seek less complex and time-consuming sources of financing. Additionally, our results for the long-term performance of the new entities will enable firm managers to look for value-increasing investment strategies and optimal corporate structures. Finally, our results could serve as a guide for those firms considering a listing status by investing in financially distressed companies.

Keywords: Reverse takeovers; operating performance; market reaction; going public

JEL Codes: G30; G33; G34

Credit growth, information sharing and financial stability in low and middle-income countries

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Abstract

Identifying determinants of financial vulnerabilities is an important question in the economic literature and in policy circles. While many works have studied this issue in the case of developed and emerging economies, the literature focusing on low-income countries is scarce, insofar as the risks they face are lower than in high and middle income economies. However, a better understanding of financial fragility mechanisms in LICs is crucial. First, financial vulnerability does exist. The experience of low-income countries shows that they could suffer sharp increases in non-performing loans and banking crises. Second, the cost of banking crises is high and particularly long-lasting in LICs. Indeed, in low-income countries, confidence in the banking system is weak and a banking crisis may permanently hinder the development of banking services demand (see for instance the CEMAC and WAEMU experiences after eighties and early nineties banking crises). Third, financial vulnerability will grow in the next decades. The current dynamics of financial development in many LICs will, in parallel with its beneficial effects on access to financial services, increase the risk of financial instability, unless financial regulation is progressively adapted to this evolution.

In this paper, we study the determinants of financial vulnerabilities in LIC. Financial vulnerability is measured by annual change of the ratio of non-performing loans to loans, for a sample of 87 developing countries including 25 low-income countries. Indeed, the main risk of financial vulnerability is a rapid growth of non-performing loans (NPL), without an adequate increase in financial provisions for loan losses. The end of the NPL episode may be either a banking crisis (including bankruptcies and/or

a restructuration of the banking system, or “only” a phase of write off of bad loans and a recapitalization of banks having suffered significant losses. In both cases, is frequently observed a credit fall after the NPL cycle.

Our econometric results show that credit growth is the main driver of financial vulnerability but its effect is mitigated by the presence of credit information sharing. This mitigation effect also exists in low-income countries, even if the credit growth direct effect is smaller. Sub-Saharan African countries do not significantly differ from other developing economies. These results are robust to alternative measures of financial vulnerabilities.

Our results, although preliminary, have several policy implications. First, a particular attention should be paid to the NPL variations. Second, the credit growth is a key variable to conduct macroprudential policies in low and middle-income countries. Third, current efforts to develop information sharing schemes should be strengthened, since the latter allow a credit expansion without excessive increase in the overall credit risk. These results also suggest that the use of credit by sector may provide additional information on the relevant indicators to conduct macro-prudential policies. Early information on the rise of financial vulnerability might be extracted from the sectoral credit growth rate20 or sector concentrations of loans.

Keywords: Financial stability, low income countries, information sharing

JEL Codes: G21, G33, O16

Enforcement Actions and the Structure of Loan Syndicates

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Abstract

A decrease in the reputation of a loan syndicate's lead arranger, caused by a regulatory enforcement action for non-compliance with laws and regulations, disincentivizes potential syndicate participants from co-financing the loan. We formally argue that in such cases, the lead arranger must increase his share of the loan in order to make the loan sufficiently attractive to potential participants. We provide strong empirical evidence to support our theoretical argument, using the full sample of enforcement actions enacted on U.S. banks from 2000 through 2010 as well as syndicated loan-level data.

Keywords: Syndicated loan market; Syndicate structure; Reputation of lead arranger; Enforcement actions; Incomplete and asymmetric information; Loan-level data

JEL Codes: D82; G21; G28

Fiscal Buffers, Private Debt, and Stagnation: The Good, the Bad and the Ugly*

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Abstract

The global financial crisis followed an extraordinary upward swing in the leverage cycle (Geanakoplos, 2012). When the bubble burst, the massive debt accumulation in the private sector sparked a typical debt deflation dynamics (Fisher, 1933, Minsky, 1982) that propelled the ratio of public debt-to-GDP very rapidly reflecting on one side the recession-induced decline in government revenues, and a fall in the level of prices–including those of assets; and on the other side, governments actually taking over private debt gone sour.

Late empirical studies have started to focus increasingly more on the relationship between private debt and the macroeconomy (Jordá et al., 2014; Taylor, 2012; Schularick and Taylor, 2012). The key takeway from this body of work is that credit growth predicts financial crisis and that, conditional on having a recession, stronger credit growth predicts deeper recessions (Mian and Sufi, 2014; Glick and Lansing, 2010).

Theoretical economic modeling has flanked the empirical research, at least up to a certain point. Building upon the modern model-based literature on collateral and leverage cycles going back to the mid-1990s pioneered by Bernanke and Gilchrist (1995) and Kiyotaki (1997), a number of recent papers in macro-finance have focused on how to reproduce ways in which excessive indebtedness in the private sector can harm the economy. None of these models, however, explores the macro-financial links between private and public balance sheets, or the dynamic interaction between fiscal and private agents during leverage cycles, which so distinctly characterized both the evolution and the recovery phases of the recent crisis. Similarly, models which do incorporate a developed public sector, and study the borrowing constrains of the

government deriving the maximum government debt-GDP ratio that can be sustained without appreciable risk of default or higher inflation, do not model the role of the government as a fiscal actor or as a lender of last resort during protracted phases of financial stress. In this paper we focus explicitly on these links.

We start by revisiting empirically the interaction between private and public debt in affecting economic growth. While we reaffirm the empirical result that public debt does not generally exacerbate financial recessions, we also confirm empirical existing results that there are important nonlinearities at play between public and private debt during the deleveraging phases of leverage cycles, implying that public debt impact on financial recessions changes depending on its level. We then build a parsimonious analytical model capable of stylizing this trade-off by embedding in the model links between private and public debt dynamics. The basic model structure follows Kiyotaki (1997)'s model of credit cycles that shows how small shocks to the economy might be amplified by credit restrictions, giving rise to large output fluctuations; and it embeds Iacoviello (2005)'s modifications to replicate features of borrowing constraints in the housing market within a New-Keynesian setting. Our model accounts explicitly for the two key links between private and public indebtedness that characterize debt deflation dynamics. Consequently, it is able to reproduce well two main findings of the recent empirical literature, namely that higher levels of private leverage lead to more severe recessions, with more serious consequences for public finances; and that an adverse fiscal position, either initially or caused itself by a severe financial recession, exacerbates the downturn because of the lack of fiscal space to stabilize the economy.

Keywords: Public debt, private debt, loan-to-value ratio, borrowing constraints, sovereign risk premium, deleveraging, fiscal limits, DSGE

JEL Codes: E44, E62, H63

** The views expressed in this paper are those of the authors and do not necessarily represent those of the International Monetary Fund or IMF policy. All remaining errors are ours.*

Session 6

Macroeconomics - Money

What do two centuries of dollar-sterling real exchange rate data tell us about trade costs?

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Abstract

It is commonly accepted that trade costs have changed dramatically over the past centuries. Different government policies (from almost free trade to extreme protectionists), advances in transportation and communication technologies, and war conflicts, among other factors, have without doubt altered the economic proximity between countries, promoting trade in some periods and causing trade implosions in others. But how exactly did commodity market integration evolve over time? Are the costs of trade today lower than in the first era of globalization one-and-a-half centuries ago? Answering such classical questions, although has long attracted the interest of economists, is by no means trivial. In this paper, we propose a nonlinear state-space model that enables us to extract information about movements in trade costs directly from international price differences. The dynamic model, which is estimated using the recently developed Malik and Pitt particle-filtering technique, has several attractive features. First, it is well grounded in international macroeconomic theory since it closely resembles the theoretical properties of the real exchange rate in an economy with spatially separated markets. Second, it is flexible enough to nest numerous widely used empirical real exchange rate models; and, third, it can be extended in a straightforward manner to allow for stochastic volatility. By employing a unique monthly dataset on the dollar-sterling real exchange rate that spans a period of more than two centuries, we provide evidence of long swings in bilateral US-UK trade costs over time. Specifically, we show that trade costs remained low during the first part of the sample, reaching a minimum at the middle of the 19th century; they increased after the onset of the American Civil War, which initiated a prolonged period of disintegration, and then declined gradually after World War II, with the introduction of the General Agreement on Tariffs and Trade, and the inception of the Bretton Woods system. Interestingly, the pattern of our price-based trade costs index is remarkably similar to that of the export-based index proposed by Novy, Jacks and Meissner (2012). The main conclusion that follows is that measures based on the international macro and gravity literatures make similar predictions for the evolution of commodity market integration. With respect to real exchange rate volatility, our results indicate that it has, like trade costs, exhibited large and persistent movements. By examining the behaviour of real exchange rate volatility under different exchange rate regimes, we find that changes from a fixed to a floating regime are associated with higher volatility, and vice versa. However, the exchange rate regime alone cannot explain entirely movements in real exchange rate volatility.

Keywords: Purchasing Power Parity; Time-Varying Trade Costs; Smooth Transition Nonlinearity; Particle Filter; Commodity Market Integration.

JEL Codes: F3, C22, C51

The Fed's Policy Reaction Function and U.S. Stock Returns

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Abstract

The paper investigates the influence of the Federal Reserve's reaction function on U.S. stock market returns (as a proxy for the dynamic interactions between monetary policy and stock returns) during the last three monetary regimes of Volcker (1979-1987), Greenspan (1987-2005) and Bernanke (2006–2014). The federal funds rate was used to derive monetary shocks based on the Fed's information set, which contained several standard macroeconomic variables and defined the Fed's benchmark fed funds reaction function. The identification of the monetary policy shocks will be derived from an extension of the macroeconomic framework, put forth by Christiano et el. (1999), according to which the Fed's information set is composed of certain macroeconomic variables. This framework will subsequently be augmented with various economic and financial variables to see if monetary policy regimes had a different impact on the stock market. In other words, we wish to examine the extent to which the Fed paid attention to them in its effort to affect the stock market in each monetary regime. Finally, the analysis was performed during several expansions/bull markets and contractions/bear markets to see any differential impact of traditional monetary policy on the stock market.

The findings revealed distinct reactions of stock returns to funds rate shocks during each monetary regime. In fact, these reactions were more turbulent and persistent during the Bernanke regime than in the two previous ones. Thus, it can be concluded that monetary policy had real, short-run effects on the stock market in all three monetary regimes. When augmenting the Fed's reaction function with stock returns, credit spreads, the unemployment rate and a measure of financial uncertainty it was

observed that the Fed might have actually considered each of these magnitudes separately in its deliberations to conduct monetary policy. For example, the stock returns' responses to the spreads-augmented reaction function were seen far less turbulent during the Greenspan and Bernanke regimes than during the Volcker regime. Finally, stock returns seemed to react differently during and across expansions/bull markets and contractions/bear markets. For example, the nominal returns' response to monetary policy shocks was stronger during the recent (2007-2009) contraction than during the 1980s contraction.

The findings, in general, have important implications for investment professionals and policy makers alike. For example, market agents can have a better understanding of the Fed's interest-rate setting process, especially during financial turmoil, since it can be argued that the monetary authorities broaden their information set (beyond traditionally looking at inflation and output) before deciding on interest rate changes and do indeed consider conditions in the financial sector. Finally, it is important to point out that the above variables may not always play a role in the Fed's reaction function during normal market conditions and thus investment professionals should be careful when revisiting their portfolios.

Keywords: monetary policy regimes, VAR, expansions and contractions, bull and bear markets

JEL Codes: E42, E52

Monetary Policy Responsiveness and Recession Severity: An Empirical Study

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Abstract

The objectives of this study are to determine the speed of countercyclical monetary policy and to examine its impact on the depth and length of recessions. The accommodative monetary policy stance, particularly the speed with which countercyclical monetary policy was implemented during the 2008 global financial crisis, is said to have mitigated the depth of the economic downturn (Mishkin, 2009; Rosengren, 2009). In recent years, as advanced economies recover from the crisis, discussions about exiting their easy monetary stance have increased (Kohn 2015). Tightening monetary policy in advanced countries, however, can increase recession risks in emerging market economies because of potential consequent capital outflows. In response, monetary authorities can stabilize output, however, the mere implementation of countercyclical monetary policy may not be enough, its timing is also crucial.

I began this study by determining the speed of monetary policy during recessions. I first determined recession episodes using the Harding and Pagan algorithm (2002). Then, using interest rates, I examined periods of monetary expansion and contraction using the Harding and Pagan algorithm as well. When a monetary expansion coincides with a recession, I deem that a countercyclical monetary policy has been implemented, which is similar to the method applied by Bordo and Lane (2010). I then compare the timing of the countercyclical monetary policy response to the estimated timing of response based on a modified Taylor Rule modelling the historical tendency of policymakers to respond. If the policy response is implemented earlier than the historical tendency, it is deemed fast, otherwise it is slow. If a policymaker did not implement a countercyclical monetary policy, then it is deemed that there is no monetary response to the recession.

Using a Tobit model, I conducted an event analysis of 293 recession episodes in countries with different levels of economic and institutional development from 1964-2010 and I investigated whether the speed of monetary policy affects recession severity. Separate regressions were conducted for dependent variables representing the depth and length of the recession. The key variable of interest is the dummy variable representing fast response and no response to examine how monetary responsiveness affect recession severity. I also added several control variables which can affect recession severity such as the fiscal policy response, presence of a financial crisis, and policy environment factors such as level of economic and institutional development, inflation targeting and exchange rate stability.

The results of this study support the argument by Mishkin (2009) and Rosengren (2009) that rapid monetary actions mitigate the depth of recessions. In particular, the results show that the relationship between a fast countercyclical monetary policy response and a shallower and shorter recession holds, even after controlling for other variables which can affect recession severity. The results for the length of recessions are less conclusive.

Keywords: Speed of Monetary Policy, Recession, Recession Amplitude, Recession Duration

JEL Codes: E32, E52, E58

Does money matter?

Assessing the role of money in forecasting the price level in Switzerland

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Abstract

Monetary aggregates are thought of, at best, as a variable that is redundant with respect to interest rates and, at worst, a measure unrelated to aggregate economic activity. We examine recent monetary policy in Switzerland and investigate the performance of a Divisia monetary aggregate in a price level forecasting experiment. Because the Swiss National Bank decided, in 1999, to adopt targeting an interest rate because of increasingly erratic behavior in the official (simple sum) measures of money; this paper investigates whether the decision was made with the best information available.

The Swiss National Bank adopted interest rate targeting in lieu of its traditional targeting of a monetary aggregate because financial innovations apparently induced erratic behavior in official measures of the money stock. It has been shown, however, that the simple sum measures reported by central banks are subject to measurement error and that these errors have weakened or eliminated historic relationships between money and aggregate activity. Because studies that have examined the consequences of these measurement errors were based on U.S. data, it seemed appropriate to re-examine this question on data for another country as a means of reinforcing the earlier evidence. If this same basic measurement issue exists in Swiss data, the SNB could have maintained its historical practice of monetary targeting if only it had altered the manner in which it measured the aggregate quantity of money. Moreover, because money becomes endogenous under a framework of interest rate targeting, significant measurement discrepancies between the simple sum and Divisia aggregates have the potential to give misleading feedback on the future path of prices and the appropriate level of the SNB's target interest rate.

We use recurrent neural network models referred to as multi-recurrent networks (MRNs), as our chosen method to investigate whether Swiss Divisia aggregates could accurately forecast the Swiss price level out-of-sample. We use back propagation through time which is an efficient gradient-descent learning algorithm for training recurrent neural networks.

Results indicate that models which include Divisia M3 provide better forecasting models. Moreover, the error statistics are smaller as the time horizon expands from 12 months out-of-sample to 36 months out-of-sample, consistent with the idea that prices evolve slowly in response to changes in money supply. The implied increase in the CPI's rate of change is clearly anticipated by the forecasting models that include Divisia money, but is missed by all other models. Overall, results suggest that adding money never degrades the forecast but rather, significantly improves forecasts in times of economic uncertainty, such as the 2007-2008 crisis period. There appears to be a forward looking aspect associated with a Divisia measure of money and this is particularly true in periods of heightened economic uncertainty. A key strength of our MRN models is that they were able to accurately estimate the delayed effects on price levels of innovations in the interest rate and Divisia money. The implication for policy is that money, measured properly, appears to be forward looking. Hence models that exclude a role for money could leave policy makers blind to structural shifts in the underlying data generation process of prices.

Keywords: Divisia Monetary aggregates, price level, neural networks, Swiss monetary policy

JEL Codes: E58, C4

Financial Globalisation, Monetary Policy Spillovers and Macro-Modelling: Tales from One Hundred and One Shocks

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Abstract

We hypothesise that standard structural monetary macroeconomic models do not adequately account for the importance of cross-country financial spillover channels in the data. We derive and test predictions from this hypothesis using a database of monetary policy shock estimates from more than 100 macro models in the literature. Consistent with our hypothesis we find that standard structural macroeconomic models produce cross-country correlated monetary policy shock estimates. Moreover, consistent with our hypothesis, we find that the magnitude of the cross-country correlation in monetary policy shock estimates from structural macroeconomic models is stronger for country pairs that are more financially integrated with global and US financial markets. Our findings imply that accounting for powerful financial spillover channels in structural macroeconomic models is critical in order to unravel the domestic find international effects of monetary policy.

A salient feature of the global economy since the 1990s has been the dramatic rise of financial globalisation. Whether measured by capital flows or indicators reflecting the extent of legal capital account restrictions, economies' financial markets have been exhibiting an increasing degree of interdependence. As a result, the global economy has become subject to large cross-country spillovers through financial channels.

At the same time, important advances in structural monetary macroeconomic modelling have been achieved over the last two decades. In particular, New Keynesian (NK) DSGE models have been established as the standard monetary macroeconomic model. However, despite progress in structural macroeconomic modelling (e.g. financial frictions, NOEM) many, in particular medium-scale, models used for the analysis of monetary policy still do not routinely account for cross-country financial spillover channels.

In this paper we argue that structural models that do not adequately account for financial spillover channels are prone to providing misleading descriptions of the role of domestic and foreign monetary policy shocks. We test our hypothesis in a meta-study-like fashion. More specifically, we explore the interrelations between estimates of monetary policy shock time series from 100 macroeconomic models, including NK DSGE models, empirical reduced-form models, approaches based on financial market expectations and the narrative approach.

We document that there is a significant, positive cross-country correlation between monetary policy shock time series, in particular for monetary policy shock time series obtained from NK DSGE models, and that this correlation is likely to stem from a common US component. Moreover, spillover estimates based on these monetary policy shock time series suggest domestic monetary policy affects the rest of the world by the same magnitude for spillover-sending economies that are rather different in terms of their systemic importance in the global economy.

We claim that these surprising and counter-intuitive results stem from the failure to adequately account for the dramatic degree of financial globalisation and the importance of financial spillover channels in the data, resulting in the estimates of monetary policy shocks obtained from the NK DSGE models being convolutions of the true domestic and US monetary policy shocks. We run regressions that analyse the determinants of the cross-country correlations between the monetary policy shock estimates in our database. Our regression results show that the cross-country correlation between monetary policy shock estimates in our database is indeed higher for economies which are more strongly integrated in global financial markets, and for economies which are more strongly integrated bilaterally with US financial markets.

The results from this paper imply that the modelling of powerful financial spillover channels in structural monetary macroeconomic models needs be taken more seriously and to become standard. Standard macroeconomic models without such elements might compromise the likelihood-based estimation of these models and provide severely misleading results regarding spillovers, historical decompositions and estimation of parameters as they are based on a convolution of the true domestic and foreign monetary policy shocks.

Keywords: Financial spillover channels, monetary policy shocks, DSGE models, macro-modelling

JEL Codes: F42, E52, C50

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We would like to thank a large number of researchers for sharing their data and codes. As the number of names is far too long we list them in a separate section in the Appendix of our paper. The views expressed in the paper are those of the authors and do not necessarily reflect those of the ECB or the Eurosystem and should not be reported as such.

Session 7

Applied Finance I

Corporate failures and the denomination of corporate bonds: Evidence from emerging Asian economies over two financial crises

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Abstract

Using a novel financial data-set which covers an extensive time period between 1995 to 2012, we test for the impact of currency denomination of bonds on Asian firms' survival probabilities. Our data span two financial crises: the 1997–98 Asian crisis and the 2007–09 global financial crisis. We find that during the former crisis firms with foreign currency denominated bonds face a higher probability of failure compared to firms with domestic bonds. On the other extreme, we find no notable differences between the 2007-09 financial crisis and tranquil times for both domestic and foreign issuers.

Keywords: Firm survival, Bond financing, Domestic and foreign currency debt, Financial crises

JEL Codes: F32, F34, G15, L20

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Corporate tax compliance during macroeconomic fluctuations

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Abstract

Purpose: This paper studies the relation between macroeconomic fluctuations and corporate tax compliance in an ideal experimental setting: the Greek business environment for the period 2003-2014 when the remarkable post Euro-entrance growth period was followed by the tremendous recession of 2009 onwards and when at the same period the corporate tax rates changed 7 times. The interaction between macroeconomic forces and tax compliance dimensions is examined at micro-level on a panel dataset comprising all public and private firms obliged to prepare financial statements in Greece. To date the impact of the macroeconomic conditions has been tested only on the corporate tax avoidance framework. Here we extend prior research by considering both components of tax compliance i.e tax avoidance and tax evasion.

Methodology: We employ a panel data set with detailed firm-level information on all incorporated firms operating in Greece over the period 2003-2014. To empirically test the link between macroeconomic fluctuations and tax compliance aspects we formulate several hypotheses employing various proxies of corporate tax avoidance and tax evasion as independent variables. Our independent variables are representative macroeconomic variables which along with control variables used in prior literature constitute the set of variables for this study. All hypotheses are being tested through multivariate regression analysis considering additional sensitivity analysis and robustness tests.

Findings: Unlike what might be expected our results indicate a different interaction and impact of macroeconomic terms to tax avoidance and tax evasion behavior of sample firms respectively. More specifically while we find a negative association between economic conditions and corporate tax avoidance thus confirming recent

prior evidence we also find that the association between the state of economic conditions and corporate tax evasion is positive. In other words, based on quantitative results combining firm-level and macroeconomic data, we argue that, all other things being equal, during recession phases (expansion phases) firms tend to avoid but not evade taxes (not avoid but instead evade taxes). To our knowledge this is the first study providing empirical evidence on how macroeconomic cycles affect corporate tax compliance behavior.

Implications: The results of this study contribute to the literature by providing evidence of a rather paradoxical tax compliance behavior adopted by firms depending on the state of the overall economy. It remains unclear whether this behavior is inherently stimulated by firm-specific motivations or it is the governmental practices, policy decisions and tolerance that lead to this phenomenon as a mean (unconfessed though) for example to mitigate the effect of crisis to the society. In any case we believe that the confirmation of these results in different institutional and cultural settings along with the identification of possible factors driving tax planning corporate decisions and in a complicated and inconstant economic environment constitute important issues for future research.

Keywords: tax avoidance; tax evasion; economic cycles; corporations

JEL Codes: E32 ; H26

The impact of financial crisis on Islamic banks

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Abstract

In the aftermath of the global financial crisis, the global expansion of Islamic finance and banking has continued. The uniqueness about Islamic banking is that it is founded on rules and principles that prevent speculation and all-trade transactions involving unduly amount of uncertainly in a way that is considered harmful to market participants and the whole society. This might have provided Islamic banks with some insurance during the financial crisis. On one hand, Islamic banks may be immune from any shocks that would have typically eroded banks' capital under traditional banking environment; on the other hand, it might have exposed these banks to a number of unique risks, such as displaced commercial risk and fiduciary risk. Some experts intensely believe that introducing Islamic banking framework into banking system, apart from attracting and cooperating with Islamic countries and their available resources, can help address conventional banks' issues. On the other hand, there is another view that current efforts to combine some of Islamic products and principals with conventional banking structure will not be beneficial.

The empirical evidence on the efficiency of Islamic banks is not consistent. Johnes et al (2013) find that Islamic banks in Pakistan had lower efficiency than conventional banks in the both pre and post financial crisis period. Al-Muharrami (2008), Khan (2010), Demirguc-Kunt et al. (2013) also undertake an examination of Islamic banks' efficiency and unexpectedly find that Islamic banks are significantly more efficient than conventional banks.

In this study, we aim to contribute to the limited studies on the performance of Islamic banks during and after the financial crisis. Unlike previous studies, we focus only on Islamic and conventional banks operating in Islamic countries either in the Gulf area or the Far East. Our dataset is drawn from annually-consolidated financial reports of

Islamic and conventional banks in Bloomberg over 2006 - 2013 period. We obtain an unbalanced panel data with 336 observations from totally 48 Islamic and Conventional banks in 12 Muslim countries. The study employs a t-test to compare the difference in profitability ratios between Islamic banks pre and post financial crisis and in comparison with conventional banks. The results indicate that there is a significant change in ROA and ROE of the Islamic banks during 2006-2011 while there is no significant change in these ratios for conventional banks over the same period. However, our findings suggest that there is no significant difference in the efficiency ratios (as reported in the banks' balance sheets) between Islamic and conventional banks pre- and post- financial crisis. We further undertake panel data analysis to investigate the impact of financial crisis on profitability and efficiency of banks operating in Islamic countries. The findings further suggest that the financial crisis has had a negative impact on the profitability of Islamic banks.

Keywords: Islamic banks, financial crises, panel data analysis

JEL Codes: G21, G02

International connectedness and financial contagion: Evidence from developed economies

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Abstract

Globalization of the financial system raises issues about its impact on the real economic activity. In this paper we analyze the channel through financial contagion is transmitted to economic activity. We provide evidence of increased international connectedness since shocks from one country are directly transmitted globally. In addition, the stock market volatility affects largely the economic activity and the monetary policy decisions.

Furthermore, we found that the credit curve can forecast the future economic activity with increased efficiency compared to the yield curve. Notably, in the case of Eurozone, the credit curve strengthened its forecasting power on industrial production during the post- crisis period.

Keywords: Term structure, VAR, Principal component analysis, Markov switching regressions, Financial crisis, Monetary policy, Economic activity, Market volatility

JEL Codes: E27, E52, E58, E42, E44

Session 8

Health Economics

Impact of Household Dynamics and Women's Empowerment on Health in India

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Abstract

Prior literature for South Asia shows an association between women's empowerment within households and the health outcomes of children. The direction of this impact is highly dependent on context leading to heterogeneous results for studies with diverging definitions of women's empowerment and differing measures of children's health. Despite this variation in results, the direction of this association is largely positive indicating the benign effect of an empowered woman on a child's health. This paper aims to contribute to the existing literature by adding an additional dimension to the problem - the impact of women's empowerment on children's health in the backdrop of the absence of male spouses in Indian households.

The nationally representative, multi topic India Human Development Survey (IHDS) data which is jointly collected by the University of Maryland and the National Council of Applied Economic Research (India), the first round of data for which comprises of information on 41,554 households across 1503 villages and 971 urban neighbourhoods from 2004-05 is adopted for this study. This study exploits both the household as well as the individual data available as part of the IHDS survey to conduct the analysis at the household level. The independent variables as part of this analysis include the absence of working males in Indian households in conjunction with women's empowerment measures such as a woman's years of schooling and her age at marriage. The impact of these independent variables on health outcomes such as the weight and length for age, the incidence of tuberculosis and diarrhoea, as well as immunization against diphtheria shall be assessed. Households with a non-resident

husband are matched with controls using the method of coarsened exact matching to determine sound counterfactuals.[3]

The results from the reduced form regressions run intimate that while the measures of women's empowerment have a positive association with children's health, the absence of the male from the household has a significant negative association with the dependent variables. The direction of this relationship withstands the addition of further controls such as the household composition and socio-economic characteristics of the households, illustrating that the presence or absence of the working male is of decisive importance on children's health within households in India. The nature of the relationship of a non-resident husband and women's empowerment on child health merits further study in light of the structural transformation currently taking root in India; and this study furnishes an important element to the debate in the existing health and development literature.

Keywords: child health, gender, women's empowerment, non-resident husband, anthropometry, India.

JEL Codes: D1, I1, I3

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[3]Iacus, Stefano, Gary King, and Giuseppe Porro. 2009. "CEM: Coarsened Exact Matching Softwa

Promoting Normal Birth and Reducing Caesarean Section Rates: An Evaluation of the Rapid Improvement Programme

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Caesarean section rates, both planned and emergency ones, have been on the rise across the English NHS hospitals, reaching almost 25% in the end of 2013. Moreover, a substantial degree of variation is observed across providers with many factors being responsible for this increase, including local practice style, cultural aspects, increased maternal age and financial incentives. Over the years, several interventions have been attempted in order to lower the caesarean section rates in several countries. The aim of this study is to evaluate the 'Focus on Normal Birth and Reducing Caesarean Section Rates Rapid Improvement Programme' that was implemented in mid-2008 in 20 participating NHS trusts selected from a wider pool of applicants. The programme offered a toolkit to the participating trusts in order to promote vaginal deliveries and reduce their caesarean section rates. For the purpose of the analysis, we draw data from the maternity tail of the Hospital Episode Statistics data for a baseline period (July 2008 to December 2008) and two follow-up periods (January 2009 – June 2009 and July 2009 – January 2010). In order to evaluate the causal impact of programme participation we adopt a non-parametric difference-in-difference propensity score matching estimator. We test the robustness of the results by experimenting with alternative matching algorithms and report results for the caesarean sections in total, as well as separately for the planned and the emergency cases. According to the results, there is a small but statistically significant decline in the trust-level overall and the planned caesarean section rate, lying in the neighbourhood of 1%-2%. However, the result is short-lived as it appears only in the first follow-up period. As compared to the baseline period, the second follow-up period does not exhibit any statistically significant differences in the trust-level caesarean section. The results are robust to alternative matching methods. Reducing the rising caesarean section rates and promoting normal birth have been a central issue for health policy makers. Regarding the English NHS, the Rapid Improvement Programme offered a toolkit to participating trusts in order to lower their caesarean section rates. A formal evaluation of this intervention revealed that the causal effect of programme participation was small and short-lived.

Keywords: Caesarean sections; English NHS; Difference-in-differences; Propensity score matching

JEL Codes: I10; I11; C21

Structural Transformation and the Obesity Epidemic: Growth and Taxation

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Abstract

In this paper we unify existing theories and empirical evidence on the origins of obesity and examine the effects of fiscal policy on the dynamic evolution of weight. We build a dynamic general equilibrium growth model, with two sectors, one producing food and the other producing a composite consumption good. Weight is a function of rational choice as well as labor allocation between the two sectors. By estimating utility from weight and calibrating the US economy we show that (i) technological advances in agriculture decrease food prices and increase weight but not necessarily through higher food consumption but through lower calorie expenditure, (ii) reducing capital taxation, initially depresses weight levels through higher food prices; steady state food consumption decreases due to a price substitution effect but weight soars due to lower calorie expenditure, (iii) reducing taxation on food increases food consumption and weight levels in equilibrium. Labor reallocation towards the less sedentary sector on one hand and higher income on the other function as contradictory forces.

Keywords: Macroeconomics of Obesity, Rational Eating, Weight preferences, Taxation

JEL Codes: O41, H20, E62

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Longer Opening Hours, Alcohol Consumption and Health

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Abstract

Two related issues in public policy with respect to alcohol are how increased availability influences consumption and what effect excess consumption has on individual health outcomes. Recently, a body of research has developed in economics that seeks to identify the causal effect of alcohol consumption on health outcomes. The most credible of these involve using legislative variations in alcohol availability, specifically the literature that demonstrates the effect of legal drinking ages on youth's alcohol consumption (Carpenter and Dobkin, 2009; Yoruk and Yoruk 2011, 2013) and the literature on 'blue laws' and off-premise alcohol consumption (Carpenter and Eisenberg, 2009; Heaton, 2012; Marcus and Siedler, 2015).

This paper examines one particular source of variation in availability, bar opening hours (on-premise availability), and how this influences alcohol consumption, physical and mental health. We use an instrumental variable methodology in order to provide exogenous variation in alcohol consumption in order to estimate the causal effect of greater on-premise drinking on individual health outcomes. The source of variation we use is the increase in bar opening hours that occurred in England and Wales from the 24th of November 2005. Prior to the legislative change pubs in England and Wales were not allowed to stay open (and serve alcohol) after 11:00 pm. Following the Licensing Act of 2003, licensed venues could apply to remain open for longer up to a maximum of 5:00 am. This came into effect in all of England and Wales as of the 24th of November 2005. An advantage of this setting is that it affects a large cross-section of society. Specifically, we exploit regional-time variation in the number of extended licenses as an instrument for number of units of alcohol consumed.

The dataset that we use is the Health Survey of England (HSE). We restrict our sample to individuals above the legal drinking age (18 years or older). While a range of alcohol consumption measures are available in the HSE our main measure is drawn from the question how many units of alcohol you consumed on your heaviest day of drinking in the last 7 days.

The health measures we use are standard in the literature. For physical health we use variants of self-assessed health (SAH). Our measure of mental health is from the 12-item General Health Questionnaire (GHQ-12).

We demonstrate a marked increase in consumption, which appears to be concentrated in heavy drinking. This increase in consumption is subsequently demonstrated to lead to deterioration in both individual physical and mental health outcomes. This has important policy implications for the regulation of alcohol availability.

Keywords: Alcohol Availability, Health, Alcohol Consumption

JEL Codes: I12, I18

Session 9

Labor economics

With a Little Help From My Friends: Social Networks and Unemployment Exit In Britain

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Abstract

In economics, differences in labor market experiences among members of similar socio-demographic groups are mostly attributed to information asymmetries (Cingano and Rosolia, 2012). Employees have access to information about current and upcoming vacancies, which circulate to their social networks. The extent to which one's network comprises of employed individuals, determines her exposure to available employment opportunities, resulting in some job seekers receiving more information than others.

The flow of information from one member of the network to another implies a link between the labor force status of each member (Jackson, 2011). This is what models of social networks in labour markets such as those proposed by Calvó-Armengol and Jackson (2004, 2007) predict. These theoretical models thus imply positive spill-over effects within social networks. We empirically test this hypothesis i.e. whether increasing the number of employed friends, increases the probability of finding work, for job seekers in Great Britain, using panel data, which includes direct information on the number of employed contacts each respondent has. Unemployment exit is modelled in a discrete-time duration analysis framework, thus accounting for time spent in unemployment, where we can also control for unobserved heterogeneity, as a source of selection bias. Our results suggest that the job attainment conditional probability increases with the number of employed friends one has between 7% and 11%. Our results are stronger for women than men for who we find significant state dependence effects in our dynamic specifications. These findings are in line with theoretical predictions (Calvó-Armengol and Jackson, 2004, 2007; Bramoullé and

Saint-Paul, 2010) and other empirical findings (Hannan, 1999; Korpi, 2001; Cappellari and Tatsiramos, 2011).

Our study contributes to the very limited, as far as we know, empirical literature in economics of the influence of social networks on job attainment using direct measures of social structures, by providing direct estimates of the improvement in the likelihood of exiting unemployment as the number of an individual's employed contacts grows. The majority of empirical studies in the area assess the influence of social networks on employment status using proxy measures of social interactions due to appropriate longitudinal data unavailability (Jackson, 2011) – ours then is a novel contribution. Confirming the existence of a positive empirical link between social networks on employment status implies positive spill-over effects within social networks. For public employment services and policy makers this is important. In most developed labor markets, information about job vacancies is transmitted to job seekers via both formal (e.g. state employment services such as the Jobcentre Plus and Universal Jobmatch in the UK, private employment agencies, and university careers services) and informal (such as referrals and/or exploratory inquiries, and personal contacts) channels. The two operate alongside but also in tandem, hence amplifying the reach of official employment agencies, especially to those more passive job seekers. In that respect, social networks provide an invaluable service to local and national employment authorities (such as the Department for Work and Pensions in the UK).

Keywords: Social networks, unemployment exit

JEL Codes: J64, C41

A unionized mixed oligopoly model with stochastic demand shocks: public-private wage differentials under re-bargaining

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Abstract

The aim of this paper is to investigate wage differentials between the public and the private sector. The motivation is based on the fact that equally productive employees are often better paid in the public than in the private sector. According to the empirical literature, this phenomenon exists in the majority of the countries around the world. Authors attribute wage differentials to (1) different maximization problems that these two sectors face (2) in the crucial role of unions in the wage setting process (3) the temporary character of jobs in the private sector and the permanent in the public sector. However, this literature does not postulate any explicit theoretical hypothesis of how wages are set.

In the present paper we investigate theoretically the wage differential. We assume that there are two sectors, the public and the private sector. Each sector is represented by one firm, the public and the private firm. We incorporate the role of the unions in the wage setting process assuming that each firm bargains the wage with the union that represents employees of the same sector. Each firm continues to choose the number of workers it wishes to employ once wages have been determined by the bargaining process. The bargaining process takes place simultaneously and independently in both sectors. Technically, the solution to the bargaining problem is given by Nash.

In this paper we incorporate the asymmetric firing restriction regime that the public and the private sectors face. In order to express the firing restriction regime, we use the term "adjustment cost," This term is used in literature since 1970s in order to express the rigidity of markets due to legislation that protects workers from being "unfairly" fired.

Such costs make employers reluctant to hire, especially during a recession. Consequently, adjustment costs comprise both hiring and firing costs.

Taking into account the above features, we develop a unionized mixed oligopoly model with stochastic demand shocks extending in two periods, in order to explain theoretically wage differentials. In this paper we assume that wages are re-bargained.[2] The novelty of this analysis is that captures the idea that an asymmetric firing restriction regime between the public and the private sector helps the public sector protect employment and “employees’ rights” during the business cycle.

Keywords: Unions, Oligopoly, firing restrictions, bargaining

JEL Codes: J50, D43, L21

[2]The case where wages are bargained once in the whole game is examined in our working paper with title “A Unionized Mixed Oligopoly Model with Stochastic Demand Shocks: public-private wage differentials and “Eurosclerosis” reconsidered”. In this case wage differentials are formed in favor (against) of public (private) sector, for two equally productive employees.

The effect of minimum wages on average wage during economic recessions using international evidence

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Abstract

Economic theory has paid much of its attention on the impact of minimum wages on employment measures but has relatively neglected the effect on average wage especially in periods of economic downturns. Minimum wage can also influence the level of the average wage and, consequently, the average earnings, the income and the utility of the society as a total. The magnitude of the impact during recessions is an empirical question which we try to answer, among others, in our study. More specifically, our purpose is to examine how minimum wage affects average wage and to account for differences in minimum wage effects in economic downturns which is an issue that has not been studied in the literature with cross-national data, yet.

Theoretically, we expect that an increase in the minimum wage will cause an increase in the level of average wage but does this relationship hold in periods of recessions? It is not possible to determine a priori a relationship between minimum wages and average wage in economic downturns and this issue is one of our objectives in our analysis by focusing on the recessionary experiences across countries. Using international data we exploit: cross-national variation in the timing and uprating of the minimum wage and the exact timing of the recessionary experiences in different countries with a panel data set comprising 22 OECD countries for the period 1990-2013. Our data allowed us to differentiate the impact in periods of economic downturn as well as periods of economic growth. In addition, we deal with the sensitivity of the estimates to the minimum wage systems, the role of the wage setting/bargaining institutions and the sensitivity of the minimum wage effects to other elements that have an impact on average wage.

The results indicate a positive effect of minimum wages on average wage, which is expected by the theory, but not affected by the periods of economic downturn or growth. Moreover, unions and government intervention seem to affect negatively the level of average wage, while the coordination between wage setting/bargaining institutions has a positive impact on average wage. Furthermore, employment protection, immigration, globalization and unemployment rates are found to have a negative impact on average wage, and education and labor productivity a positive effect, results which generally comply with the expectation and findings of economic theory.

Keywords: Minimum wage, Average wage, Minimum wage systems, Wage setting/ bargaining institutions, Economic downturn

JEL Codes: J38, J31, E32

Workers of the World Unite?

The effect of ethnic divisions on Trade Union participation

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Abstract

The relationship between ethnic diversity and civic participation has been examined by a large number of scholars. In particular, Alesina and LeFerrara (2000) show that civic participation declines in more heterogeneous communities and Glaeser et al. (2000) provide evidence that individuals are more likely to cheat people from a different race. Another strand of the literature provides both experimental and statistical evidence that altruisms travels less across racial and ethnic lines (see e.g. Charness et al. 2007; Chen and Li, 2009). The cornerstone of this unpleasant, albeit widely observed fact, is that individuals tend to be more generous towards others who share similar racial, ethnical and linguistic characteristics.*

This paper advances the hypothesis that ethnic fractionalization exerts a negative impact on the participation of the workers in Trade Unions. This hypothesis dates back –at least-to Lipset and Marks (2000), which first studied how increased racial antipathies within US are interrelated with the so-called "American Exceptionalism" (i.e. reduced participation in trade unions). To this end, we first employ macro data from 76 -developed and developing- countries and we investigate the above mentioned relationship. Our empirical analysis suggests that societies characterized by strong ethnic divisions are also characterized by lower Labour Union participation. Our empirical findings remain robust across different specifications and several alternative estimation techniques. In turn, in order to address the usual concerns about

*The literature documenting prejudice, discrimination and ethnic hate dates back to the writings of DuBois (1903) and Allport (1954) as well as the economics of discrimination of Becker (1957).

reverse causality and omitted variable biases, our analysis employs micro data from the European Social Survey (ESS) and investigates the civic behaviour of a large sample of (first and second generation) migrants who comefrom 116 countries of origin and residein 26 European countries. Obtained empirical findings suggest once more that immigrants coming from countries characterized by strong ethnic divisions participate less in Labour Unions even after their resettlement in a European country.

Keywords: Trade unions, Ethnic fractionalization, Cross-section data, Instrumental variables

JEL Codes: J51, J15, C21, C26

Session 10

Stock Markets

Testing the relationship between the "fear" index and the stock market index employing a hidden co-integration approach

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Abstract

An asymmetric return-volatility relationship has been witnessed in the international empirical literature, which refers to the fact that negative stock market returns are associated with greater positive changes in volatility compared to the negative volatility changes that occur when stock market returns increase. In other words investors are more sensitive to market losses than market gains.

In this paper we implement the methodological approach of hidden co-integration in order to examine the relationship between fear and stock market also testing for speed asymmetry. To this end we employ daily data of the S&P 500, FTSE 100 and DAX 30 stock market indices and their respective implied volatility indices i.e. CBOE VIX index, FTSE Volatility Index and VDAX New Volatility Index for the 2000-2014 period. We examine three developed stock markets that offer an interesting setting for analysis providing comparable implied volatility indices that are publically available for all market participants.

Our empirical results indicate an asymmetric relationship between the fear indicator and the respective stock market innovations for the US market. We uncover evidence of hidden co-integration in the case of the investigated relation between the positive component of the fear index and the negative component of the price index, in both directions. This means, for example, that a fall in the price index would lead to an increase in the fear index in the long-run. In contrast to the results for the US, the evidence for the UK and Germany remains ambiguous. More particularly, despite the finding of some indications on the existence of co-integration on an aggregate level, no evidence on the existence of hidden co-integration in neither direction is detected.

This paper contributes to the existing literature introducing a methodological approach that was usually employed in different economic contexts in order to examine the asymmetric relationship of fear and stock market. The findings have important implications for asset allocation and active investment strategies. Emotions such as greed and fear may significantly affect stock market prices. The examination of fear in the stock market can shed light into investors' sentiment during up and down market days, especially during periods of market crises when investors are more likely to fall prey to their emotions.

Keywords: "fear" index; stock market; hidden co-integration; implied volatility index

JEL Codes: G12, G15

The Relation between Liquidity Shocks and Tail Risk, and its Impact on the Cross-section of Stock Returns

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Abstract

We examine the relation between liquidity shocks and tail risk. The empirical results indicate that negative liquidity shocks lead to higher tail risk but not the other way around. Analysis of quintile stock portfolios sorted first on liquidity shocks loadings and then on tail risk loadings indicates that tail risk is significantly priced only in portfolios with high sensitivity to liquidity shocks; cross-sectionally, an equal-weighted stock portfolio with high sensitivity to liquidity shocks and tail risk delivers an average annual return 7.3% higher than a stock portfolio with high sensitivity to liquidity shocks but low tail risk loading. When sensitivity to liquidity shocks is low, the tail risk premium is not statistically and economically significant. We argue that the tail risk premium partially reflects a premium for sensitivity to liquidity shocks.

Keywords: Asset pricing; Tail risk; Liquidity risk

JEL Codes: G11, G12

The Buying and Selling Behavior of Institutional, Individual and Foreign Investors in the Korean Stock Exchange

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Abstract

This study contributes to the literature about the impact of institutional and individual investors' buy and sell trades on stock market volatility. Our dataset also allows to investigate the trading behavior of domestic vs. foreign and active vs. passive institutional investors. This is supported by a finer partition of institutional investors into insurance companies, mutual funds, investment banks, commercial banks, savings banks, and other companies.

We estimate the two main parameters driving the degree of persistence in volatility and its uncertainty using a univariate Generalized ARCH (GARCH) model that is Fractionally Integrated (FI) in both the Autoregressive (AR) mean and variance specifications. We refer to this model as the ARFI-FIGARCH. This provides a general and flexible framework with which to study complicated processes like volume and volatility. To examine the volume-volatility relationship, we estimate the dual long memory model with lagged values of the trading volume included in the mean equation of volatility.

Institutional investors have a negative impact on volatility through their purchases and sales in the pre-crisis period, while after the crisis their buy and sell trades are positively associated to volatility. Avramov et al. (2006) find that contrarian trades decrease volatility while herding trades increase volatility. Here, the buy and sell trades, especially in the pre-crisis period, signal either the contrarian nature of their trades or the continuous under-reaction to new information.

The buy and sell trades of individual investors exacerbate volatility, supporting the argument that their trade decisions carry little information and are possibly affected by psychological biases and market trends/momentum (Barber and Odean, 2011). As regards foreign investors, their buy (sell) trades have a negative (positive) effect on volatility in the pre-crisis period. In the post crisis one, both buy and sell trades affect volatility positively. Active institutional investors' trades have an asymmetric effect on volatility, with buy orders having a stabilizing effect and sell orders a destabilizing one in the pre-crisis period. Passive institutional investors' buy and sell trades have a positive effect on volatility for all samples considered. Overall, buy orders are more informative and value motivated, while sell orders are less informative and possibly more market phase (or momentum) driven. Finally, our results have important implications as to how the motives, access to information and instruments affect trader type behavior and, in return, stock price volatility.

Keywords: trading volume, volatility, institutional investors, individual investors.

JEL Codes: G12, G15, G23

Do Stock Acquirers Benefit by Exploiting Their Overvalued Equity?

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Abstract

There is much debate in the literature about whether overvalued stock can benefit from acquiring firms in the merger and acquisition (M&A) process. The theoretical predictions of Shleifer and Vishny (2003) propose a market timing theory that claims that bidding firms take advantage of their overvalued equity to acquire less-overvalued or undervalued target firms. In support of Shleifer and Vishny's predictions, Savor and Lu (2009) examine successful versus failed acquisitions and find that stock acquirers are better off with the deal than without it, concluding that overvalued stock acquirers create value for their long-term shareholders. On the other hand, recent empirical papers challenge the market timing hypothesis and provide evidence against it. Fu et al. (2013) show that overvalued stock acquirers tend to overpay for their targets to such an extent that any overvaluation advantage or potential synergy is not enough to turn these deals into value-creating acquisitions. In line with this finding, Akbulut (2013) uses managerial insider trading to measure overvaluation and also shows that overvaluation drives managers to undertake stock acquisitions that end up destroying value for acquirers' shareholders.

This paper revisits this issue and aims to measure and uncover potential benefits for long-term shareholders of stock acquirers that take advantage of relative misvaluations. To achieve that, we employ a difference-in-differences methodology. First, we compare stock acquirers that exploit relative overvaluations with stock acquirers that do not. This difference captures relative misvaluation effects, as well as non–valuation-related effects. For each of the two stock subsamples, we identify a respective matched group of cash acquirers. The difference between the matched control groups of cash acquirers captures only non–valuation-related effects, since pure cash acquirers are not associated with any misvaluation effects. The difference in

the differences of stock and cash acquirers eliminates the non–valuation-related effect and therefore we are able to capture only the relative misvaluation effect.

Stock and cash acquirers have different incentives for their methods of payment. To alleviate any sample selection bias, we employ a matching-firm methodology based on mahalanobis and propensity scores to identify a sample of cash acquirers that have a high estimated probability of carrying out a stock acquisition but choose not to. The main rationale of these matching methods is to create a control sample such that, conditional on a vector of explanatory variables, the decision to pay in stock would be a random distribution across the two samples, allowing for unbiased estimates of average treatment effects.

Our findings uncover positive benefits for stock acquirers that use their overvalued equity to acquire fairly valued target firms. Our study relates to the empirical work of Savor and Lu (2009) and the theoretical predictions of Shleifer and Vishny (2003).

This paper contributes to the literature in the following ways. First, we offer a different approach to uncovering and measuring relative overvaluation benefits for stock acquirers by examining the difference of the differences for stock acquirers versus cash acquirers. Second, we provide direct evidence in support of the market timing theory of Shleifer and Vishny (2003) and indicate that there are positive market timing effects for overvalued stock acquirers. Third, our paper is one of the first papers (after that of Savor and Lu, 2009) in the finance literature that provides positive evidence supporting the usage and performance of stock acquisitions, suggesting that overvalued bidders are better off if they use their overvalued equity rather than their cash to finance a potential acquisition.

Keywords: Relative misvaluation, stock, cash, difference-in-differences, propensity score matching

JEL Codes: G14, G30, G34

Session 11

Environmental Economics

Environmental technological choice under a Cournot-Bertrand model with differentiated product

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Abstract

This paper investigates the abatement technology choice in a Cournot - Bertrand duopoly where the regulator has imposed a per unit of emission tax. Our goal is to investigate the abatement technology choice and its effect on quantities, prices, and profits on the static Cournot - Bertrand equilibrium.

Our model is based on the competition between automobile companies where initially they decide for the anti pollution technology e.g. the number of the catalysts or the filters for the restraint of the emissions and then they compete on the real market. However, as it is mentioned in the literature, the Cournot - Bertrand model is used on small cars market like Honda Saturn and Subaru Scion (see also Tremblay and Tremblay, 2011 and Tremblay et al. 2011 and 2013) where Honda and Subaru dealers decide on quantities and Scion and Saturn dealers decide on prices. Hence, on the first stage the firms decide on the environmental anti pollution technology in order to reduce the emissions taking into account the environmental tax. On the second stage the firms compete, the first firm competes on output (Cournot style) and the second firm competes on prices (Bertrand style). Between other we argue that the Bertrand firm will adopt a more polluting technology than the Cournot firm. However, the Bertrand style firm will produce less than the Cournot style firm but the price is lower under the Cournot style firm and the Cournot firm will gain more profits than the Bertrand firm.

Keywords: environment, technological choice, competition,

JEL Codes: Q5

Climate Engineering under Deep Uncertainty and Heterogeneity

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Abstract

Climate Engineering, also known as Solar Radiation Management (SRM), has become a popular option to study in recent years. However, its potentially strategic nature and unforeseen side effects provide major scientific challenges. In this paper, we address strategic use of SRM with heterogeneous countries, and notably deep uncertainty about the potential damages from its implementation in a dynamic model. We study a simple dynamic game of climate change policy design in terms of emissions and climate engineering efforts. We consider a world consisting of two heterogeneous groups of countries with production activities that generate emissions and we formulate the problem in terms of a linear-quadratic (LQ) differential game. We analyze the problem in the context of a cooperative and non-cooperative game along with heterogeneity and uncertainty.

Adopting the Hansen - Sargent framework, we introduce Knightian uncertainty into the basic model and study the effect of model misspecification on optimal climate engineering efforts and mitigation. We focus on uncertainty surrounding climate engineering and in particular its impacts. The theoretical solution of the game investigates the optimal solutions of emissions and climate engineering in an heterogeneous and uncertain framework. We interested in analyzing the implications of uncertainty and heterogeneity in the optimal policy against climate change. The numerical simulation of the model explores the effects of heterogeneity and the impact of policies that include mitigation and SRM versus policies which do not include SRM on the optimal paths of emissions and climate engineering efforts.

The initial results suggest that both cases of heterogeneity affect the strategic interaction across countries. The country or the group of countries which suffers more from the increase of temperature will adopt a more aggressive policy in terms of high SRM implementation. While in the case of heterogeneity at the SRM impacts we observe an absence of climate engineering action from the country with the stronger SRM impacts. The results suggest that there is a welfare gap between the model with and without SRM. We show that the presence of climate engineering as a policy option may increase welfare levels. Our analysis suggests that the heterogeneity with respect to the environmental or SRM damages affects the optimal mitigation and geoengineering policy. Also, we find that uncertainty about potential side effects particularly shapes non-cooperative SRM implementation.

Keywords: Climate change, differential game, solar radiation management, heterogeneity, Knightian uncertainty

JEL Codes: Q53, Q54

Emission Permits and Public Pollution Abatement: Can Decentralized Environmental Policies be Efficient?

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Abstract

A dominant current policy debate is that in the presence of cross-border pollution, such as greenhouse gas emissions, non-cooperative policies lead to inefficient outcomes. These concerns are amplified by the failure of the Copenhagen summit to achieve universal participation in a worldwide agreement for coordinating climate policies. Related to this, more often than not, countries are entangled into a “race to the bottom” in environmental policies due to increased competitive pressures resulting from wider and deeper globalization in commodity and factor markets. In light of the above, the following question arises: Can decentralized environmental policymaking lead to efficient outcomes in a globalized world?

To address these issues, we consider a general equilibrium model comprising two regions, Home and Foreign. Capital is assumed to be either internationally mobile, or mobile only within the two regions. Production generated pollution is transmitted across borders. In controlling pollution, the two regions undertake two activities. First, they issue emissions permits which are either traded only locally among producers within the region, or are tradable by all producers in the two regions in an inter-regional emissions permits market. Second, they use the proceeds from the sales of emission permits and lump-sum taxes to finance public pollution abatement.

Within this framework we examine the non-cooperative (decentralized) and cooperative (centralized) equilibrium levels of tradable emission permits and identify the conditions under which they lead to the same outcome and are equally efficient. That is, for each region, we compare its Nash equilibrium level of tradable emission permits with its cooperative level of permits set to maximize the regions joint welfare. We find that when cross-border pollution is perfect and each region issues emission permits that are traded across the two regions then the centralized and decentralized policies lead to the same levels of emission permits and are equally efficient. This result holds regardless of the prevailing regime of capital mobility. Moreover, we examine how the rate of cross border pollution and the capital mobility regime affect the cooperative and the non-cooperative equilibrium levels of emission permits.

Keywords: Cross-border pollution, Tradable Emission Permits, International Capital Mobility, Public Pollution Abatement

JEL Codes: F18, F21, H21

Is China a pollution haven for the G-7 economies? A trade-gravity panel approach

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Abstract

China is the world's largest CO2 emitter, fuelled by accelerated economic development and energy demand. This contributes to weakening measures to reduce emissions in developed countries, specifically following the Kyoto Protocol (1997). However, developed countries can also decrease their emissions by increasing imports from China, or offshoring their pollution-emitting industries, due to laxer Chinese environmental policies. A problem is that climate negotiations often are based on production of emissions rather than consumption (the global carbon budget, 2014). There may exist multiple factors that lead to transfer of pollution, including CO2 emissions, from one country to another. One direct implication for this illustrates a shadow market for C02 emissions. All else constant, countries may consume higher emissions than domestically produced due to laxer environmental policies elsewhere. This particular interpretation falls under the understanding of a pollution haven hypothesis (PHH). However, this rationale is still debatable. The reallocation of industries or the increase of imports from a specific trading partner can reduce other types of costs, and that is irrespective of the nature of environmental policies. In other words, that is also known as the pollution haven effect (PHE) (Copeland and Taylor, 2004). Hence, to a certain point it is difficult to disentangle different motives behind transfer of pollution across countries. The net-effect, however, seems straightforward. The fact that pollution may simply migrate across borders is a sufficient reason to establish a strong link between trade and environmental policies, in which creates an intuitive research area to investigative.

This study contributes to the academic debate on trade and the environment by exploring whether the G-7 economies may have grown greener at the expense of increasing imports from China. The study constructs an environmental policy indicator to reveal the G-7's decarbonization progress in comparison to China in a trade-gravity framework. We also utilise an additional environmental indicator that has been used by Melo et al. (2005) and Chaibi et al. (2014), namely the difference in emission intensity between trading partners. The choice of two environmental indices in this study aims to provide additional information about the pollution haven story. Based on static and dynamic panel techniques over the period of 1994-2014, this study finds preliminary evidence that a stricter environmental policy is associated with higher imports from China. We also find strong statistical evidence for the impact of other economic determinants, including income and population elasticities of the host country. This analysis is crucial to bridge the gap between environmental policy concerns and international trade. In particular, where addressing trade and climate policies simultaneously helps in meeting emission reduction targets at the global level.

Keywords: Gravity model, pollution haven, international trade

JEL Codes: C33, F18, Q43, Q56

The relationship between energy demand and real GDP growth rate: the role of price asymmetries and spatial externalities within 34 countries across the globe

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Abstract

The aim of this paper is to empirically explore the relationship between energy demand and real Gross Domestic Product (GDP) growth and to investigate the role of asymmetries (price and GDP growth asymmetries) and regional externalities on Final Energy Consumption (FEC) in 34 countries during the period from 2005 to 2013. The paper utilizes a Panel Generalized Method of Moments approach in order to analyse the effect of real GDP growth rate on FEC through an Error Correction Model (ECM) and spatial econometric techniques in order to examine clustered patterns of energy consumption. The results show that a) 'income' elasticity is below unity, b) the demand is elastic both in the industrial and the household/services sectors, c) electricity and natural gas are demand substitutes, d) the relationship between real GDP growth rate and energy consumption exhibits an inverted U – shape, e) price (electricity and gas) and GDP growth asymmetries are supported from the employed parametric and non – parametric tests, and f) distance does not affect FEC, but economic neighbors have a strong positive effect. The main contributions of this paper are three: the investigation of competitive pressures that natural gas may impose on electricity, the examination of price (electricity and gas) and real GDP growth rate asymmetric adjustment path and the effect of spatial externalities on FEC. For this reason we employ a PGMM approach in an ECM and spatial econometric techniques, while we utilise both parametric (Wald and F-tests) and non-parametric tests (Impulse

response functions) in order to examine the asymmetric responses of prices and real GDP growth rate on FEC.

Incidentally, this paper also provides estimations for the relationship between energy consumption and GDP growth rate and estimations for the effect of spatial externalities on FEC from an updated panel data set for 34 countries during the period from 2005 to 2013. The empirical findings indicate that energy elasticity is below unity, the energy demand is elastic both in the industrial and the household/services sectors, electricity and natural gas are demand substitutes, the relationship between real GDP growth rate and energy consumption exhibits an inverted U-shape and finally, price (electricity and gas) and GDP growth asymmetries are supported from the employed parametric and non-parametric tests.The reported estimations for the spatial econometric model indicate that distance does not affect final energy consumption, while economic neighbors do positively affect the final energy consumption per country. It is also evident from the computed cross price elasticities that natural gas imposes competitive pressures on the demand of electricity.

Elasticities are positive for all sectors under scrutiny indicating that policy makers should be sceptical regarding the price policy for both products. Further research on this topic will be very interesting especially in the case where it is combined with the degree of monopolization of the energy market.

Keywords: energy demand; asymmetries; dynamic panel data; panel unit roots; panel cointegration; error correction model; spatial externalities

JEL Codes: C21; C23; C51; L16; R12

Session 12

Trade

The Impact of EU and Common Currency Area accession on the EU members Terms of Trade. A Panel Data Analysis

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Abstract

The Paper tries to provide some answers to the question of whether the participation in the EU and the Eurozone has contributed positively or not to the improvement of the member states terms of trade. The analysis refers to all European Union and Euro zone members and focuses on the period from 1970 to 2014. Structured on the basic growth and trade theories and taking into consideration natural resources abundance, industrial development, human capital level, while also geographical particularities and institutional quality, the developed empirical models by means of panel data analysis provide an insight and a pathway towards answering the research questions set. The empirical analysis results denote that European Union participation appears as a significant enhancing event for EU members' terms of trade. The participation in the common currency area though had rather the opposite results, which was to significantly deteriorate the trade terms for most of the examined European economies. The Analysis examines a series of additional trade related variables displaying complementary aspects of the trade nexus within EU. In order to trace regional patterns in the examined terms of trade variables, a series of sub-samples that correspond to distinct EU regions have been constructed and empirically tested with the developed models. The results in these cases show that the terms of trade deterioration phenomena were much more intense in the peripheral economies of the EU than in the economies located in central EU. Overall the empirical analysis results denote that the mission of the common currency to promote economic unity and to act as a catalyst for further political unification within the Euro zone has rather failed in several aspects so far. The empirical analysis findings are examined and discussed within the context of Robert Mundell's theory of Optimum Currency Area, and the three criteria that determine the successful implementation of a common currency. The prevailed conditions, the principles and the practices shaped within the EU and the Eurozone during the recent decades, unfortunately imply that the establishment of the Eurozone area did not meet the prerequisites set by the Optimum Currency Area Theory. This resulted to the emergence of a series of distortions which are reflected in the current economic turmoil and the inability of certain EU member states to cope with the financial crisis and respond in an effective manner by means of their trade potential.

Keywords: International Trade, Trade Integration, EU, Eurozone, Terms of Trade, Optimum Currency Area

JEL Codes: F14, F15

Revisiting the Trade-Growth Nexus: A Nonparametric Approach

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Abstract

Trade policy has been at the centre of poverty alleviation strategies since the 1950s and the gains from trade liberalisation have been promoted by a mixture of theoretical, historical and empirical evidence. Empirical studies, for instance, have arrived at the consensus that the association between trade policy and growth is largely homogenous and positive. However, the majority of existing studies trade suffer from functional form misspecification, are driven by particular trade proxies and fail to model differences in the impact of trade policies on growth. More recent contributions to the literature have applied sophisticated quantile regression techniques to test for potential heterogeneities (Foster (2008) and Dufrenot et al. (2010)). Nevertheless, these works still treat the relationship as being parametric. The purpose of this study is to extend the current literature by identifying relevant trade proxies which are then modelled in an environment that is not subject to functional form misspecification.

Augmenting the Solow model with 8 measures of trade, we apply the recently developed nonparametric kernel estimators of Li and Racine (2004) and, to control for endogeneity, Su and Ullah (2008) on TFP and GDP growth rates since 1990. Using local-constant techniques, we first identify the relevance of our trade measures (and other controls) to both growth measures and then apply local-linear techniques as our primary method to uncover heterogeneities and nonlinearities in the growth process. We also complement this analysis with formal tests which determine the suitability of traditional parametric regressions. In doing so, to our knowledge, this study is the first to conduct a comprehensive analysis of the trade-growth nexus in a fully nonparametric setting.

Our findings suggest that trade openness, the commonest measure of trade liberalisation, is a relevant variable in the TFP and GDP growth processes. We also find our trade proxies to be more relevant for TFP growth than for GDP growth. This suggests that future work should focus on the former rather than the latter and examine fewer, relevant trade proxies. Unlike traditional parametric approaches which assume a unique response coefficient for trade liberalisation, we also find significant heterogeneities across the growth distribution with liberalised trade policies being correlated with higher growth rates. In particular, this positive association is stronger for resource rich countries supporting the suggestion of Arezki and van der Ploeg (2011) that the resource curse may be attenuated through trade liberalisation. Our formal tests reject traditional parametric techniques in favour of our nonparametric models though linearities still exist. This implies that, in addition to kernel methods, future work on the trade-growth nexus should focus on identifying and applying a suitable parametric model on relevant proxies for trade liberalisation.

Keywords: Trade Openness, Nonparametric IV Regression, Nonlinearities, Economic Growth, TFP Growth

JEL Codes: F13, F14, O13, O47

A North-South Model of Trade with Search Unemployment

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Abstract

In this paper I build a Schumpeterian model of North-South trade and intellectual property rights protection in order to study how imitation and trade liberalization affect welfare and long-run unemployment levels in the North. Economic growth comes from a creative destruction process in which firms in the North innovate new product qualities and replace the incumbent firms that hold a patent for a lower quality version of the same product. The products from the North are exported to the South and there is an iceberg trade cost for the shipment of goods.

There is no foreign direct investment in the model and the channel of technology transfer from the North to the South is through imitation. The imitation rate is exogenous and if imitation is successful for a given product, its production moves to the South. The Southern wage is lower and the producers there are able to drive the Northern incumbent out of business. The flow of trade reverses and products are exported from the South to the North. I solve the model numerically.

Both the rate of imitation and the variable costs to trade have a steady state effect on unemployment in the North. Lower imitation, which is equivalent to stronger intellectual property rights protection, decreases unemployment. Trade liberalization can both increase or decrease unemployment depending on the size of the outside option of workers in the North. A North where workers have a low outside option can expect an increase in its rate of unemployment. A high outside option on the contrary is coupled with a decrease in the rate of unemployment.

A sizeable literature has been studying long-run effects of trade on unemployment, both theoretically and empirically. Fewer papers have looked at the topic through the prism of economic growth (Sener 2001) or of asymmetric countries and growth (Arnold 2002). The paper closest to the current study is Arnold (2002), where the focus is on how imitation affects the innovation rate. The duration of unemployment is exogenous, which makes the setup not suitable to study unemployment. In my model I incorporate search and matching frictions in the labor market and the rate of unemployment is endogenous.

Keywords: Creative destruction, search, unemployment, trade liberalization, intellectual property rights, North-South trade

JEL Codes: F12, F16, F43, J63, O31, O34, O41

Destination vs. Origin-based Commodity Taxation in Large Open Economies with Unemployment

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Abstract

The present study contributes some new insights in the literature of destination vs. origin-based international commodity taxation by introducing two policy relevant analytical features; (i) involuntary unemployment due to a fixed, above its clearing level nominal wage, and (ii) endogenous world commodity prices pointing to open economies which can affect international commodity prices via their policies, i.e., so-called "large" open economies. These features, on the one hand, may explain the incentives of specific interest groups, i.e., workers, exporters, or of the policy makers in favoring destination vs. origin-based commodity taxes or vice-versa. On the other, they may resemble the experience of numerous OECD member countries which, especially after the occurrence of the financial turmoil, have recorded rising levels of unemployment, and which through world price effects can further impact levels of national employment, outputs and welfare. To account for these features, we construct a perfectly competitive model of two open economies with endogenous world prices and involuntary unemployment. Destination or origin-based taxes are levied on the consumption of these goods.

A key and rather interesting result is that in the present context, higher destination or origin-based consumption taxes, under plausible conditions have a positive impact on employment domestically and abroad. Specifically, when destination-based consumption taxes are imposed on non-labor intensive commodities, then lower demand for these commodities reduces their world relative price, thus raising the relative price of labor intensive commodities and levels of economy-wide employment. A similar intuition applies for the ensuing positive employment effect, i.e., employment externality, in the other country. Under origin-based consumption taxes, an increase in their levels on non-labor intensive commodities results to a positive employment effect in that country. Yet, the induced employment externality is positive only when the exporting goods are complements in consumption.

Keywords: Nash vs. cooperative destination and origin based consumption taxes, Endogenous world prices, Fixed wage and unemployment

JEL Codes: F16, H21, H87

Trade and unions: Can exporters benefit from collective bargaining?

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Abstract

Unions are often stigmatized as being a source of inefficiency, for instance due to higher collective bargaining outcomes. Nevertheless, many German exporters still belong to the collective bargaining regime. This is surprising as exporters have the reputation of being highly productive and as collective bargaining recognition is an employer's decision in Germany (e.g. Dustmann, Ludsteck, and Schönberg, 2009). Our paper contributes to this debate by analyzing the role of size for the performance of exporting firms. While the relationship between firm productivity and export has been largely analyzed and explained both in the theoretical and empirical literature, our study focuses on the so far less explored link between export and the bargaining regime. Our empirical analysis is based on the IAB Establishment Panel, an annual representative sample of German plants with at least one employee, which the IAB (Institute for Employment Research in Nuremberg) has been carrying out since 1993 in West Germany and since 1996 in East Germany. In order to shed light on the relationships of interest, we estimate several empirical models. To start with, and as a first exploratory analysis, we estimate simple probit models for the probability of being an exporter, using collective agreement and size dummies as main explanatory variables. The results show a negative correlation between collective bargaining and the probability of being an exporter. Furthermore, adding interaction terms between size and collective agreement to our benchmark probit regressions, we are able to show that such a negative correlation holds only for small firms. The export status of large firms does not seem to be affected by the bargaining regime.

Finally, in order to interpret our results in causal terms, we have to take self-selection into collective bargaining and possible reverse causality into account. In order to take selection on observable characteristics into account, we apply propensity score matching techniques, considering collective agreement as the treatment variable, and export as the outcome variable. The panel structure of our data allows us to match for pre-treatment variables, thus improving the quality of the match. In line with our benchmark probit regressions, the estimated average treatment effect on the treated (ATET) is negative, but is only marginally significant. This result is robust to the choice of the matching algorithm. Hence, we can conclude that collective bargaining is not likely to be a treat for the competitiveness of firms. Other firm-level characteristic, such as firm-size, are likely to influence firms' export behavior in a more decisive way.

Keywords: trade, unions, exports, firm level data

JEL Codes: F16, J51, E24, J3

Session 13

Banking II

The Role of Securitization and Foreign Funds in Bank Liquidity Management

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Abstract

Traditionally, bank liquidity has been limited to liquid funds on the balance sheet. However, over the last three decades, financial innovation has enabled banks to get liquidity through securitization. Another new source of liquidity is globalization; global banks can transfer liquid funds from their international subsidiaries. Existing studies have examined securitization and globalization in isolation. This paper contributes to the literature by investigating the implications of loan portfolio securitization on bank liquidity management in light of increasing bank globalization.

Using bank-level data from the Consolidated Reports of Income and Condition (the Call Reports) over the period 1976-2007, we first investigate whether banks' ability to obtain liquidity from abroad influences their incentive to make securitizable loans. Controlling for observed characteristics including size, balance sheet liquidity, equity capital, profitability, reputation, nonperforming loans, financing sources and other indicators, we find that global banks hold roughly 8 percentage points fewer securitizable loans than domestic banks.

We next examine the effect of international funds on the substitutability of securitizable loans and liquid funds. Consistent with our expectations, we find that loan portfolio and balance sheet liquidity are more substitutable for global banks. A 100 basis point increase in loan portfolio liquidity is associated with a 37 basis point decline in holdings of liquid securities in domestic banks, and a 45 basis point drop in global banks. This is robust to different model specifications, endogeneity analysis, time effects and a comprehensive set of control variables.

Finally, we measure the sensitivity of bank lending growth to monetary policy, as a function of the composition of a bank's asset portfolio. Using the quarterly change in the federal funds rate as a proxy for monetary policy, we find that higher liquidity in either form (loan portfolio or balance sheet) shields domestic bank lending growth. However, only loan portfolio liquidity protects lending growth in global banks. Our estimation results imply that four quarters after a 100 basis point increase in the Federal Funds rate, a median domestic bank would have increased its lending by 0.5%, and an otherwise identical global bank would have experienced a 2.7% increase in lending growth. Our findings indicate that recent developments in financial markets have attenuated the effectiveness of monetary policy.

Keywords: Securitization; Monetary Policy Transmission; Bank Lending Channel; Liquidity

JEL Codes: E51,l E52, E58, G21, G28

Impact of bank size on CDS spreads: International evidence before and during the financial crisis

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Abstract

This paper identifies the drivers of the CDS spread as a measure of credit risk by considering bank level factors (regulatory capital, leverage, liquidity, asset quality and operations Income ratio) and the housing market, in both developed and emerging countries. In addition, it investigates whether bank size matters in driving credit risk. The unique dataset allows us to uncover the behavior of the CDS spread and the fluctuations in credit risk both before and during the financial crisis, over the period of 2004-2011. The sample consists of 30 countries and 115 banks. The findings reveal that the strongest bank-level factors driving the CDS spread were found to be asset quality, liquidity and operations Income ratio. In fact, the more liquid banks, with better quality of assets, were found to face narrower CDS spread and reduced levels of credit risk. Furthermore, banks with higher levels of liquidity were better able to avoid bank-runs and sustain themselves in times of credit shortages. In addition, we find that banks with higher levels of operations Income ratio were found to be more resilient to default risk and therefore faced lower levels of CDS spread. When considering the impact of bank size on the CDS spread, our findings suggest that bigger banks were subject to higher CDS spreads and increased credit risk, while smaller banks experienced relatively lower CDS spreads and were considered to be safer, allowing to derive an optimal level of bank size. Any financial institution growing beyond that threshold becomes subject to higher credit risk.

Keywords: Bank CDS, leverage, capital requirements, liquidity, asset quality, bank size, too-big-to-fail, financial crisis

JEL Codes: G01, G21, G32

Central Bank Balance Sheets and Optimal Government Finance-the Bank of England during the French Wars

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Abstract

This paper focuses on the role the Bank of England (BoE henceforth) played in financing the French Wars (1793-1815). The 22 years of almost uninterrupted warfare exerted extraordinary fiscal pressures that would only be equaled by World War One. Britain's victory over Napoleonic France ushered in a Period of undisputed naval and commercial supremacy for the century to come. The Bank's interventions crucially contributed to winning the war and to bringing about Pax Britannica.

We analyze the variations in the Bank's balance sheet and the related exit strategies—a set of monetary policies that one may call unconventional. We find that the Bank intervened actively in the secondary market for Exchequer bills with the intention to influence prices. In addition, the BoE made important advances against Exchequer bills directly to the Treasury. These funds were used for a plethora of objectives, such as financing unexpected war-related expenditures, paying the dividends on long-term debt or sustaining the Sinking Fund. Thus, the Bank's funding of bills acted as the ultimate backstop that kept British public finances sustainable.

In order to flesh out the above, we rely on a hand-collected data set that represents the Bank's weekly balance sheet. The data set details the number of Exchequer bills the Bank purchased on the primary and secondary markets. We supplement the data on the volumes of interventions with another hand-collected data set of daily prices for Exchequer bills. Taken together, these data allow us to assess the size of the BoE's interventions and their impact on prices quantitatively.

The policies the Bank of England implemented interacted with fiscal policy choices and therefore affected prices and real activity. During the war years, the BoE's balance sheet increased by 130 percent, primarily through the expansion of government bills. This policy was set with the expectation of an exit strategy. After the war, the government would redeem some of the short-term bills held by the Bank of England by converting them into long-term bonds, backed by future tax revenues.

Put differently, the expansion in the Bank's balance sheet was backed by real assets. According to a Modigliani-Miller argument (Wallace, 1981; Chamley and Polemarchakis, 1984), the expansion of balance sheets in this context should not have a large impact on the price level. And yet, at its peak in 1813, the price level exceeded its pre-suspension level by roughly 40 percent.

The Bank's intervention took place in an environment where the convertibility of the pound into gold had been suspended. The suspension of the gold standard was accompanied by important degrees of debt accumulation and inflation. Not only was the return to the pound's pre-war gold content contingent on the outcome of the war, it would come at high deflationary costs. Therefore, there was considerable uncertainty regarding the eventual course of policy (Acworth, 1925; Fetter, 1965; Kindleberger, 1982). Resuming the gold standard was an uncertain prospect, as was the reversion of the fiscal and monetary expansion that had financed the French Wars. This uncertainty affected the behavior of prices (Antipa, 2015).

The issues we address are of historical importance since the monetary policies implemented during the French Wars served as a blueprint for financing World War One. We contribute also to the analytical debate that is concerned with the conditions under which the variations of a central bank's balance sheet affect prices. Finally, our findings are relevant for the euro area where the euro plays a role that is analogous to the specie of former times and where the ECB is the principal actor of crisis management, in the absence of a supranational fiscal authority (Reis, 2014).

Keywords: Central bank balance sheet, interactions between monetary and fiscal policies, unconventional monetary policy, open market operations

JEL Codes: N13, H63, E58, E62

Does one bank size fit all? The role of diversification and monitoring

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Abstract

The size of the average bank has increased considerably in the past years, primarily through mergers and acquisitions, but also as a result of organic growth. For example, in 2001 the five largest US commercial banks held 30% of total assets, while in 2011 this number rose to 48%, (Stiroh 2010; Wheelock and Wilson 2012). The appearance of large money market centers, offering a diverse range of financial services, was interpreted as the outcome of higher competition due to de-regulation, globalization and the technological evolution which called for economies of scale and scope (Hughes Mester & Moon 2001). Indeed, in the absence of capital market frictions, consolidation activities and asset growth increase the value of shares owned by existing shareholders (Berger Demsetz and Strahan 1999). In practice, however, various market frictions often represent an offsetting force (Milburn Boot and Thakor 1999).

In this paper we address the following questions: Has the growth in bank size contributed to the market value of banks? Does an "optimal" bank size exist? If so, how does it depend on key bank characteristics?

Using a sample of US Bank Holding Companies from the period 2001 to 2012, we provide evidence that the relationship between size and bank charter value is an inverse U shape which implies the existence of an optimal size. More importantly, motivated by Diamond's (1984) theoretical model of financial intermediation as delegated monitors, we provide evidence that the inverse U shape relationship, and consequently the optimal size, is affected by the diversification benefits and by

monitoring costs, decomposed to the direct monitoring cost of bank assets and to the delegation cost for debtholders and shareholders.

Our findings have important policy implications. First, the interaction of optimal size and systematic risk provides a mechanism that explains the emergence of banking crisis. In periods of low systematic risk, a value maximizing bank management will seek to grow larger in size in order to benefit from the additional, yet unrealized, diversification. But the bank's systematic risk changes either exogenously (a macro-economic shock) or endogenously (the increase in size will imply higher systematic risk for the bank and effectively will lower its optimal size). In either circumstance, the bank ends up with a size far above its optimal and it will seek to scale down its activities by restricting new credit or by fire sales which effectively will exacerbate the financial instability. Second, the interaction of optimal size and monitoring cost reveals that the current focus on scale and scope is incomplete. Bank management that operates under the objective of value maximization and pursues asset growth as a value creation mechanism due to diversification benefits and other economies of scale, should be aware of the dark side of asset growth, the increase in monitoring and delegation costs. These market frictions work in the opposite way and reduce charter value. The net effect from the benefits and costs will eventually depend on the characteristics of the banks.

Keywords: Bank Size, Charter Value, Diversification, Monitoring

JEL Codes: G21; G32; L25

Central banks' preferences and banking sector vulnerability

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Abstract

Since the 1980s, price stability has become the sacred objective of monetary policy. The advent of the inflation targeting framework and the large support it has benefited among central bankers and academics can be viewed as the culmination of this orientation (King1997).

This top priority given to the control of inflation refers to the adherence of numerous economists and central bankers to the Schwartz's "conventional wisdom" (Schwartz, 1995), according to which price stability implies macroeconomic and financial stability. As a "divine coincidence", it was widely accepted that having a monetary policy primarily focused on price stability would ensure output stability and maximum welfare, provided that distortions are only made of price rigidities (Woodford, 2003). Certainly, a high level of inflation is not conducive to macroeconomic and financial stability. However, a lot of recent financial crises were not preceded by periods of price instability (White, 2006). Typically, the dramatic recent financial crisis occurred in a context of Great Moderation. This has casted some doubts on the Schwartz's hypothesis and on the divine coincidence.

Despite recent experiences and theoretical evidence, there is very little academic empirical research on the relationship between price and financial stability. Only Blot & al. (2015) directly address this issue from an empirical perspective. Using various empirical methods, they reject the hypothesis that price stability is positively correlated with financial stability. Interestingly, focusing on the effects of the adoption of an inflation-targeting framework, Frappa & Mésonnier (2010) and Lin (2010) give indirect evidence of a trade-off between inflation and financial stability.

The objective of this paper is to complete to this very scarce literature by testing the Schwartz hypothesis vs the benign neglect one: is the higher the priority given to the inflation stabilization goal, the lower or the higher the banking sector vulnerability? The preference of central banks for price stability is here proxied by the so-called CONS index of central banks' conservatism (CBC), suggested by Levieuge & Lucotte (2014), which is based on the Taylor curve (Taylor, 1979). As for banking sector vulnerability, we consider six alternative measures that are widely used in the literature on the early warning systems as determinants of financial crises. They mainly deal with credit cycle and the structure of banks' balance sheets. Our panel data regression results for a sample of 73 countries over the period 1980 - 2012 indicate that the degree of CBC robustly explain banking sector vulnerability, in line with the benign neglect hypothesis. The implications and extensions suggested by these results are widely discussed in conclusion. They concern the central banks' objectives and strategies, as well as the coordination of the monetary policy with the macro-prudential one(s).

Keywords: Monetary policy, Conservatism, banking sector vulnerability, Crisis

JEL Codes: E3; E44; E52; E58

Session 14

Applied Finance II

Regulatory enforcement: Discipline on healthy BHC's affiliates

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Abstract

Bank regulatory enforcement, based on the principles of the Basel Accord, aims at correcting the deficiencies and unsound bank practices which threaten the safety and soundness of the entity and the stability of the system. Yet, for the regulatory enforcement to work efficiently, a deter rather than punish approach is designed to be at work, operating through discipline and conforming bank managers to avoid overly risky practices. Discipline mechanisms can take three non-mutually exclusive forms: regulatory discipline, market discipline and shareholders' discipline. Regulatory discipline acts through the supervisory monitoring process. Market discipline is exercised through the use of subordinated debt, the stock price reaction and the cost of external funds for the bank.

Shareholders' discipline stems mainly from the franchise value of the bank. Moreover, under the FIRREA act of 1989, a BHC is obliged to offer cross-bank guarantees when a subsidiary fails, thus averting potential moral hazard behavior from the BHC and aligning the incentives of the parent BHC to those of the regulators. In the same spirit, the source-of-strength notion, introduced in 1991 by the FDICIA act, requires that BHC should use its healthy bank and non-bank subsidiaries' resources to assist the ailing member of the group, thus implicitly imposing an additional capital requirement on BHCs (Ashcraft, 2008).

The question that naturally arises is whether formal enforcement actions, more or less distant to capitalization and risk issues, operate as disciplinary shocks for healthy BHC affiliated banks. This issue has not been examined in the literature so far, yet it may offer rich insights about the way the regulatory enforcement mechanism operates and its implications for the banking industry.

Thus motivated, the paper builds upon and extends the study of Delis, Staikouras and Tsoumas (2015) by using the full array of formal enforcement actions imposed by the three federal regulators over the 200Q1-2010Q4 period and classified on a one-by-one basis according to their relevance for the safety and soundness of the punished bank.

The results suggest that in the pre-crisis period, enforcement actions related to safety and soundness reasons triggered a disciplinary reaction of BHCs' healthy affiliates. In the post-crisis era however, such a disciplinary mechanism has been severely restricted. In contrast, enforcement actions related to the internal control and audit systems of a bank seem to not act as disciplinary shocks. Perhaps more interestingly, enforcement actions related to safety and soundness reasons of the BHC itself in the post-crisis era, resulted to a severe reduction of the balance sheet of the healthy bank subsidiaries.

Keywords: Formal enforcement actions; Banks; Event study

JEL Codes: G01; G14; G21; G28

Modern trends in capital flows at the emerging markets

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Abstract

Importance: Reveals the causes of economic instability in the developing countries' economies, which were once playing the role of a global growth locomotive, and are currently facing the risk of their own financial crisis. Expected this year a reduction of the net capital inflow in developing countries is generated at one time on both sides: foreign investors are reducing investments, while residents bring out more and more money abroad. The sharp reduction of the capital inflow and, as a result, capital outflow may lead to many negative effects for the developing countries, such as the disappearance of liquidity, the increasing cost of borrowing and debt service, weakening currencies, exhaustion of financial reserves, the cost of securities and other assets. The negative net capital inflows of developing countries are leading to a domino effect of the real economy and damage the prospects of economic growth.

Objectives: Identify the determinants of capital flows in emerging markets, to find out which ones have caused capital inflows, as well as to analyze the capital movement in emerging markets in accordance with the phases of the financial cycle: capital rising during economic expansions and declining during recessions.

Methodology: The method of systemic analysis established the structural linkages between elements of the examined system: portfolio equity and foreign direct investment flows, dynamics of the stock indexes, accumulated reserves, exchange rate of national currencies, emerging markets' external debt, GDP annual growth rates etc. The study reviewed several prevailing classifications such as a MSCI classification, FTSE International Country Classification, IMF emerging market Ranking and their assessment criteria for investable emerging markets. The paper examines the statistics on macroeconomic and financial countries' performances over the period from 1990 to 2014. The assessment of the econometric model on the panel data has identified the determinants of the examined process – trends in capital flows at the emerging markets. The interrelations established via econometric models reflect both theoretical concept of causes of capital flows and empirical results taking into account the specific dataset and the assessment period. The set of analysis methods (graphic, analysis and synthesis, econometric modeling) identified the trends and patterns of capital flows in emerging markets.

Results: The article analyzes the trend of the capital inflow reduction at emerging markets, the capital movement became more volatile since the global financial crisis 2008-2009. Following the dramatic drop in 2008 the emerging markets had experienced the inflow renewal, following the inflow increase the examined markets faced the deep decline. The study identified structural and cyclical factors influencing capital flows on emerging markets and estimated their degree of an interrelationship.

Conclusions and Relevance: With the growing uncertainty in financial markets, there is a trend of cyclic capital movement, which is currently characterized by its outflows from developing countries under the influence of internal and external factors. The outflows of capital aggravate the crisis in the developing countries, lead to recession and devaluation of the weak national currencies. Today emerging markets are no longer profitable, large, reliable, liquid or investment-attractive. The solution to the problem of the capital outflow from the emerging markets becomes highly relevant, because it leads to the tectonic shifts in the world's markets, reformation of the global economy, sharp reduction in real incomes and domestic demand in developing countries, it is also one of the factors of increased migration. In the short term the developing countries should expect serious economic slowdown caused by the sharp fall of commodity prices, massive capital outflows, overbalancing Chinese economy, the effects of the quantitative easing policy in mature countries and economic difficulties associated with geopolitical factors.

Keywords: Emerging markets, mature countries, capital flows, determinants of EM capital flows, cyclical and structural drivers of capital flows

JEL Codes: O16, E22, E27

Creditor Rights, Market Power and Bank Risk-Taking

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Abstract

This paper aims to combine the literatures on bank competition and stability on the one hand and law and finance, on the other. I analyse bank risk-taking and market power in the context of the legal setting in which the bank operates. Using staggered passage of legal reforms in 12 countries, I examine whether the effect of market power on bank risk-taking differs, depending on an increase versus a decrease in creditor rights. I discover a non-linearity in the market power-stability relationship which has not been studied previously and carries potentially important policy implications.

Conceptually, one may make a strong case to study the interaction effects of market power and creditor rights on bank stability. A key channel via which market power affects risk-taking is by allowing the build-up of capital buffers against losses. Capital buffers increase stability by providing cushion in the event of a negative shock. Higher creditor rights leads to greater recovery rates in the case of default, which diminishes the marginal value of capital buffers. This, in turn, reduces the marginal effect of higher market power on bank risk-taking. Thus, we hypothesise that there is a substitution effect between market power and creditor rights.

I empirically explore the interaction effects of market power and creditor rights on bank risk-taking in a sample of 68 countries. In a difference-in-difference framework, I use staggered passage of legal reforms in 12 countries between 1995 and 2004. The reforms include both increases and decreases in the creditor rights index (introduced by of La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1998). I measure risk (Z-Score or distance to default) and market power (Lerner index) at the bank level. I examine whether a change in creditor rights affects bank risk-taking before versus after the reform event in the reforming countries which forms the treatment group. These

changes are benchmarked against those in non-reforming countries which forms the control group.

The key results are as follows: Unconditionally, an increase in market power increases bank stability. However, conditional on an increase in creditor rights, the effect of market power is still positive but smaller in magnitude, relative to the case of a decrease in creditor rights. The interaction effects between bank market power and creditor rights are shown to be significantly negative and economically large. The contribution of the paper lies at the juncture between the literatures on bank stability-market power and law and finance. Specifically, I identify and provide evidence on the existence of a new channel (creditor rights) via which market power affects bank risk-taking.

Keywords: Bank Competition, Law and Finance, Legal Reforms

JEL Codes: G21, G28

Spillovers in financial markets and the systemic risk feedback loop in the Eurozone

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Abstract

Based on the twin sovereign-banking crisis evolution of the euro debt crisis era, we address the mitigation of credit risk measured by Credit Default Swap spreads in both banking and sovereign sectors within Eurozone and US/UK. We evaluate spillovers cross-country and cross-market. Furthermore we investigate the (volatility) feedback loop hypothesis in terms of the informational flow among financial markets. Finally, we identify the interconnectedness of CDS, equity and volatility markets.

We answer the following questions: 1) Do spillover effects (as a short term-volatility effect or lagged transmission of a shock) manifest during post-crisis period across selected countries and regions (within EMU) and domestic CDS markets (sovereign vs. bank tier)? 2) Can we identify the feedback loop beyond the sovereign-bank CDS market? Is there evidence for the risk (volatility) feedback loop also among other financial markets in general? In other words, to which extent the levels (and volatility) of banks CDS are related to the levels (and volatility) of sovereign CDS and equity market as well additional derivative markets (implied volatility on equity)? Can we measure the spillover effects between markets? 3) Finally, does the informational flow among markets' volatility (i.e. risk transmission) signals legislative initiatives for policy makers?

Our contribution is based on selecting different dataset (weighted risk pool) of countries in advanced markets in order to investigate the lead-lag relations of credit risk during the EMU debt turmoil within Eurozone (core Eurozone-periphery

Eurozone); and identify spillover effects between Eurozone and USA/UK. Secondly we contribute to the literature about financial stability in Eurozone by recognizing and categorizing cross country/cross market co-movements as spillovers (and not as contagion or interdependence).

The theoretical and empirical methodology follows Vector Autoregressive (VAR) and BEKK-GARCH models. We extent results on VAR regarding markets' interconnectedness, by utilizing the Diebold-Yilmaz (DY) "Returns Spillover" approach. Spillover effects based on BEKK-GARCH model inter/intra EMU as well in domestic cases, establish the mitigation of systemic risk among financial regions and markets. Furthermore preliminary analysis is in favor of the feedback loop among sovereign-bank risk. According to VAR models' outputs information flow tends to start from equity towards CDS market. We are positive on the feedback loop between markets returns hypothesis (FLH) as well the volatility feedback loop hypothesis (VFLH). Post-crisis we derived results depicting great dispersion of risk among different financial markets. We found evidence of extensive interconnectedness among financial markets; the grand net transmitter of shocks is the periphery or core sovereign risk, while the implied equity index is the grand net receiver. The cases found for unilateral risk transmission from CDS/options on equity to equity market signal legislative initiatives due to the structured feature of the CDS market.

Keywords: credit default swap spreads, financial crises, systemic risk, spillover, volatility

JEL Codes: G01, G15

New Measures of Financial Fragility

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Abstract

In this paper we present a new dataset incorporating a number of alternative measures of financial fragility in 124 countries over the period 1998-2012. This dataset covers a wider range of financial institutions than existing datasets; it includes data from investment banks and mortgage banks, which are thought to have played a pivotal role in the recent financial crisis, plus co-operative banks, savings banks and Islamic banks, whose risk preferences may well differ from those of commercial banks. These other financial institutions account for approximately one third of all bank assets in the dataset. We show that the new fragility measures can help to explain the incidence of recent financial crises.

Keywords: Financial crises; financial fragility; banking regulation

JEL Codes: G01, G28, E58

Session 15

Industrial Economics

Asymmetric price adjustments: A supply side approach

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Abstract

In this paper we attempt to shed new light on the phenomenon of asymmetric price adjustments in a standard competitive environment where firms provide a homogeneous good and compete in prices, abstracting from market imperfections such as collusion and limited information. Traditional economic theory predicts that firms make zero profits and prices react symmetrically to cost shocks. Focusing on the supply side, we show that the nature of this result changes drastically if storage of a non-perishable good is allowed.

We consider a two-period Bertrand-Edgeworth competition model where two firms set prices and then quantities. In the absence of a cost shock, the scope for price undercutting drives prices to marginal costs, and firms are trapped in the Bertrand paradox. When a cost shock occurs, firms revise their expectation about future costs. In our setting, costs evolve according to a Markov process that exhibits mean reversion. We find as a unique prediction of the game that, when costs decline, the opportunity of profitable storing for the next period in anticipation of higher future costs allows competitive firms to coordinate on prices above current marginal costs. The equilibrium price reflects the second period expected marginal cost weighted by the discount factor. Since profitable storing induces each firm to fill its depository irrespective of what the rival does, a firm that prices at the discounted expected future input cost is indifferent between selling today and tomorrow, and it can store the quantity purchased (or produced) if the rival undercuts its price and serves the market today. As a result, competition is relaxed and firms earn positive profits.

When costs rise and firms expect lower future costs, storing is unprofitable and prices adjust to current marginal costs. The firms' incentives for price undercutting restore the standard Bertrand outcome. Our results provide theoretical corroboration for the empirical evidence that the immediate price response to a cost change is more significant when costs increase than when they fall.

Keywords: Asymmetric price adjustments, Bertrand-Edgeworth competition, Storage, Gasoline market

JEL Codes: D4, L1

Stochastic frontier estimator of market power: what does it really estimate?

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Abstract

The objective of this study is to demonstrate that the recently developed stochastic frontier (SFA) estimator of market power measures mark--ups in the output market only under certain market conditions. In their recent study, Kumbhakar, Baardsen and Lien (2012) drew on the stochastic frontier methodology from the efficiency literature and developed a stochastic frontier (SFA) estimator of market power in order to estimate mark--ups in an output market.

The authors applied their new methodology in order to estimate the mark-up in the Norwegian sawmilling industry. Sawmills process a primary input (sawlogs) and convert this raw input into sawn timber (processed output). Sawn timber may also be used as an intermediate output or as an input in the sawmilling industry. In this particular supply chain, sawmilling firms play the role of a processor where they purchase an input from an industry upstream and sell the processed output to an industry downstream. Sawmilling firms have no market power when purchasing the primary input (sawlogs) but have oligopolistic power when selling their processed output (sawn timber).

One of the big advantages of the SFA estimation technique is that it allows us to estimate market power under constant or variable returns to scale, which is not always the case in the NEIO approach, providing us with more flexibility in the measurement of markups of an industry.

The starting point of this work is an industry in which N firms process a primary input and produce a homogeneous good Q.

Like Kumbhakar, Baardsen and Lien (2012), we assume that the intermediary firm has market power in the output market and we add market power in the primary input market as well.

Without prior knowledge of the structure of the market under investigation it is only safe to say that the SFA estimator of market power accounts for both oligopolistic and oligopsonistic distortions.

One of the biggest challenges for future research is to develop a theoretical model where the oligopolistic and oligopsonistic distortions can be disentangled from each other and uniquely measured by the SFA estimator of market power. This would enable the researcher to test for market power in the output and the input market separately.

Statistically significant estimates for the oligopoly and oligopsony parameters would indicate the presence (or not) of market power in the output and/or in the input markets respectively. Among other things, certain assumptions for the statistical distribution of the parameters/terms under estimation would be required.

Keywords: stochastic frontier; estimator; market power

JEL Codes: D21, L11, L13

Competition and Family Firms' Risk-Aversion in the Era of Talent Management

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Abstract

Purpose: This article contributes to the debate about the economics of talent by investigating how competition and firm risk-attitude affect firms' investment decisions in talent management (TM). While previous research focused on internal and external factors (see, Lewis and Heckman, 2006; Kaufman, 2015) that affect firm performance and productivity, we focus on risk attitude as an antecedent of TM investment by considering the contingency of direct competition.

Methodology: We extend the Asplund's (2002) model by considering that talent is an extremely uncertain dimension affecting both the production and the cost function. This allows us to derive two important propositions: i) risk-averse and risk-neutral firms differ in terms of investment in talent management practices; ii) because of the relationship between direct competition and returns to talent management practices, risk-averse firms may significantly change their investment decisions when the number of direct competitors increases. The economic intuition behind this result is based on the fact that, due to the concavity of the utility function, risk-averse firms give more weight to negative events (i.e., low profit states) than to positive events (i.e., high profits states). Therefore, if the investment in TM is particularly rewarding when workers have a high level of talent, risk-averse firms, that weigh the risk of hiring a low talent worker more than the probability of hiring a high talent worker, will under-invest in TM practices. Vice versa, when marginal profits are negatively correlated with talent, the investment in TM is particularly effective for low talent

workers, and investing in TM is a way for risk-averse firms to reduce the risk of hiring a low talent worker. This second case occurs when talent and TM are substitutes in the profit function.

We empirically test our theoretical predictions by using a large international sample of family and non-family firms (see Bloom and Van Reenen, 2007) which represent two groups of firms with different attitude towards risk. Here, we provide a convincing analysis on the validity of our theoretical framework.

Findings: In line with our initial conjectures, we found that family firms (FFs), renowned to be more risk averse than non-family firms (NFFs), tend to invest more than non-family ones in talent management practices only when direct competition raises. Risk-averse firms invest more in TM when the competition is high because of its negative influence on the relationship between talent and marginal returns to TM practices. In fact, while talent and TM practices are economic complements (i.e., complements in the profit function) in low competitive context, the increase in TM costs associated with direct competition tends to weaken, or even invert, this relationship, leading to higher investments in TM practices only for risk-averse firms.

Implications: Given the fact that FFs account for two thirds of all businesses around the world, this study has important, practical implications. Specifically, policy-makers responsible for implementing policies in order to boost national and regional competitiveness may benefit from our results since, for instance, knowing how family and non-family firms would react, depending on the level of competition, to political incentives which promote investment in TM, could help them in tailoring policies according with regional specificities. As a last, by controlling for several important explanatory variables, our results challenge the common wisdom that FFs are less professional because they are less willingness to invest in TM.

Keywords: Competition, Human Capital, Risk Aversion

JEL Codes: D4, D81, M51

Does Competition Induce Hiring Equity?

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Abstract

This article used an original approach to study the impact of competition on labor-market outcomes. Following Becker's theory, the greater is competition, the lower is discrimination. Using local competition rate indices, a correspondence study demonstrates how competition affects discrimination. To easily measure competition, we focus here on the French retail sector, where strategic data is available and competition varies sharply across regions. A correspondence study yields data on discrimination which is matched to competition data to evaluate how the latter affects hiring discrimination. This experiment adds to the literature on the consequences of changing competition. Hiring has never been analyzed in this respect and this correspondence study of the French retail sector allows us to measure the effect of competition on hiring. The population tested is young French applicants with Moroccan-sounding names, both male and female. Male callback rates are systematically lower than female callback rates. However, this may reflect discrimination employers' preference for women. Furthermore, male callback rates are shown to fall with ownership of stores, so that if employers have a rent, they prefer hiring women. Experiments thus do not always find discrimination in the expected direction.

Concerning origin, a large and significant difference in interview callback underlines discrimination against second-generation immigrants from Northern Africa in France. Competition has a positive impact on the number of callbacks whatever the applicant's origin. Nevertheless there is no evidence of a stronger effect for the population discriminated against. Becker's theory can be applied in this case, as employers seem to have a taste for discrimination. However, greater competition is less efficient in reducing discrimination than a rising of the consciousness of human-resource managers with respect to discrimination. Other types of discrimination have to be studied as consumer discrimination.

Keywords: Discrimination, hiring, competition

JEL Codes: J71, C93

The strategic value of partial vertical integration

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Abstract

Most of the practical and theoretical debate about the firms' organizational structure in vertically related markets has focused on two extreme alternatives: full vertical integration and separation. However, it is quite common to observe partial vertical integration, namely, partial ownership agreements in which a firm acquires less than 100% of shares in a vertically related firm. Moreover, partial acquisitions have recently received great attention in antitrust control. Despite the practical relevance of this phenomenon, relatively little theoretical research has been devoted so far to partial vertical acquisitions. The aim of this paper is to investigate the strategic incentives of vertically related firms to partially integrate and their competitive effects.

We address this question in a setting where two manufacturer-retailer hierarchies engage in differentiated good price competition and retailers are privately informed about their production costs. A manufacturer exclusively deals with its retailer, which is reasonable in the presence of product-specific investments that have to be sunk before production decisions take place. Moreover, bilateral contracting within a supply hierarchy is secret. This reflects the natural idea that the trading rules specified in a contractual relationship are not observed by competitors and therefore cannot be used for strategic purposes.

We find that partial vertical integration emerges in equilibrium as the trade-off between two opposite effects. In line with the successive monopoly framework, a partial vertical ownership agreement entails an information vertical effect: the partial misalignment between the profit objectives of the manufacturer and the retailer leads to a higher retail price than under full integration in order to reduce the informational rents to the retailer. For a given price of the competitor, this form of double

marginalization from asymmetric information reduces the hierarchy's profitability relative to full integration. In a competitive environment, however, the information vertical effect translates into an opposite competition horizontal effect: the partially integrated hierarchy's commitment to a higher price induces an accommodating behavior of the rival that increases its price as well. Therefore, partial vertical integration is profitable since it constitutes a strategic device to relax competition. The trade-off between the benefits of softer competition and the informational costs drives the equilibrium degree of vertical integration.

Our analysis provides support for the antitrust scrutiny in vertically related markets. Moreover, it offers theoretical corroboration for the empirical evidence that partial equity stakes are more likely to be preferred to full integration in industries requiring relationship-specific investments, such as vertically related markets. The predictions of our model may serve as guidance for the empirical work on the competitive effects of partial vertical integration.

Keywords: asymmetric information, partial vertical integration, vertical mergers, vertical restraints

JEL Codes: D82, L13, L42

Session 16

Financial Econometrics

Measuring the Covariance Risk of Consumer Debt Portfolios

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Abstract

This paper proposes a heterogeneous agent model to evaluate the systematic risk of consumer loans. Consumer loans represent 10% to 25% of all loans for several countries, therefore it is important to measure its systematic risk as regulators discuss policies such as countercyclical capital buffers.

The agents follow a behavioral rule for consumption based on their income and demographic profile, subject to a budget constraint that includes labor income plus access to new loans which are risk-priced according to the agents' repayment risk. Agents default on loans when the budget constraint does not allow to support both their consumption level and their debt commitments. Using the Chilean Household Finance Survey I simulate the default conditions of different households over distinct macro scenarios with different shocks to unemployment, labor income and interest rates, showing that the model accurately replicates the consumer credit risk in Chile over the last 23 years. The covariance risk of the banking consumer loan portfolios is high if one uses measures of the market portfolio such as the stock market, the return on overall banking assets and a consumption pricing kernel. I also show that the default betas of the individual consumer loan portfolios of each of the 11 Chilean banks vary between 0.4 and 2.2. Banks with older and richer clients have safer portfolios both in terms of the average default rate and their covariance risk. The model predicts that most Chilean banks would suffer substantially if an economic recession such as the Asian crisis would happen again, with some banks presenting much larger losses.

The equity-market literature focuses on the pricing of securities with fixed quantities, therefore the preference for lower covariance is associated with a lower expected return, not higher quantity. Since quantities are endogenous in the credit market, then both quantities and expected returns should adjust in equilibrium. I show that both the probability of getting a consumer credit and the amount of the consumer loan decline with the covariance risk of the household, which is evidence that lenders treat such consumers as having higher risk even after other factors are taken into account. Furthermore, the probability of a household reporting to be credit constrained (that is, a household who wanted a consumer loan, but was rejected) increases with covariance risk.

This article argues that financial institutions and their regulators should care about measuring the systematic risk of consumer debt and not simply the default rates over the last few years. The reason is that recent default rates can be explained by lucky economic shocks instead of better management. Therefore the systematic risk component of the consumer debt portfolios can be a more accurate measurement of the risk each financial institution is undertaking when a strong negative shock happens.

Keywords: Credit supply; Consumer credit; Default risk; Business cycle fluctuations; Unemployment shocks

JEL Codes: E21; E24; E32; E51; G01; G21

Time-varying Long Range Dependence in Chinese Commodity Futures Markets

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Abstract

Since China began significant economic reform in 1978, Chinese commodity futures markets have experienced a rapid growth in various aspects. For example, the number of commodities listed on exchanges has increased significantly; the trading volume and the turnover from 2001 to 2010 rose by around 142% and 161% respectively (Hammoudeh et al., 2014). The Chinese commodity futures market has now become the second largest commodity futures market in the world (Zhao et al., 2011).

The objective of this study is to examine Chinese commodity futures returns for evidence of persistence behaviour by utilizing a new wavelet estimator that is more efficient in terms of mean squared error (MSE). Moreover, to extend the recent studies, we examine the time-varying fractional integration parameters in the commodity futures markets to show that market efficiency (predictability) seems to evolve over time.

By employing eight daily futures prices, including Soybeans, Soybean meal, Soybean oil, Corn, Sugar, Cotton, Aluminium and Copper, we can contribute to the existing literature in a number of ways. Firstly, traditional time series analysis relies on methods that involve either the time or the frequency domain. For example, the popular GPH estimators are used in Barkoulas et al. (1999) and Crato and Ray (2000). This study utilizes a new semi-parametric estimator, developed by Jensen (1999), known as the wavelet OLS estimator. The distinguishing feature of this new estimator is to permit a combined analysis of both time and frequency information and therefore is able to identify more effectively either long-run behaviour or short-run phenomena. The wavelet estimator also shows a significant improvement over the GPH estimator by providing a much lower mean squared error (MSE). We apply this new estimator

to examine the wide range of Chinese commodity futures returns, including grain, soft and metal commodities.

Secondly, although the concept of time-varying Hurst exponents was first introduced and mainly applied in spot stock and exchange rate markets, it has not been estimated in the context of the Chinese commodity futures market. Moreover, we propose evaluating the wavelet OLS estimator over time using time windows to capture the time-varying degrees of long-range dependence in the Chinese commodity futures returns. Finally, a new analysis of the evolution of the Chinese commodity futures market efficiency is carried out in terms of time-dependent wavelet OLS parameters.

Our results indicate that the commodity futures returns for soybean meal, cotton and copper display evidence of long memory based on the wavelet OLS estimator over the full sample period. Secondly, we find that some long memory parameters in commodity return series are negative, indicating that the return series displays evidence of anti-persistence or prolonged damped oscillations. Finally, surprisingly, all long memory parameters are time-varying, revealing that the efficiency of the Chinese futures market evolves over time.

Keywords: Futures returns; Temporal long-term dependence; Market efficiency; Wavelet

JEL Codes: C14, C22, G14

The UIP and dynamic linkages among major exchange rates: An Asymmetric DCC approach

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Abstract

This paper empirically investigates the existence of significant linkages between major G7 exchange rates (CAD, EUR, JPY and GBP, all denominated in USD) during the Global Financial Crisis (GFC) and Eurozone Sovereign Debt Crisis (ESDC).

There is prior literature investigating the volatility spillover linkages among exchange rates, which support that the uncertainty in exchange rates arises not only from local shocks, but is also transmitted across currency markets. We differentiate our analysis by employing an asymmetric dynamic conditional correlation (A-DCC) model for the period 2004–2015 on the estimated residuals taken from an Error Correction Model (ECM) version of the UIP hypothesis. In this way, although the UIP may not strictly hold at every time point in the sample period, we allow for a dynamic converge to a steady state consisted with the UIP, at a convergence speed that is estimated by the data. Moreover, the estimated residuals are conditionals on the information set that an investor will most likely take account and include not only past observations of exchange rates but also those of interest rates. In order to describe the linkages among the currencies and conditional variance dynamics, we estimate a GJR-GARCH (1,1) specification, including the estimated DCCs and two dummy variables which represent the two crisis periods (GFC and ESDC).

For the CAD-EUR and CAD-GBP pairs, the correlation coefficient is positive, suggesting that the relationship among these currencies is actually increased during the GFC. This finding can be regarded as a “contagion effect”. CAD, EUR and GBP currencies seem to be substantially influenced by USD due to the US financial and macroeconomic deterioration. On the other hand, CAD-JPY, EUR- JPY, EUR-GBP

and GBP-JPY pairs display evidence of decreasing linkages. The results indicate that CAD was hit harder during the GFC. This evidence of negative GFC dummy coefficients supports the existence of a difference in the vulnerability of the currencies. One possible explanation is that the CAD, EUR and GBP currencies were hit harder during the GFC due to strong financial and economic ties of the countries with US, while JPY remains less affected by the GFC. During the ESDC, the dummy coefficient of CAD-JPY and CAD-GBP pairs is positive and statistically significant, indicating increasing linkages among these currencies. It seems that CAD, JPY and GBP were substantially influenced by the Euro crisis, resulting to a "contagion effect".

However, the ESDC dummy coefficient of CAD-EUR, EUR-JPY, EUR-GBP and GBP-JPY are negative and statistically significant. This result indicates the decreasing pattern of DCCs, supporting the existence of a difference in the vulnerability of the currencies. It is rational that, as the euro crisis deepens, investors move to currencies that are safer, such as CAD, JPY and GBP, producing lower correlations.

The results lead to important implications from investors' and policy makers' perspective. Due to the different vulnerability of the currencies, the investors may enjoy increased portfolio diversification benefits, since holding a portfolio with diverse currencies is less subject to systematic risk. Furthermore, policy makers need to adopt a more strict form of monetary policy coordination among central banks, since the correlation behavior among currencies can be considered as evidence of non-cooperative monetary policies. On the other hand, the increasing linkages among currencies highlight the intense of globalization, through closer financial, economic and trade activities.

Keywords: Uncovered Interest Parity, Foreign Exchange rates, volatility linkages, financial crises

JEL Codes: C50, F31, G15

Credit Risk Modelling Under Recessionary and Financial Distressed Conditions

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Abstract

This paper provides clear cut evidence that recessionary and financial distressed conditions, as well as banning foreclosure laws, often introduced by governments to mitigate the effects of the economic and/or financial distressed conditions on mortgage loans, have adverse effects on the loan default probability. We argue that this may be attributed to long-term persistency of the above conditions, which can cause abrupt shifts in the probability of default of a loan. Our estimates indicate that these policies may also raise moral hazard incentives that borrowers will not maintain their payments in long run, even for loans with low LTV. Under these conditions, efforts of banks to restructure (or refinance) mortgage loans may not successfully affect future default probabilities. Our evidence is based on an extension of the discrete-time survival analysis model which allows for a structural break in its hazard rate function due to abrupt changes to exogenous events, like changes in political conditions. It is also robust to alternative specifications of the binary link function between default events and covariates. Asymmetric link functions are found to be more appropriate under financial distressed conditions.

Keywords: mortgage loans, survival analysis, structural breaks, financial distressed conditions, probability of default.

JEL Codes: G12, E21, E27, E43

Volatility and Financialization of Commodity Markets

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Abstract

Travails of companies that are producing commodities or countries exporting them have been in the news in recent months. A commodity (super-) cycle might very well have been over. Overall, various commodity groups have been very slowly but secularly declining, as if to justify Prebisch-Singer hypothesis, over a century now.

However, the secular decline looked like broken by the growth experiences of the developing economies such as China and India at the early 2000s. At the height of it, i.e., early July 2008 Bloomberg Commodity Index was 138% above its 1992 level when it started tracking a wide variety of commodities. Since then the trend has been reversed on and off; and nowadays it is 25% below its 1992 level. Yet, the downward trend was more than compensated by a dramatic increase in the volatility. This paper examines the increase in the volatility of commodity prices since the early 2000s.

Several aggregate indices of commodities as well as individual commodity series from various sources such as World Bank, IMF, and Bloomberg, are tested for stationarity and structural breaks using unit root tests and Quandt likelihood ratio tests to see if there is a statistically significant break from the past and from the long term trend of primary commodity prices in general and agricultural commodity prices in particular. It is a well known fact that volatility forms clusters and moves slowly over time. An estimated GARCH(1,1) model shows that there is a strong case for volatility clustering and volatility persistence in the estimated parameters of conditional heteroskedasticity. Furthermore, a CUSUM test for a parameter instability indicates a structural change in volatility. The paper then continues to explore the sources of volatility in commodity prices by separating it into ideosyncratic component and the market component caused by the overall market structure and by correlation with the other financial markets. It is found that spillover effects from other financial markets have become stronger through the financialization of commodity markets.

Keywords: Primary commodities, trend and volatility, financialization

JEL Codes: C22, E3, E61

Session 17

Finance II

To what extent are savings–cash flow sensitivities informative to test for capital market imperfections?

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Abstract

We construct a simple model with lumpy investment, cash accumulation and costly external finance. Based on this model, we propose a new savings specification aimed at examining savings behavior in the presence of investment lumpiness and financial constraints. We then test a key prediction of our model, namely, that under costly external finance, savings-cash flow sensitivities vary significantly by investment regime. We make use of a panel of firms from transition and developed economies to estimate the new savings regression which controls for investment spikes and periods of inactivity. Our findings confirm the validity of the model's prediction.

Keywords: Investment, fixed capital adjustment costs, cash flow, capital market imperfections

JEL Codes: D21; E22; E32; G31

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Reassessing the impact of finance on growth: evidence from the European Union

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Abstract

Our study investigates how financial development affects aggregate productivity growth. Based on a sample of EU member-states, we explore the finance-growth nexus using disaggregated data in order to distinguish between: (i) credit to households and credit to non-financial corporations, (ii) bank and private issued debt securities, (iii) business cycle effects. Our panel estimations provide clear evidence that the level of financial development is growth enhancing up to a certain level, while the type of credit plays a significant role in the development mechanism.

Keywords: Financial development; growth; panel data econometrics

JEL Codes: D92, E22, E44, O4

Yield Spread's Ability to Forecast Economic Activity and Recessions: A Meta-Analysis

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Abstract

Forecasting recessions and the future states of economic activity has attracted a great deal of econometric work while a mixed evidence has been found concerning yield spread's predictive ability. This paper uses a (quantile) meta-analysis framework to investigate and discuss the asymmetries that arise due to differences on the country studied, the sample size, the econometric models used and the geographical, macroeconomic and regional conditions. Some important implications and guidelines for future research in the field are drawn. We first propose that future research should pay much attention to state-of-the-art econometric techniques. Evidence in favor of the time varying nature of spread's forecasting ability is provided. In addition, spread's ability becomes more apparent during the latest years. Concerning geographical characteristics, yield spread can be considered as an extremely useful tool for forecasting purposes in many major world economies. From a macroeconomic point of view, ability of the yield spread to predict future recessions is more evident in more inflated and less export oriented countries. Also, the yield spread is a more appropriate forecasting tool during stressful economic periods. Quantile analysis reveals that the contribution of some of these factors in spread's forecasting ability is varying.. Our results are quite robust with respect to journal quality, sample size and number of estimates per paper used.

Keywords: Term spread; meta-analysis; economic activity

JEL Codes: E5; G1

The Buyers' Perspective on Security Design: Hedge Funds and Convertible Bond Call Provisions

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Abstract

This paper addresses the interplay of supplier and issuer preferences in the design of securities. We examine a market that has witnessed a major shift in the suppliers of capital, namely the market for convertible securities. The convertible market is especially interesting as the shift in the supply side is observable and because the shift has been towards convertible arbitrage hedge funds, which have particular design preferences. Most notably, the issuer and the hedge fund perspectives can differ substantially on whether or not to include a call provision. Consequently, we focus on the fluctuating popularity of convertible call provisions to examine the interplay of supplier and issuer preferences in optimal security design.

Traditional rationales for why firms issue convertibles take the issuer's perspective and assign substantial importance to call provisions. But now consider the preferences of buyers. The principal buyers of convertibles today are hedge funds. Hedge funds combine the purchase of a convertible with a short position in the firm's stock. Convertible arbitrage hedge funds are less attracted to callable convertibles since an unanticipated call redistributes wealth from the holders of convertibles to stockholders. Such a redistribution is not a hedgeable comovement of the bond and stock. In the event of a call, convertible arbitrage hedge funds lose both on their long position in the convertible and on their short position in the issuer's stock.

We confirm that the large majority of the convertibles in our sample that are issued before 2000 contain call provisions. If hedge fund preferences are an important determinant of the design of convertible securities today, then the inclusion of call provisions in convertible debt should have decreased in recent years. We find that the growth of the convertible arbitrage industry after 2000 has been accompanied by a rapid decrease in the popularity of convertible bond call provisions. In 2011 only 28.8% of new convertible issues were callable and since 2003 only 18.8% of new convertible issues have been callable within the first three years of their lives.

The diminution in callability emphasizes the importance of the preferences of the suppliers of capital in determining security design. The diminution in the frequency of call provisions in convertible debt issues but not their complete elimination allows for sufficient variation in convertible callability to analyze the importance of a potential set of determinants of the inclusion of call provisions in convertible securities. This has not previously been possible since call provisions were the default. We find evidence that in addition to the preferences of convertible arbitrageurs, other significant determinants of the inclusion of call provisions are the potential for reducing problems associated with information asymmetries and with hold-up problems in the event of take-overs as well as the benefits of sequential financing. Our study thus provides clear evidence of how security design can reflect the interplay of supplier and issuer preferences.

Keywords: Security design, supply of capital, call provisions, convertibles, hedge funds

JEL Codes: G2, G32

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We would like to thank Gil Aharoni, Howard Chan, Francois Derrien, Neal Galpin, Ning Gong, Vincent Gregoire, Andre Gygax, Thijs van der Heijden, Darren Kisgen, Bryan Lim, Garry Twite, David Yermack, and seminar participants at Deakin University, University of Glasgow and University of Melbourne for helpful comments.

Learning from History: Volatility and Financial Crises

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Abstract

Does low volatility in financial markets mean that another financial crisis is more likely? This view is backed up by the theoretical literature, perhaps the best by Minsky's (1982) hypothesis that economic agents observing low financial risk are induced to increase risk-taking, which in turn may lead to a crisis. This is the foundation of his famous statement that "stability is destabilizing".

However, we could not find any empirical literature documenting such a relationship between financial market volatility, risk-taking, the real economy, and crises, which motivates our empirical investigation in this paper.

Borrowing terminology from the literature on output gaps, we interpret the slow-running volatility trend, calculated by a one-sided Hodrick-Prescott filter, as long-term expected volatility. Unexpectedly high and low volatility is then the deviation of volatility above and below its trend, respectively.

As crises are rare events, in order to obtain a meaningful statistical relationship between volatility and crises, it is helpful to take a long-term historical view. Since no comprehensive data on historical volatilities are available, we constructed such a database, spanning 1800 to 2010 and covering 60 countries, from primary sources.

By considering three varieties of financial crises: banking, stock market, and currency, we obtain a number of interesting results. We find a strong and significant relationship between unexpected volatility and the likelihood of a financial crisis. Unexpectedly low volatility increases the probability of both a banking and a stock

market crisis. This is especially strong if low volatility persists for half a decade or longer.

We further investigate this by using the credit-to-GDP gap as a proxy for risk-taking, finding that unexpectedly low volatility significantly increases risk-taking. This result complements that of Taylor and Schularick (2009), who find that credit booms are destabilizing, leading to a banking crisis and provides strong evidence for Minsky's instability hypothesis.

Persistently low volatility for a prolonged period of time leads to a crisis, while higher volatility signals a pending crisis, which is very much in line with the theory. Low volatility induces risk-taking, which leads to riskier investments. When those turn sour, the resulting high volatility signals a pending crisis.

We as well formally verify that the unexpected volatility-financial crises link also holds out-of-sample. In addition, using high and low volatility as crisis indicators delivers a strong signal-to-noise ratio, significantly beating random noise.

These results should be of value to macroprudential and monetary policymakers, as they provide clear guidance for how one should think about the relationship between financial market risk and the macroeconomy. By identifying the channels by which volatility affects the incidence of crises, policymakers are able to better understand the links between the two. Hence, they may want to consider including high and low volatilities in their set of crisis indicators, which would lead to more robust policy tools dealing with financial stability and systemic events.

Keywords: Stock market volatility, financial crises predictability, volatility paradox, Minsky hypothesis, financial instability, risk-taking

JEL Codes: F30, F44, G01, G18, N10, N20

Session 18

Applied Economics I

The risk-taking channel of monetary policy: a GVAR approach

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Abstract

The recent global financial crisis has brought the relationship between monetary policy and banks' risk-taking to the forefront of the economic stability debate. This is because the low level of interest rates in the years preceding the global financial crisis, stretching from 2001 to 2005, has led financial intermediaries to soften their lending standards and take on excessive risk. The paradigm within which central banks previously operated is now questionable. For example, Goodhart et al. (1996) argue that central banks should not be distracted by the assignment of targets other than that of price stability. However, the financial crisis in 2007-2008 has suggested that central banks' responsibilities may have to be extended beyond price stability and aggregate demand, to encompass financial stability and mainly the risk-taking propensity of economic agents. In particular, Angeloni et al. (2010) argue that if monetary policy contributes to the formation of financial risk in the financial sector, and if the latter in turn feeds back on macroeconomic variables with unknown lags, then monetary policy has to take into account the impact of financial stability on real economic activity. Therefore, it is critical to have a comprehensive understanding of the linkages between, monetary policy, assets prices and financial risk.

The monetary transmission mechanism literature has paid insufficient attention to the link between monetary policy, and the perception and pricing of risk by economic agents. This link has been explicitly named by Borio and Zhu (2008) as the risk-taking channel and has been added to the existing channels of the transmission mechanism of monetary policy. Since then few theoretical models have been developed to build a conceptual framework for the risk-taking channel. These models suggest that the risk-taking channel will take effect through the impact of the policy rate on asset valuation, or from the link it has with the

market rate. The impact of asset price volatility on banks' leverage will also influence banks' appetite towards risk.

This study contributes to the limited empirical and theoretical literature on the risk-taking channel by using Global Vector Autoregression (GVAR) model for the US. Data from 18 banks are used to investigate the interplay between banks' risk, total loans and a measure of monetary policy shock. The results support the existence of the risk-taking channel, as the share of nonperforming loans in the medium and long run increases after a monetary policy shock. Banks' capital structure plays a crucial role in determining the magnitude and the length of the banks' response. Results from the impulse response functions also provide a strong support to the spillover effect or the risk of contagion. Finally, the composition of banks' loan portfolio has a significant impact on the reaction of banks' total loans to a monetary policy shock.

Keywords: Credit Risk, Monetary Policy, Risk Taking Channel, GVAR.

JEL Codes: E32, E52

Measuring a tourist destination's attraction factors: reasons for visiting Rhodes

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Abstract

Purpose: The importance of the tourist industry in Greece's economy is undisputable and is growing steadily over the last decade, despite the economic recession. With 25 million visitors during 2015, up from 24 million the previous year, tourism contributes close to 18% of the country's GDP and supports, directly and indirectly, 700000 jobs. The purpose of this paper is to establish a methodology for measuring the factors contributing to the choice of a tourist destination, and we apply this methodology to Rhodes island, one of the most successful tourist destinations of the country. Moreover, we measure the degree of tourist's satisfaction after the visit. The ultimate goal is, by applying the methodology and questionnaire to other popular destinations, to reach conclusions about best practices and success factors that can be applied more widely.

Methodology: The study is based on primary data collected by means of a questionnaire that was filled by visitors of Rhodes island during July 2015. The respondents were randomely selected among hotel residents in the island of Rhodes. For the group of questions that can explain "what are the main reasons for visiting Rhodes" we applied factor analysis after applying Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO=0.727>0.60). Using Bartlett’s Test of Sphericity, the

factors were ranked on the basis of eigenvalues and using as a criterion Eigenvalue>+1 we selected three factors which explain 67,7% of the total variance.. T-tests were also applied in order to detect differentiations in the responses among the various demographic groups of the sample.

Findings: Our analysis indicates that the reasons for visiting Rhodes can be grouped around three axes. The first axis loaded the factors "safety", "value for money" and "hotel quality" with loads of 0,806, 0,782, 0,719 respectively. The importance of safety and value for money has been identified by other recent research in the countries of origin of potential visitors. The second axis loads factors relating to the specific interests of the visitors and include the nightlife, archaeological sightseeing and shopping. The third axis loads the items "beaches", "food" and "weather", which are destination specific factors and display high loads of 0,848, 0,598, 0,556 respectively.

Moreover, we applied the statistical tests t-test and ANOVA with post hoc tests for independent samples and dependent variables the values of the responses , in order to test whether the variables "sex", "age","educational level", "single traveler" vs "group", "country of residence", "income", and "first time" or "repeat visitor" affect the choices of the "Main reasons for visiting Rhodes" . The Cronbach’s a for all the responses is statistically significant and equal to a=0,686.

The application of the above tests showed statistically significant differences based on the country of residence, income and whether the respondent was traveling alone or in a group. The other demographic factors were not associated with statistically significant differences in the responses.

A similar analysis was applied on the parameters of the question "rate your acommodation" where all the factors were loaded on a single axis with a Cronbach’s a statistically significant and equal to a=0,868. With an average score of 4 out of 5, the respondents indicated their satisfaction with the hotel's location, cleanliness, services and other amenities. Once again, the application of t-tests and ANOVA indicated statistically significant differences in the responses based on income, residence, and type of travel arrangement, and in this instance family status was also important.

The next group of questions asked the respondents to rate the tourist facilities offered on the island, where the same statistical analysis was applied. The highest rating was

given to the hospitality of the residents and the local cuisine and the lowest to the organized guest services.

Lastly, three questions regarding the overall level of satisfaction revealed that even though the respondents did not find exactly what they were expecting, most would visit Rhodes again and even more would recommend Rhodes as a vacation destination.

Conclusions- recommendations: Rhodes is an established and succesful tourist destination. Maintaining the quality of services, improving infrastracture and ensuring that the marketing of hotels and the island in general is accurate so that the tourists's expectations are fulfilled, will ensure continuing success. The components of success "value for money" , "quality of food" and "friendliness of residents" can be duplicated everywhere in Greece, whereas the climate is a favourable constant in most of the country.

Keywords: Rhodes, Tourism, Factor Analysis, Rhodes

JEL Codes: Z30, Z32, C10, C380

Modelling the foreign direct investment inflows in the Baltic sea and Balkan regions

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Abstract

This paper targets to create a model that will explain the presence and the evolution of Foreign Direct Investment Inflows (FDI) in foreign countries. We focus on two regions, that of Balkans Peninsula and that of Baltic Sea region. The forms of FDI are presented as well as its connection with the economic growth and the prosperity of the countries and their population. At the same time we review on a large amount of determinants of the FDI net inflows in a country. Based on a panel data analysis of 8 selected and representative economies by these specific regions, we advocate that there are certain determinants that influence the inflow of the FDI and their investors to host markets. An econometric-factor analysis is applied in order to investigate the effect of these determinants and their importance on FDI inflows.

Our results indicate that the impact of the independent variables vary according to the model. The impacts of the independent variables indicate that we cannot have a unique and uniformed model in order to decide about the factors that attract FDI and to calculate their impact. Each one of the factor that we employ has a different influence to the attractiveness of FDI, according to the region or the country. We could say that our results are in accordance to those of Niazi et al. (2011) where the authors mentioned that inflation has a negative but insignificant impact on FDI. On the other hand, statistical analysis proves that variables that seem to be really important according to the literature, like GDP growth and/or population, are important in the full sample and in Balkans but in the region of Baltic Sea are not significant. All of these elements indicate the variety of the influences on the model by the indicators according to the sample that we investigate in.

Overall, the results suggest that governments should pay attention to determinants that create a friendly, technologically developed and open to foreign investments business environment since they are strongly significant for the attractiveness of FDI inflows. Also, the analysis suggests that the determinants of FDI inflows change from region to region and from country to country. The investor has to take into account the characteristics of the countries and judge how these influence the determinants and at the same time governments have to create a stable fiscal-economic environment with low inflation rates in order to attract foreign investors.

Keywords: Foreign Direct Investment Inflows, Factor Analysis, Panel Data, FDI determinants

JEL Codes: C50, F21

Public spending, monetary policy and growth: Evidence from EU countries

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Abstract

Following the 2007-2008 crisis, the response of fiscal policy became highly expansionary in several countries. Lots of European Union (EU) economies adopted fiscal stimulus measures to address weaknesses in the financial sector and restore aggregate demand. During the same period, central banks reduced nominal interest rates to unprecedented levels as a means to increase liquidity in the private sector. Real interest rates still remain negative for most EU countries.

As a result, fiscal positions of many countries deteriorated leading to higher public sector deficits and rapid accumulation of government debt. At a later stage, the fiscal policy stance shifted into a restrictive regime across several EU countries in response to the deepening of the sovereign debt crisis. However, the percentage of GDP that is allocated to public spending varies significantly from country to country.

The question that arises is whether and to what extent has fiscal policy of recent years affected growth of EU countries? And if so, is this effect uniform across countries? This paper tries to answer this question by putting emphasis on the role of monetary policy in shaping the relation between public spending and growth. This study relates to a number of recent studies having examined the impact of fiscal policy in the USA using structural Dynamic Stochastic General Equilibrium (DSGE) models. I try to empirically answer the same question for a number of EU countries.

At first stage the approach of Balnchard and Perotti (2002) is followed to set up a structural VAR econometric framework and estimate multipliers of public spending. Quarterly time series datasets are compiled for each EU country. The obtained econometric results confirm that responses of output after a shock in government spending are not uniform and vary significantly across EU countries. The influence on output is positive for the majority EU countries. However it remains low or becomes even negative for fewer ones.

Next I incorporate in the analysis the role of monetary policy. Based on annual cross country data covering the period 2004-2014, I examine whether the real interest rate affects the relationship between public spending and growth. The main result that arises from the econometric analysis is that monetary policy indeed matters in shaping the influence of public spending on growth. It is shown that its impact on output can be effective only when real interest rates become negative. This result remains robust to several changes in the econometric specification and measures of monetary policy.

Keywords: Public spending, Fiscal multipliers, Monetary policy, Economic growth

JEL Codes: E43, E62, O40

Regional Integration: How Can Africa Diversify its Exports?

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Abstract

Africa has the most highly concentrated exports, comprising mainly commodities. In a world characterised by the end of the commodity boom, the need of the hour is export diversification. Non-reciprocal and reciprocal preferential trade agreements (PTAs) for African exporters in developed country markets have provided duty-free access, but their impact on Africa's export diversification may be limited by the exclusion of several manufactured goods, tariff escalation policies, technical regulations, short time horizons and geographical coverage. Regional integration provides a more level-playing field for African firms in the industrial sector, as they develop and learn to compete internationally, but few agreements have achieved their lofty goals.

The objective of this paper is to analyse the impact of "deep" regional integration on manufactured goods' exports from Africa. In doing so, it seeks to focus on the issue of rules of origin (RoOs) – which may result in far less intra-African trade liberalization than is implied by the preferences granted in PTAs – through a "natural experiment". In 2001, the South African Customs Union (SACU) market decided to simplify the RoOs on textile and apparel exports from four least developed countries (LDCs) who were members of a larger Southern African Development Community (SADC) – Malawi, Mozambique, Tanzania and Zambia. At the beginning of 2010, however, this special arrangement between the SACU and these four countries expired. This enables us to investigate the impact of less stringent rules of origin on the exports of textiles and apparel. In doing so, we estimate a gravity equation for a sample comprising all Sub-Saharan African countries between 1992 and 2011.

When estimating the effect of trade policies on trade volumes, there is the possibility of an omitted variable bias as well as simultaneity bias. The country-pair fixed effects included in the specification account for unobserved country-pair heterogeneity. In addition, country-time fixed effects account for unobserved importer and exporter time varying characteristics such as multilateral price terms. Another source of endogeneity relates to the fact that the between-country component varies over time for reasons other than the special RoOs relaxation arrangement signed between particular country pairs – for example, preferential access relating to tariff changes. The inclusion of a SADC dummy variable addresses this potential source of bias as it represent membership of a free-trade area.

We find that the relaxation of stringent rules of origin on textile and apparel exports from four LDCs – Malawi, Madagascar, Tanzania and Zambia – to SACU member states had a positive statistically significant effect on the value of these exports. In contrast, simply being a part of the SADC free trade area has no statistically significant effect on the exports of these products. These findings highlight the importance of "deep" regional integration in enhancing the export of manufactured goods from Sub-Saharan Africa and, therefore, the need to negotiate deeper commitments in regional trade agreements. Looking ahead, the trade-enhancing effects of "deeper" regional integration are likely to be larger with an expanded membership. The potential benefits of the COMESA-SADC-EAC tripartite FTA and even a pan-African FTA are therefore enormous.

Keywords: Africa, regional integration, industrial diversification

JEL Codes: O24, O55, F13, F15

Session 19

Econometrics and Modelling

Investor Base and Sovereign Bond Yields Interdependencies: Evidence from a Panel VAR

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Abstract

In this study, we attempt to shed more light into the dynamic interaction between sovereign risk and the investor base using quarterly data for 24 OECD countries over the period 2004Q1-2015Q2. To achieve that, we decompose each of the total domestic and foreign holdings into three sub-categories: (1) Official sector/Central Bank holdings; (2) Bank holdings; (3) Non-bank holdings. In addition, and unlike previous studies, we directly address the issue of endogeneity by employing a panel VAR (PVAR) approach originally proposed by Holtz-Eakin et al. (1988). Moreover, we adopt a generalised identification scheme in line with Koop et al. (1996), Pesaran and Shin (1998) and Diebold and Yilmaz (2012), in which the results are invariant to the ordering of the variables in the PVAR, unlike those under the Cholesky identification scheme. In the context of the present study, this is particularly important since it is hard, if not impossible, to justify one particular ordering between the investor base and sovereign bond yields. Put differently, shocks are highly intertwined, and this feature is very well captured by the generalised PVAR framework employed.

The PVAR incudes bond holdings, yields and several macroeconomic, fiscal and global factors (actual and forecasted values). Estimations are conducted using the

generalised methods of moments (GMM) estimator. Following Arellano and Bover (1995), we employ forward orthogonal deviations (FOD) which do not share the weaknesses of the first-difference transformation by instrumenting lagged differences with differences and levels of the endogenous variables from earlier periods (Anderson and Hsiao, 1982). Instead of using deviations from past realizations, FOD subtracts the average of all available future observations, hence reducing data loss. Moreover, since past realizations are not included in this transformation, they remain valid instruments (Abrigo and Love, 2015).

Our empirical findings reveal the following empirical regularities. First, the results are consistent with the existence of both pull and push effects with regards to both total foreign and total domestic holdings of debt. Specifically, higher yields are associated with lower (higher) total foreign (domestic) holdings, whereas an increase in foreign (domestic) participation leads to lower (higher) government bond yields. Second, our results reveal important heterogeneity across the investor base. Decomposing total holdings into their three components, we show that these effects are mainly driven by the behaviour of the non-official sector (banks and non-banks). Third, conducting country group sub-sample estimations, our results indicate that the patterns we identify in the full sample of 24 OECD countries primarily reect developments in the high spread Euro Area (EA) group since the onset of the global financial crisis and the subsequent European sovereign debt crisis. Finally, our results remain robust to a battery of sensitivity checks.

These results have substantial implications for policymakers and investors who need to recognise the intricate financial interlinkages between debt holders across the various sectors of the economy and sovereign bond yields.

Keywords: Sovereign Bond Yields; Investor Base; Panel VAR

JEL Codes: C32, C33, E4, E5, F34, G01, G15, G21, G28

A Simple Estimator for Short Panels with Common Factors

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Abstract

There is a substantial theoretical literature on the estimation of short panel data models with common factors nowadays. Nevertheless, such advances appear to have remained largely unnoticed by empirical practitioners. A major reason for this casual observation might be that existing approaches are computationally burdensome and dicult to program. This paper puts forward a simple methodology for estimating panels with multiple factors based on the method of moments approach. The underlying idea involves substituting the unobserved factors with time-specific weighted averages of the variables included in the model. The estimation procedure is easy to implement because unobserved variables are superseded with observed data.

Furthermore, since the model is effectively parameterized in a more parsimonious way, the resulting estimator can be asymptotically more efficient way than existing ones. Notably, our methodology can easily accommodate observed common factors and unbalanced panels, both of which are important empirical scenarios. We apply our approach to a data set involving a large panel of 4,500 households in New South Wales (Australia), and estimate the price elasticity of urban water demand.

Keywords: Dynamic Panel Data, Factor Model, Fixed T Consistency, Monte Carlo Simulation, Urban Water Management

JEL Codes: C13, C15, C23

The combined effect of aggregation and the log transformation on forecasting

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Abstract

Many economic variables are often used in logarithms for forecasting and estimation analysis, as this transformation is considered to create a more homogenous variance. The conditions under which the log transformation can help the researcher to produce more accurate forecasts are examined in previous studies in the literature. On the other hand, forecasting macroeconomic variables across a (large) number of countries/groups is also a difficult but standard task for economic analysts. A lot of work has been done about aggregated data and the way we can obtain optimal forecasts for the aggregate. However, the majority of those studies refer to linear transformations, and given that the logarithmic transformation is a nonlinear one, the effect of using logs in forecasting aggregated variables is not clear and needs further investigation. The aim of this study is to investigate the combined effect of aggregation and the log transformation on forecasting.

The study initially describes the alternatives approaches that can be followed to obtain forecasts for the variable of interest when this variable is an aggregated process. Each approach generates a different predictor. Then, we investigate the relative forecasting accuracy of each predictor by means of Monte Carlo simulations. Finally, a variety of empirical applications are carried out using aggregated economic variables.

Keywords: forecasting, aggregation, log transformation, VAR

JEL Codes: C53, C22, C32

Modeling and Forecasting sales in the Greek market.

The case of the Greek new car sales sector

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Abstract

Greece is currently under a prolong period of economic crisis and the purpose of this research paper is to analyze, model and investigate the impacts on sales levels in the Greek new car retail market. Greek citizens postpone or delay the purchase of durable products, like cars and other goods after the agreed and singed memorandum with the International Monentary Fund and the European Central Bank in May 2010. Greek creditors continue to dictate the terms of the bailout and monitor the application of austerity measures while Greek economy falls deeper into recession. The accuracy of various forecasting techniques to predict new car demand is evaluated before and after the inclusion of the recession period for a leading group of car representatives in the Greek retail market. The objective of this study is to propose the Error Trend and Seasonal (ETS) state space approach as a model that can predict more accurate the number of the new car sales level.

The new vehicle registration levels in Greece on a monthly base are the research data which are obtained by Greek Association of Motor Vehicle Importers - Representatives (AMVIR) statistical data base for a time period of 14 years. Data are analyzed using time series techniques and modeling. The forecasting methods used include simple models like the Mean and seasonal Naïve models (basically for comparison purposes to ensure that minimum performance standards are being met) and more complicated and advanced models, like the Seasonal Autoregressive Integrated Moving Average (SARIMA) models and the Error Trend and Seasonal (ETS) state space models with Exponential Smoothing.

The diagnostic checking for all the fitted models confirms the adequacy of the models. Results based on the root mean square error (RMSE) and the mean absolute percentage error (MAPE) demonstrates that the ETS models performed better for more recent data.

Results show the importance of different models for forecasting car demand levels of each new car retailer depends on the time periods we include in fitting the model and the period we choose to predict.

Empirical evidence shows that simple Naïve models seems to be more efficient in more stable economic environments while ETS models are more adequate in turbulent economic environments for new car retail sector. In this research our main contribution is that ETS models have proven to be successful in describing and forecasting the monthly new car sales dynamics, however ETS models have so far not been used in sales prediction in Greece. Accurate forecasts are helpful in formulating the needed strategies for sustainable management and inventory control and can also help the decision makers to establish priorities and efficient control planning.

Finally, we show evidence that the implementation of austerity measures in Greece, during the last decade had high impacts on customers' behavior in retail new cars' demand and totally changed the level of sales causing applied research to focus in advanced time series modeling for more accurate predictions.

Keywords: Time series forecasting, Seasonal ARIMA models, Exponential Smoothing (ETS) models, car sales

JEL Codes: C1, C2, C4, C5, C22, C52

Heterogeneous Rebound Effects: Comparing Estimates from Discrete-Continuous Models

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Abstract

Discrete-continuous models have become a common technique for addressing selectivity biases in data sets with endogenously partitioned observational units. Alternative two-stage approaches have been suggested by LEE (1983), DUBIN and MCFADDEN (1984), and DAHL (2002), all of which capture the first-stage discrete choice by the multinomial logit model, while the second-stage outcome equation is estimated using OLS. The nonlinearity introduced by the selection bias correction implies that the second-stage coefficients cannot be interpreted as marginal effects. Instead, the marginal effects are obtained using the estimates from both the first and second stages, a step that has been widely neglected in the applied literature. After deriving formulae for the marginal effects obtained from these selection correction approaches, we estimate a joint model of automobile ownership and distance driven to quantify the rebound effect, the behaviorally induced increase in driving that results from higher fuel economy. Our example illustrates that the pattern of rebound effects varies substantially depending on the method of selection bias correction.

Keywords: Discrete-continuous models; marginal effects; car use.

JEL Codes: D12, Q21, Q41

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Session 20

Applied Economics II

A multicriteria mathematical programming model for farm planning in Greece

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Abstract

This paper presents a Multicriteria Mathematical Programming model for farm planning and sustainable optimization of agricultural production. The model can be used as a tool for the analysis and simulation of agricultural production plans, as well as for the study of impacts of various measures of Common Agriculture Policy in the member states of European Union. The model can achieve the optimum production plan of a farm or an agricultural region combining in one utility function different conflicting criteria as the maximization of gross margin and the minimization of fertilizers used, under a set of constraints for land, labor, available capital, Common Agricultural Policy etc. The proposed model was applied to a region in central Greece (specifically in prefecture of Larisa). The optimum production plan achieves greater gross return, less fertilizers use, and less irrigated water use than the existent production plan of the prefecture.

Specifically, the paper aims at the optimization of agricultural production in the prefecture of Larisa, region of Thessaly, in Central Greece in order to: optimize the agricultural resources (land, labor and capital); increase the agricultural income; decrease the use of irrigation water; and reduce the nitrate fertilizer use.

This is achieved by a Multicreteria Mathematical Programming Model (MCDM) that uses the farmers utility function. The MCDM model has three separate objectives combined in one utility function: the maximization of gross margin; the minimization of nitrate fertilizers use; and the minimization of labor use. The constraints of the MCDM model refer to: total cultivation area; Common Agricultural Policy (CAP) (production rights, quotas and set aside); market and other constraints; rotational and agronomic considerations; irrigation water constraints. The attributes of the model, that are considered by the farmers as costs and not as decision variables are: the fertilizer use; and irrigation water use.

The MCDM model proposes the optimum production plan of prefecture Larissa in the region of Thessaly with a different synthesis than the existent plan. The proposed plan achieves an increase of the total gross margin (+1.10%) and a decrease of the labor used (-5.93%). It also achieves an important decrease (-11.65%) of the irrigation water use and a decrease of the nitrate fertilizers use (-5.39%).

Keywords: sustainable optimization; multicriteria analysis; agricultural production

JEL Codes: Q01

Homeownership: Boon or Bane for an Economy?

An Empirical Analysis of the Link between Homeownership and GDP

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Abstract

Housing plays an important role in an economy and its households. For example, according to the U.S. Census Bureau, more than 63 percent of U.S. homes are currently occupied by their owners, and the largest part of every household's consumption expenditures is spent on housing and related services. Moreover, the median house value of owner-occupied housing constituted almost 95 percent of the U.S. gross domestic product (GDP) in 2010.

Despite these figures, the relationship between owner-occupied housing and GDP has been largely ignored in the housing literature. While the body of literature on the positive relationship between homeownership and consumption is huge, its effects on aggregate production, specifically GDP, have not received a lot of attention in the literature. In light of the recent financial crisis and the importance that is attached to homeownership in an economic and household-related sense, it is striking that this link has not been studied in greater detail yet.

This paper tries to fill this gap by estimating a Cobb-Douglas function for 17 industrialized countries with different levels of homeownership, introducing a third production factor that captures the effect of homeownership. This variable is constructed according to Case, Quigley and Shiller (2005) and reflects the aggregate housing wealth in a given year and country. The underlying assumption of the paper is that a dollar invested in a house cannot be invested in other assets that increase the aggregate wealth of this economy. Therefore, when one takes an expenditure approach to compute the GDP of an economy, the GDP should increase with new homes being built and with housing-related consumption; but it should also decrease if businesses that could take out profitable projects cannot raise enough capital to finance these investments. This could be the case when too much capital is bound in homes. The results of the panel study will show whether owner-occupied housing has a significant effect on the level of real GDP per capita.

Keywords: Owner-occupied housing, GDP, economic production, homeownership

JEL Codes: E23, E21

Let’s talk about the weather: the impact of climate change on central banks

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Abstract

This paper examines the channels via which climate change and policies to mitigate it could affect central banks’ ability to meet their monetary and financial stability objectives. We argue that two types of risks are particularly relevant for central banks.

First, a weather-related natural disaster, such as hurricanes and floods, could trigger financial instability and a macroeconomic downturn if it severely damages the balance sheets of households, corporates, banks and insurers. The economic impact of a natural disaster is likely to be less severe if the risk was priced in the financial decisions of all parties ex ante, and the financial system has distributed the risk appropriately, eg via insurance and re-insurance. Ex post, the central bank will need to react appropriately to a disaster by gauging its impact on demand and supply, as well as the financial system, eg by adjusting monetary policy and activating liquidity supply to financial markets.

Second, we demonstrate using a simple game-theoretic model that a sudden, unexpected tightening of carbon emission policies could lead to a disorderly re-pricing of carbon-intensive assets, such as fossil fuels. By contrast, a pre-commitment to a tightening of carbon emission policies could potentially help coordinate private investment to generate a ‘low carbon equilibrium’, in which fossil fuels retain value due to sufficient investment in carbon-abatement technologies, such as carbon capture and storage (CCS). We also conduct an event study to examine market reaction to specific events which could be associated with a change in market expectations about the profitability in investing in carbon-intensive assets. We find that, in general, these events had statistically significant positive impact for abnormal

returns of renewable energy companies, but they did not have a statistically significant impact for abnormal returns of oil and gas companies.

An orderly transition to a 'low carbon equilibrium' is likely to be facilitated by an early re-direction of private investment towards low-carbon technologies. Climate-related disclosure by industries could encourage this re-direction if it helps to inform a wide range of investors and enables them to better assess the financial risks associated with the transition to a low-carbon economy. To be effective, such disclosure needs to be both forward-looking and simple to understand – for example, how a given change in carbon price will affect the value of the firm. Such disclosure could potentially also help inform the assessment of the risks to the financial system arising from the transition to a low-carbon economy, for example via a stress test.

Keywords: climate change, natural disasters, financial stability, monetary policy

JEL Codes: E58, G21, G22, Q43, Q54

Economic efficiency and e-government: Are the two interrelated? The case of the Greek Public Sector

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Abstract

An effective and efficient State is closely linked with the provision and delivery of improved and inter-connected public services that offer its citizens the opportunity of direct and reliable customer service, effective transactions with public organizations and accessibility to available administrative information. The development and formation of inter-connected and decentralized services not only almost eliminates geographical and time limitations but also enhances citizens' rights in terms of access to information and participation in public administration. The execution of administrative and business transactions in real time through the internet and inter-connected services ensures a speedier flow of information, allowing for a more economical use of time and resources. Thus, information and communication technologies (ICT) facilitate and enhance the efficiency, connectivity and effectiveness of services while reinforcing citizens' direct and reliable access to available information.

Economic efficiency in the public sector relates to the cost of providing public services while also being closely linked with controls in the quality of the services delivered. Beyond its reference to the process of producing quality public services with less cost, it also provides an indicator of how public resources are used, particularly the extent to which the public services delivered actually meet citizens' needs, at least to a certain level of satisfaction.

The main aim of e-government is to shape efficient and effective provision of services through the effective use of ICT. The modernization of the public sector is the key to transforming and generally improving the level of customer care (front office) as well as the level of internal administrative processes (back office). Modern technology

provides improved information tools for e-services with minimum cost that facilitate transparency and lead to a democratic and effective transaction system.

In the field of public management, information is closely linked with economic factors and has a major economic value. Certainly the development and implementation of electronic information and communication systems requires the investment of large sums of public money. However, this cost can be significantly reduced through a homogeneous methodology that inter-connects all public services in order to maximize their quality. Thus, many benefits can be gained, such as: a) advanced, transparent and efficient web-based services for citizens, businesses and employees, b) improved productivity c) reduction in delivery and printing costs, d) decision-making support, and e) a digitized archive that minimizes the risk of private data misuse through the outsourcing of services.

In the particular case of Greece, over the last six years the country has been facing tremendous economic problems, so much so that it currently appears to be stuck in an eternal cycle of growing dept. Despite the many attempts made by successive Greek governments to reduce and re-organize the public sector in response to the demands of the country's creditors, the Greek economy is still be characterized by a disproportionately large public sector and a small but healthy private sector. Moreover, it appears that the main drawbacks of the Greek economy steadily remain, such as an inefficient and expensive public sector, cost-ineffective processes, and an excessive number of laws. Taking into consideration that the problem of recession will not be solved until there is an improvement in the functioning and organization of the public sector, then clearly the effectiveness of management practices in delivering public services is becoming increasingly significant. Indeed, it is a key determinant factor in insuring quality and in meeting the goals of an efficient economic system.

In order to investigate the efficiency of the Greek public sector, the paper employs the technique of 'Organization and Methods' (the O and M technique). Through this method, the focus will be on answers to specific questions such as "why is it done?" or "how is it done?". In this way, existing procedures will be analyzed so as to investigate the economic efficiency of the public sector system. All the information will be gathered through observations and through interviews with public sector managers.

Based on the above, the purpose of the paper is, by using the O and M technique, to: a) describe and investigate the existing provision of public services in Greece, b) investigate the extent to which the Greek public sector has adopted e-government solutions in its administrative work and services, and c) examine the extent to which the Greek public sector is economically efficient / in need of reform.

Keywords: efficiency; public sector; e-government

JEL Codes: H1;M15;M54

Measuring innovation systems efficiency and its determinants. A multiple level and multiple stage approach

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Abstract

Innovation policies affect economic growth, welfare, and competitiveness of nations and regions. Innovation should be considered as a complex and dynamic, socio-technical, socio-economic, socio political phenomenon comprising what is called an innovation system. Measuring the performance /efficiency of innovation systems remains a high priority in order to develop integrated benchmarking systems in the knowledge-based economies.

Due to the complex nature and the interconnecting factors within an innovation system, single input or output approaches are not suitable. The composite indicators approach is commonly applied aggregating a set of innovation indicators which cover various aspects of the examined innovation systems. Still, studying separately innovation inputs and outputs may give misleading results (e.g., innovation inputs involve short-term costs and those investments that do not result in innovations are sunk costs).

Moreover, innovation is multi-stage process where knowledge, firstly, is produced and then is transformed into market products (i.e. commercialized). These stages are not necessarily characterized by the same efficiency. Furthermore, innovation can be seen as a multilevel concept, since national and regional innovation systems coexist and coevolve. National innovation systems form the framework where a country's innovation is produced, while regions may follow different regimes and exploit innovation inputs in a different way. Each region has its own assets, strengths, competitive advantages, and capabilities. However, each national or regional innovation strategy should share some important common features that form the overall national contextual environment where innovation takes place.

Given the above framework we propose a multi-stage and multi-level model that incorporates the different phases of the innovation process, while combining different innovation levels, i.e. national and regional.

The proposed model is based on Data Envelopment Analysis and is formulated as a multiobjective mathematical program in order to consider the objectives and the constraints of the different stages and hierarchies of the innovation process. This novel approach is based on a soft hierarchy modeling that overcomes the need for common set of innovation inputs and outputs between countries and regions. Furthermore, in order to study how additional environmental variables affect the efficiency scores, a multicriteria ordinal regression approach (UTASTAR) approach is applied based on the Quadruple Innovation Helix (QIH) concept.

The proposed approach is applied to a set of 23 European (both EU and non-EU) countries and 185 regions for the period 2007- 2011. The results show that there are large differences regarding the efficiency scores of the different stages and levels, implying the existence of significant divergences from the expected norm concerning innovation (efficiency) scores.

The meta-analysis provides weights for QIH indicators and the estimated value functions. The indicators that appear to have higher importance are: University R&D expenditures, Share of government sector on total employment (negative influence), Networking and University-Industry collaboration. Value functions provide additional information on how each of the QIH indicators contributes to innovation efficiency.

Concluding, this work provides a framework for measuring the efficiency of innovation systems, and its determinants. Such an approach may provide a valuable tool for country/region comparison and policy formulation.

Keywords: Innovation Systems, innovation systems, Data Envelopment Analysis, multi-stage efficiency, multi-level efficiency, multiobjective programming, ordinal regression

JEL Codes: C44, O30, O57, R15

Session 21

Economics and Behaviour

Financial Literacy and Attitudes to Redistribution

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Abstract

Government intervention to redistribute and limit income inequality is at the heart of recent debate in several countries around the world. Individual preferences for redistribution lead to different transfer and tax systems. Economic models have focused on the impact of current and expected income, future prospects and mobility in influencing the demand for redistribution at individual level. Results show that the degree of redistribution desired by an individual is negatively correlated with income, wealth and better prospects. Some scholars lament that variables employed in the literature, such as current and future income and education, are imperfect proxy for 'economic motivations' in that they do not completely capture the range and nuisance of economic determinants.

Recent studies on the importance of financial literacy shown that people's ability to process economic and financial information is linked with financial planning, wealth accumulation, management of credit positions and pensions. We depart from this literature and contribute by studying the impact of financial literacy on support for redistributive policies. The choice of the tax and transfer systems have direct consequences on current and future individual financial positions. Hence, our hypothesis is that financial literacy is an important determinant of redistributive attitudes. The acquisition of financial literacy may also change someone's views of the social value of income equality, independently from their own economic circumstances, the same way that some scholars conjecture that economics education

may lead people to hold more positive views of, say, greed (see e.g., Wang et al., 2011).

We use representative subsamples of the British Election Study (BES) 2014 that include attitudes towards redistribution and a module on financial literacy, alongside a rich set of individual characteristics, including income, education, age, gender, marital status, personality traits, risk attitudes. In 2014 two waves were administered in Britain as a whole, while a third wave collected a boosted sample of Scottish with the motivation of tracking political and social perceptions following the referendum for Scottish independence of September 2014. With an eye on robustness, in our analysis we use two samples separately, the standard British sample, which consists of more than 5,000 respondents, and the boosted Scottish sample of over 6,000 participants. The survey offers weights that render our samples representative of the whole population in both Britain and Scotland. Financial literacy questions included in the survey are the three primary financial literacy questions employed by the literature (see Lusardi and Mitchell, 2014) and capture the understanding of interest rates, inflation and risk diversification.

Our analysis shows that individual with higher degree of financial literacy are less supportive of redistributive policies and income equality in Britain. Financial literacy shapes those preferences independently from other economic factors, such as education and income, and from a rich set of individual characteristics, including personality traits, risk attitudes, country of birth and of residence. This effect is also robust to a number of functional forms, specifications and interactions and economically important. In linear probability models, a correct answer to financially literacy questions leads to a negative effect of 9 percent on the probability to be supportive of "government intervention to make incomes more equal" and 3 percent of being in favour of redistributing income to the less well off. Ordered probit models add to this analysis by showing that financial literacy impacts on the probability of being in clear opposition to redistribution, i.e., it is more likely to be in strongly disagreement with redistributive policies than just slightly so and these effects are larger in magnitude, i.e. equivalent to 19-26%.

We investigate whether our results can be partially explained by variables proposed by Corneo and Grüner (2002) and utilized in the literature to capture three main channels for individual support to redistribution and equality, namely, homo

oeconomicus (a measure of pure self-interest), social rivalry (whereby preferences towards redistribution are formed in reference to others) and public value effects (a measure of beliefs which is independent from individual economic circumstances). We show that homo-oeconomicus, public value and social rivalry effects mediate the effect of financial literacy on attitudes to redistribution, especially for individuals with high financial literacy. However, our financial literacy variable captures aspects that are independent from those defined by these effects, as it is still strongly statistically and economically significant in regression models that include the all set of factors.

Keywords: Financial literacy, redistribution, inequality, attitudes, Britain

JEL Codes: D14; D31; D63; I24

On the efficiency properties of the Roy's model under asymmetric information

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Abstract

We consider Roy's economies with perfectly competitive labor markets and asymmetric information. Firms choose their investments in physical capital before observing the characteristics of the labor markets they will face. We provide conditions under which equilibrium allocations are constrained Pareto efficient, i.e., such that it is impossible to improve upon the equilibrium allocation by changing agents' investments and letting the other endogenous variables adjust to restore market clearing. We also provide a robust example of a class of economies where these conditions fail and where equilibria are characterized by overinvestments in high skills.

The Roy's model provides a natural setting for the analysis of many labor market phenomena. Its key feature is the emphasis on the role of workers' comparative advantages in different jobs. This allows for a richer set of implications, compared to the ones obtainable in pure efficiency unit models. Additionally, and closer to the issue discussed in this paper, as soon as we move outside the class of perfect market economies, the Roy's model may have welfare properties, and - consequently - policy implications, which are sharply different from the ones obtained in pure efficiency units economies. From this viewpoint, the key question is how the equilibrium choices at the extensive margin are determined, and how they interact with the optimal choices at the intensive margin in delivering the welfare properties of equilibria.

In this paper, we extend the analysis of the efficiency properties of the Roy's model of investments in HC asking the following question. Consider an economy where labor markets are perfectly competitive, but investments in physical capital are selected ex-ante, before the random variable affecting investments in HC realizes. Let's define an equilibrium allocation to be constrained efficient if it is impossible to improve welfare by changing the profile of the investments at either margins and letting the other equilibrium variables adjust to restore market clearing. Under which conditions the equilibrium allocation is constrained Pareto optimal? The bottom line is that this property is guaranteed provided that the equilibrium partition of workers is state-contingent. As soon as we depart from this property, we can construct robust examples of economies such that constrained efficiency fails.

The results proposed in this paper are, we believe, interesting for at least two different reasons. First, they identify the basic features of the economy determining its constrained efficiency properties. This helps to put in a proper perspective the previous results obtained in the literature. Moreover, they can be immediately applied to many other classes of economies with similar structures and properties. Secondly, they can contribute indirectly to the literature on optimal taxation in Roy's models, which has known important developments in the last few years.

Keywords: Roy’s model, human capital, constrained Pareto efficiency

JEL Codes: D60, D82, J24

The Political Economy of the Current Account Balance

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Abstract

This paper discusses the role that the political regime type plays on the current account. We find that democracies tend to run (larger) current account deficits relatively to autocracies. Our main argument is based on the different incentives faced by democratic and autocratic leaders. More precisely, according to Anderson (1998), we expect that dictators are immune from public pressures relatively to democratic elected politicians and thus they are more able to temporary increase taxes or reduce government expenditures without facing severe opposition by the general public. The latter implies that current account consolidations are achieved more easily in an autocratic environment.

Our study also relies on additional theoretical arguments. According to Kalyvitis and Vlachaki(2012), increased holdings of capital by foreigners in autocratic environments, will result into pressures on the dictator for democratization. Consequently, dictators that fear such pressures will try to use policies that keep the current account balanced in order to decrease the reliance on net foreign assets. Furthermore, following Rodrik (1999) we expect democracies to pay higher wages than autocracies. Therefore increased workers' income implies more imports (or imports of higher quality goods (Malley and Moutos, 2006)) relatively to exports and thus an increase in the current account deficit.

In order to empirically examine the above arguments so as to establish a causal relationship between democracy and the current account balance, we estimate a Fixed Effects panel model. Our sample consists of 121 countries over the period 1980-2012. All variables are expressed in five year averages in order to eliminate short run fluctuations and examine more the long run causal effects of the political regime. The dependent variable is the current account balance as percent of GDP and the rest of

explanatory variables are similar to Chinn and Prasad (2003). The main proxy of democracy is the Polity IV index of democracy.

We also provide a series of robustness checks so as to verify the validity of our results. The most important however is the IV model we employ in order to eliminate the existence of possible endogeneity/reverse causality among democracy and the current account balance. Such a reverse relationship is reasonable even according to our theoretical reasoning: For example higher exposure to international markets, which may be associated with increased current account deficits may also lead to greater democracy. To take into account this possibility we use as an instrument the share of Christian adherents in each country.

According to Huntington (1993) Christianity played a key role on the democratization process during the previous years. This is evident from just the simple correlation coefficient of the instrument with democracy (almost 65%). At the same time our data reveal a virtually zero correlation coefficient with the current account balance (correlation coefficient 0.0001). In the first stage of the IV we find that there is a positive relationship between Christianity and the polity variable while in the second stage the negative relationship between Polity and the current account remains.

Keywords: Current Account Deficit, Democracy, Political Economy of Current Account

JEL Codes: F32, H11

Financial exclusion in the USA: Looking beyond demographics

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Abstract

The primary objective of the current study is to provide a detailed understanding of financial exclusion in the USA for a range of financial services which are deemed as beneficial for individuals' welfare over their life course. We exploit the unique and diligent survey data from the Panel Study of Income Dynamics (PSID), the longitudinal data set run by the University of Michigan that has followed families since 1968.

We depart from previous work in two important dimensions. First, we consider two fundamental aspects of financial exclusion: breadth and degree. Breadth is the broadest form of financial exclusion as it signifies that group or class of people in the society which is prevented from acquiring any service from the financial system (Leyshon and Thrift, 1995). Financial exclusion degree captures the extent of exclusion from specific functions of financial markets. To this end we construct three (dummy) dependent variables that take the value of one when households do not possess: (i) checking or savings accounts, money market funds, certificates of deposit, government savings bonds, or treasury bills; (ii) private annuities or individual retirement accounts (IRAs); and (iii) shares of stock in publicly held corporations, stock mutual funds, or investment trusts, including any automatic reinvestments (excluding IRAs). In essence, these dummy variables represent three different levels of financial exclusion. The first dummy variable corresponds to the most basic form of financial exclusion given that access to a bank account is regarded as essential in handling everyday transactions in modern societies. The other two dummy variables

measure exclusion from specific sets of financial services or products (such as IRAs and corporate stocks) which impedes individuals from saving for retirement, taking advantage of business opportunities, investing in education and insuring against risks (Demirgüç-Kunt, Beck, and Honohan 2008).

Second, we aim to provide valuable insights as to which factors are important in influencing financial exclusion in all categories and which are relevant in only certain contexts. Thus, we use a comprehensive set of variables which controls for the most often cited factors of financial exclusion, such as age, income, gender, ethnicity and employment status. Nevertheless, our paper attempts to go beyond providing another evaluation of the role of demographic variables in financial exclusion. Specifically, we extent previous work by examining the links between cultural values and financial exclusion. We believe that these demand-side factors (which are referred to as self-exclusion barriers) are crucial in understanding individuals' personal relationship with money and how they view the financial sector. For instance, financial exclusion can be the result of lack of trust, or the outcome of specific religious beliefs. Therefore, we investigate the likelihood of financial exclusion among different religious affiliations and levels of trust.

Our results provide valuable insights as to which factors are particularly important in influencing financial exclusion in a broader or in a narrower sense. Controlling for a large number of demographic characteristics and background factors, we find some evidence that religion is correlated with financial exclusion. Specifically, we find that Jews, and at a lesser extent religiously unaffiliated individuals, are significantly less likely of being financially excluded. In contrast, Catholics are more likely to be excluded from basic banking services than Protestants. We also obtain economically important trust effects on financial exclusion. In particular, we document that individuals who are more trusting are less likely to be financially excluded. This, in turn, highlights the need for the development of initiatives which increase consumer trust in financial markets as a means of combating financial exclusion.

Keywords: Financial exclusion; religion; trust; probit analysis

JEL Codes: D10, G20, Z10, Z12

Session 22

Finance III

Revisiting the New Issue Puzzle Using a Propensity Score Matching Approach

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Abstract

The pricing anomalies along with the cyclical pattern concerning unseasoned equity issues, otherwise known as the New Issue Puzzle (NIP), has been a major question mark among scholars for the past four decades. Despite numerous attempts to solve the three different fragments that make up this conundrum, there always seem to be parts that remain unresolved. An anomaly that raises controversy in particular is the IPOs long-run underperformance. Although this abnormality has been widely acknowledged there are claims that the underperformance might be due to a “bad model problem” causing the underperformance to appear more drastic than it really is. Considering these claims, this paper applies a method that has so far found relatively little application in this field, known as Propensity Score Matching (PSM). Most of the existing research on this topic has applied the same methods, providing rather similar results, but more importantly, suffering from the same limitations. This paper discusses how the PSM method can be used in order to provide more appropriate control firms by adding several new variables to the conventional matching approach based only on industry and firm size. The PSM allows us to overcome the so-called curse of dimensionality, and by doing so provides more appropriate matches when comparing the returns of relevant firms. This econometric approach is then applied to the same initial dataset used in one of the seminal studies of the NIP by Jay R. Ritter (1991, Journal of Finance), where he provides evidence in favour of the initial IPOs underpricing, the “hot issue”, as well as the long-run underperformance. In this study we therefore investigate the US IPO market in the 10-year period between 1975 and 1984, which was a popular decade for investigation by several studies regarding the IPO pricing anomalies. Using the same data constitutes a good source of comparison

for the results found in this research and allows us to be more confident about the origin of possible discrepancies of our results from other studies .

Our research is based on the very same initial dataset as Ritter (1991), where a total of 1,526 IPOs were observed in the 36 month period following the equity issue. However, as a result of missing data on specific variables, only 797 of the IPOs were selected for the PSM approach. We further extended the dataset to include an additional period of 24 monthly returns for robustness purposes, allowing the observation of post-issue performance over a total of five years. Our evidence provides similar results to Ritter (1991), and the vast literature that followed, regarding the short-run underpricing, where also an equivalent “hot issue” pattern emerges. However our results for the long-run underperformance lead to a drastically different conclusion compared to that of Ritter (1991): the PSM method points to significantly lower underperformance, which is reduced by approximately 25%. In fact, compared to Ritter (1991), who reports a staggering percentage underperformance of -27.39% in his complete sample, we report a modest underperformance of -2.2% using a comparable sample. The results seen in this study corroborate the arguments of Cheng (2003) where she provides convincing evidence of a link between a “bad” matching approach, and a high degree of underperformance.

Our results have implications for the existing theoretical explanations, like the fads theory, linking the initial underpricing and the long-run underperformance, and purporting the view that overoptimism and fads are a suitable alibi for the long-run underperformance. Taking the considerable underperformance in Ritter (1991) into account, such a connection would seem very plausible, however, the results of this study shows that the underperformance is practically unnoticeable, hence the relationship between the underperformance and the initial underpricing fades, casting doubts on the theory. The remaining underperformance after the PSM approach could still be due to fads. Although, seeing how the underperformance is rather negligible, this makes the conventional explanation rather unconvincing, and at best it will show that fads have a very limited impact.

Finally, prior research has established that the underperformance narrows and eventually disappears by the fifth year. Interestingly, the results of this paper suggest a receding trend regarding the underperformance, which is fading away but not totally disappearing five years after the IPO.

Keywords: Initial Public Offerings; New Issue Puzzle; Short-Run Underpricing; Hot Issue; Long-Run Underperformance; Propensity Score Matching

JEL Codes: G12, G32

The Financial Accelerator in a Model of Adverse Selection

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Abstract

We study a credit market with adverse selection. The market consists of entrepreneurs who seek to finance risky, variable-investment projects from financial intermediaries. The quality of the project is only known to the entrepreneur who owns it. High quality projects yield a higher expected return than low quality ones for a given amount of initial investment. Furthermore, each entrepreneur has his own wealth.

Since financial intermediaries are unable to observe the true quality of a project, an adverse selection problem arises similar to Akerlof (1970). Contrary to Akerlof (1970), entrepreneurs can signal the quality of their projects through the design of the loan contract. A loan contract consists of an amount of funds to be invested, a share of the wealth of an entrepreneur to invest and the interest rate. In that sense, our model is in the spirit of Spence (1973) and Rothschild and Stiglitz (1976). The market is modelled as a signalling game similar to Spence (1973).

In the first part, we characterise the least-costly-separating equilibrium. We show that, as expected, there is a distortion in the level of investment compared to the first-best. This distortion occurs only for the high-quality projects. Interestingly, the sign of the distortion depends on how the projects are ranked with respect to risk. In case they are ranked in a First Order Stochastic Dominance (FOSD) sense, we show that there is over-investment (compared to the first best) in equilibrium. In case they are ranked in a Second Order Stochastic Dominance (SOSD), sense there is under-investment in equilibrium. Over-investment is due to a ‘’rat race’’ in which entrepreneurs of high-quality projects try to signal themselves by undertaking excessive investment. On the contrary, under-investment is the usual credit rationing phenomenon that has been highlighted in many studies. We argue that this result has important implications with regards to the amplification of small productivity shocks on the aggregate economic activity. More precisely, we show that a small, type-specific positive or negative productivity shock can lead to a large discontinuous fall in investment.

We then examine how entrepreneurial wealth influences aggregate investment. The most surprising, and perhaps the most interesting, result is that in some cases, there is an inverse relationship between the scarcity of wealth and aggregate investment. This means that when entrepreneurial wealth becomes scarcer, there is an increase in aggregate investment but a fall in welfare. The intuition behind this result is that, when there is over-investment in equilibrium, compared to the first-best, abundance of wealth allows entrepreneurs to move closer to the socially efficient level of investment, which entails less investment. A wealth squeeze accelerates the rat race and hence leads to more investment than it is socially efficient.

Keywords: Financial accelerator, adverse selection, entrepreneurial wealth, aggregate investment, productivity shocks

JEL Codes: D82, E22, E32

Earnings Quality and Institutional Incentives: Evidence from China after the secondary privatisation

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Abstract

There is a debate whether state-owned enterprises (SOEs) have more incentives to manipulate earnings than in non-state-owned enterprises (NSOEs). According to the financial distress theory, SOEs have the advantage to receive financial subsidies from government while NSOEs face more financing constraints. Therefore, incentives for NSOEs to manipulate earnings are stronger than in SOEs (Wang et al., 2008). The agency theory, however, argues that state ownership in SOEs creates incentives and regulatory backing for self-serving purposes, thus motivating SOEs to manipulate accounting numbers (Liu et al., 2014). The political cost hypothesis complements the agency theory and illustrates that SOEs' managers manipulate accounting numbers in response to government intervention. When governments aim to expropriate the benefits of firms, SOEs would report conservatively to disguise the profits. However, when governments impel firms to enhance performance via stringent government regulations, SOEs would report aggressively to meet specific thresholds.

The literature took a one-sided view and tested individual competing theories using outdated data. We argue that these theories co-work over time rather than a single one overwhelms all the time. In doing so, we use rolling analysis for time-series data based on large samples of Chinese listed companies (from 2004-2013 with 6750 firm-specific observations) because of the sweeping size of state intervention, which has made China an ideal research context to examine the divergence in earnings quality due to government intervention. Also, the more recent secondary privatisation has made state ownership a less effective/informative measure for government intervention, which hasn't been addressed properly by the prior literature.

We track the ultimate controllers instead to grade government intervention. To fully capture the earnings attributes, we classify accrual quality, persistence, predictability, and smoothness as ‘accounting-based’ earnings attributes and categorize value relevance, timeliness, and conservatism as ‘market-based’ ones. We extend ERC as a function of ‘market-based’ earnings quality via detecting earnings surprise, which is measured by: (a) the deviation of actual earnings from a predicated amount based on a time-series model of earnings and (b) the deviation of actual earnings from the consensus (median) analyst forecast, computed using each analyst’s latest forecast before the earnings announcement. We test whether analysts' forecasts are more accurate than forecasts based on time-series predicted statistics with random walk. We also detect how the explanatory power of the earnings/returns relation is enhanced by varying the return interval (13-month, 15-month and 18-month return windows respectively).

We find that SOEs overall exhibit a lower earnings quality than NSOEs, supporting the agency theory. Also, SOEs report more conservatively than NSOEs, manifesting the government generally expropriates SOEs, according to the political cost hypothesis. Interestingly, predicted earnings based on the time-series model with drift (ERC_p) are more accurate than the consensus analyst forecast earnings (ERC_a). This result conflicts with findings from developed country studies, indicating the malfunction of financial analysts in mainland China. Finally, the ERC_p findings indicate SOEs manipulate earnings more than NSOEs from 2008-2010, rejecting the financial distress theory, probably because the Chinese ¥4-billion fiscal scheme from late 2008 wasn’t designed in favour of SOEs.

Keywords: Earnings Quality, Government Ownership, China, State-owned firms, ERC (Earnings Response Coefficient)

JEL Codes: G3, M4

What Determines Equity Flows by Investment Funds to Emerging Economies?

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Abstract

The inflow of foreign capital to emerging economies over the past two decades has been a major topic of research as these flows have become a major source of financing for emerging economies. Capital flows across borders are thought to be beneficial since resources are allocated to projects with greater return opportunities. Large foreign flows, however, create challenges for policymakers in emerging economies given that they are more volatile than flows to developed economies and their management is an issue surrounded by controversy.

This paper investigates the determinants of capital inflows, in the form of equity, by global investment funds to sixteen emerging economies during 1998-2013. The aim of this paper is to look at a specific form of foreign capital flow – equity capital by global investment funds – and to analyze the determinants of decisions by international investors to allocate it to different emerging economies. We use a proprietary data set compiled by EPFR Global that tracks capital flows by global investment funds to emerging economies in the form of equity. Our data set includes monthly net equity capital flows to each of 16 emerging economies by global investment funds. By looking at equity flows by investment funds alone we are able to focus on factors that foreign investors deem important in their equity allocation decisions. In particular, we look into whether sovereign credit ratings by credit rating agencies are an important factor in the decisions of international investors. One of the principle arguments behind the liberalization of the capital account of emerging economies has been the benefits from attracting equity capital by international investors. Our study contributes to understanding the factors that have motivated these investors, an issue that has been relatively neglected by the literature.

Our results show that equity inflows to emerging markets are mainly driven by global "push factors" rather than country-specific "pull factors". Aggregate uncertainty (as measured by the VIX index) and U.S. money expansion are the factors consistently significant. U.S. monetary policy, exemplified by recent unconventional measures, has spilled into higher capital inflows to emerging economies. Equity inflows have become less responsive to increased global uncertainty in the post-crisis period, a finding in line with the relative resilience of these economies to the international economic downturn in the early years of the global financial crisis. Domestic pull factors, with the exception of the trade balance, are not significant. Political stability seems to be marginally significant as a determinant on its own, but, when added to a model with other economic factors, it is no longer significant. Moreover, credit ratings do not seem to have any explanatory power in determining equity flows to emerging markets. However, we present evidence that credit ratings matter for capital inflows to a group of robust economies: the behavior of capital inflows into these economies is consistent with "buy the rumor, sell the fact" adage in financial markets.

Keywords: Equity Flows, Investment Funds, Emerging Economies

JEL Codes: F30, F65, G15

Expected Returns, Actual Returns, and Leverage: Empirical Analysis of the S&P 500, 2006-2015

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Abstract

Purpose: The theoretical construct of the weighted average cost of capital (WACC), which uses an expected equity return, suggests that a lower WACC, facilitated by use of debt, should result in commensurate returns to shareholders, and higher shareholder value, that is if management is adept at investing in projects that yield returns at or above the WACC. In other words, finding good projects ought to be made easier by a lower hurdle rate on investment, thus translating into returns comparable to or above the WACC, and higher valuations. Is this actually the case? Does the relationship between cost of equity, actual returns, and financial leverage hold as predicted, wherein higher leverage should result in higher actual returns and higher valuations, in line with expectations?

Methodology: This brief study looks at the performance (total equity market returns to shareholders, on an annual basis) of S&P 500 companies over a recent ten year period (2006-2015), versus financial leverage, on the hypothesis that higher leverage (within limits) should enhance shareholder returns and value. A regression analysis is performed on these actual shareholder returns versus the net debt to market capitalisation of these companies using Bloomberg data.

Findings: This investigation finds little evidence that actual shareholder returns were positively related to financial leverage on average over the past ten years. In fact, a negative relationship is observed in this sample. The analysis is significant, and is not supportive of the theory. Meaningful variations are noted year on year, with greater adherence to expectations over a longer time frame.

On the other hand, an overall negative relationship between WACC and leverage is supported by our analysis, as predicted by the theory. The benefit of more low cost debt funding translates in our observation into lower WACC, if not better realised returns.

Implications: This result implies that the market is not rewarding firms that use more leverage, or that greater use of leverage is not translating into benefits associated with lower WACC. These observations lead us to look for explanations as to why this should be. These include management capabilities, target capital structure and time horizon. We make suggestions for further research, encompassing different and wider samples. These possible explanations have wider ramifications for the interpretation and implementation of cost of capital theories.

Keywords: cost of capital, WACC, leverage, stock returns, valuation, S&P500

JEL Codes: G1, G£

Market Liquidity, Investment and Unconventional Monetary Policy

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Abstract

Unconventional monetary policy (UMP) consists of buying long-term government bonds or mortgage-backed securities and selling short-term central bank liabilities or reserves. By forcing investors to rebalance their portfolios central banks expect to reduce long-term rates and stimulate the economy. But conventional asset-pricing and macroeconomic models have a hard time generating sizeable effects from these unconventional interventions. Why investors' portfolio rebalancing affects market liquidity? How additional liquidity reduces long-term rates and ultimately stimulates the real economy?

To answer these questions we build on the model by Arseneau, Rappoport and Vardoulakis (2015). This model features search frictions in over-the-counter secondary markets and endogenous liquidity, defined as the relative availability of illiquid assets put up for sale to the availability of resources to buy those assets. The model features a direct channel though which liquidity affects firms' investment and the real economy. As liquidity increases liquidity premia embedded in long-term debt contract decreases, reducing firms' funding costs. On the other hand, the model features an indirect channel where firms' investment and borrowing decision feedback into the determination of liquidity both through the supply of long-term assets and by rebalancing investors' portfolios.

The model provides a theoretical characterization for the effects of UMP. Through the lens of the model, policies that directly alter the composition of investors' portfolios shift liquidity risk from investors to the central bank, reducing liquidity premia. This, in turn, influences savings and investment decisions in the real economy (see Stein, 2014, for a general discussion). Our analysis also highlights the benefits and limitations of UMP. On the one hand, UMP can improve the intermediation capacity

of the economy by expanding its productive frontier. On the other hand, these policies may be limited by their redistributive effects, the limited expertise of central banks in bond market participation, and the prospect for financial losses.

Our analysis suggests that UMP policies ought to be implemented in conjunction with a tax on corporate leverage to achieve optimal allocations. Moreover, our model suggests a set of testable predictions for the relationship between the availability of short-term liquid assets and liquidity premia. Specifically, our model predicts that liquidity premia for a given asset should be inversely related to the liquidity of the portfolio of the participants in the OTC market for that asset. Along these lines, our model predicts that quantitative easing financed with bank reserves should have an effect on the liquidity premia of all the securities traded in OTC markets where banks are relevant participants, not only affecting the liquidity premia of illiquid assets purchased by central banks.

Keywords: Market liquidity, secondary markets, unconventional monetary policy, quantitative easing

JEL Codes: E44, G18, G30

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Session 23

Applied Economics III

Export performance and total factor productivity: a sectoral analysis for Greece

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Abstract

The improvement of export performance is widely believed as the only way out of the current economic crisis, in Greece. This paper explores the role of technological innovation as a theoretical important factor of the export performance, at a sectoral level and for the country as a whole, for the years 1985-2014. Technological innovation which is measured as total factor productivity (TFP), can explain to a certain extend the worsening performance of several sectors. Methodologically, in this paper, TFP is first estimated for the 21 sectors of the Greek economy. Then, structural equations for the export performance of each sector are estimated. One of the determining factors is TFP. Finally, a structural equation for the export performance is estimated with panel data providing information for the role of TFP, for the economy as a whole.

Keywords: growth, exports, technology, total factor productivity, economic sectors, openness

JEL Codes: O19, O30, O40, O52

The relation between migration and FDI in the OECD from a complex network perspective

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Abstract

We explore the relationship between human migration and OECD's Foreign Direct Investment (FDI) using a gravity equation enriched with variables that account for complex-network effects. The social networks connected to immigrants' origin countries may lower potential barriers to international investment, as immigrants possess crucial information about the structure of the local market, the preferences, as well as the business ethics and the commercial codes. This knowledge can be proved invaluable for overcoming many informational and contractual barriers, leading to stimulated investment activities across national boundaries. The current paper contributes to the existing literature by investigating the topological properties of the OECD's FDI network and the OECD's migration network by bringing together a wide range of bilateral migration, FDI positions, geopolitical, demographic, economic, and socioeconomic data for 34 OECD countries and a time period spanning from 1995 to 2010. We run pooled OLS regressions considering origin and destination country fixed effects, as well as time fixed effects. Moreover, in an effort to control for potential endogeneity and reverse causality, we consider the time lagged value of migration in our regressions. Based on our panel data analysis, we find a strong positive correlation between the migration network and the FDI network, which can be mostly explained by countries' economic/demographic sizes and geographical distance. We highlight the existence of a stronger positive FDI relationship in pairs of countries that are more central in the migration network. Illuminating this result we show that bilateral FDI between any two countries is further affected positively by the complex web of 'third party' corridors of the international migration network. Our findings are consistent whether we consider bilateral FDI and bilateral migration figures, or we focus on the outward FDI and the respective inward migration of the OECD countries. We argue that our results may be driven either by learning processes of new investment preferences by migrants whose origins are shared by the two countries or by the presence in both countries of second-generation migrants belonging to the same ethnic group. Our findings indicate that migration networks are conductive to bilateral investment because they create linkages not only between pairs of countries that are the origin and destination of migration, but also among countries that are the destinations of migration flows originated from common third countries.

Keywords: FDI; migration; graph theory; networks; complex systems

JEL Codes: B00, B41, C13, F2

Economics of Music Charts: Market Concentration and Product Variety

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Abstract

Introduction and Data: In entertainment markets an increasingly large number of products is introduced each year, however only a small group achieves mainstream success and among these the distribution of market success is extremely skewed. In explaining this phenomenon economic theory so far has focused on the demand side: superstars, network externalities or social learning.

In this paper I study US Record Music Industry dynamics using Billboard Chart Data 1959-1999. It includes every song that made it to Top 100, the number of weeks it charted and its rank in the chart which allows me to compute chart shares as a measure of performance. Based on the data the distribution of chart shares in not only skewed but importantly this skewness is not constant over time. More songs made it to Billboards Top 100 in the 1960s and 1970s than in the 1980s and 1990s and the distribution of chart success became increasingly skewed towards fewer and fewer products. Unless quality differentials increased over time or there was a change in technology that supported stronger network externalities the demand side explanations fail to fully capture the increasing skewness of returns in the music industry over time.

Model: This paper offers a supply side explanation. The theoretical framework is based on the logit model of product differentiation. Consumers derive utility from song's quality θ and from exposure or information stock delivered through advertising. There are diminishing returns to advertising and a consumer will never purchase a product she has never heard of as it was never advertised.

Record labels engage in a non-price competition, as prices in the music industry vary within a narrow margin and arguably small differences in product prices do not drive

consumer demand. Instead record labels perfectly observe song's quality and choose optimal advertising allocation across its pool of songs defined by one-dimensional quality, and the number of songs to release.

Theoretical and Empirical Findings: The resulting distribution of market shares on a firm level is highly skewed, that is for a given quality difference between two products the optimal ratio of allocated advertising and resulting market shares is magnified by $e(\Delta\theta \backslash (1-\Phi))$, where the advertising effectiveness parameter $0<\Phi<1$ is estimated to be in the range 0.830-0.856.

The fewer firms operate in the market the higher fraction of songs is supported by a highly skewed advertising allocation. In aggregate the higher the market concentration, measured using HHI, the lower the total advertising spent by all firms in the market, leading to a lower number of products released and more skewed distribution of market shares. These are precisely the dynamics observed in US Recorded Music Industry in the years 1959-1999.

Keywords: music industry, multi-product firms, advertising, concentration, variety

JEL Codes: L11, L13, M37

EU Structural Funds: Do they increase the degree of synchronization of cyclical macroeconomic fluctuations across Europe?

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Abstract

In recent years a number of papers have made use of econometric approaches to examine the impact of EU Structural Funds on long-run growth in Europe. Most of these studies are based on a neoclassical growth model, although the conclusions drawn are often contradictory, with some papers reporting results that indicate no statistically significant effect of structural funds on long-run growth, while other studies find evidence of a strong positive effect. The regressions usually assess the impact of EU Structural Funds on regional growth in the EU-15 (or in less developed regions - former Objective 1). Few studies compare systematically the impact of EU Structural Funds between member states or groups of member states, and there is no study taking into account data that cover the period after the recent global financial crisis. At the same time, the existing literature pays no attention to the potential impact of EU Structural Funds on the degree of synchronization of business-cycle fluctuations across the member states, which is a key issue for the successful functioning of the internal market.

Using panel data from 21 EU counties covering the period 1996-2014, this paper examines empirically the relationship between the EU's structural funds and the synchronization of short-term cyclical macroeconomic fluctuations across the member states, after controlling for other standard determinants of synchronization, including trade integration, fiscal-policy convergence, financial-sector convergence and labour-market rigidities. Cyclical synchronization is proxied by the correlation of quarterly GDP- and employment-growth between pairs of EU-member states, while fiscal-policy convergence and financial-sector convergence are proxied by the pair-wise correlations of quarterly changes in real government-spending (% of GDP) and real interest rates, respectively. Labour-market rigidity is proxied by average employment-protection for each country-pair. As a proxy for trade integration we use bilateral trade intensity and intra-industry trade. We also control for public-sector institutional quality, given that efficiency in the use of resources is important for grasping the full benefits of the EU's structural funds. Both total structural-fund payments and sub-categories of structural actions relating to Objectives 1, 2 and 3, are considered, while payments from the European Cohesion- and Social-Fund are examined separately.

The coefficient estimates cannot reject the hypothesis of a positive effect of total structural-fund payments on the synchronization of cyclical macroeconomic fluctuations across the EU member states. Nevertheless, the size of the estimated parameters implies that the quantitative effect varies depending on the objective considered and type of structural actions. In particular, the synchronization effect is stronger and more robust for certain types of structural funds, especially those related to specific sub-objectives. Overall, our results have important policy implications as they provide insights into which type of EU Funds could reduce cyclical macroeconomic asymmetries in Europe, in addition to enhancing long-run growth.

Keywords: EU Structural Funds; macroeconomic fluctuations; synchronization

JEL Codes: E32, O47, C51

The role of networks in firms' multi-characteristics competition and market-share inequality

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Abstract

We develop a location analysis spatial model of firms' competition in multi-characteristics space, where consumers' opinions about the firms' products are distributed on multilayered networks. Firms do not compete on price but only on location upon the products' multi-characteristics space, and they aim to attract the maximum number of consumers. Boundedly rational consumers have distinct ideal points/tastes over the possible available firm locations but, crucially, they are affected by the opinions of their neighbors. Our central argument is that the consolidation of a dense underlying consumers' opinion network is the key for the firm to enlarge its market-share. Proposing a dynamic agent-based analysis on firms' location choice we characterize multi-dimensional product differentiation competition as adaptive learning by firms' managers and we argue that such a complex systems approach advances the analysis in alternative ways, beyond game-theoretic calculations.

Keywords: location choice, networks, multi-characteristics space, consumer behavior, decision heuristics, agent-based model, political competition

JEL Codes: C63, C65, L14, R39, D72

Session 24

Applied Macro

Asset Price Bubbles and Endogenous Growth

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Abstract

Building on a simple Schumpeterian R&D driven growth model with financial constraints in which lenders are forward looking, we analytically derive the conditions by which rational asset bubbles can arise. The OLG economy is populated with ex-ante identical agents living for two periods. When young they all work in the consumption good sector for wage. When old some of them are given opportunity to innovate the existing technology to produce one type of intermediate goods through R&D investment. For this, they may need to finance their project through risky borrowings from the savers (i.e. non-innovators). Innovators can hide the success of their projects by paying a cost proportional to the profits. Due to this moral hazard problem, the innovators can pledge up to only a fraction of the total return.

In this setting, asset bubbles may arise when the financial constraints are binding and the interest rate is low. This is likely to be the case when the information asymmetry is greater and/or the value of future output is expected to be low. The financial market does not clear even if the prevailing interest rate is low because of the financial friction driven by information asymmetry.

The competitive economy can utilize rational bubbles to overcome the financial frictions and channel the excess capital from savers to innovators, fueling the economic growth. Further we derive the maximum sustainable path of rational bubbles and demonstrate the planner can replicate the optimal bubbly growth path. We discuss several reasons as to why the government intervention can potentially superior to the market-led bubble.

Our model offers several interesting implications. First, our model indicates that the causality between the technology growth and bubbles may run in the direction opposite to the conventional wisdom. i.e. casual observation suggests that the bubbly episodes appear after the arrival of new technologies, which in turn is associated with economic expansion. However, we show that bubbles are more likely to emerge when the rate of technological innovation is slower (and the financial constraint is tight). Our exercise also offers a policy insight concerning the secular stagnation. Consistent with several commentators such as Larry Summer, our model suggests that the government intervention through some fiscal policy could be a useful vehicle to overcome the slowing economy, however, for different reasons. In an economy in which the knowledge sector is the engine of growth, the conventional fiscal policy may have pure crowding-out effects whereas more research grants can rejuvenate the economic growth.

Keywords: rational bubbles, endogenous growth, financial constraints, secular stagnation, fiscal policy

JEL Codes: E44, E62, O41

Multiple Regimes and Preferences for Redistribution

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Abstract

This paper investigates the presence of multiple regimes in the preferences of redistribution, which is a key feature of a welfare state. The size of the redistributive government depends on the demand for redistribution, that is, the willingness of individuals to tax the rich more heavily and transfer resources to the poor.

Surprisingly, while several theories imply nonlinear models (e.g., Piketty (1995), Benabou (2000), Benabou and Ok (2001), Alesina and Angeletos (2005)), the existing empirical work (e.g., Alesina and La Ferrara (2005), Alesina and Giuliano (2011)) has paid little attention to nonlinearities in the preferences for redistribution. Instead, the existing empirical evidence establishes linear associations that cannot identify the above nonlinear mechanisms of the preferences for redistribution. For example, Alesina and Angeletos (2005) argue that when there is a demand for fairness the complementarity between the optimal level of taxation and the equilibrium signal-to-noise ratio in the income distribution generates multiple equilibria. In the one equilibrium, taxes are higher, individuals invest and work less, and inequality is lower and as result the society desires high redistribution. In the other equilibrium, taxes are lower, individuals invest and work more, and inequality is higher and as result the society desires low redistribution. In general, all these theories imply threshold-type mechanisms in the sense that the preferences for redistribution may follow a different process depending whether the country is above or below that threshold value.

In this paper we do three things. First, we extend the existing work on preferences for redistribution by allowing for multiple regimes using a generalized threshold regression model. Second, we focus argue that social norms may have subtle impact on the preferences for redistribution when they are modeled as endogenous social interactions. By social interactions we mean that the model will allow for interdependences among individuals in the preferences, beliefs, and constraints. Third, we explore various groups based on various socioeconomic distances at the regional or country level along the lines of Conley and Topa (2002).

Using individual data from two complementary surveys the General Social Survey (GSS) and the World Values Survey (WVS) we employ threshold regression model to uncover the presence of multiple regimes in the preferences of redistribution. We find strong evidence that countries are organized into two regimes according to the degree of fairness, that is, the belief that hard work is more important in order to succeed in life. Countries with dominant beliefs that luck and connection is the main determinant for succeeding in life have higher preferences for redistribution. The marginal effect of fairness for this group of countries is positive as in Alesina and La Ferrara (2005). However, for countries with dominant beliefs that hard work is the main determinant for succeeding in life we obtain different results. While this set of countries has lower preferences for redistribution, the marginal effect of fairness is negative, indicating that individuals who believe that hard work is more important in order to succeed in life demand more redistribution. This finding is consistent with a modern version of Weber’s hypothesis of a Protestant work ethic, combined with a charitable attitude towards the poor (Bjrnskov, Dreher, Fischer, Schnellenbach, and Gehringe (2013)) rather than Alesina and La Ferrara (2005).

Keywords: Preferences for redistribution, threshold regression, multiple regimes

JEL Codes: C24, D31, D63

The Macroeconomic Effectiveness of Investment Tax Credit

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Abstract

This paper studies the role of Investment Tax Credit (ITC) as a fiscal policy tool to stimulate investment and output. Although ITC has been widely implemented in many countries, the findings between related theoretical models and empirical studies on the effects of ITC on investment are contradictory. This paper attempts to bridge this gap by examining the magnitude of the fiscal multiplier of the ITC and comparing it with the rest of fiscal policy tools in a DSGE model with market frictions and a number of fiscal policy and technology shocks.

In particular, we extend the model of Jaimovich et al. (2010) and Smets and Wouters (2007) with differentiated supply of labor, monopolistically competitive intermediate firms, and sticky wages and prices, by introducing an ITC modelled as a subsidy to investment. To this end, we estimate the model with US data for the period 1966-2006 using Bayesian techniques, which allow us to compute the size of a number of fiscal policy multipliers.

Our results suggest that an ITC shock is the only fiscal policy shock that generates a long-run increase in investment and output. In particular, an expansionary ITC shock amounting to a 1% public de.cit rise, results in a 0.26% increase in output in the short-term and a 6% increase in the long-term. The relative size of the effects of an expansionary government spending shock are 1.1% and 1.21% respectively. Our evidence also implies that ITC shocks have contributed to the historical variance of private investment and output more that any other fiscal shock.

Keywords: investment tax credit, fiscal policy, investment incentives, investment, multipliers

JEL Codes: E30, E37, E62

Democracy and taxation: The case of an agricultural economy, Greece over 19th century

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Abstract

The empirical literature investigating the relationship between taxation and development has established two basic stylized facts (Besley and Persson, 2011). First, developed countries rely to a greater extent on income taxes as opposed to indirect taxes (e.g. customs) than do developing countries. Second, taking the level of development into consideration, countries with strong executive constraints (i.e. democracies) rely more on income taxation than do countries with weak executive constraints. These facts illustrate the necessity to take into account political factors which can be crucial for shaping fiscal capacity and consequently the structure of the tax system.

In this paper we seek to explore the consequences of major political events in Europe during the 19th century on the development and structure of the tax system. In particular, we intend to compare the case of Greece with that of 12 other European countries. Greece is a unique case since it democratized during a period where it was an agricultural economy with more than 80% of population living in rural areas. This appears to be in stark contrast with the rest of the European countries that democratized during the 19th century which were significantly more developed upon the democratization process as a result of industrialization that have taken place (e.g. France). Our analysis seeks to answer if the early democratization that Greece experienced during the 19th century resulted in limited investment on fiscal capacity and consequently to a structure of the tax system that relied heavier on indirect taxes. It is worth noting that until nowadays Greece relies more on indirect taxation compared to other European/developed countries (OECD, 2015). Therefore, our research question could enlighten the long lasting effect of specific historical political events on the structure of the tax system and consequently on the level of economic development of a country today.

Keywords: democracy, tax structure, fiscal capacity

JEL Codes: P16, H2, H5

Transmission chains of economic uncertainty on macroeconomic activity: New empirical evidence

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Abstract

The role of economic uncertainty in macroeconomic activity is intensely discussed in recent years, especially after the Great Recession that was followed by a slow recovery of the US economy. There is a large body of the literature which suggests that increased uncertainty has negatively affected several macroeconomic outcomes, including e.g. investment, employment, consumption, and output, as well as that it has played an important role in driving the slow recovery.

Until recently, the most common proxies of uncertainty have been the stock market volatility or cross-sectional dispersion of firm profits (or sales), or dispersion of subjective forecasts. According to Jurado, Ludvigson and Ng (2015), however, stock market volatility might change even if there is no change in uncertainty about economic fundamentals, while cross-sectional dispersion in firm profits or sales can change due to heterogeneity in the cyclicality of firms' business activity. Hence, there is a need for constructing new uncertainty measures that might be more related to or are better proxies for "macroeconomic activity" uncertainty or "economic policy" uncertainty.

The contribution of this paper is threefold. First, we assess the macroeconomic impact of economic uncertainty by employing three recent economic uncertainty proxies (Baker, Bloom, Davis 2013; Jurado, Ludvigson, Ng 2015, Rossi and Sekhposyan 2015), which have not yet been widely used in empirical analysis. Emphasis is placed on examining the informational value of these indicators and their ability to better predict economic activity. Our empirical analysis further highlights the direct or indirect transmission chains (effects) of economic uncertainty on US macroeconomic

fluctuations, by employing the dynamic (Granger) causality methodology of Dufour, Pelletier and Renault (2006).

Second, our analysis is enriched by measuring (quantifying) the strength of the observed dynamic relations, in order to understand the importance of different causal chains that may be observed from economic uncertainty to the macro variables. In order to do so, we compute the short-run and long-run causality measures developed by Dufour and Taamouti (2010).

Finally, we investigate the dynamic responses of the model's key macroeconomic aggregates to innovations in the various economic uncertainty measures under several model specifications and robustness checks, in order to further improve our understanding of uncertainty shocks.

Our empirical findings show that (macro)economic uncertainty helps to anticipate all macroeconomic variables, while it induces significant, highly persistent effects on macroeconomic activity. Uncertainty effects on investment and employment are indirect, while the transmission chains include consumption and the stock market. Consumption and industrial production respond directly, with no time-delay to uncertainty. Asymmetry in uncertainty is also found to be very important with respect to its role in affecting macroeconomic activity.

On the other hand, the economic policy uncertainty index that is largely consisting of news-based information does not appear to contain substantial direct or indirect predictive information for macroeconomic activity. Causality measures and estimated responses of the macro variables to economic policy uncertainty shocks are generally not statistically significant and/or sizeable from an economic point of view.

Keywords: Economic uncertainty; macroeconomic activity; transmission chains; multi-horizon causality; causality measure; impulse responses

JEL Codes: E32; E2; C32

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