Unemployment (Fears) and Deflationary Spirals
Wouter J. Den Haan, London School of Economics, Pontus Rendahl, University of Cambridge, and Markus Riegler, University of Bonn

The interaction of incomplete markets and sticky nominal wages is shown to magnify business cycles even though these two features - in isolation - dampen them. During recessions, fears of unemployment stir up precautionary sentiments which induces agents to save more. The additional savings may be used as investments in both a productive asset (equity) and an unproductive nominal liquid asset. The desire to hold the nominal liquid asset puts deflationary pressure on the economy which, provided that nominal wages are sticky, increases labor costs and reduces firm profits. Lower profits repress the desire to save in equity, which increases (the fear of) unemployment, and so on. This mechanism causes the model to behave differently from its complete markets version and is quantitatively important even if monetary policy counteracts the desire to hold more of the liquid asset by lowering the interest rate. The deflationary pressure yields a mean-reverting reduction in the price level, which implies an increase in expected inflation and a decrease in the expected real interest rate even if the policy rate does not adjust. Thus, our mechanism is different from the typical zero lower bound argument. Due to the deflationary spiral our model also behaves differently from its incomplete market version without aggregate uncertainty, especially in terms of the impact of unemployment insurance on average employment levels.

Leaning Against the Credit Cycle
Paolo Gelain, European Central Bank and Norges Bank, Kevin Lansing, Federal Reserve Bank of San Francisco, and Gisle James Natvik, BI Norwegian Business School

How should a central bank act to stabilize the debt-to-GDP ratio? We show how the persistent nature of household debt shapes the answer to this question. In environments where households repay mortgages gradually, surprise interest hikes only weakly influence household debt, and tend to increase debt-to-GDP in the short run while reducing it in the medium run. Interest rate rules with a positive weight on debt-to-GDP cause indeterminacy. Compared to inflation targeting, debt-to-GDP stabilization calls for a more expansionary policy when debt-to-GDP is high, so as to deflate the debt burden through inflation and output growth.

International Debt Deleveraging
Luca Fornaro, CREI, Universitat Pompeu Fabra and Barcelona GSE

This paper provides a framework to understand the adjustment triggered by an episode of debt deleveraging among financially integrated countries. During a period of international deleveraging, world consumption demand is depressed and the world interest rate is low, reflecting a high propensity to save. If exchange rates are allowed to float, deleveraging countries can rely on depreciations to increase production and mitigate the fall in consumption associated with debt reduction. The key insight of the paper is that in a monetary
union this channel of adjustment is shut off, because deleveraging countries cannot depreciate against the other countries in the monetary union, and therefore the fall in the demand for consumption and the downward pressure on the interest rate are amplified. As a result, deleveraging in a monetary union can generate a liquidity trap and an aggregate recession. For instance, the model predicts that international deleveraging by peripheral euro area countries can account for around 24% of the output loss experienced by the euro area in the two years following the 2008 financial crisis.

Credit and Firm Level Volatility of Employment

*Vincenzo Quadrini, University of Southern California, and Qi Sun, Shanghai University of Finance and Economics*

We study a firm dynamics model where access to credit improves the bargaining position of firms with workers and increases the incentive to hire. To evaluate the importance of the bargaining channel for the hiring decisions of firms, we estimate the model structurally using data from Compustat and Capital IQ. We find that the bargaining channel explains 13% of firm-level employment volatility. We also evaluate the relative contribution of credit and revenue shocks for firm-level employment fluctuations and find that credit shocks account for 22%.

Firm Dynamics and Residual Inequality in Open Economies

*Gabriel Felbermayr, Ifo Institute Leibniz Institute for Economic Research at the University of Munich, Giammario Impullitti, University of Nottingham, and Julien Prat, CNRS (CREST), and Institute for Economic Analysis (CSIC), BGSE, Barcelona*

Wage inequality between similar workers has been on the rise in many rich countries. Recent empirical research suggests that heterogeneity in firm characteristics is crucial to understand wage dispersion. Lower trade costs as well as labor and product market reforms are considered critical drivers of inequality dynamics. We ask how these factors affect wage dispersion and how much of their effect on inequality is attributable to changes in wage dispersion between and within firms. To tackle these questions, we incorporate directed job search into a dynamic model of international trade where wage inequality results from the interplay of convex adjustment costs with firms different hiring needs along their life cycles. Fitting the model to German linked employer-employee data for the years 1996-2009, we find that firm heterogeneity explains about half of the surge in inequality. The most important mechanism is tougher product market competition driven by domestic product market deregulation and, indirectly, by international trade.

War, Migration and the Origins of the Thai Sex Industry

*Abel Brodeur, University of Ottawa, Warn N. Lekfuangfu, Chulalongkorn University, and Yanos Zyliberberg, University of Bristol*

This paper analyzes the determinants behind the spatial distribution of the sex industry in Thailand. We relate the development of the sex industry to an early temporary demand shock, i.e., U.S. military presence during the Vietnam War. Comparing the surroundings of Thai military bases used by the U.S. army to districts close to unused Thai bases, we find
that there are currently 5 times more commercial sex workers in districts near former U.S. bases. The development of the sex industry is also explained by a high price elasticity of supply due to female migration from regions affected by an agricultural crisis. Finally, we study a consequence induced by the large numbers of sex workers in few red-light districts: the HIV outbreak in the early 1990s.

Climate Tipping and Economic Growth: Precautionary Capital and the Price of Carbon
Frederick van der Ploeg, University of Oxford, and St. Petersburg State University, and Aart de Zeeuw, Tilburg University and Beijer Institute

The optimal reaction to a climate tipping point which becomes more imminent with global warming is to be precautionary in adjusting capital to prepare for the calamity and to price carbon to make catastrophic change less imminent. The saving response can be positive or negative. If the mean lag for impact of the catastrophe is long enough, the saving response will be negative, because the precautionary return in the Keynes-Ramsey rule becomes negative. We also show the separate effects of the elasticity of intertemporal substitution (EIS) and the relative risk aversion (RRA) using Duffie- Epstein preferences. Focusing on a productivity catastrophe, we calibrate our model and show how sensitive the policy responses are to the degrees of EIS and RRA, the trend rate of economic growth, the hazard rate, and how long it takes for the catastrophe to have its full impact.

Does Additional Funding Help Urban Schools? An Evaluation Using Boundary Discontinuities
Stephen Gibbons, Department of Geography and Environment and Centre for Economic Performance, LSE, Sandra McNally, University of Surrey and Centre for Economic Performance, LSE, and Martina Viarengo, Graduate Institute of International and Development Studies of Geneva and Centre for Economic Performance, LSE

This study exploits spatial anomalies in school funding policy in England to provide new evidence on the impact of resources on student achievement in urban areas. Anomalies arise because the funding allocated to Local Education Authorities (LEA) depends, through a funding formula, on the additional educational needs of its population and prices in the district. However, the money each school receives from its LEA is not necessarily related to the schools own specific local conditions and constraints. This implies that neighbouring schools with similar intakes, operating in the same labour market, facing similar prices, but in different LEAs, can receive very different incomes. We find that these funding disparities give rise to sizeable differences in pupil attainment in national tests at the end of primary school, showing that school resources have an important role to play in improving educational attainment, especially for lower socio-economic groups. The design is geographical boundary discontinuity design which compares neighbouring schools, matched on a proxy for additional educational needs of its students (free school meal entitlement FSM), in adjacent districts. The key identification requirement is one of conditional ignorability of the level of LEA grant, where conditioning is on geographical location of schools and their proportion of FSM children.