

INTERVIEW WITH HYUN S. SHIN "LEVERAGE"

Professor Shin, in recent work you focus on the role that investment banks play in the financial system. How has this role evolved in recent years?

Investment banks are part of the broker-dealer sector of the US financial system. They have traditionally played market-making and underwriting roles in securities markets. But their importance in the supply of credit has increased dramatically in recent years with the growth of securitization and the changing nature of the financial system toward one based on the capital market, rather than one based on the traditional role of the bank as intermediating between depositors and borrowers. The total assets of the broker-dealer sector are still only one third of the commercial banking sector, but have increased in step with securitization. The size of the broker-dealer sector relative to the household sector has grown more

than ten-fold from 1980 to now. For the commercial banking sector, its size relative to the household sector has not grown at all.

Perhaps the most important development in this regard has been the changing nature of housing finance in the US. The stock of home mortgages in the US is now dominated by the holdings in market-based institutions – the mortgage pools of the government sponsored enterprises (GSEs) and other private label mortgage pools, rather than traditional bank balance sheets. Broker-dealer balance sheets provide a timely window on this world, since the mortgage-backed securities issued by these institutions pass through the balance sheets of the investment banks.

What can we learn from investment banks' balance sheets?

In a market-based financial system, broker-dealer assets may be a better signal of the marginal availability of credit as compared to commercial bank assets.



At the margin, all financial intermediaries (including commercial banks or GSEs) have to borrow in markets and short term, using instruments such as commercial paper or through repurchase agreements. But for a commercial bank, its large balance sheet masks the effects operating at the margin. Broker-dealers, in contrast, give a much purer signal of marginal funding conditions, as their balance sheet consists almost exclusively of short-term market borrowing.

In some recent collaborative work with Tobias Adrian of the Federal Reserve Bank of New

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ACADEMIC CONFERENCES

JME CONFERENCE: MONETARY POLICY UNDER IMPERFECT INFORMATION

It has always been recognized that understanding firms' pricing decisions is of crucial importance for the conduct of monetary policy: a sluggish response of prices to changes in aggregate demand is at the root of monetary non-neutrality, and the speed and extent of price adjustment determines how nominal shocks affect real economic activity. Any price adjustment

requires a substantial amount of knowledge on the structure, source, and persistence of the underlying shocks. If such knowledge is not readily available to firms, they have to engage in a time-consuming and costly process of information acquisition before setting their prices. The macroeconomic implications of such "informational frictions" were the topic of the conference on "Monetary Policy under Imperfect Information" (jointly organized with the Journal of Monetary Economics and the Swiss National Bank) that took place at the Study Center on December 12 - 13, 2008. The conference brought

together both researchers and central bankers who were interested in the question whether explicitly accounting for imperfect information could lead to a better understanding of macroeconomic time series and how this should influence the design of monetary policy.

If the process of knowledge acquisition is costly agents must choose the aspects of reality they focus on, and it may be rational for them to base their decisions on rather vague information. The implications of this "rational inattention" were explored by the first three papers of the conference. The paper by Bartosz

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editorial

2008 witnessed one of the most dramatic crises of the world financial system of modern times. Understanding and mastering financial disruption has been a major subject of our studies. One of our Advanced Doctoral Courses was taught by a leading specialist in this field, Professor Hyun S. Shin (Princeton University). In the interview, Professor Shin discussed his views on this crucial topic. Our newest Central Bankers Course on Financial Stability (together with the Swiss National Bank as well as leading academic and public experts) also dealt with this important subject.

Beyond this, the Study Center provided its traditional slate of course offerings to both Central Bank specialists and doctoral students in Economics. Along with the traditional Summer Symposia in Economic Theory and in Financial Markets (together with CEPR), the Conference held with the Journal of Monetary Economics was a highlight of the Center's conference program. It featured a series of outstanding research papers on "Monetary Policy under Imperfect Information" written by first rate specialists in the field. These papers will be published in 2009.

Prof. Ernst Baltensperger
Director

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INTERVIEW from cover

York, we find that broker-dealer asset fluctuations predict future changes in real activity, especially those components such as housing investment and durable goods consumption that are sensitive to credit supply. Our interpretation is that investment bank balance sheet fluctuations signal the availability of credit in the broader capital markets, and that credit supply is affecting real decisions. Changes of commercial banks' assets do not have a similar explanatory power.

You argue that financing decisions of investment banks tend to destabilize the financial system. Why?

When we look at the financing decisions of investment banks in more detail, we find that leverage is procyclical for these institutions in the sense that leverage is high when balance sheets are large, while leverage is low when balance sheets are small. This is exactly the opposite of what we see for households, whose leverage is high when balance sheets are small. For instance, if a household owns a house that is financed by a mortgage, leverage falls when the house price increases, since the equity of the household is increasing at a much faster rate than assets. For investment banks, however, the relationship is reversed. It is as if the household responded to an increase in house prices by increasing the mortgage loan. This type of procyclical leverage may amplify the financial cycle.

One possible explanation for the procyclicality of leverage relates to the incentives of the equity holders of investment banks. If the intermediary wants to avoid holding too much equity (for instance, because return on equity is too low), it will target a high leverage ratio. When bal-



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Visiting the Study Center in August 2008, Professor Shin taught an Advanced Doctoral Course about "Liquidity and Financial Stability." In the following interview, he discussed the role of leverage in the banking system.

ance sheets become stronger and leverage falls, the bank therefore wants to borrow more. Indeed, the evidence shows that investment banks increase the leverage ratio in such a situation and buy more of the assets they already hold.

The mechanism works in reverse in downturns. Consider a fall in the price of an asset held widely by hedge funds and banks. Then, the net worth of such an institution falls at a faster rate than the value of the bank's assets, eroding its equity cushion. One way that the bank can restore its equity cushion is to sell some of its assets, and use the proceeds to pay down its debt.

In the aggregate, this mechanism has important implications for financial conditions. Maybe more importantly, these conditions feed through to affect real economic outcomes. In particular, the evidence shows that financial conditions affect the

components of GDP, especially those that are sensitive to credit supply, such as housing investment and durable goods consumption.

What are the consequences for theories of the monetary transmission mechanism?

In conventional monetary theory, the primary friction is price stickiness of goods and services. Financial intermediaries do not play a role in this theory other than as passive players that the central bank uses to implement policy. But these players deserve independent study because of their impact on financial conditions and real economic outcomes.

We therefore should be giving these players an independent role in our models. Quantity variables seem to matter in that context – especially the components of financial intermediary balance sheets. Using the language of "frictions", we should

be adding a second friction, in addition to sticky prices. This second friction originates in the agency relationships embedded in the organization of market based financial intermediaries, which are manifested in the way that financial intermediaries manage their balance sheets. This is a friction in the supply of credit.

Of course, there is a large literature on financial frictions within monetary economics. However, I think it is fair to say that financial frictions have received less attention in the last ten years or so than they received earlier, maybe because the earlier literature that focused on commercial bank balance sheets or frictions on the borrowers' balance sheets did not produce conclusive empirical results.

In my view the time is now ripe to redress the balance and bring financial institutions back into the heart of monetary economics. When we look at the appropriate balance sheet variables that reflect the underlying funding conditions ruling in the capital market, we stand a better chance of capturing the transmission mechanism through credit supply more fully. The appropriate balance sheet quantities are those that are marked to market, and hence reflect current market conditions. In this regard, we have seen that broker-dealer assets are more informative than commercial bank assets, and market equity of either commercial banks or broker-dealers do a better job of explaining future activity than (book) asset values. As commercial banks begin to mark more items on their balance sheets to market, commercial bank balance sheet variables are likely to become more important variables for studying the transmission mechanism.

Which conclusions should central bankers draw for monetary policy?

There are at least three.

One has to do with forward-looking guidance on future policy rates or the publication of the central bank's own projections of its policy rate. Such communication does not only have implications for market participants' expectations of the future path of short rates, but also for the uncertainty around that path. If central bank communication compresses this uncertainty, financial institutions might be led to believe that the risk of taking on long-lived assets financed by short-term debt is small, if they do not take the aggregate effects of financial intermediary constraints into account. In this manner, forward-looking guidance may compress volatility to an artificially low level, increase the potential for a disorderly unwinding later in the expansion phase of the cycle and thus, run counter to the objective of stabilizing real activity.

Secondly, there is a case for rehabilitating some role for balance sheet quantities for the conduct of monetary policy. Ironically, this call comes even as monetary aggregates have fallen out of favor in the conduct of monetary policy. The instability of money demand functions that makes the practical use of monetary aggregates challenging is closely related to the emergence of the market-based financial system. As a result of those structural changes, not all balance sheet quantities will be equally useful. The money stock is a measure of the liabilities of deposit-taking banks, and so may have been useful before the advent of the market-based financial system. However, the money stock will be of less use



in a financial system such as that in the US. More useful may be measures of collateralized borrowing, such as the weekly series on repos of primary dealers.

Finally, and perhaps most importantly, monetary policy and policies toward financial stability are linked. To the extent that the financial system as a whole holds long-term, illiquid assets financed by short-term liabilities, any tensions resulting from a sharp, synchronized contraction of balance sheets will show up somewhere in the system. Even if some institutions can adjust down their balance sheets flexibly in response to the greater stress, not everyone can. This is because the system as a whole has a maturity mismatch. While lender of last resort tools may mitigate the severity of the contractions in balance sheets, they cannot prevent the contraction altogether. Something has to give, and there will be pinch points in the system that will be exposed by the de-leveraging. The pinch points will be those institutions that are highly leveraged and hold long-term illiquid assets financed with short-term debt supplied by lenders who reduce their exposure in response to deteriorating financial conditions. When short-term funding dries up, these pinch point financial institutions will face a liquidity crisis. Arguably, this is exactly what happened to Bear Stearns in the US and Northern Rock in the UK, as well as a host of conduits and SIVs that have been left stranded by the ebbing tide of funding in the current credit cri-

sis. So, in conducting monetary policy, the potential for financial sector distress should be explicitly taken into account in a forward looking manner.

How do your arguments relate to the debate about whether monetary policy should react to asset price bubbles?

Asking whether monetary policy should react to bubbles is not always very illuminating, since it is difficult to know whether an asset price deviates from some fundamental value. Instead, we should be focusing on the conduct of financial intermediaries. Concretely, compare the following pair of questions:

- Do you know for sure there is a bubble in house prices?
- Could the current benign funding conditions reverse abruptly with adverse consequences for the economy?

One can answer "yes" to the second question even if one answers "no" to the first. This is because we know more about the script followed by financial intermediaries and how they react to changes in the economic environment than we do about what the "fundamental" value of a house is, and whether the current market price exceeds that value.

In any case, for a policy maker, it is the second question which is more immediately relevant. Even if a policy maker were convinced that the higher price of housing is fully justified by long-run secular trends in population, household size, rising living standards, and so on, policy intervention would be justified if the policy maker also believed that, if left unchecked, the virtuous circle of benign funding conditions and higher housing prices will go too far, and reverse abruptly with adverse consequences for the economy.

What are the lessons for financial regulation?

The main lesson for financial regulation is that the current risk-based capital requirements are powerless against the pull-back in lending that arises from a system-wide de-leveraging. When there are spillover effects, actions that enhance the soundness of one institution may end up undermining another. For example, the prudent curtailing of exposures by the creditors of Bear Stearns amounted to a run from the point of view of Bear Stearns itself. Similarly, even very safe assets such as reverse repos may be systemically important in that withdrawal of funding creates spillover effects on others. So, financial regulation that relies on Basel-style risk-weighted capital requirements will not be enough. More promising is a system based on raw (i.e. unweighted) capital requirements that amount to a limit on the overall leverage ratio, combined with liquidity requirements that stipulate that banks hold a minimum cash balance as a proportion of their total assets. Even a small liquidity requirement may have a substantial impact on the overall stability properties of the system through the mutually reinforcing role of cash holdings. There is much work to be done in this important area.



This edited interview was conducted by Dirk Niepelt in August 2008

ACADEMIC CONFERENCES from cover

Mackowiak, Emanuel Moench and Mirko Wiederholt started out by demonstrating that US firms' short-run price reaction to sectoral shocks is much quicker and stronger than their reaction to aggregate shocks. The authors went on to show that a model with endogenous knowledge acquisition performs better at explaining these observations than a Calvo-style model of time-dependent pricing or a model with "sticky information" in the spirit of Mankiw and Reis. The intuition is straightforward: since sector-specific shocks exhibit a higher volatility than macroeconomic shocks, it is rational for firms to predominantly focus on this source of fluctuations. This, in turn, raises the speed at which prices adjust to sectoral shocks and results in a rather sluggish response to aggregate shocks. In the following presentation, Klaus Adam demonstrated that price-setters' rational inattention may have important normative implications: if monetary policy affects the quality of information that firms choose to acquire, a stronger focus on price stability may reduce the size of information processing errors and thus reduce the volatility of both inflation and output. The third paper by Michael Woodford analyzed the consequences of introducing explicit costs of price reviews into a model of state-dependent pricing. If knowledge acquisition is costless the model reduces to the full-information

"Ss-model". In general, however, the firm's price-setting behavior also reflects the information acquisition costs. At moderate information costs and with moderate exogenous shocks, the behavior of the model can be reasonably well approximated by a Calvo-style model of time-dependent pricing. Woodford's paper thus offers a foundation for an important building block of many recent macroeconomic models. Moreover, it provides a link between the frequency of price changes and the extent of firms' rational inattention.

Does the explicit consideration of imperfect information improve the empirical performance of macroeconomic models? To explore this question, Fabrice Collard, Harris Dellas and Frank Smets introduced alternative types of informational frictions into a standard New Keynesian framework. Their findings suggest that, in general, such frictions have considerable explanatory power. More specifically, a model which accounts for the fact that economic agents cannot observe the value of relevant endogenous variables in real time not only fares best among the competing approaches but also captures the behavior of asset prices over the business cycle.

If firms have imperfect information about their economic environment, they have to base pricing decisions on their beliefs about the relevant variables. If, in addition, different firms receive different signals and if pricing decisions are interde-

PROGRAM

MONETARY POLICY UNDER IMPERFECT INFORMATION

Bartosz Mackowiak, European Central Bank,
Emanuel Moench, Federal Reserve Bank of New York and
Mirko Wiederholt, Northwestern University
"Sectoral Price Data and Models of Price Setting"
Discussants: Ricardo Reis, Princeton University and Karl
Walentin, Sveriges Riksbank

Klaus Adam, Mannheim University
"Monetary Policy and the Great Moderation"
Discussants: Jordi Galí, Pompeu Fabra and Marc Giannoni,
Columbia University

Michael Woodford, Columbia University
"Information-Constrained State-Dependent Pricing"
Discussants: Chris Sims, Princeton University and Bartosz
Mackowiak, European Central Bank

Fabrice Collard, University of Toulouse,
Harris Dellas, University of Berne and
Frank Smets, European Central Bank
"Imperfect Information and the Business Cycle"
Discussants: Martin Eichenbaum, Northwestern University
and Jesper Lindé, Federal Reserve Board

Christian Hellwig and **Venkateswaran Vaidyanathan**, UCLA
"Setting the Right Prices for Wrong Reasons"
Discussants: John Leahy, New York University and Ernesto
Pasten, University of Toulouse

George-Marios Angeletos and **Jennifer La'O**, MIT
"Incomplete Information, Higher-Order Beliefs and the
Inertia of Prices in the Calvo Model"
Discussants: Steve Morris, Princeton University and Elmar
Mertens, Federal Reserve Board

pendent, a firm does not only care about the nature and source of exogenous shocks, but also about the information sets and expectations of its competitors. Under such conditions, higher-order beliefs – i.e. beliefs about other agents' beliefs – become an important component of firms' pricing decisions, and heterogeneous information may emerge as an additional source of sluggish price adjustment. Surprisingly, however, this need not be the case as Christian Hellwig and Venkateswaran Vaidyanathan demonstrated in their presentation. The presence of idiosyncratic signals may lead firms to confuse aggregate and firm-specific shocks and nevertheless accelerate the adjustment of the aggregate price level – albeit "for the wrong reasons". The potential role of higher-

order beliefs was also at the center of the final presentation by George-Marios Angeletos and Jennifer La'O: by subsequently introducing various forms of heterogeneous information into a Calvo-style model of time-dependent pricing, they showed that the way in which agents form higher-order beliefs is crucial for the model's behavior, and that higher-order beliefs may be a source of macroeconomic fluctuations.

There are (at least) two conclusions that could be drawn from the conference's presentations and discussions: first, imperfect information needs to be taken seriously as an important component of the price-setting process – not only because accounting for costly and imperfect knowledge acquisi-



Michael Woodford



Klaus Adam

Photos of this conference will soon be available on our homepage



Christopher Sims



Jordi Gali



Ricardo Reis



Ulrich Kohli

Robert King and
Alexandre Swoboda

tion contributes to a better understanding of macroeconomic time series, but also because the conduct of monetary policy, beyond directly affecting firms' expectations, may influence the type and amount of information they choose to retrieve. Second, recent theoretical advances in this area need to be supplemented by empirical evidence on the information structure that firms face when adjusting their prices and on the strategies they choose to acquire the relevant knowledge.

NCCR FINRISK RESEARCH DAY AND DOCTORAL WORKSHOP

Switzerland is not only the home of a globally renowned banking industry; it is also nourishing an ever growing community of world-class financial academics. Lately, this trend has been boosted by the creation of the Swiss Finance Institute (SFI) which is backed by generous funding from the country's financial sector. Amongst others, the Swiss Finance Institute is collaborating with the Study Center in teaching financial economics in our Central Bankers Courses.

The SFI is a research partner of the NCCR Finrisk project. Each year, NCCR organizes a Doctoral Workshop and since 2003 the event takes place at the Study Center. As last year, this year's workshop was co-organized with the SFI. During two days in June, 23 doctoral presentations were held and students received comments from faculty members, including Rene Stulz (Ohio State University) and Jerome Detemple (Boston University). In parallel, there was the Research Day where 14 research updates were presented by faculty members from the Finrisk research network.

This year's keynote speaker was Felix Kubler, whose official start date at the SFI coincided with the first day of the meeting. Kubler surveyed robust computational experiments in finance, which is one of the fields in which he will contribute to the SFI's research efforts.

STUDY GROUP ON ECONOMIC THEORY VfS

The "Verein für Socialpolitik" is the most important association of German speaking economists, founded in the year 1873. Its Study Group on Economic Theory, which includes many of the leading economic scholars of the German speaking world, held its annual research conference on May 1 - 2, 2008 at the Study Center. Papers were contributed by Georg Nöldeke (University of Basel), Roland Strausz (Humboldt University Berlin), Herbert Dawid (University of Bielefeld), Bertram Schefold (University of Frankfurt), Hans Peter Grüner (University of Mannheim) and Thorsten Hens (University of Zurich). Subjects covered ranged from dynamic matching and bargaining models and foreign investment dynamics in the presence of technological spillovers all the way to the optimal design of structured products. The relaxing environment at the Study Center allowed intensive and fruitful discussions among the approximately 35 conference participants.



EUROPEAN SUMMER SYMPOSIUM IN ECONOMIC THEORY (ESSET)

For many years, the Study Center has hosted the European Summer Symposium in Economic Theory (ESSET), organized jointly with the Centre for Economic Policy Research (CEPR). This year's ESSET took place from June 30 to July 11. Leading researchers in economic theory from universities across Europe and the United States presented their work. Apart from parallel sessions on various topics, two focus sessions were held. The first focus session, organized by Luis Garicano, was devoted to recent developments in the "Organisation of Growth". It featured contributions by Patrick Legros (ECARES), Gilles Saint-Paul (Toulouse, IDEI) and Luis Garicano (London School of Economics). The second focus session, organized by Patrick Bolton, was devoted to "Contracts and Rationality". Luca Anderlini (Georgetown University), Patrick Bolton (Columbia University), Andrew F. Newman (Boston University), and Ernst-Ludwig von Tadden (University of Mannheim) contributed.

The full program of ESSET, as well as the program of the European Summer Symposium in Financial Markets (ESSFM) are available on our homepage at www.szgerzensee.ch/conferences

EUROPEAN SUMMER SYMPOSIUM IN FINANCIAL MARKETS (ESSFM)

In the second half of July, the Study Center hosted the European Summer Symposium in Financial Markets. Co-organized with CEPR, this annual conference attracted more than 100 researchers from Europe and overseas. Sessions topics ranged from fund management, market microstructure to corporate finance and risk management. The two-week symposium was split into one week focusing on asset pricing topics and one focusing on corporate issues. As usual, the presentations generated lively discussions, even in the plenary sessions. Parallel sessions in the evenings with contributed papers allowed for more informal interaction. In the afternoons, attendees found time to work on new projects.

This year's program was put together by Pietro Veronesi (University of Chicago) and Per Strömberg (Stockholm School of Economics). It displayed a diverse array of research topics and included papers by a number of top speakers. Over 30 presentations in the plenary sessions as well as evening workshops were given. The four focus sessions during the two weeks were dedicated to the following topics:

Bankruptcy and financial distress: Thanks to financial innovation, corporate debt can be repackaged into different tranches offering various risk profiles to creditors. Such re-packaging changes the setting in which the bankruptcy proceedings of Chapter 11 play out because it

implies that creditors' interests are less aligned than they used to be. Accordingly, a common theme of the session was that "Chapter 11 is not what it used to be" with proceedings increasingly concerned with between-creditor conflict rather than conflicts between creditors and management. Session organizer Douglas Baird (University of Chicago) argued that the exact consequences of financial innovation for large Chapter 11 cases are still to be seen, and that this will throw the next round of large restructurings into disarray as players need to adapt to the new environment. The first signs of this "New World of Chapter 11" can already be seen in the data: Ed Morisson (University of Chicago, with Columbia's Kenneth Ayotte) documented the rising pervasiveness of credit control in US bankruptcies filed in 2001 which stands in contrast with the reduced leverage exercised by equity holders and managers during the renegotiation process. Effraim Benmelech (Harvard University) presented work on the role of collateral quality for credit prices.

Innovation and entrepreneurship: While innovation features random elements and thus, cannot be fully planned, organizational environments can be more or less conducive to creative work. This creates a potentially important role for entrepreneurial incentives to foster innovation. Session organizer Thomas Hellmann (joint with Veikko Thiele, both from UBC) analyzed the trade off between incentives to pursue measurable innovation on the one hand and unplanned and not-yet measurable innovation on the other.

Since rewards for the latter depend on employee's ex-post bargaining power, firms should put less emphasis on rewarding measurable innovation tasks when such bargaining power is low. Otherwise, employees may not sufficiently engage in activities towards unmeasurable innovation. The incentives for innovation were also the subject of a lab experiment presented by Gustavo Maso (joint with Florian Ederer, both MIT), who contrasted the positive effects from financial rewards with the negative psychological effect on creativity and innovation of failing to reap such rewards in case of early failure. Amit Seru (University of Chicago) presented work on the role of conglomerates in innovative activities.

Interaction between financial and labor markets arises in various respects: For example, in their dual role as workers and investors, households benefit from hedging their labor income risk. This perspective was adopted by Johan Walden. His paper (joint with Christine Parlour, both from UC Berkeley) derives an asset pricing theory where size and value effects arise from the general equilibrium effects of investment and labor decisions by firms and workers in the presence of hidden effort. Interaction between financial and labor markets also arises when investment decisions are delegated to pay employees whose incentives cannot be perfectly aligned with the interests of investors. In this vein, Peter DeMarzo presented joint work with Mike Fishman, Zhiguo He (all from Northwestern) and Neng Wang (Columbia). Their paper extends the tradi-

tional q-theory of investment to a dynamic agency setting where investment returns depend on managers' unobservable effort. UCLA's Hanno Lustig discussed a model developed with Chad Syverson (University of Chicago) and Stijn van Nieuwerburgh (NYU) explaining how pay inequality between managers in large and small firms has been driven by the growing importance of IT and organizational capital, favoring the owners and managers of large entities.

The session on delegated fund management and asset prices focused on the implications of financial intermediaries rather than households to be the marginal investors and thus, setting asset prices. Arvind Krishnamurthy (joint with Zhiguo He, both from Northwestern) presented a model where the price of risk is determined by the volatile financial positions of intermediaries rather than smooth aggregate consumption. Their model does not only match average observed risk premia, but also the sharp increase of these premia during financial crises. Other work was presented by Dimitri Vayanos (LSE) and Sebastien Pouget (Toulouse).

Beyond the focus sessions, topics ranged from active fund management, credit spreads and rare events to financial crises, securitization and managerial incentive issues. The discussions were lively and animated and participants noticeably enjoyed the stimulating atmosphere of the conference.

DOCTORAL COURSES

ADVANCED COURSES IN ECONOMICS FOR DOCTORAL STUDENTS AND FACULTY MEMBERS 2008

Four Advanced Courses in Economics were offered in summer 2008. In each of the week-long courses, a leading international academic taught material closely related to his recent research.

Professor Robert Shimer (University of Chicago) taught a course on "Macroeconomics of the Labor Market", focusing on the determinants of labor market outcomes, including employment, hours, unemployment, wages, and worker and job flows. Professor Hyun Song Shin (Princeton University) taught a course on "Liquidity and Financial Stability", organ-



Hyun Song Shin with students

ized around the principle of balance sheet spillover effects of leveraged financial institutions. Professor Robert C. Feenstra (University of California, Davis) taught a course on "Empirical Methods in International Trade". Applications included new import varieties, the extensive versus intensive margin in trade, measurement of the terms of trade in time-series and cross-country data, and the impact of trade on wages, productivity and GDP. Finally, Professor Patrick Kehoe (University of Minnesota) taught a course entitled "New Developments in Business Cycles in Closed and Open Economies", covering real and monetary models



Michel Habib, Dirk Niepelt and Philippe Bacchetta

of the business cycle and the discrepancies between model predictions and micro data.

COURSES FOR DOCTORAL STUDENTS AND FACULTY MEMBERS IN LAW AND ECONOMICS

Earlier in the year, the Study Center organized two Law and Economics Courses for Doctoral Students and Faculty Members, offering advanced training in law and economics. Professor Samuel Issacharoff (New York University) taught a course on "Constitutional Law and Economics" focusing on the constitutional founda-

tions of the right of property holding and of economic liberty as well as the role of constitutional law in protecting the integrity of democracy. Professor Robert D. Cooter (University of California, Berkeley) covered the law of property and contracts as well as various other legal topics in his course "Introduction to Law, Economics and Business".



Robert Shimer

CENTRAL BANKERS COURSES

FIRST JOINT CENTRAL BANKERS COURSE ON "MONETARY POLICY AND FINANCIAL STABILITY IN COUNTRIES WITH OPENING-UP CAPITAL ACCOUNTS: SPECIAL FOCUS ON CENTRAL ASIA" TOGETHER WITH THE JOINT VIENNA INSTITUTE

This central bankers' course was co-hosted for the first time by the Study Center and the Joint Vienna Institute (JVI) from May 5 to May 23. The goal of the course was to examine issues related to monetary policy and financial stability that are of relevance for transition countries in Central Asia that are opening up their capital accounts and facing large capital inflows.

The first two weeks of the course were held in Gerzensee. The lectures covered the basics of international monetary economics, including in particular the analysis of real and nominal exchange rates, the choice of exchange rate regimes, and the effects of monetary policy in the open economy. This was followed by a discussion of topics in financial crises, financial globalization, transmission of monetary policy, and inflation targeting.

The lectures during the last week, held in Vienna, built on this material to cover the main monetary policy challenges for the Central Asian region. These included complications arising from the opening-up of capital accounts, financial supervision in the context of rapid credit growth, systemic risk management and stress testing, and balance sheet vulnerabilities.

The course ended with a panel discussion with speakers from the IMF, BIS, SNB, and Oxford and Georgetown Universities.

FIRST COURSE ON "FINANCIAL STABILITY" TOGETHER WITH THE SWISS NATIONAL BANK

This first course on financial stability, organized jointly with the Swiss National Bank, was aimed at providing participants with theoretical and empirical concepts on financial stability, as well as discussing applied current issues and fostering group discussions and exchanges. The first week was focused on micro, macro and statistical concepts, including topics on asymmetric information, the role of banks, financial imbalances and crises, and default modeling and testing.

During the second week, the focus was on applied issues relat-

ed to financial stability measurement and crisis management with speakers from the Swiss National Bank, the Federal Banking Commission, the Financial Stability Institute, and the Bank of Poland.

This course could not have been timelier. Designed in 2007, the course took place on September 22 – October 3, i.e. during the days the US government and Congress designed, negotiated and voted on the sub-prime assets banking bailout plan. This generated particularly stimulating discussions in and outside the classroom. In a sense, the course was even "too timely". Some participants had to leave unexpectedly during the second week to support their central banks as the events on financial markets unfolded.

WORKING PAPERS

08.01

Elmar Mertens
"Are Spectral Estimators Useful for Implementing Long-Run Restrictions in SVARs?"

08.02

Elmar Mertens
"Managing Beliefs about Monetary Policy under Discretion"

08.03

Gregor Bäurle and Tobias Menz
"Monetary Policy in a Small Open Economy Model: A DSGE-VAR Approach for Switzerland"

08.04

Nils Herger
"Explaining Bank Failures in the United States: The Role of Self-Fulfilling Prophecies, Systemic Risk, Banking Regulation, and Contagion"

08.05

Dirk Niepelt
"Debt Maturity without Commitment"

STAFF NEWS

Elmar Mertens left the Study Center in the summer to take up a position at the Federal Reserve Board in Washington. Nils Herger (University of Berne) joined the institute at the beginning of August. He will succeed Samuel Reynard (SNB) as program manager of our Central Bankers Courses in January 2009. Andreas Wälchli (University of Lausanne) was hired as an assistant in September, with the objective of starting a doctoral thesis. Dennis Reinhardt (HEI) will be hired as an assistant per January 2009.

FOUNDATION COUNCIL

Two new members of the Foundation Board and the Academic Council were elected in spring 2008, Professor Beatrice Weder di Mauro (University of Mainz) and Professor Harris Dellas (University of Berne). Annemarie Huber-Hotz and Ueli Augstburger have resigned from the Board effective in December 2008. They were replaced by Corina Casanova (Chancellor of the Swiss Federation) and Stefan Lehmann (President of the Community of Gerzensee).

COURSE PROGRAM 2009

In addition to the "Swiss Program for Beginning Doctoral Students in Economics" we will offer the following courses:

CENTRAL BANKERS COURSES

- 02.02. – 13.02. Advanced Topics in Empirical Finance (jointly with Swiss Finance Institute)
- 02.03. – 19.03. Monetary Policy, Exchange Rates, and Capital Flows
- 04.05. – 20.05. Banking Regulation and Supervision
- 27.07. – 13.08. Monetary Policy in Developing Countries
- 31.08. – 11.09. Advanced Topics in Monetary Economics
- 28.09. – 15.10. Instruments of Financial Markets (jointly with Swiss Finance Institute)

PROGRAM FOR ADVANCED DOCTORAL STUDENTS IN ECONOMICS

- 03.08. – 07.08. Empirical Strategies
Prof. Joshua Angrist
- 10.08. – 14.08. Game Theory and Behavioral Economics
Prof. David K. Levine
- 17.08. – 21.08. Monetary Theory and Policy
Prof. Marvin Goodfriend
- 24.08. – 28.08. Liquidity, Business Cycles and Monetary Policy
Prof. Nobuhiro Kiyotaki

PROGRAM FOR DOCTORAL STUDENTS IN LAW AND ECONOMICS

- 25.05. – 29.05. Law and Economics of Torts
Prof. Jennifer Arlen, New York University
- 15.06. – 19.06. Antitrust Law and Economics
Prof. Daniel Rubinfeld, University of California, Berkeley

VISITORS' PROGRAM

During the year 2008, three researchers visited the Study Center. Martín Gonzalez-Eiras (Universidad de San Andrés, Buenos Aires) worked together with Dirk Niepelt on a paper that analyzes differences in the political support for economically equivalent fiscal policies. Ethan Kaplan (Institute for International Economic Studies, Stockholm University) visited in spring and in December. Together with Dirk Niepelt, he worked on a paper about exchange rates under asymmetric information and the welfare implications of information asymmetries. In summer, Roland Hodler (University of Melbourne) visited the Study Center and presented a paper titled "Natural Resources, Democracy and Corruption".

DISSERTATION

Elmar Mertens
"Three Essays on the Determinants of Output, Inflation and Interest Rates"
viii/143 pages, ISBN 978-3-9523361-0-6, 2008 *



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