
SNB Research Update

October 2014

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Spotlight

Dear reader

The focus paper of this edition of the SNB Research Update is “Reducing overreaction to central banks’ disclosures” by Romain Baeriswyl and Camille Cornand. Policies on disclosure are pertinent not just for monetary policy, but also for financial stability – disclosing a certain bank’s illiquidity to the public, for example, can lead to a run on that bank, and if the bank is ‘too big to fail’, the consequences can potentially jeopardise financial stability. Thus temporarily withholding information about a bank’s liquidity needs may well be prudent, as was the case with UBS in autumn 2008.

SNB researchers are also active in the area of financial stability, with the results helping to understand, for instance, the effects of financial regulation such as the sectoral countercyclical capital buffer (CCB). The CCB aims to bolster banks’ resilience to imbalances on the Swiss residential mortgage and real estate markets, and to prevent the further build-up of such imbalances. Following proposals to the Federal Council by the SNB, the CCB was activated in February 2013 and subsequently increased in January 2014. Although it is still too early to assess the medium term impact, banking sector resilience has already shown signs of improvement.

SNB research material may itself often be subject to disclosure policies, and much of our research may therefore be ineligible for publication. But whether published or not, research conducted at the SNB plays a vital role in the fulfilment of our mandate.

THOMAS WIEDMER

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ROMAIN BAERISWYL AND CAMILLE CORNAND. 2014.
REDUCING OVERREACTION TO CENTRAL BANKS'
DISCLOSURES: THEORY AND EXPERIMENT
Journal of the European Economic Association, 12(4): 1087-1126

Romain Baeriswyl (SNB) and Camille Cornand (CNRS, Université de Lyon) show in their paper that there are communication strategies which reduce markets' overreaction to disclosures by central banks. The reduction measured in their laboratory experiment is lower than predicted by theory. We summarise the theoretical predictions and the design of the experiment.

Theoretical background

The Keynesian Beauty Contest (cf. box below) sets the stage for the theoretical framework: Subjects think about fundamentals of, for instance, an asset. Moreover, they guess what others believe, what others believe what others believe, and so on to infinity. These are called higher order beliefs. If a subject accurately guesses the higher order beliefs of their opponents, they win the contest. However, this can lead to outcomes far away from fundamentals.

The beauty contest becomes particularly interesting when private and public information influences agents' actions. Private information is information about economic fundamentals unique to each agent. By contrast, public information is common to all agents. In the context of the paper, public information consists of disclosures by central banks. Agents react to public information not only because it contains valuable information about economic fundamentals, but also in the knowledge that other agents will react to it as well. Therefore, public information influences agents' higher order beliefs and is given a weight higher than can be justified by its informational content about fundamentals. This is defined as overreaction.



Romain Baeriswyl (SNB)

How do agents weight the two information types when they decide how to act? Central bank communication makes a difference.

Three communication strategies

The authors examine three communication strategies referred to as pure public information, partial transparency and partial publicity.

In the first strategy, all agents receive the same public information. If agents benefit from knowing what others believe, they will use public information to improve their guesses. This strategy is analysed by Morris & Shin (2002). Their model predicts that agents overweight public information. Therefore, there is a much stronger reaction to public than to private information.

Keynesian Beauty Contest

In his book *The General Theory* (1936, p. 156), Keynes describes the behaviour of agents in a market using the metaphor of a beauty contest in a newspaper: Players are asked to choose the prettiest faces from a number of photographs, whereby those who pick the most popular faces become eligible for a prize. Players therefore start to think about the preferences of the other players in order to work out the average opinion. What is more, they must then also take into account that the other players are doing the same, with the result that "each competitor has to pick, not those faces which he himself finds prettiest, but those which he thinks likeliest to catch the fancy of the other competitors, all of whom are looking at the problem from the same point of view."

In contrast to the first strategy, the second strategy's public information includes some noise, i.e. the central bank talks in riddles. Each agent has to interpret the information coming from the central bank. Public information is thus different for each agent. According to theory, this communication strategy dampens overreaction to public information compared with the first strategy.

In the third strategy, there are two types of agents: Informed agents, who have access to public information, and uninformed agents, who only receive private information. Public information is less weighted than in the first strategy because some agents do not observe public information, and those who do observe it react less strongly as they know that some do not observe it.

In theory, the paper shows that the second and third strategies are equivalent. They succeed in lowering weights given to public information and therefore lower overreaction to central banks' communication.

The experiment

To examine the validity of the theoretical predictions, the authors set up an experiment with students in a computer laboratory. The experiment is a game in which the three communication strategies are tested. The participants' goal is to gain as much payoff as possible. To raise their incentives, payoffs are converted into money at the end of the experiment.

It works as follows: In each repeated period of the experiment a new fundamental value is set. Participants observe public and private information according to the communication strategy of the central bank. In making their decisions, participants weight public relative to private information.

The closer a participant's action is to the fundamental value, and the closer the action is to the average action of other participants, the higher the payoff. Deviations from the average action of participants are punished more than deviations from the fundamental value.

Results

The results are partly surprising. Subjects overreact as expected to public information in the first communication strategy. But overreaction is not as strong as predicted by theory. The explanation given by the authors is that participants do not infinitely iterate their beliefs. In theory, infinitely high order beliefs lead to a heavy overweight of public information. In the laboratory, participants weight public information as if only taking second order beliefs into account.

In the second and third strategy, participants weight public information more than implied by theory. Nevertheless, both strategies lower overreaction compared to the first strategy.

Conclusion

In theory, two communication strategies reduce overreaction to central banks' disclosure. In the experiment too, the authors show that the overreaction can indeed be dampened, but not as much as in theory. Relying on the experimental insights, the paper then discusses possible ways for central banks to control the overreaction to their disclosures in our information age.

PUBLICATIONS IN JOURNALS

SÉBASTIEN P. KRAENZLIN AND THOMAS NELLEN. 2014.
[ACCESS POLICY AND MONEY MARKET SEGMENTATION](#)
Journal of Monetary Economics

Deviations between interest rates paid in the Swiss franc unsecured money market and the respective Libor rate are analysed for a period spanning the financial crisis. First, banks that have access to sources of secured central bank and interbank funding pay less than other banks. Second, foreign banks (not chartered in Switzerland) pay more than domestic banks. Third, both lines of segmentation are economically relevant but limited due to open access to sources of secured funding. Thus, access policy matters for monetary policy implementation and financial stability.

This paper was the Focus Paper of the SNB Research Update of May 2013.

PHILIP U. SAURÉ. 2014.
[DOMESTIC POLICIES IN SELF-ENFORCING TRADE AGREEMENTS](#)
European Economic Review 68: 19-30

If all cross-country externalities travel through the terms of trade, efficient trade agreements may simply target the terms of trade and ignore domestic policies. This argument has been advanced by several prominent studies. Simply put, it reads: terms-of-trade agreements are efficient. I show that this result breaks down if the following two standard conditions are met. First, a self-enforcement requirement constrains the agreement and, second, production possibilities are intertemporally linked. These conditions imply that a country's current policy mix affects future production possibilities and thus impacts payoffs under potential defection. Since a terms-of-trade agreement does not specify a country's policy mix, it effectively invites countries to manipulate their own defection temptation. To be self-enforcing, terms-of-trade agreements must ensure that no country, while optimizing its policies on the iso-terms-of-trade schedule, will abandon its zone of voluntary cooperation. This requirement implies that terms-of-trade agreements are inefficient and can be improved upon by agreements that target policies directly.

JEONG-RYEOL KURZ-KIM AND MICO LORETAN. 2014.
[ON THE PROPERTIES OF THE COEFFICIENT OF DETERMINATION IN REGRESSION MODELS WITH INFINITE VARIANCE VARIABLES](#)

Journal of Econometrics 181(1): 15-24

We examine the asymptotic properties of the coefficient of determination, R^2 , in models with α -stable random variables. If the regressor and error term share the same index of stability $\alpha < 2$, we show that the R^2 statistic does not converge to a constant but has a nondegenerate distribution on the entire $[0,1]$ interval. We provide closed-form expressions for the cumulative distribution function and probability density function of this limit random variable, and we show that the density function is unbounded at 0 and 1. If the indices of stability of the regressor and error term are unequal, we show that the coefficient of determination converges in probability to either 0 or 1, depending on which variable has the smaller index of stability, irrespective of the value of the slope coefficient. In an empirical application, we revisit the Fama and MacBeth (1973) two-stage regression and demonstrate that in the infinite-variance case the R^2 statistic of the second-stage regression converges to 0 in probability even if the slope coefficient is nonzero. We deduce that a small value of the R^2 statistic should not, in itself, be used to reject the usefulness of a regression model.

ROMAIN BAERISWYL AND CAMILLE CORNAND. 2014.
[REDUCING OVERREACTION TO CENTRAL BANKS' DISCLOSURES: THEORY AND EXPERIMENT](#)

Journal of the European Economic Association 12(4): 1087-1126

Financial markets are known for overreacting to public information. Central banks can reduce this overreaction either by disclosing information to only a fraction of market participants (partial publicity) or by disclosing information to all participants but with ambiguity (partial transparency). In theory, overreaction can be similarly reduced by either communication strategy. A laboratory experiment shows that both communication strategies succeed in reducing overreaction, though not as much as theory predicts. The opportunity in our information age for central banks to choose between partial publicity and partial transparency to control the market reaction is then discussed.

WHAT DRIVES TARGET2 BALANCES?

Economic Policy 29(77): 139-197

What are the drivers of the large TARGET2 (T2) balances that have emerged in the eurozone since the start of the financial crisis in 2007? This paper examines the extent to which changes in national T2 balances can be statistically associated with cross-border private capital flows and current account (CA) balances. In a quarterly panel spanning the years 1999 to 2012 and 12 countries, it is shown that while the CA and changes in T2 balances were unrelated until the start of the 2007 financial crisis, since then the relation between these two variables has become statistically significant and economically sizeable. This reflects the ‘sudden stop’ in private sector capital that had hitherto funded CA imbalances. I next examine how different types of private capital flows have evolved over the last few years and how this can be related to changes in T2 balances, finding some deposit flight by private customers, a substantial retrenchment of cross-border interbank lending, and also an increase in banks’ holdings of high-quality sovereign debt. My first conclusion from this analysis is that since T2 imbalances were caused by a sudden stop and are unlikely to grow without bounds as eurozone CA imbalances are currently diminishing at a rapid pace, there is no evidence that the institutional set-up of the European monetary union needs to be reformed fundamentally. My further conclusions relate to how the current system transfers risks across the currency union. Limiting or settling T2 balances are not viable options. Rather, policies must be geared to limiting the implicit risk transfer from the private to the public sector within T2 creditor nations, which is facilitated by the current system as it may change the incidence of euro break-up risk.

CURRENCY EXCESS RETURNS AND GLOBAL DOWNSIDE MARKET RISK

Journal of International Money and Finance 47: 268-285

We assess cross-sectional differences in 23 bilateral currency excess returns in an empirical model that distinguishes between US-specific and global risks, conditional on US bull (upside) or bear (downside) markets. Using the US dollar as numeraire currency, our results suggest that global downside risk is compensated in conditional and unconditional, bilateral currency excess returns. This finding is mostly driven by the emerging markets’ currencies in our sample. We also find that the link between the global downside risk and risks associated with a typical carry trade strategy is much weaker for emerging markets’ currencies than for developed markets’ currencies.

PORTFOLIO BALANCE EFFECTS OF THE SWISS NATIONAL BANK’S BOND PURCHASE PROGRAM

Journal of Macroeconomics 40: 132-149

This paper carries out an empirical investigation of the impact on bond spreads of the announcement, purchases and exit from the Swiss National Bank’s bond purchase programme in 2009–2010. We find evidence in favour of a narrowing yield spread of covered bonds as a result of the programme. The effect materialised in the days following the announcement of the Swiss National Bank’s intention to buy bonds issued by private sector borrowers, as markets learned that covered bonds were being bought. The specification of the bond spreads used allows us to identify this effect as a discounted portfolio balance effect of the expected purchases, as distinct from policy signaling. In contrast, we find no evidence of a further effect of the actual purchases and subsequent sales on bond spreads.

This paper was the Focus Paper of the SNB Research Update of October 2013.

IMMIGRATION AND LARGE BANKNOTES

Macroeconomic Dynamics 18(4): 899–919

Do immigrants have a higher demand for large-denominated banknotes than natives? This micro study examines whether banknote orders for CHF 1,000 notes are concentrated in Swiss municipalities with a high foreign-to-native ratio. The evidence for 251 Swiss municipalities finds that immigrants hoard fewer CHF 1,000 banknotes than natives. This empirical result means that immigration reduces seigniorage (per person) as measured by banknote orders. A 1% increase in the immigrant-to-native ratio is coincident with a reduction in banknote orders by CHF 4,000. This reduction is attributed to specific traits linked to immigrants.

JEAN-PIERRE DANTHINE AND JOHN B. DONALDSON. 2014.
EXECUTIVE COMPENSATION: A GENERAL EQUILIBRIUM
PERSPECTIVE

Review of Economic Dynamics

We study the dynamic general equilibrium of an economy where risk averse shareholders delegate the management of the firm to risk averse managers. The optimal contract has two main components: an incentive component corresponding to a non-traded equity position and a variable “salary” component indexed to the aggregate wage bill and to aggregate dividends. Tying a manager’s compensation to the performance of her own firm ensures that her interests are aligned with the goals of firm owners and that maximizing the discounted sum of future dividends will be her objective. Linking managers’ compensation to overall economic performance is also required to make sure that managers use the appropriate stochastic discount factor to value those future dividends. General equilibrium considerations thus provide a potential resolution of the “pay for luck” puzzle. We also demonstrate that one sided “relative performance evaluation” follows equally naturally when managers and shareholders display differential risk averse.

ALAIN GABLER. 2014.
RELATIVE PRICE FLUCTUATIONS IN A MULTI-SECTOR
MODEL WITH IMPERFECT COMPETITION

Review of Economic Dynamics 17(3): 474-483

Counter-cyclical fluctuations in the price of investment in consumption units are often attributed to investment-specific technology shocks. This paper looks at an additional source for such fluctuations: sector-specific markup variations, the idea being that pro-cyclical competition and the higher variability of investment compared to consumption pushes down the relative price of investment during expansions. I find that such endogenous movements in sector-specific markups can account for up to 30% of the observed fluctuations in the price of investment.

MICHAEL LAMLA, MARTIN STRAUB AND ESTHER MIRJAM GIRSBERGER.
2014.

ON THE ECONOMIC IMPACT OF INTERNATIONAL SPORT
EVENTS: MICROEVIDENCE FROM SURVEY DATA AT THE
EURO 2008

Applied Economics 46(15): 1693-1703

Using firm-level data for more than 700 Swiss hotels and restaurants, we evaluate the economic impact of the EURO 2008 soccer championship in Switzerland. Although aggregated macrodata do not reveal any sizable economic impact, we report an overall negative effect based on the surveyed companies. Notably the reported effects of the individual firms are very heterogeneous. For instance, hotels in cities benefitted from the tournament as they were able to raise prices and thereby increase sales. Looking at the long-run impact only a small fraction of companies do believe in a positive effect. Interestingly, this outlook does not depend on realized sales, but on the guest structure.

MANFRED GÄRTNER, BJÖRN GRIESBACH AND FLORIAN JUNG. 2014.
IS THERE A TRANSATLANTIC DIVIDE IN UNDERGRADUATE
MACROECONOMICS TEACHING?

Applied Economics Letters 21(5): 297-303

The global financial crisis triggered different policy responses in Europe and the United States. Interestingly, survey results suggest that there is also a significant difference in how undergraduate macroeconomics instructors responded to the crisis, with US instructors placing significantly more emphasis on financial topics than their European peers. This note considers whether such differences may be attributed to differences in instructors’ profiles and teaching environments. The results suggest that, rather than explaining this gap, the transatlantic divide becomes even wider when analysed in a multivariate setting.

Despite the appearance of a moderate adjustment, the partial narrowing of global imbalances since the global financial crisis masks considerable changes in the way in which these imbalances are financed and in underlying imbalances in domestic demand.

Capital flows from and to the private sector, which in large part financed current account imbalances before the crisis, have plummeted. This reversal is similar in scope to that experienced by emerging economies during the crises of the past decade. However, the collapse in private flows did not lead to a sharp adjustment in current accounts, as private flows were replaced by flows from and to the public sector.

The partial decrease in current account imbalances was accompanied by a significant drop in the domestic demand of countries with a current account deficit. So far, the adjustment has been asymmetric, with a smaller increase in demand in surplus economies, which has contributed to subdued global growth. The increase in domestic demand in the surplus economies is mostly due to the growth differential between these economies (notably China) and deficit economies, and has little to do with internal rebalancing of their growth models.

We model how an information asymmetry between the lending bank and the applying firm about the currency structure of firm revenues may affect loan currency choice. Our framework features a trade-off between the lower cost of foreign currency debt and the costs of currency-induced loan default. We show that under imperfect information about firm revenues more local earners choose foreign currency loans, as they do not bear the full cost of the corresponding credit risk. This result is consistent with recent evidence showing that information asymmetries may increase foreign currency borrowing by retail clients in the transition economies.

Recent work in gender economics has identified trade as a potential determinant of female labor force participation (FLFP). It is usually suggested that FLFP rises whenever trade expands those sectors which use female labor intensively. This paper develops a theoretical model to argue that, quite surprisingly, the opposite effects can occur. Distinguishing between female intensive sectors (FIS) and male intensive sectors (MIS), we show that FLFP may actually fall if trade expands FIS. When FIS are capital intensive, trade integration of a capital-abundant economy expands FIS and contracts MIS. Consequently, male workers migrate from MIS to FIS, diluting the capital labor ratio in the FIS. Under a high complementarity between capital and female labor, the marginal productivity of women drops more than that of men. Thus, the gender wage gap widens and FLFP falls. Employment patterns in the U.S. following NAFTA are broadly consistent with our theory.

Based on a vector autoregressive model (VAR), this paper shows that time variation in monthly excess returns on Swiss government bonds and stocks is predominantly driven by news of inflation and dividends, respectively. This finding is in marked contrast to US evidence which points to a more prominent role of excess return news. Variance decompositions based on estimates from threshold VARs show that US stock market evidence is consistent with the view that market participants put more weight on news of macroeconomic, i.e. cash-flow, risks in periods of exceptionally low real interest rates than in normal times.

RAPHAEL A. AUER AND AARON MEHROTRA. 2014.

**REAL GLOBALISATION AND PRICE SPILLOVERS IN ASIA
AND THE PACIFIC**

In *BIS Papers 77: Globalisation, inflation and monetary policy in Asia and the Pacific*: 81-89. Basel: Bank for International Settlements

In economies and sectors tightly connected by trade linkages, the increased use of intermediate imported inputs could be expected to lead to greater transmission of cross-border cost shocks. This paper presents some results from on-going research investigating cross-border price spillovers to sectoral producer prices within the Asian manufacturing supply chain (Auer and Mehrotra, 2014). Our results suggest that real integration through the supply chain matters for domestic price dynamics.

PAST EVENTS

13 MAY 2014

5TH SNB-IMF CONFERENCE ON THE INTERNATIONAL MONETARY SYSTEM

HOST: SWISS NATIONAL BANK AND INTERNATIONAL MONETARY FUND, ZURICH

The fifth SNB-IMF Conference on the International Monetary System was held in Zurich on 13 May 2013. Thomas Jordan (Chairman of the Governing Board of the SNB) together with Min Zhu (Deputy Managing Director of the IMF) chaired the conference, whose topic was “Rethinking Central Banking and the Global Financial Safety Net”. Three panel discussions focused on the following aspects: A new normal in monetary policy, exchange rate pegs as monetary policy objective besides price stability, and ways of strengthening the global financial safety network. Harold James (Princeton University) finished the conference with a speech about the current financial crisis and its historical backgrounds.

20 - 21 MAY 2014

SNB-UZH WORKSHOP ON ‘ASSET PRICES AND EXCHANGE RATES: MACROECONOMIC AND FINANCIAL PERSPECTIVES’

HOST: UNIVERSITY OF ZURICH, ZURICH

The SNB and the University of Zurich (UZH) jointly organised a conference on “Asset prices and exchange rates: macroeconomic and financial perspectives”, which took place at the UZH on 20/21 May 2014. The conference brought together a select group of researchers in the fields of finance and macroeconomics to present their latest research on the determinants of exchange rate and asset price dynamics. The organising committee consisted of Mathias Hoffmann (UZH), Thomas Nitschka (SNB) and Andreas Schrimpf (BIS).

2 - 3 JUNE 2014

CEPR-SNB CONFERENCE ON ‘EXCHANGE RATES AND EXTERNAL ADJUSTMENT’

HOST: SWISS NATIONAL BANK, ZURICH

The Center for Economic and Policy Research (CEPR) and the SNB held their second conference on ‘Exchange Rates and External Adjustment’ in Zurich on 2/3 June 2014. Among other topics, the conference focused on the microeconomics of external adjustment, capital flows and the real exchange rate, as well as relative prices and exchange rate pass-through. Fritz Zurbrugg (Member of the Governing Board of the SNB) delivered a keynote speech on exchange rates and external adjustment in Switzerland. The organisation committee of the conference consisted of George Alessandria (Federal Reserve Bank of Philadelphia), Raphael Auer (SNB and CEPR), Giancarlo Corsetti (University of Cambridge and CEPR), Charles Engel (University of Wisconsin and National Bureau of Economic Research), Andreas Fischer (SNB and CEPR), and Luca Antonio Ricci (International Monetary Fund).

26 - 27 JUNE 2014

BUBA-OENB-SNB WORKSHOP

HOST: SWISS NATIONAL BANK, ZURICH

On 26/27 June 2014, the Deutsche Bundesbank (BuBa), the Oesterreichische Nationalbank (OeNB) and the SNB held a joint workshop in Zurich. The three central banks take turns hosting the event, which was established by BuBa and the OeNB, and which the SNB joined in 2002 and hosted in Zurich for the first time in 2004. The workshop provides a forum for the presentation of ongoing research in the area of central banking, as well as for the exchange of ideas among the three institutions’ staff.

This year saw 22 participants take part in the workshop. Three researchers from each central bank presented their work in progress, which was discussed afterwards, with topics including inflation, money demand, unconventional monetary policy and financial stability. Thomas Moser (Alternate Member of the Governing Board of the SNB) delivered a speech highlighting the importance of research at central banks. The programme of the workshop is available under www.snb.ch, Research.

26 – 27 SEPTEMBER 2014

SNB RESEARCH CONFERENCE 2014

HOST: SWISS NATIONAL BANK, ZURICH

The 8th annual SNB Research Conference took place in Zurich on 26/27 September 2014. The conference, which attracts leading central bank economists and researchers, is an important event for the SNB. According to Thomas J. Jordan, Chairman of the Governing Board, “the possibility to exchange views on topical issues with dedicated economists is a privilege” for the SNB.



Conference participant Alex Cukierman (Tel Aviv University) taking part in the debate

Two of the nine papers presented at the conference serve to illustrate the tenor of the ensuing debate and discussions. Marvin Goodfriend (Carnegie Mellon University) expounded on monetary policy as a carry trade in the bond market at the zero lower bound. In this context, a carry trade is a purchase of higher yielding bonds funded by cheaper short-term liabilities. The central bank would earn the spread between long-term yields and (near) zero interest on reserves. According to Mr Goodfriend, the central bank should retain these earnings for the time when it raises interest on bank reserves in order to increase money market rates. This would limit the risk to its balance sheet.

Saroj Bhattacharai (University of Texas at Austin) presented a paper, co-authored with Gauti B. Eggertsson and Bulat Gafarov, whose policy implications contrast with those of Mr Goodfriend’s paper. In their model, shortening the duration of outstanding government debt by open market operations provides the central bank with an incentive to keep short-term interest rates low in order to avoid capital losses. This signals to the market that interest rates will remain low for an extended period of time. If, as argued by Mr Goodfriend, the central bank would build up surplus capital to minimise balance sheet risks, its signal to keep interest rates low would disappear.

The dinner speech was given by Lars E. O. Svensson (Stockholm School of Economics), in which he argued against the decision to raise interest rates in Sweden in summer 2010. In his view, this constituted premature exit and resulted in very low inflation, very high unemployment and probably higher real debt. Summing up, Mr Svensson maintained that ‘leaning against the wind’ to reduce risks arising from household debt was not the best way to handle any debt problem, and that policy makers should rather use macroprudential tools.

The programme of the conference and the papers presented are available under www.snb.ch, *Research*.

UPCOMING EVENTS

7 - 8 NOVEMBER 2014

JME-SNB-SCG CONFERENCE ON ‘ASSET PRICE FLUCTUATIONS AND ECONOMIC POLICY’

HOST: STUDY CENTER GERZENSEE, GERZENSEE

21 NOVEMBER 2014

WORKSHOP ON FOREIGN CURRENCY LENDING SINCE THE FINANCIAL CRISIS

HOST: SWISS NATIONAL BANK, ZURICH

19 DECEMBER 2014

9TH END-OF-YEAR CONFERENCE OF SWISS ECONOMISTS ABROAD

HOST: SWISS NATIONAL BANK, ZURICH

PUBLISHER

Swiss National Bank
Research Coordination
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