

# Research Update

## Economic Analysis and Research Department

### Content

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Economic outlook for Austria from 2016 to 2017 .....	2
Causes of declining investment activity in Austria.....	3
Prof. Nobuhiro Kiyotaki (Princeton University) on "Liquidity, Crises and Public Policy" .....	3
Interest rate perceptions and expectations when interest rates are low: survey evidence on Austrian households.....	4
"Inflation aktuell" – the OeNB's quarterly inflation analysis.....	5

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OeNB Periodical Publications .....	6
OeNB Working Papers.....	6
External Publications by Staff Members .....	7
Visiting Research Program .....	8
Olga Radzyner Award.....	8
Upcoming and Recent Events.....	9
OeNB Courses at the Joint Vienna Institute (JVI) .....	9

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### Editorial

by Doris Ritzberger-Grünwald  
Director of the Economic Analysis and Research Department

#### Up, up and away ...

Not so long ago, flying was something special. You went to a tourism office (open 9 to 5, but not on Saturdays), bought a ticket, went to the airport, queued a while, got a smile and a boarding card, had your suitcase checked in, climbed up the stairs, got another smile, got a newspaper or two, got some coffee or tea, were served some food, got some chocolate, then climbed down the gangway and picked up your luggage.

Today, we will look for the cheapest flight in the internet and typically opt out of insurance, extra food and possibly check-in luggage. At the airport, we struggle with a machine which doesn't accept our passport and sometimes even refuses to know us. We weigh our luggage and put on a tag. After showing a mail (hopefully our smartphone is working properly) we board the airplane, but we won't get to see any newspaper, coffee or tea, food, or goodies for the kids. These days customer service apparently boils down to free use of in-flight bathrooms.

Now replace "airline" with "bank," "ticket price" with "interest rates," and "electronic ticket" with "bank card."

Is there a difference? In both cases you have to become an expert yourself. Those who find it difficult to manage have to pay extra for extra service. To avoid worst case (i.e. crash) scenarios, supervising authorities are defining minimum standards at best. In any case, firms grow, merge, die, or diversify. Give it a thought and just replace Lufthansa, Sabena, Lauda Air or Swiss with some banks that come to your mind.

Doris Ritzberger-Grünwald

## Austrian economy to grow at same pace as euro area economy in 2016 and 2017

### Economic outlook for Austria from 2016 to 2017 (December 2015)

In its December 2015 economic outlook, the Oesterreichische Nationalbank (OeNB) expects the Austrian economy to pick up moderately. While GDP growth will still be weak at 0.7% in 2015, it is set to accelerate to 1.9% in 2016 on the back of three one-off factors: the tax reform taking effect in January 2016, expenditure on asylum-seekers and recognized refugees and a government housing stimulus package. In 2017, growth is expected to come in at 1.8%. This means that the outlook remains unchanged compared with the June 2015 outlook.

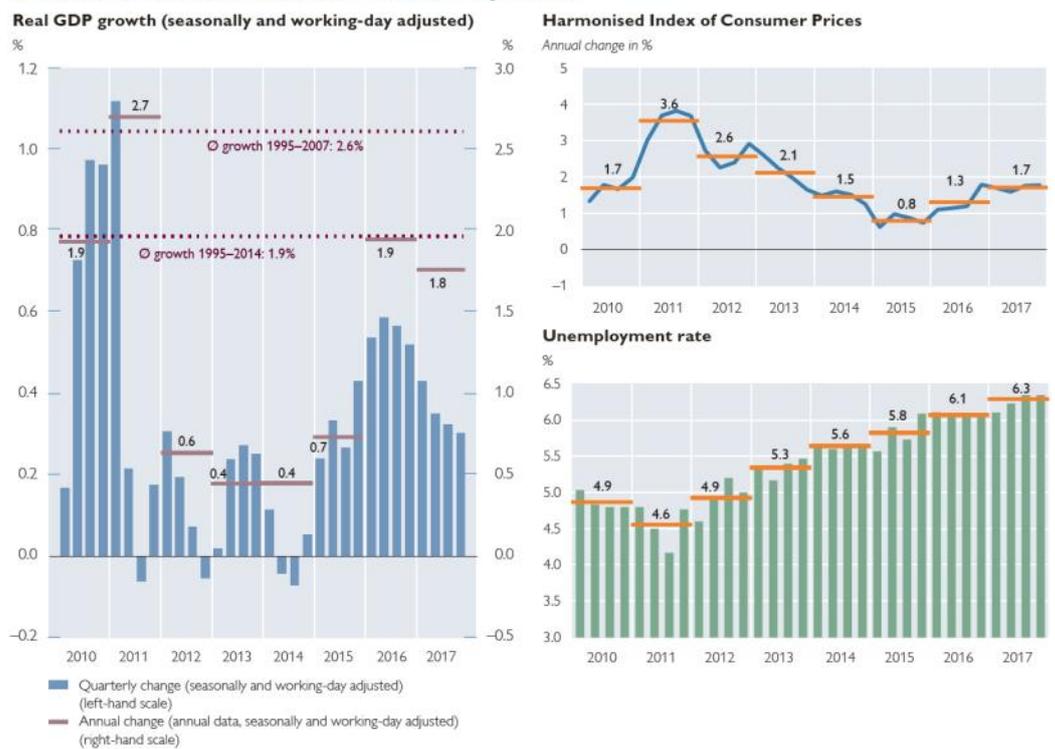
The growth outlook for the global economy deteriorated in the course of 2015. While developed economies were on a path of recovery, the pace of growth declined in a number of emerging economies. Brazil and Russia are deep in recession, and China saw a marked slowdown in growth. Global trade slumped in 2015. In addition to cyclical factors, this decline was mainly attributable to stagnation in the expansion of global production chains and to structural change in the Chinese economy toward a consumption- and services-led growth model. The developed economies, by contrast, consistently experienced a robust upswing, which remains subdued, however, in light of a great number of concurrent stimuli.

As the outlook for the world economy has become cloudier, Austrian exporters are expected to see slightly weaker growth rates in 2016 and 2017 compared with the June 2015 outlook. Although export growth gained momentum in the course of 2015 and is set to accelerate noticeably from 2.3% in 2015 to 4.5% in 2017, it will remain muted compared with previous upswings. Investment growth has been very weak over the past few years on the back of businesses' pessimistic sales expectations and decreasing investment in construction. In particular, the sluggishness in residential construction comes as quite a surprise given that housing demand is high, real estate prices have risen sharply and

financing conditions have been benign. The housing stimulus package adopted by the federal government is set to provide important stimuli and support investment in residential construction, however. Growth in investment in equipment turned positive in 2015. Thanks to rising demand for replacement and expansion investment, businesses will considerably step up investment in equipment also in 2016 and 2017.

Private consumption will benefit from two supporting factors over the forecast horizon: The 2016 tax reform will result in substantially higher net incomes, and public expenditure on asylum-seekers and recognized refugees in the form of transfer payments will raise nominal household incomes. Although rising inflation is set to dampen real

OeNB December 2015 outlook for Austria – key results



Source: Statistics Austria, WIFO, OeNB outlook (December 2015).

income growth, private consumption growth will accelerate to 1.6% and 1.4% in 2016 and 2017, respectively. At the same time, the saving ratio, which had been falling in recent years, will edge up by 1 percentage point to 8.1% in 2016.

The three one-off factors mentioned above will contribute a total of 0.8 percentage points (tax reform: 0.4 percentage points, expenditure on refugees: 0.3 percentage points; housing stimulus package: 0.1 percentage points) to GDP growth in 2016. Underlying

cyclical GDP growth alone, i.e. excluding these one-off factors, would be only 1.1%. In 2017, the one-off factors will contribute 0.4 percentage points to growth.

The strong increase in labor supply in recent years will continue to shape the labor market over the entire forecast horizon. It is attributable not only to the recognition of refugees and other migrants, which gives them the right to work, but also to rising labor participation rates among older people and women. The unemployment rate is set to mount further in 2015 (+5.8%), mostly because of faltering economic momentum and the increase in overall labor supply. In 2016 and 2017, the jobless rate will be 6.1% and 6.3%, respectively, despite strong economic and employment growth.

HICP inflation is projected to accelerate from 0.8% in 2015 to 1.3% and 1.7% in 2016 and 2017, respectively. The rise in inflation can be traced first and foremost to external cost factors. The prices of both commodity and goods imports have been pointing upward. Domestic factors, on the other hand, have been playing a less important role in the uptrend in the inflation rate. The VAT hike that is part of the tax reform package will contribute a cumulated 0.2 percentage points to headline inflation in 2016 and 2017.

The general government budget balance is set to improve considerably to  $-1.6\%$  of GDP in 2015 (after  $-2.7\%$  of GDP in 2014). A decline in capital transfers to banks is one of the reasons for the narrowing of the deficit. Also, an unexpected rise in tax revenues compensated for additional expenditure related to refugees. The latter plus the 2016 tax reform will cause the deficit to widen in 2016. It must be noted in this context that the measures to fight tax evasion and social welfare fraud that will be part of the tax reform package must not be included in the economic outlook according to ESCB rules. An improvement in the general government balance can be expected for 2017 on the back of relatively strong economic growth and a further decline in capital transfers to banks. The government debt ratio is forecast to fall below 82% of GDP by 2017. After amounting to about  $\frac{1}{2}\%$  of GDP in 2015, the structural deficit will deteriorate significantly – to a little above 1% of GDP in both 2016 and 2017 – as a result of the tax reform and additional expenditure related to asylum-seekers and recognized refugees.

For details see <https://www.oenb.at/en/Publications/Economics/Monetary-Policy-and-the-Economy.html>

## Lecture Series of the 2015 OeNB Guest Professor Nobuhiro Kyiotaki (Princeton University) on “Liquidity, Crises and Public Policy“

From the 4<sup>th</sup> to the 6<sup>th</sup> of November 2015 Prof. Nobuhiro Kyiotaki (Princeton University) visited the Austrian National Bank and gave a series of three lectures on “Liquidity, Crises and Public Policy“. The lecture series was attended by close to 100 participants from the national bank and from various universities and research institutions. Prof. Kyiotaki is one of the internationally most renowned macroeconomist. His work has contributed to a better understanding of macroeconomic relations, monetary economics and financial markets. His articles on monopolistic competition with Olivier Blanchard („Monopolistic Competition and the Effects of Aggregate Demand“, American Economic Review, 1987), on credit cycles with John Moore („Credit Cycles“, Journal of Political Economy, 1997) and on the origin of money with Randall Wright (“A Search-Theoretic Approach to Monetary Economics“, American Economic Review, 1993) are classic works of modern economics that have been canonized as the Blanchard-Kiyotaki, the Kiyotaki-Moore and the Kiyotaki-Wright models.

The first lecture presented a financial accelerator model. The centerpiece of the model is the interaction between credit allocation, collateral constraints and asset prices. Increasing asset prices increase the value of collateral which enables households and firms to take up new

credits and increase production. Decreasing asset prices, on the other hand, will reverse this process and might lead to a vicious circle of fire sales, credit restraints and economic slump.

The second lecture extended the credit cycle model with the introduction of liquidity. This was done by recognizing that not all types of collateral have the same degree of “resaleability” (or liquidity) in the event of a credit default. The interaction of credit and liquidity constraints gives rise to an endogenous role for money. The model was then used to discuss the functioning and usefulness of conventional and unconventional monetary policy.

The third lecture introduced a banking sector into the basic model in order to analyze macroprudential policy and to discuss economic measures to deal with financial crises. It was shown that there exist important trade-offs between deposit insurance, capital adequacy and the provision of liquidity.

Further details on the lecture series can be found on <https://www.oenb.at/en/Monetary-Policy/Research/visiting-scholars.html>

## Interest rate perceptions and expectations when interest rates are low: survey evidence on Austrian households

Paper by Christian Beer, Ernest Gnan, Doris Ritzberger-Grünwald  
published in OeNB: Monetary Policy & the Economy Q4/15

The authors analyze financial behavior of Austrian households in the current low interest rate environment. The article builds on financial literacy and behavioral finance literature. The findings are also relevant for the efficacy of the transmission mechanism of monetary policy, since it may be argued that in the end, perceived (rather than actual) current and expected future retail interest rates drive consumers' savings and borrowing behavior. Applied to the initial hypotheses, the findings suggest the following:

The findings confirm authors' first hypothesis that households have limited knowledge of interest rates. This is suggested by the high proportion of "don't know" answers to the questions on the current and expected levels of interest rates and the nonnegligible proportion of respondents who gave wrong answers on the question regarding the current level of the policy rate. The hypothesis that perceptions of interest rates are heterogeneous and on average biased holds true: Perceptions of both savings and mortgage rates exhibit a noticeable upward bias. This notwithstanding, the vast majority of respondents is at least aware that we are currently experiencing a period of very low interest rates.

credit decisions leads to more accurate perceptions of prevailing current interest rates.

The results confirm the third hypothesis in that respondents find it easier to state the direction of future interest rate developments than to indicate a specific value. Respondents expect interest rates to stay very low in the near future. While expectations are indeed quite heterogeneous, they are at the same time very much in line with the notion of a zero lower bound of interest rates, i.e. hardly any household expects negative nominal interest rates.

The fourth hypothesis on the correlation between financial literacy and satisfaction with bank information is partly confirmed. The effect of financial literacy on satisfaction with bank information is most pronounced for mortgage loans.

On the whole, it seems that while respondents display some important knowledge and awareness gaps about actual current interest rates and have difficulties forming expectations about the values of future interest rates, their perceptions of current interest rates as well as their expectations of future interest rates are broadly consistent

with the ECB's current expansionary monetary policy stance and its signals that interest rates are going to stay very low over the medium term. At the same time, a noticeable upward bias in households' perceptions of prevailing savings accounts and mortgage credit interest rates might indicate that Austrian households are not,

or not yet, aware of the full extent of the low interest rate environment.

For details see: <https://www.oenb.at/en/Publications/Economics/Monetary-Policy-and-the-Economy.html>

### Financial literacy and satisfaction with bank information

% of respondents satisfied with bank information

	Definition real interest rate			Monetary policy rate		
	Correct	Incorrect	Difference	Correct	Incorrect	Difference
Satisfied with interest rate information on savings accounts	53	47	7 **	47	50	-3
Satisfied with interest rate information on loans	76	65	11 **	76	67	10 *
Satisfied with information provided on interest rate risk	69	60	9 *	67	62	5

Source: Own calculations based on the OeNB barometer survey.

Note: \*\*\*, \*\*, \* indicates whether the difference between the proportions is statistically different from zero at the 0.10, 0.05 and 0.01 level of significance using a Wald test. Correct (incorrect) indicates whether respondents gave a correct (incorrect) answer to the question on the definition of the real interest rate or the question on the level of the monetary policy rate.

The second hypothesis that perceptions of the current level of interest rates are influenced by socioeconomic factors and personal relevance is partly confirmed insofar as knowledge (i.e. not answering "don't know" and giving a correct answer to the question on the current policy rate) is affected by socioeconomic factors. By contrast, perceptions of the level of interest rates seem to be only weakly affected by socioeconomic factors. Data do not seem to suggest that personal relevance for investment or

## “Inflation aktuell” – the OeNB’s quarterly inflation analysis

The acceleration in Austrian HICP inflation observed in the first three quarters of 2015 – from 0.6% to 0.9% – has abated recently. In the last quarter of 2015, the inflation rate stood at 0.7%. This slowdown was mainly attributable to the low price of crude oil. Also, domestic determinants of inflation are exerting only moderate price pressures at present.

Nonetheless, inflation in Austria remains above both the euro area average and inflation in Germany, Austria’s most important trading partner. This is mostly due to services sector inflation, which has been affected by the public sector’s higher contribution to inflation and the above-average growth of unit labor costs.

According to Eurostat’s data on price level comparisons in the euro area, Austria belongs to a group of countries whose price level is currently slightly above the euro area average. Price levels differ markedly across the euro area as the convergence of price levels seen before 2010 has not continued in recent years.

survey were found to be less certain about their expectations. The survey results also suggest that older respondents and men are more certain of their inflation expectations than younger persons and women.

Producer price inflation and wholesale inflation have been slowing down for several months due to the current low in energy prices. By contrast, there was some acceleration in producer prices for consumer goods, which are closely connected with end-consumer price growth. All in all, cost developments in the earlier stages of production are expected to moderately fuel consumer price inflation over the next few months.

The growth rate of labor costs has remained above headline inflation, which, in those parts of the services sector that are particularly responsive to changes in wages, is likely to be the reason why Austria’s inflation rate is high compared to the euro area’s. At the same time, corporate profit margins, which have been declining for the past few years, have been dampening price growth. Likewise, the

domestic output gap continues to be in negative territory, implying that there is currently no price pressure from the demand side.

Both Austrian consumers and professional forecasters expect inflation to climb markedly in 2016. Therefore, the risk of deflation remains low despite inflation receding of late. The share of goods and services prices showing negative annual growth rates

has not increased in the past few months. Declining prices have been recorded in particular for fuel and food.

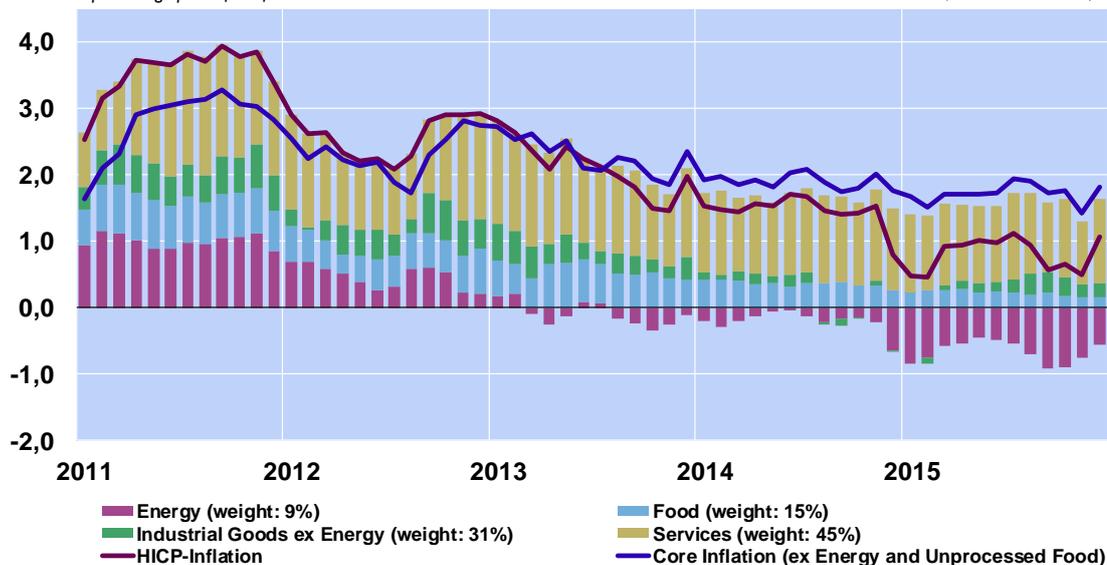
Further details (in German language only) can be found at:

<https://www.oenb.at/en/Monetary-Policy/Research/conferences.html>

### Austrian HICP-Inflation and Contributions of Sub-Components

y-o-y %-change for inflation and core inflation  
percentage points for inflation contributions

last observation: 1.1% (December 2015)



Source: Statistics Austria.

A special topic covered in the current issue of “Inflation aktuell” is dedicated to the determinants of the uncertainty of inflation expectations. A survey conducted by the OeNB among 2,000 Austrian households recently revealed that persons who consider inflation to be important in their lives or work and persons whose inflation perceptions are more in line with actual inflation rates tend to be more certain of their inflation expectations. Furthermore, respondents who had revised their inflation expectations in the 12 months preceding the

## OENB PERIODICAL PUBLICATIONS

From Q1/2016, OeNB publications will be available in electronic format only (<https://www.oenb.at/en/Publications.html>), as the OeNB has decided to follow the international trend toward digital publishing.

We invite you to subscribe to our newsletter at <https://oenb.at/en/Services/Newsletter.html> to be notified via e-mail that a new issue is available.

<http://www.oenb.at/en/Publications/Economics.html>

### List of all Publications since 2001 (by staff of the Economic Analysis and Research Section)



#### Monetary Policy & the Economy Q4/15

Austrian economy to grow at same pace as euro area economy in 2016 and 2017 (Gerhard Fenz, Martin Schneider)

Interest rate perceptions and expectations when interest rates are low – survey evidence on Austrian households (Christian Beer, Ernest Gnan, Doris Ritzberger-Grünwald)

Financing the Austrian economy – a bird's eye view based on the financial accounts from 1995 to 2014 and a look at the road ahead (Michael Andreasch, Pirmin Fessler, Martin Schürz)

[See more](#)

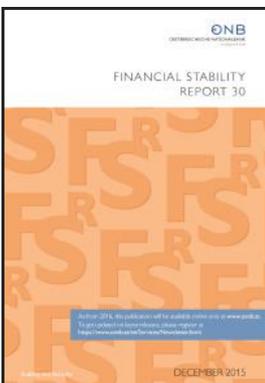


#### Focus on European Economic Integration Q4/15

The mixed success of EU-IMF adjustment programs in Europe – why Greece was different (Aleksandra Riedl, Maria Silgoner, Angelika Knollmayer)

Is there an added worker effect? – European labor supply during the crisis (Aleksandra Riedl, Florian Schoiswohl)

[See more](#)



#### Financial Stability Report 30

Analyzing the systemic risks of alternative investment funds based on AIFMD reporting: a primer (Georg Lehecka, Eva Ubl)

The Russian banking sector – heightened risks in a difficult environment (Stephan Barisitz)

Systemic liquidity and macroprudential supervision: Synopsis of the 2<sup>nd</sup> Macroprudential Supervision Workshop in Vienna (Aerdts Houben, Stefan W. Schmitz, Michael Wedow)

[See more](#)

### OeNB Working Papers

<http://www.oenb.at/en/Publications/Economics/Working-Papers.html>

## EXTERNAL PUBLICATIONS BY STAFF MEMBERS

**Trust in Banks during Normal and Crisis Times—Evidence from Survey Data****Markus Knell, Helmut Stix (2015).** In: *Economica*. 82, December. 995–1020.

We study the evolution of people's trust in banks during the global financial crisis, and the factors that determine its level. Austrian survey data show that trust in banks declined sizably during the financial crisis, but the lowest observed trust level (60%) is still higher than that of many other institutions. We establish that a trust decline is related to agents' subjective view of the economic situation and the direct experience of bank failures. Deposit insurance stabilizes banking trust. Both the lack of bank collapses and the extension of deposit insurance coverage had a cushioning effect on trust in banks.

**International Banking and Liquidity Risk Transmission: Evidence from Austria****Esther Segalla (2015).** In: *IMF Economic Review* 63(3). 426–455.

This study provides findings on the transmission of liquidity shocks by Austrian parent banks through the lending channel. The paper investigates how different types of banks adjust their balance sheet positions in response to a liquidity shock. It distinguishes between different definitions of lending activities, such as changes in domestic C&I lending, foreign C&I lending, total credit, cross-border claims, foreign offices local claims, and internal borrowing between affiliated banks. The paper finds that (1) smaller banks (parent banks without affiliates) response to liquidity risk depends on core deposit funding for foreign C&I lending and total credit. (2) Cross-sectional differences in large banks (parent banks with affiliates) in response to liquidity risk cannot be uniformly explained by one particular ex ante determinant. The growth of cross-border claims is negatively correlated with a higher share of illiquid assets and with a higher share of capital, and positively correlated with the commitment ratio. Use of official sector liquidity provided by the Austrian government reduces the importance of the commitments share as a driver of cross-sectional differences in lending by Austrian global banks in response to market liquidity risks.

**The Return on Social Security With Increasing Longevity****Markus Knell (2015).** In: *Macroeconomic Dynamics*, DOI: <http://dx.doi.org/10.1017/S1365100515000589>.

In this paper I study the impact of increasing longevity on pay-as-you-go pension systems. First, I show that increasing longevity increases the internal rate of return. The size of the effect differs for different policy regimes. It is higher for the case where the retirement age is increased to keep the system in balance than for the case where the necessary adjustment is achieved by reducing pension benefits. Second, I study optimally chosen retirement decisions and I show that the socially optimal policy involves a shorter working life than the private optimum. The social optimum can be implemented by the use of a PAYG system that combines an actuarial and a flat pension.

**Competition in Treasury Auctions****Helmut Elsinger, Philipp Schmidt-Dengler and Christine Zulehner, CEPR Discussion Paper No. DP10983 .**

We investigate the role of competition on the outcome of Austrian Treasury auctions. Austria's EU accession led to an increase in the number of banks participating in treasury auctions. We use structural estimates of bidders' private values to examine the effect of increased competition on auction performance: We find that increased competition reduced bidder surplus substantially, but less than reduced form estimates would suggest. A significant component of the surplus reduction is due to more aggressive bidding. Counterfactuals establish that as competition increases, concerns regarding auction format play a smaller role.

**Bitcoin and the legitimacy crisis of money****Beat Weber (2016).** In: *Cambridge Journal of Economics* 40/1, 17–41.

The virtual currency and payment project Bitcoin intends to challenge the current monetary and payment system that finds itself in a legitimacy crisis in the aftermath of the financial market turmoil of 2008. In examining the governance of the Bitcoin system, I try to assess its potential to create input and output legitimacy as a payment system and as a monetary system in comparison with current practice.

## The Economic Viability of Complementary Currencies: Bound to Fail?

Beat Weber (2015). Chapter from: Geert Lovink, Nathaniel Tkacz, Patricia de Vries (eds.), *MoneyLab Reader. An intervention in digital economy. INC Reader #10, Institute of Network Cultures, Amsterdam. 132–149*.

Bitcoin and similar cryptocurrencies are the latest embodiments of a longer history of attempts to establish something that is frequently labeled as „complementary currency“. In this paper, a typology of possible meanings of complementarity is proposed as a first step, illustrated with historical examples: Complementarity with respect to specific contracts; Complementarity with respect to specific currency denominations; Complementarity with respect to economic regions. In a second step, conditions for the acceptance of complementary currencies by users are discussed, drawing on economic theory. The main determinants are expectations about behaviour of the issuer and of other users. Much depends on whether competing alternatives are available. Being privately issued, complementary currencies can rarely claim exclusivity in their respective domain. In a context of currency competition, network effects will favour currencies with greater established user base, unless their economic performance is significantly inferior to competitors. The virtual currency and payment project Bitcoin intends to challenge the current monetary and payment system that finds itself in a legitimacy crisis in the aftermath of the financial market turmoil of 2008. In examining the governance of the Bitcoin system, I try to assess its potential to create input and output legitimacy as a payment system and as a monetary system in comparison with current practice.

## CALL FOR APPLICATIONS: VISITING RESEARCH PROGRAM



The Oesterreichische Nationalbank (OeNB) invites applications from external researchers (EU or Swiss nationals) for participation in a Visiting Research Program established by the OeNB's Economic Analysis and Research Department. The purpose of this program is to enhance cooperation with members of academic and research institutions (preferably postdoc) who work in the fields of macroeconomics, international economics or financial economics and/or pursue a regional focus on Central, Eastern and Southeastern Europe.

The OeNB offers a stimulating and professional research environment in close proximity to the policymaking process. Visiting researchers are expected to collaborate with the OeNB's research staff on a prespecified topic and to participate actively in the department's internal seminars and other research activities. They will be provided with accommodation on demand and will, as a rule, have access to the department's computer resources. Their research output may be published in one of the department's publication outlets or as an OeNB Working Paper. Research visits should ideally last between three and six months, but timing is flexible.

Applications (in English) should include

- a curriculum vitae,
- a research proposal that motivates and clearly describes the envisaged research project,
- an indication of the period envisaged for the research visit, and
- information on previous scientific work.

Applications for 2016 should be e-mailed to [eva.gehringer-wasserbauer@oenb.at](mailto:eva.gehringer-wasserbauer@oenb.at) by May 1, 2016. Applicants will be notified of the jury's decision by mid-June. The following round of applications will close on November 1, 2016.

## OLGA RADZYNER AWARD

Award for scientific work on European economic integration bestowed on young economists from Central, Eastern and Southeastern Europe.

### Call for entries

In 2000, the Oesterreichische Nationalbank (OeNB) established an award to commemorate Olga Radzyner, former Head of the OeNB's Foreign Research Division, who died in a tragic accident in August 1999. The award is bestowed on young economists for excellent research on topics of European economic integration and is conferred annually. In 2016, four applicants are eligible to receive a single payment of EUR 3,000 each from an annual total of EUR 12,000.

The OeNB shall receive the work submitted for this award, by September 16, 2016, and the work shall be sent by e-mail or in hard copy to Ms Eva Gehringer-Wasserbauer, Oesterreichische Nationalbank, Foreign Research Division, PO Box 61, 1011 Vienna, Austria. To identify their work as a submission, applicants shall mark the envelope with the reference "Olga Radzyner Award 2016".

For more information, please refer to the [Conditions for Participation](#).

## UPCOMING AND RECENT EVENTS

The following events are organized by the OeNB. Please note that attendance is by invitation only. If you are interested in participating in one or more of the events, please send an e-mail to [OeNB.ResearchUpdate@oenb.at](mailto:OeNB.ResearchUpdate@oenb.at) or take a look at <http://www.oenb.at/en/Calendar.html>

UPCOMING	
February 26, 2016	East Jour Fixe on Ukraine, "Ukraine – Progress of Reforms and Challenges Ahead", jointly organized with wiiw
March 4, 2016	Ekkehard Köhler (Walter Eucken Institut): TBA
March 18, 2016	Gaël Giraud (Paris School of Economics): TBA
June 24, 2016	Hans Gersbach (ETH Zürich): Money Creation, Monetary Policy, and Capital Regulation

RECENT	
January 29, 2016	Josef Falkinger (University of Zurich): Explaining structural change towards and within finance
January 28, 2016	EBRD Transition Report 2015-16. Ralph de Haas (EBRD): Rebalancing Finance
January 26, 2016	Anna Lisa Plattner (GRG 12): Work visit
January 15, 2016	Michael Kumhof (Bank of England): Banks are not intermediaries of loanable funds — and why this matters
December 11, 2015	Adrian Penalver (Banque de France): Pre-Crisis Credit Standards: Monetary Policy or the Savings Glut?
December 4, 2015	Tim Eisert (Erasmus Universiteit Rotterdam): Whatever it takes: The Real Effects of Unconventional Monetary Policy
November 16, 2015	Kaushik Basu (World Bank), 20 <sup>th</sup> Global Economy Lecture, "Globalization and the art of designing policy," jointly organized by the OeNB and The Vienna Institute for International Economic Studies (wiiw)
November 6 – 7, 2015	Prof. Nobuhiro Kyotaki (Princeton University), 3 lectures on: Liquidity, Crises and Public Policy
November 5 – 6, 2015	13 <sup>th</sup> ESCB Emerging Markets Workshop hosted by the OeNB (by invitation only)

## OENB COURSES AT THE JOINT VIENNA INSTITUTE (JVI)

For further details see: [www.jvi.org](http://www.jvi.org)

April 11–15, 2016	Integration in Europe: European Union and Eurasian Economic Union
May 9–13, 2016	Challenges for Candidate and Potential Candidate Countries in the EU and EMU Accession Process
October 10–14, 2016	Macro-Financial Stability in Central, Eastern and Southeastern Europe
November 21–23, 2016	Cash Circulation and Payment Systems in Austria
November 28 – December 2, 2016	Monetary and Financial Statistics Collected and Compiled by the ESCB

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