

# Annual Report 2014





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Wirtschaftsforschung GmbH

Centre for European  
Economic Research

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MannheimTaxation  
ScienceCampus

- Crises in a Globalised World
- Educational Potentials
- Healthy Aging
- Transition to Renewable Energy
- Science 2.0



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ZEW ANNUAL REPORT

2014









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# First-Hand Information





Federal Minister of Education and Research Johanna Wanka spoke about the German formula for success in innovation.

February 2014

## JOHANNA WANKA ON THE GERMAN FORMULA FOR SUCCESS IN INNOVATION

Innovation is a topic that arouses considerable interest – as evidenced by the well-attended talk given by Professor Johanna Wanka, the Federal Minister of Education and Research, at ZEW. The question, “How should political incentives be configured for innovation in Germany?” was the focus of the talk. “Germany is already extremely successful. It is the nation that exports the greatest quantity of knowledge-based high-tech goods, and always scores high in innovation rankings,” Wanka said. Yet Germany still has room for substantial improvement when it comes to transforming theoretical knowledge into marketable goods and services – an issue keenly researched by ZEW economists. The Minister spoke within the lecture series “First-Hand Information on Economy Policy”.



MARCH 2014

## ZEW “LUNCH DEBATES” – IN DIALOGUE WITH BRUSSELS

Inspired by the goal of bringing economic expertise to the site where seminal policy decisions are made, ZEW launched a new series of events in Brussels titled “ZEW Lunch Debates” in March 2014. The Lunch Debates are held during the midday break and offer an opportunity for parliamentarians, staff members of EU institutions, journalists and representatives of interest groups to engage in discussions about controversial issues in economic policy. The first Lunch Debate addressed European climate policy, and included EU Commissioner Günter H. Oettinger, ZEW Research Associate Professor Andreas Löschel, as well as MEPs Professor Vittorio Prodi and Sir Graham Watson, along with an audience of about 120 guests.

Hosts and panellists of the first ZEW Lunch Debate: Johannes Jung (Head of the Representation of the State of Baden-Württemberg to the EU), ZEW President Clemens Fuest, EU Commissioner Günther H. Oettinger, Vittorio Prodi MEP, Jaroslaw Pietras (General Secretariat of the Council of the European Union, Director-General for Environment, Education, Transport and Energy), Sir Graham Watson MEP, Thomas Kohl (Director of Business and Administration at ZEW)



May 12

## ELECTIONS TO THE EUROPEAN PARLIAMENT: ECONOMIC CHALLENGES

Lively discussion between Valerie Herzberg (Advisor to the President of the European Council), Werner Mussler (Brussels correspondent for Frankfurter Allgemeine Zeitung), Sidonia Jedrzejewska MEP (member of the European Committee on Budgets) and ZEW President Clemens Fuest (from left to right)



June 30

## THE ARCHITECTURE OF AN ADJUSTABLE AND STABLE EURO AREA

Panel discussion at the ZEW Lunch Debate with (from left to right) Nicolas Carnot (Directorate-General for Economic and Financial Affairs), Klaus Regling (ESM) and Friedrich Heinemann (ZEW)



September 25

## ARE THE FISCAL RESPONSES TO THE CRISIS INCREASING INCOME INEQUALITY AND WEALTH DISPARITY?

Lecture by Gaëtan Nicodème (Head of Unit "Analysis, Evaluation and Impact Assessment Support" in the European Commission's Directorate-General for Taxation and Customs Union) at the ZEW Lunch Debate



November 18

## HOW TO BEST FIGHT EUROPEAN YOUTH UNEMPLOYMENT?

Members of the panel discussed the pressing issue of youth unemployment (from left to right): Jude Kirton-Darling MEP, Holger Bonin (ZEW), Gerhard Dambach (Robert Bosch S.p.A), Max Uebe (Directorate-General for Employment, Social Affairs and Inclusion) and Olaf Hahn (Senior Vice President of the Robert Bosch Foundation).





April 2014

## MATAX IS LAUNCHED – THE SECOND LEIBNIZ SCIENCECAMPUS AT ZEW

How should a sustainable tax system be configured so as to meet future economic and social challenges? With this focus firmly in mind, the Leibniz ScienceCampus "Mannheim Taxation" (MaTax) began its work on 1 April 2014. Alongside the Mannheim Centre for Competition and Innovation (MaCCI), the new joint venture by ZEW and the University of Mannheim has become the second Leibniz ScienceCampus in which ZEW is taking an active part. At the first MaTax Conference held in September 2014, the Baden-Württemberg Minister of Science, Theresia Bauer, and the President of the Leibniz Association, Professor Matthias Kleiner, gave recognition to the importance of the new ScienceCampus. Currently, 15 professors and 60 young researchers are actively involved in MaTax.





**Top:** Theresia Bauer, Baden-Württemberg's Minister of Science, and Professor Thorsten Meiser, Vice President of the University of Mannheim, attended the MaTax opening conference. Minister Bauer said that MaTax would certainly become a centre of excellence with an international reputation in taxation research.

**Bottom:** The panel discussion on the "Latest Developments in International Taxation" during the MaTax opening conference featured (from left): Professor Christoph Spengel (University of Mannheim), Professor Michael Schmitt (Baden-Württemberg Ministry of Finance), ZEW President Clemens Fuest, Professor Nadine Riedel (University of Bochum), Dr. Wolfgang Haas (BASF SE).



MAY 2014

## THE FOURTH SEEK CONFERENCE – WITH A FOCUS ON PUBLIC FINANCES AND INCOME DISTRIBUTION

“Public Finance and Income Distribution in Europe” was the central theme for the fourth conference within the framework of the research programme “Strengthening Efficiency and Competitiveness in the European Knowledge Economies” (SEEK) held at ZEW. At the SEEK conference, some 150 international participants from the spheres of politics, business and academia discussed the causes and consequences of increasing inequality in income distribution between states and individuals. Along with lively discussions and scientific sessions, former Federal Minister of Finance Hans Eichel and former Portuguese Minister of Finance Vítor Gaspar each presented lectures. A high point of the conference was the keynote speech by Professor Thomas Piketty (Paris School of Economics), whose book *Capital in the Twenty-First Century* has aroused intense attention well beyond the realm of economists.





**Top:** Former German Minister of Finance Hans Eichel argued for deeper European integration and discussed Germany's role in this process.

**Left:** Professor Thomas Piketty, Paris School of Economics, was a much sought-after interview partner at the SEEK conference.



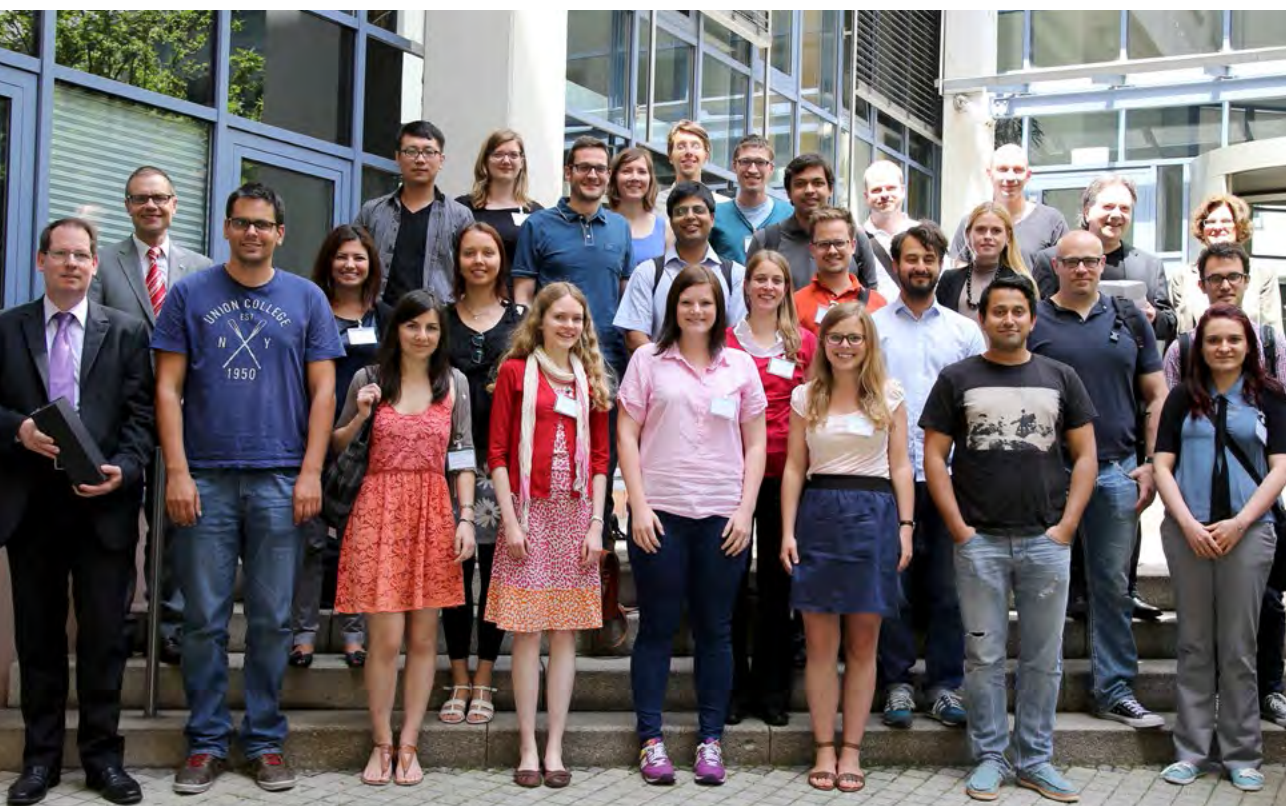
June 2014

## US ACADEMIC HONoured WITH THE HEINZ KÖNIG YOUNG SCHOLAR AWARD

Olga Malkova from the University of Michigan is the recipient of the 2014 Heinz König Young Scholar Award. Her study about the impact of parental benefits on the birth rate impressed the jury and was selected as the winner from among 250 international submissions. The prize, named in honour of the late founding director of ZEW, Prof. Dr. Dr. h.c. Heinz König, is awarded as part of the ZEW Summer Workshop to recognise outstanding empirical research by early-stage scholars. It comes with a 5,000-euro award and includes the offer of a several-month research residency at ZEW. The 2014 prize was endowed by the firm Freudenberg SE, a member of ZEW's Sponsors' Association for Science and Practice.

**Bottom:** The participants of the 2014 ZEW Summer Workshop addressed recent trends in microeconomics and programme evaluation.

**Right:** Olga Malkova from the University of Michigan received the Heinz König Young Scholar Award in 2014, presented by Volker Christ from Freudenberg SE (2<sup>nd</sup> from left).





# Olga Malkova



June 2014

## CHINA AS A TECHNOLOGY SUPERPOWER – WISHFUL THINKING OR REALITY?

China has grown rapidly in technological competitiveness in recent years – and this has begun to affect the German economy. At the 2014 ZEW Economic Forum, which was devoted to the topic “China as a technological superpower – wishful thinking or reality?”, representatives from the areas of science, politics and business discussed the challenges and opportunities resulting from China’s catching-up process. At the conclusion of the Economic Forum, Dr. Ralf Krieger, a board member of the Freudenberg Group, reported on activities in China from the perspective of a German firm.





**Top:** Panellists Professor Andrew Tylecote, Professor Clemens Fuest, Dr. Georg Schütte

**Bottom:** The panel discussion on China's technological competitiveness and the resulting challenges featured (from left) Dr. Georg Licht (ZEW), Dr. Georg Schütte (Federal Ministry of Education and Research), Professor Andrew Tylecote (University of Sheffield), Professor Dieter-Heinz Hellmann (KSB Foundation) and Dr. Albert Heuser (BASF SE).







The MS Wissenschaft anchored in Mannheim from August 4–7, 2014. The former cargo ship was on a “digital journey”.

August 2014

## CAST OFF! – ZEW ON BOARD THE MS WISSENSCHAFT

In 2014 ZEW took part once again in the “Digital Journey” exhibit on board the MS Wissenschaft exhibition ship as it anchored in 38 cities. Part of the exhibit in the ship’s cargo hold included a computer simulation created by the ZEW Research Department “Information and Communication Technologies”. The simulation offered a playful presentation of the costs and benefits resulting from the online dissemination of news. ZEW also took the opportunity to hold an on-board event: Dr. Martin Przewłoka, Senior Vice President of the SAP SE Corporation, lectured on “Mobile Empowerment” and the social and economic changes resulting from recent trends in technology such as Big Data, cloud computing, and social media. Professor Irene Bertschek from ZEW spoke on the transformation of the working world through digitalisation.



# cast Off...



Professor Irene Bertschek, head of the ZEW Research Department "Information and Communication Technologies", gave an overview of the institute's research on ICT and the information economy.

August 2014

## ECONOMIC KNOW-HOW FOR SOUTHEAST ASIA

Specialists and executive staff from Asia came to ZEW for the sixth time in 2014 to take part in the qualification programme “Strengthening Macroeconomic Policies” (MPS+). During their two-month stay in Mannheim, twenty participants from Vietnamese government agencies engaged in intensive study of various macroeconomic issues. ZEW researchers and outside experts provided them with advanced knowledge concerning monetary and fiscal policy, growth theory, banking and financial markets, as well as trade theory and trade policy. The MPS+ programme is organised by ZEW’s Service Department “Knowledge Transfer & Qualification Programmes”.

Mannheim’s first mayor Christian Specht (centre) welcomed the participants in ZEW’s MPS+ programme from Vietnam in a ceremony at the town hall.





Yourong Wang from the Beijing Central University of Finance and Economics gave a lecture on the effectiveness of government interventions into real estate markets.

October 2014

## ASIAN REAL ESTATE AND CAPITAL MARKETS GAIN IN IMPORTANCE

ZEW welcomed around thirty international guests to Mannheim on 24 and 25 October for the sixth ReCapNet Conference (Real Estate Markets and Capital Markets). In lectures and discussion sessions, participants explored new interconnections in international real estate and capital markets. For the first time, an entire separate session was devoted to Asian real estate markets – the experts at the conference made a persuasive case for their growing importance in research and corporate practice. The ReCapNet Conference makes a substantial contribution to scholarly exchange and to the networking of researchers in the field of real estate and capital markets.



Enrica Detragiache, PhD, from the International Monetary Fund spoke about financial market regulation and competition from the perspectives of law and economics at the MaCCI conference.



November 2014

## THE CONSEQUENCES OF FINANCIAL MARKET REGULATION – THE MACCI CONFERENCE AT ZEW

The annual conference of the Leibniz ScienceCampus “Mannheim Centre for Competition and Innovation” (MaCCI) on 6 and 7 November was devoted to financial market regulation – a theme that has garnered increased attention in public debate since the world financial crisis. At the conference, the researchers addressed economic and legal issues in financial market regulation, including the impacts that a two-tiered banking system and a financial transaction tax would have in Europe if they were adopted. MaCCI is a collaborative project between the University of Mannheim and ZEW. The MaCCI network currently includes around 60 researchers.



December 2014

## A HIGHLIGHT AT YEAR'S END: DEUTSCHE TELEKOM CHIEF HÖTTGES AT ZEW

The lecture series "First-Hand Information on Economy Policy" celebrated the end of the year with another highlight: Timotheus Höttges, Chairman of the Board at Deutsche Telekom, spoke at ZEW about the opportunities and challenges of digitalisation. Höttges provided the audience of 200 persons an insightful look at the current balance of forces in information and communication technologies between Europe and the United States. "In the history of digitalisation, Europe must admit defeat at half-time. But if they can overcome a few hurdles in network expansion and data security, Europeans can still prevail in the second half." Höttges' talk, "Worldwide Networking – The Opportunities and Challenges of Digitalisation" took place at ZEW on 15 December 2014.



Timotheus Höttges, Chairman of the Board at Deutsche Telekom, lectured on the opportunities and challenges of global digitalisation at ZEW.



# EDITORIAL

- ▶ LETTER FROM THE PRESIDENT OF THE  
LEIBNIZ ASSOCIATION
- ▶ LETTER FROM THE EXECUTIVE DIRECTORS

## GREETING LETTER FROM MATTHIAS KLEINER, PRESIDENT OF THE LEIBNIZ ASSOCIATION



The Mannheim Centre for European Economic Research (ZEW) has been a member of the Leibniz Association for more than ten years. When our “Leibniz ZEW” was evaluated in 2009, the Leibniz Senate acknowledged the institute as “an extraordinarily successful and seminal centre for empirical research in economics”.

The Leibniz Association receives its image from the cooperative research mode and joint activities of its 89 member institutes, which – each in its individual thematic and disciplinary manner – are cross-linked to national and international partners.

The Leibniz ScienceCampi and the Leibniz Research Alliances foster and embed this interdisciplinary outreach along with the missions of the Leibniz institutes and Association as a whole. Both instruments are based on and at the same time pick up cooperative approaches to establish reliable partnerships – always to the benefit of the research questions and the joint effort to answer and solve them.

The Centre for European Economic Research, in cooperation with the University of Mannheim, made use of these opportunities for the second time in 2014 with the inauguration of the Leibniz ScienceCampus “Mannheim Taxation” (MaTax). It brings together experts from the fields of corporate taxation, public finance, and fiscal law in order to address German and European fiscal policy. The MaTax framework facilitates collaboration between researchers from the areas of business administration, political science, law, and economics.

The Leibniz ScienceCampus “Mannheim Centre for Competition and Innovation” (MaCCI) was launched in 2012, building bridges between legal and economic research and providing fresh impetus in questions of competition, regulation and innovation policy.

European and international engagement is not only a major part of the Leibniz Association’s present, but also of its future. ZEW’s eminent research interests and extensive international network with research institutions in the European Research Area, from Asia, North America and beyond reflect this and point the way.

Also in close accordance with the Leibniz mission, the Centre for European Economic Research provides decision-makers in the realms of politics, administration, and industry with science-based policy advice. ZEW researchers employ their expertise in parliamentary hearings, they act as advisors for the European Commission, publish studies and reports on behalf of public bodies, sit on advisory boards, and participate in public debates. The primacy of scientific quality is the precondition which, together with the topicality of ZEW's research, reaches top relevance in scientific as well as political and societal contexts.

Thank you, dear colleagues and employees of the Leibniz-ZEW, for your commitment and for the contributions you have made to the success of the institute.

A joyful "Keep at it!" from my side and in the name of the Leibniz Association!



Matthias Kleiner  
President of the Leibniz Association

## LETTER FROM THE EXECUTIVE DIRECTORS



**Prof. Dr. Clemens Fuest**  
President

**Thomas Kohl**  
Director

When we look back on 2014, ZEW can once again point with pride to a number of special events. We would like to particularly spotlight activities at the European level, including the new Brussels lecture series “ZEW Lunch Debates” and the remarkably successful launch of a second Leibniz ScienceCampus at ZEW: “Mannheim Taxation” (MaTax). In 2014 our institute also made substantial contributions to current policy debates. Particularly noteworthy contributions include the VIPS concept (Viable Insolvency Procedure for Sovereigns), ZEW’s proposal for handling government insolvencies in the eurozone; a comprehensive paper on the 2014 European election; a major study on youth unemployment in Europe; and a study on how immigrants positively impact Germany’s federal budget. The latter study in particular led to weeks of lively debate, both among academics and society at large, generating increased public awareness for immigration and its impacts.

In the newly created lecture series “ZEW Lunch Debates”, the institute is actively bringing its key research themes to economic and social policy discussions at the European level in Brussels. The series of events, presented in the English language, are international in scope. Along with a ZEW economist, they always include scholars from different European nations as well as representatives from EU institutions in a roundtable discussion. The five presentations in the 2014 series were very well received and enjoyed great popularity among representatives from the EU Commission, the European Parliament, and international organisations and interest groups.

During the year under review, the annual SEEK Conference that ZEW has organised since 2011 once again provided an outstanding opportunity for networking between the realms of academia, business and politics. This year’s conference was devoted to the highly topical theme “Public Finance and Wealth Distribution in Europe”, and was the focus of two days of academic and economic policy discussion among the 150 participants. Speakers at the conference included the French economist Thomas Piketty, whose book *Capital in the 21st Century* created an international sensation. Along with several high-level workshops, which take place throughout the year as part of the research programme “Strengthening Efficiency and Competitiveness in the European Knowledge Economies” (SEEK), the SEEK conference has become an annual event that regularly brings together national and international partners from all SEEK projects in Mannheim. The scientific success of the SEEK research programme has led the state of Baden-Württemberg to extend its research funding beyond the originally planned term in 2015 for three additional years starting in 2016 – a strong vote of confidence in ZEW’s outstanding work and an incentive for further enhancing the international visibility of the institute.

Another great start took place on 1 April 2014, when the second Leibniz Science-Campus at ZEW, “MaTax”, was launched to accompany the “Mannheim Centre for Competition and Innovation” (MaCCI). MaTax is a network jointly created by ZEW and the University of Mannheim to enable collaboration among researchers in corporate taxation, public finance, tax law and the political sciences. They work together to explore options for the optimal design of a sustainable tax system that successfully addresses economic and societal challenges in an era of European integration and globalisation. MaTax will continue to develop an outstanding position in coming years as a European centre of competence in taxation with international cachet.



ZEW's outstanding expertise in the area of climate policy was confirmed by the publication in 2014 of the "Climate Think Tank Ranking" by the prestigious International Center for Climate Governance (ICCG). Among the approximately 200 institutions evaluated by the ICCG, ZEW was ranked in 4th place, thereby establishing it as one of the most important scientific institutions in the world working on the economic consequences of climate change and climate policy.

The highlights just listed are representative of the large number of activities by ZEW staff members that contributed to the institute's further development in 2014. Besides working on numerous projects and publishing papers in renowned journals, we should especially mention the more than 400 lectures given by ZEW researchers at conferences around the world as well as the approximately 40 conferences organised by ZEW. These activities greatly augment the excellent work of our research staff.

In the year covered by the report, new contacts were developed and mutually beneficial partnerships with universities and scientific research institutes that have existed for years were further strengthened throughout Europe, North America and Asia. ZEW researchers actively took part in research residencies at various institutions, and researchers from partnering universities and institutes were also enthusiastically welcomed for research stays at ZEW. ZEW was the destination for many visits by foreign delegations, including a visit by a delegation from Fudan University in China, which has had an official cooperation agreement with ZEW since 2013, and a visit of the DFG China Delegation to the Lindau Meeting of Nobel Laureates.

ZEW's competency in the area of policy advising was also in great demand during the year covered by the report. Key clients included Germany's federal states, institutions of the European Union, and domestic and foreign ministries. In addition to preparing reports and background studies, ZEW experts testified at many legislative hearings at parliaments and various ministries, and additionally attended consultation meetings with ministers, parliamentarians and representatives from national and European institutions. For example, the European Council appointed the President of ZEW to the EU's newly formed "High-Level Working Party on Own Resources". The European Commission, Council, and Parliament are each sending three members to this working party, which is being led by the former EU Commissioner and Italian ex-Prime Minister Mario Monti.

A core mission of ZEW since its founding has been to train academic talent. The seriousness of ZEW's commitment to this goal is shown by the remarkable figure of around 70 doctoral candidates among the institute's staff. In 2014, once again, the record of academic training is impressive: 15 staff members successfully completed doctorates and one completed a habilitation degree.



We wish once again to express our gratitude to the ZEW Sponsors' Association for Science and Practice. This association of firms and individuals provides an important interface between corporate practice and science and promotes ZEW in a number of different ways. The Sponsors' Association provides, among other things, funding support to organise the lecture series "First-Hand Information on Economic Policy", which featured presentations during the past year by Federal Minister of Research Professor Johanna Wanka and Deutsche Telekom CEO Timotheus Höttges. We also want to thank the State of Baden-Württemberg, the German government, and the members of the Sponsors' Association for their intellectual and financial support. Our gratitude also goes out to the members of the Supervisory Board and the Scientific Advisory Council as well as to our Research Associates, who have substantially contributed to maintaining ZEW's strong position. Our thanks also goes to our domestic and foreign clients, whose requests for numerous research and consulting projects testify to their confidence in the quality of our scientific work.

Finally, we would like to thank all our staff members in every one of the institute's research and service units. They have contributed to ZEW's stellar performance in 2014, and their great effort is the essential foundation for the ongoing successful development of the research institute in the years to come.



Prof. Dr. Clemens Fuest  
President



Thomas Kohl  
Director



# ABOUT US

▶ THE INSTITUTE

▶ THE RESEARCH UNITS

## ZEW IN BRIEF

The Mannheim Centre for European Economic Research (ZEW) was established in 1991 and is a member of the Leibniz Association. ZEW is led by Professor Clemens Fuest, the President of the institute, and Thomas Kohl, the Director of Business and Administration, and employs a staff of approximately 200 in six Research Departments, two Research Groups, and three Service Departments. As one of the leading German economic research institutes, ZEW enjoys an excellent international reputation.

### Mission

ZEW's mission consists of four closely related key objectives:

- to conduct high-quality research,
- to provide science-based economic policy advice,
- to train up-and-coming researchers,
- to transfer knowledge to the public.

### Research Mission

ZEW's overriding objective is to investigate the "Optimal Performance of Markets and Institutions in Europe". The analyses carried out by ZEW concern the framework of market processes which enable the development of sustainable, efficient and inclusive knowledge-based economies in Europe. This impacts the core research activities pursued at ZEW, for example:

- the integration of European financial markets,
- sustainable and efficient strategies for international climate policy,
- goal-directed national and European tax policy in view of increased factor mobility,
- securing employment and income against the backdrop of demographic change,
- innovation policy in the context of global competition,
- private and entrepreneurial use of information and communication technologies,
- antitrust law and competition policy institutions,
- the prospects of the European Monetary Union.

ZEW's profile is characterised by theoretically grounded methodologies in empirical economics research. The studies carried out at the institute draw on techniques and methods from economics and business administration. Research at ZEW is open to engage in interdisciplinary co-operation and adopt new perspectives.

### Unique Characteristics

ZEW applies university research standards. Yet the work carried out at the institute is different from the research at economics faculties. ZEW places a much greater emphasis on providing policy advice and on the transfer of knowledge beyond a specialist audience. Furthermore, ZEW is the only German economic research institute which offers a comprehensive programme of seminars, with the objective of providing further training for specialists and executive staff.

The considerable size of ZEW and the broad spectrum of research areas enables extensive and complex tasks to be tackled in the field of economic policy advising. The infrastructure of ZEW also facilitates the development and maintenance of complex analysis models such as the European Tax Analyzer or the Computable General Equilibrium Model PACE (Policy Analysis based on Computable Equilibrium). In addition, ZEW is able to undertake long-term surveys and build extensive databases.

The completion and maintenance of data sets such as the ZEW Financial Market Survey and the Mannheim Innovation Panel is made possible by the unique conditions provided by ZEW.

### Networking with Universities

ZEW cooperates closely with a large number of universities in Germany, Europe and across the world. An integral part of ZEW's university network is the close contact which the institute maintains with universities in the Rhine-Neckar Metropolitan Region. The institute has a long history of cooperation with the universities of Mannheim and Heidelberg, which includes sharing resources for doctoral study programmes.

Through cooperation with various German and international universities, ZEW supports the qualification of the next generation of researchers in economics. In particular, ZEW collaborates with universities within the scope of projects funded by research foundations. The institute is involved in one Collaborative Research Centre, one Research Unit and in two Priority Programmes of the German Research Foundation (DFG).

ZEW is currently collaborating with over 90 Research Associates, most of whom are professors at German or international universities. ZEW's Research Associates contribute to the work completed in the institute's research units. Many ZEW researchers hold teaching positions at universities. The ZEW Visiting Researchers Programme promotes scholarly exchange as academics from around the world are invited to complete a research residency at the institute.

The institute's successful work is also reflected in the fact that many ZEW researchers are appointed professors or junior professors at universities. In 2014, ZEW researchers accepted professorships at the universities of Mainz, Mannheim and Münster. In the past few years, researchers have also accepted professorships at the universities of Berlin (Free University), Bonn, Hohenheim, Kassel, Leipzig, Rotterdam, at RWTH in Aachen and at a number of other universities.

## RESEARCH PERFORMANCE

Research excellence at ZEW has various dimensions:

- the publication of research findings in scientific journals,
- establishing international networks with research institutions,
- participation in exchange of knowledge by way of conferences, workshops and research visits,
- development, maintenance and evaluation of unique databases.

### Publications

The publication of research findings in international journals, subsequent to an external referee process, is a key indication of the quality of research carried out at any research institute.

Successful publishing is therefore a major objective of the institute. ZEW has an outstanding publication performance, contributing to its leading position among the German economic research institutes. In the period from 2012 to 2014, a total of 248 articles produced by ZEW researchers were selected by external referees for publication in scientific journals. It is not only a small, select group of top researchers, but a great number of ZEW economists who contribute to the publication success of ZEW.

### Cooperation Partners

Close cooperation with research institutions in Germany and abroad is a decisive factor for the success of ZEW's research. ZEW maintains partnerships with German and international universities and with non-university research institutions and organisations. Great value is placed on the international scope of the network, but also on its interdisciplinary nature.

ZEW collaborates with distinguished partners located in Europe and, increasingly, in North America and Asia. A prime example of such partnerships is the collaboration with Fudan University in Shanghai. This partnership has become even more substantial since the signing of a co-operation agreement in 2013.

### Scientific Events

Another important means of establishing cooperative ties is through scientific exchange at conferences and workshops. In order to ensure that the institute's research is communicated effectively to target audiences, ZEW organises numerous conferences which focus on a variety of topics.

In 2014, ZEW's research units organised approximately 40 conferences and workshops. These events attract hundreds of international participants. In 2014, ZEW researchers delivered more than 400 presentations at scientific conferences.

International conferences provide ZEW with the opportunity to extend its reputation as a research institution and employer. The institute is therefore represented at important international conferences with information stands, for example at the annual conference held by the Verein für Socialpolitik (VfS) and at the ASSA meetings held in the United States.

### Development and Maintenance of Research Data

In most cases, individual-level data forms the basis for empirical research carried out by ZEW. Thanks to its established infrastructure, ZEW is able to collect, process and assess data according to recognised scientific standards.

Where possible, the institute provides interested external researchers with access to data at the ZEW Research Data Centre (ZEW-FDZ). The Research Data Centre, which has been accredited by the German Data Forum, constitutes yet another contribution to the extension of scientific infrastructure by ZEW. The data made available in the ZEW Research Data Centre may generally be used free of charge for scientific, non-commercial research purposes. A proportion of the data is made available in the form of anonymised Scientific-Use-Files. With more than 300 external users, the most frequently used Scientific-Use-File is the Mannheim Innovation Panel. Selected data is also available in the form of Education-Use-Files applicable for educational or teaching purposes.



## QUALIFICATION OF STAFF

ZEW regards providing support and training for the next generation of researchers as one of its primary responsibilities. ZEW provides its staff and researchers with a comprehensive range of further training opportunities.

### Two Pathways to a Doctoral Degree

At ZEW, promoting postgraduate education is considered to be the key to promoting the growth and development of the next generation of researchers in economics.

Two-thirds of the research staff employed at ZEW are university graduates who are working on a dissertation. Whilst completing their thesis, doctoral candidates also benefit from first-hand involvement in the research activities at ZEW. Following completion of a doctorate, a good proportion of the researchers pursue a career in the private sector, in associations or in government institutions. Academically outstanding doctoral graduates are given the opportunity to continue their career as post-doctoral researcher at ZEW. So far, many of these have gone on to qualify as professors and have been appointed to university teaching posts. The institute employs around 70 doctoral candidates.

In order to meet the requirements of the wide range of research interests and the diverse personalities of the researchers themselves, doctoral programmes are carried out within an open framework. University graduates who begin their research career at ZEW can attain their doctoral degree by taking one of two pathways:

- They may work full-time as a researcher in a ZEW research unit or
- else they may participate in the ZEW Doctoral Studies Network (ZEW DocNet)

Most commonly, doctoral students will choose to participate in research projects at ZEW whilst completing their doctorate. Together with the heads of the ZEW research units and experienced researchers, the doctoral candidates work on their dissertations during the course of research project work. Once the topic of the doctoral thesis has been decided upon, a supervisor will be found at a German or at a foreign university. The course of the doctorate will then be dictated by the regulations of the relevant university. The ZEW candidate also has the opportunity to enrol in doctoral courses at the participating university.

A few years ago, ZEW launched a second pathway for doctoral students, the ZEW DocNet. Within this international network, ZEW participates in the graduate programmes offered at universities both in Germany and abroad. Graduates choosing to participate in the ZEW DocNet programme must first apply for a doctoral programme at a participating university. The doctoral programmes take place in full at the chosen university. The graduates then begin working on projects, either on a full- or part-time basis, at ZEW. Their connection with the institute remains flexible.

In the year under report, a total of seven doctoral students took part in the programme. In the coming years, the DocNet will take on even greater importance in ZEW's doctoral education programme.



### Qualification Programme

ZEW helps to advance the careers of its staff by means of a qualification programme. The qualification programme takes a variety of forms, including:

- temporary release from project responsibilities at ZEW in order to complete one's own research ("Sabbaticals"),
- extended research stays at external research institutions,
- participation in seminars, doctoral colloquia, and summer schools,
- mentoring from the heads of research units, senior researchers and Research Associates,
- ZEW Econometrics Qualification Programme.

All academic staff have access to the comprehensive internal qualification programme offered by ZEW. Alongside courses in econometrics, the programme also includes IT courses, courses in project management, foreign languages and soft skills.

### Further Training of Staff in Service Departments

The further training of staff in the ZEW Service Departments is of crucial importance for the research conditions at the institute. ZEW provides numerous further training opportunities. In addition to further training in their own field, staff members have access to English courses taught by native speakers.

ZEW offers up to nine positions for vocational training and study. Apprenticeship positions are available in the areas of digital and print media design, office management with an additional qualification in foreign language correspondence, and IT management with specialisation in



systems integration. Positions are also made available in cooperation with the Baden-Württemberg Cooperative State University in the “Business Information Systems” Bachelor of Science and the “Online Media” Bachelor of Arts courses. Personal advisers mentor apprentices during their technical or administrative training periods at ZEW.

### **Student Assistants and Interns**

ZEW also familiarises students with empirical research methods. The institute employs a large number of student and research assistants as well as interns who study at nearby universities. The students are given an initial opportunity to apply the theoretical and methodological knowledge acquired during their studies in practical research. ZEW staff members frequently supervise Bachelor and Master theses completed by students employed at ZEW.

## **ECONOMIC POLICY ADVICE**

One of ZEW's key objectives is to provide economic policy advice based on rigorous economic research. Policy advice is provided for the areas of administration and politics on a national, regional and European level, as well as for associations and international organisations.

### **Policy Advice Instruments**

The research-based economic policy advice provided by ZEW takes a number of different forms:

- scientific studies and reports carried out on behalf of public bodies,
- participation of ZEW researchers in parliamentary discussions, formal advisory talks with parliaments, government agencies and the European Commission,
- memberships of ZEW researchers in political advisory boards;
- consultations with representatives of the European Commission and government agencies, with members of parliament and decision-makers in administration;
- participation in public debates on economic policy via the media and events.

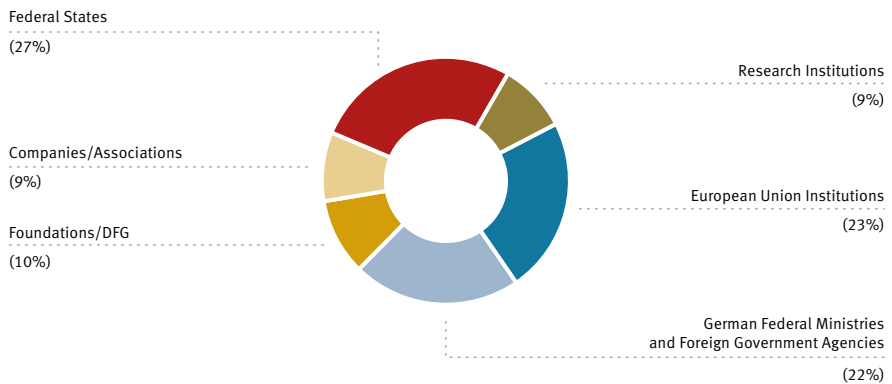
### **Science-Based Economic Policy Advice**

Policy advice provided by ZEW complies with rigorous scientific standards and is based on research data. Providing policy advice is hence not only the task of a specialised group of advisers, but the responsibility of all ZEW researchers. The completion of studies which form the basis of the policy advice provided by ZEW and the publication of academic papers are inseparable; policy advice and research compliment each other and any knowledge won from research is immediately taken into account for policy advising. This concept provides economic policy makers with a guarantee of the scientific quality and balanced nature of ZEW's advising activities.

### Client Structure

In 2014, the institute's third-party funding amounted to 9.18 million euros. The most significant clients, making up approximately 49 per cent of the ZEW client base, are German and foreign government agencies. The proportion of institutions forming part of the European Union totals 23 per cent, whilst the proportion of foundations, including the German Research Foundation (DFG), amounts to ten per cent. Businesses and associations as well as research institutions each contribute a total of nine per cent, and thus also play a significant role.

### SOURCES OF THIRD-PARTY FUNDING IN 2014



### KNOWLEDGE TRANSFER

One of the institute's key objectives is to communicate research findings to the scientific community, to political decision-makers and to interested members of the public. The research activities carried out at ZEW benefit from the contact maintained with the fields of academia, business, and politics; these provide external impulses which inform research, advising activities, and training programmes at ZEW. To ensure that information reaches the intended recipients, ZEW makes use of a variety of communication channels:

- ZEW Discussion Papers and book series,
- information brochures and research reports,
- documentations and studies,
- seminars, conferences, and symposia,
- scientific and public events,
- print and electronic media.

## ZEW Publications

The primary medium used for the dissemination of research findings are the ZEW Discussion Papers, which are subject to an internal review process before publication. The papers are made available free-of-charge via the ZEW homepage and can also be accessed via leading research atabases. As reflected in the high rate of downloads of the papers from RePEc, ZEW Discussion Papers are highly regarded within the economics community.

ZEW produces two established book series; the ZEW Economic Studies (Springer Verlag) in English, the ZEW Wirtschaftsanalysen (ZEW Economic Analyses, Nomos Verlag) in German.

The readership of the periodical publications and of the institute's reports includes researchers and students from a range of disciplines, management and executive staff from companies, as well as members of the public who have a general interest in economic policy issues.

These publications contain selected research findings and economic policy analyses produced by ZEW, provide reports about conferences and events, and include information regarding further training seminars offered by ZEW.

In order to improve ZEW's international presence and networking opportunities, basic information about the institute is made available in German, English and Chinese.

## Electronic Information Resources

ZEW passes on information to the media and the general public via a comprehensive range of electronic information channels. Interested persons can access information on the ZEW website which is updated on a daily basis.

A large number of research papers and studies are also available for download. As part of the institute's internationalisation strategy, content on the ZEW website is generally available in English.

The ZEW Newsletter, produced in both German and English, is sent to some 6,100 subscribers each month. The Newsletter provides concise information about research findings, publications, events and career options. The institute's special web platforms bundle information about research projects, publications, reports, press releases, and contact information relevant to key research areas at ZEW.

In 2014, the first three issues of the electronic version of the ZEWnews, the ZEWnews, were released. The ZEWnews are an interactive app which is suitable for use with iPad and Android tablets.



## Efficient Communication

ZEW keeps the media informed about research findings with approximately 100 press releases and twelve press conferences each year. By way of these press conferences, ZEW contributes to current economic policy discussions.

The professional design of ZEW publications, based on the institute's corporate design, ensures that ZEW publications are easily and quickly recognisable. A reader-friendly layout as well as informative graphics and illustrations improve the publications' appeal to the relevant target audience.

## Events

Numerous ZEW events provide a platform for networking with research institutions, firms, government agencies, organisations and the public. Besides scientific conferences, ZEW also organises forums and talks from renowned speakers which attract interested members of the public. Events include:

- First-Hand Information on Economic Policy (Wirtschaftspolitik aus erster Hand),
- Mannheim Economic and Monetary Talks (Mannheimer Wirtschafts- und Währungsgespräche),
- ZEW Economic Forum (ZEW Wirtschaftsforum),
- ZEW Lunch Debates (in Brussels).



Telekom CEO Timotheus Höttges spoke at ZEW in December 2014 within the lecture series “First-Hand Information on Economic Policy” before an audience of 200. Höttges’ topic was “Worldwide Networking”.

## Knowledge Transfer & Qualification Programmes

Each year, the seminar programme organised by ZEW – a unique offer in the sphere of economics research in Germany – attracts hundreds of participants from the fields of academia, administration and business. ZEW seminars provide further training that is informed by scientific research and highly relevant to practice. In order to ensure that further training at ZEW is of the highest quality, ZEW researchers and experts from a number of organisations and companies work together to create the seminars.

The ZEW Service Department “Knowledge Transfer & Qualification Programmes” provides further training in a variety of formats. Each year, around 30 expert seminars for participants from the fields of academic research, politics and business take place. Seminars addressing economics and business administration issues (e.g. financial market analysis, transfer pricing), as well as seminars on methodological approaches (e.g. econometrics) and courses which provide training in soft skills are particularly popular.

Around 30 customised seminars take place each year. These courses address firms and public institutions that wish to offer their staff members the opportunity to benefit from tailor-made further training.

For international participants, the Service Department provides a further training programme in English. Internal further training seminars are provided for ZEW staff members. In such seminars staff members receive training in, for example, presentation and moderation techniques in both English and German.

## STAFF REPORT AND FINANCIAL STATEMENT

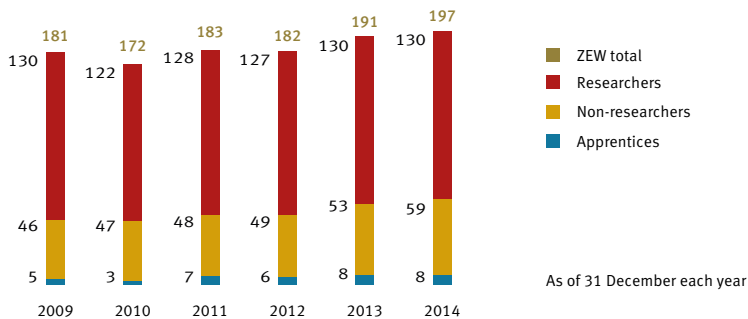
### Staff Report

At the end of 2014, ZEW employed a total of 197 staff members (2013: 191). As in the previous year, 130 of these staff members were engaged in research activities. The year under report saw the departure of 21 researchers from ZEW (2013: 24). While over half of the research staff members who left ZEW subsequently accepted jobs in businesses and associations, 40 per cent accepted positions in universities or in government institutions. Figure 1 illustrates the staff development over the course of the reporting period.

The majority of staff members employed in ZEW research units have traditionally been graduates holding a degree in economic science. The average age of a ZEW researcher is 33, indicating the extent to which the institute benefits from a pool of emerging, talented researchers. The average age of staff members across all ZEW units, both research and service units, is 35 (see Figure 2). In accordance with the ZEW human resources policy, the vast majority of research staff (85 per cent) are employed on fixed-term contracts. The dynamic nature of the ZEW workforce is reflected by the relatively large proportion of staff members, a total of 109, who have been working at ZEW for less than five years (2013: 109, see Figure 3).

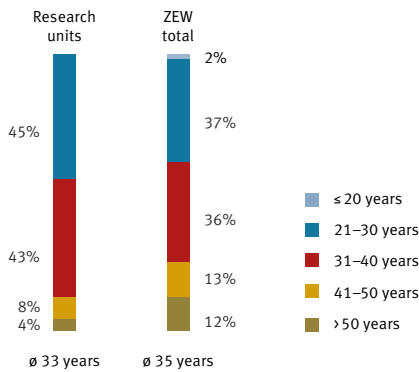
Through the employment of both interns, and student and graduate research assistants, ZEW not only makes a significant contribution to the training and qualification of young academics, but also offers these young people support and professional guidance before they embark on

### 1] STAFF DEVELOPMENT

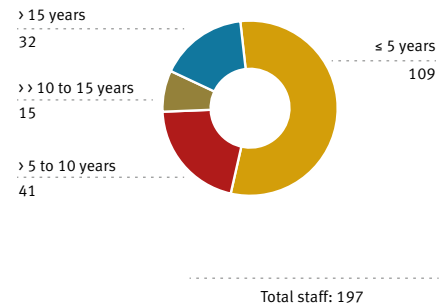


their careers. In 2014, a total of 83 (2013: 91) interns took advantage of this opportunity offered by ZEW (see Figure 4). The majority of student and graduate research assistants employed at ZEW are studying at the nearby universities in Mannheim or Heidelberg, or at one of the other universities located in the Rhine-Neckar Metropolitan Region. Thanks to their participation in the work of ZEW research or service units, these students gain valuable initial professional experience. For particularly talented assistants, employment as a student research assistant at ZEW can mark the beginning of a more long-term professional relationship with the institute. As of December 31, 2014, a total of 104 students had taken advantage of the opportunities made available by ZEW (2013: 91).

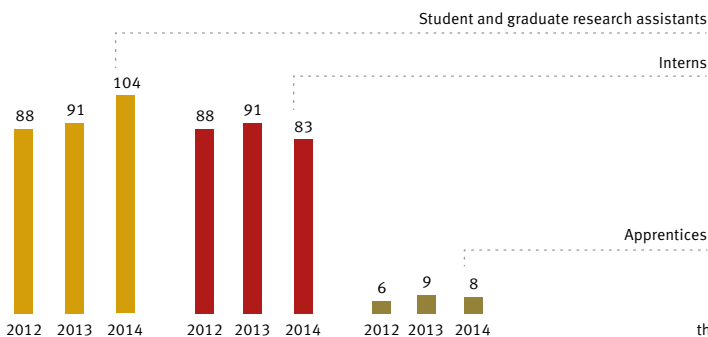
## 2] AGE DISTRIBUTION



## 3] DURATION OF EMPLOYMENT



## 4] STAFF IN TRAINING



Figures apply for the entire year under report



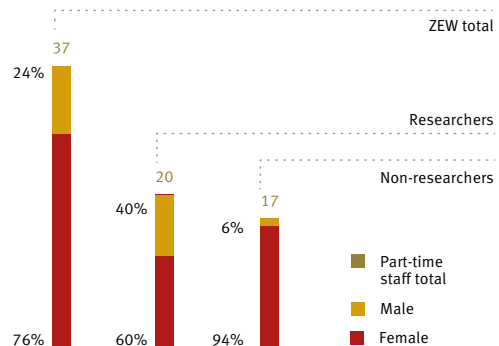
The work carried out by ZEW is supported by numerous Research Associates from a number of universities in both Germany and abroad. Their support is critical, not only for the training and support of research staff, but also for the creation and development of research areas. Furthermore, the engagement of these Research Associates plays a significant role in establishing and maintaining contact and cooperation with project partners, and in the successful acquisition of third-party funding. In the course of the reporting period, numerous researchers, visiting ZEW from their home institutions in Germany or abroad, were directly involved in the work carried out at ZEW. Many of these Visiting Researchers chose to complete a research stay at ZEW in order to contribute to the institute's research projects and to engage in an exchange of information and experience.

With its Visiting Researchers Programme (VRP), ZEW aims to further develop its international networks. The VRP is orientated towards researchers who are interested in completing an extended research stay at ZEW. The ZEW "Doctoral Studies Network" promotes cooperation with universities and gives doctoral students the opportunity to apply the knowledge and skills which they gain through their work at ZEW in their own empirical economic research projects, whilst also enabling them to cooperate on international projects.

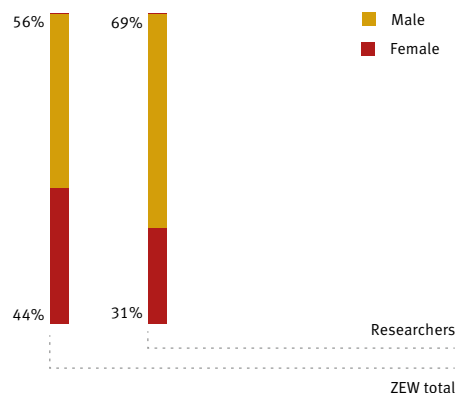
The involvement of external partners in ZEW research projects is an additional way in which the institute promotes transnational cooperation. Such cooperation enables ZEW to further expand its international networks and to establish new points of contact around the world.

Two of the central priorities of ZEW are the completion of high-quality research and the provision of internationally relevant economic policy advice. In order to achieve these goals, ZEW has an established qualification programme which serves to promote the further academic education and training of ZEW staff. This programme gives staff members the scope to take temporary leave

#### 5] PART-TIME STAFF



#### 6] STAFF BY GENDER



of their work on research projects in order to undertake further academic study. Research staff might therefore make use of such sabbaticals to complete doctorates, to qualify as a university lecturer, or to complete a research stay at a renowned research institution abroad.

In 2014, 15 researchers completed a doctoral thesis. The majority of these were awarded the highest possible grade, “summa cum lauda”. One researcher successfully completed a postdoctoral habilitation thesis.

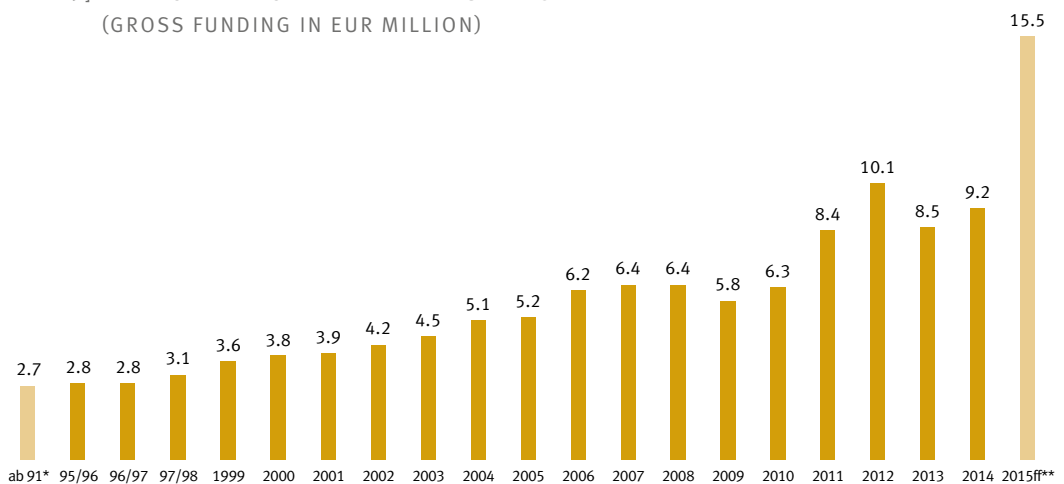
A special feature of the ZEW human resources policy, which renders employment at ZEW particularly appealing to young researchers, is the possibility of determining one’s own flexible working hours. At the end of 2014, a total of 37 researchers (2013: 34), representing 19 per cent of all research staff (see Figure 5), were taking advantage of the opportunity to determine their own work schedule on a part-time basis. ZEW hereby actively encourages its staff to maintain a healthy work-life balance and facilitates the reconciliation of work and family life.

The proportion of female researchers engaged at ZEW during the reporting period was 31 per cent (2013: 28 per cent). Across the entire institute, 44 % of staff members were female (2013: 41 per cent, see Figure 6). The proportion of female senior researchers at ZEW was 45 per cent in the year under report.

### Financial Report

The ZEW balance sheet showing endowment, finances, and revenues for the fiscal year of 2014 is positive. Given the difficult conditions which arose in this period as a result of the eco-

## 7] DEVELOPMENT OF THIRD-PARTY FUNDING (GROSS FUNDING IN EUR MILLION)



\*Includes third-party funds received in the fiscal years 91/92, 92/93, 93/94 and 94/95. \*\*Current volume of commissioned projects

nomic and financial crisis in Europe, this positive outcome is not to be taken for granted. The challenge posed by the increase in national and international competition for third-party funding has also become considerable. Despite this increase in competition, however, the proportion of ZEW funding originating from third-party sources (including other revenues) increased slightly in 2014 to 47 per cent (2013: 46 per cent). The current volume of third-party funding for 2015 and the following years amounts to a total value of EUR 15.48 million (see Figure 7). ZEW's successful acquisition of funding is proof of the value of the work carried out by the institute and is to be considered as recognition of the excellent quality of the research conducted. Since its foundation in 1991, ZEW has received a total of EUR 126 million in the form of third-party funding.

ZEW's financial charter, which allows for the receipt of general funding in fixed accounts, enables surplus revenues resulting from increases in third-party funding to be designated as "appropriated reserves". The net income revenue is calculated on the basis of the profit-and-loss statement minus the withdrawals made from the "appropriated reserves". For the fiscal year 2014, ZEW therefore registered an annual deficit of EUR 0.06 million and a net profit of EUR 0.72

## 8] ZEW PROFIT-AND-LOSS-STATEMENT

(in K euros)	2010	2011	2012	2013	2014*
Institutional funds	7,766	8,503	9,189	9,177	9,632
Joint Initiative for Research and Innovation Funding	794	646	487	330	328
Third-party funds (turnover, inventory changes, subsidies)	6,281	8,397	10,116	8,535	9,184
Other business revenues, financial profit	440	359	357	274	297
Income from the reversal of the special item for contributions to fixed assets	320	341	353	439	505
<b>Total revenues</b>	<b>15,601</b>	<b>18,246</b>	<b>20,502</b>	<b>18,755</b>	<b>19,946</b>
Staff expenditures	9,992	10,300	10,637	11,118	11,851
Third-party services	990	1,344	1,302	1,216	804
Other operating expenditures	4,081	4,750	6,471	5,338	6,288
Asset write-offs	320	341	353	439	505
Allocation to special items for contributions to fixed assets	468	629	919	571	548
Other taxes	29	12	11	13	6
<b>Total expenses</b>	<b>15,880</b>	<b>17,376</b>	<b>19,693</b>	<b>18,695</b>	<b>20,002</b>
<b>Profit/loss for the financial year</b>	<b>-279</b>	<b>870</b>	<b>809</b>	<b>60</b>	<b>-56</b>
Withdrawals from appropriated reserves	967	790	554	672	776
<b>Net income</b>	<b>688</b>	<b>1,660</b>	<b>1,363</b>	<b>732</b>	<b>720</b>

\* Preliminary figures

million (2013: EUR 0.73 million, see Figure 8). As can be seen in Figure 9, the total net capital of EUR 15.45 million represents a decrease in comparison to the total net capital of EUR 16.62 million indicated for 2013. This decrease is mainly due to a reduction in stocks, a reduction in bank deposits, in receivables and in other sources of income. Looking at the source of funds, the reduced total net income is predominately a result of the reduced total value of liabilities. The cash and equivalents balance indicates continued good liquidity.

To summarise, the following developments were of particular significance in the course of the fiscal year 2014. Total revenues, amounting to EUR 19.95 million, were greater than in the previous fiscal year (2013: 18.76 million). This is mostly due to an increase in gross turnover, from EUR 8.54 million to EUR 9.18 million, and to an increase in institutional funding, from EUR 9.18 million to EUR 9.63 million. The net turnover (gross turnover minus third-party contributions) totals EUR 7.37 million and thus also exceeds the equivalent value for the previous fiscal year (2013: EUR 7.01 million). Total expenses for 2014 are also greater than those in 2013, EUR 20.00 million as opposed to 18.70 million in 2013. This is a result of an increase in “other operating costs”, from EUR 5.34 million in 2013 to EUR 6.29 million in 2014, and of an increase in staff costs from EUR 11.12 million to EUR 11.85 million.

#### 9] ZEW BALANCE SHEET AS OF 31 DECEMBER 2014\*

	31-12-2013 in K euros	31-12-2014 in K euros		31-12-2013 in K euros	31-12-2014 in K euros
<b>ASSETS</b>			<b>LIABILITIES AND EQUITY</b>		
Intangible assets	284	325	Share capital	26	26
Real estate	2,958	2,993	Appropriated reserves	3,765	3,721
Equipment	655	665	Other reserves	2,170	2,170
Downpayments made and construction in progress	55	11	Net income	732	720
Fixed assets	3,952	3,994	Shareholder's equity	6,693	6,637
Stocks	3,117	2,562	Untaxed reserves	1,757	1,799
Receivables	1,037	732	Reserves	2,843	2,891
Cash at banks	8,405	8,042	Advances received	2,726	2,385
Current assets	12,559	11,336	Liabilities	2,597	1,740
Prepaid expenses	105	122	Outside capital	8,166	7,016
<b>Total</b>	<b>16,616</b>	<b>15,452</b>	<b>Total</b>	<b>16,616</b>	<b>15,452</b>

\* Preliminary figures

## INTERNATIONAL RESEARCH COOPERATION

ZEW is an international research institute not only regarding the scientific focus, but also in the area of cross-border cooperation – because top-quality research requires collaboration on a European and global level. The capability to attract renowned researchers and foreign cooperation partners is an important benchmark for a successful research institution. International cooperation is also an important factor in the competition for third-party funds.

### Participation in EU Framework Programmes

In the period covered by this report, ZEW has significantly increased international activities in the fields of research and policy advice. ZEW participates in 18 projects funded under the EU's 7th Framework Programme for Research and Innovation. Within the framework of the "ENTRACTE" project, ZEW coordinates a consortium of nine partners. The ENTRACTE project assesses the interplay of various policy goals concerning renewables and climate protection against the backdrop of the debate about EU energy and climate policy.

ZEW has intensified its commitment in the new "Horizon 2020" Framework Programme, which started in 2014: the institute participates in three Horizon 2020 projects and intends to further extend its involvement beyond collaborative research projects. In 2014, two young scientists selected by ZEW participated in the highly competitive European Research Council awards, where one ZEW economist has been awarded a Starting Grant. The ERC Starting Grant has become a standard for innovative bottom-up funding for basic research at the European level. In addition, ZEW plans to establish partnerships benefiting institutes in European regions with a weaker research infrastructure. In such a partnership, institutes like ZEW would cooperate with a research institution as a mentor and share knowledge, thereby expanding excellence in research over the long run. Furthermore, ZEW is eager to build up a Training Network in the scheme of Marie Curie Actions, and it seeks membership in a Joint Programming Initiative on the topic of demographic change ("More years, better lives").

### Economic Policy Advice on the EU-Level

Beyond scientific project work, ZEW also provides its expertise in the European policy-making process and is becoming established as a policy player in Brussels. For instance, ZEW gives input to the EU Commission on the design of European research and innovation policy, and leading ZEW researchers advise the EU Commission on a number of economic policy areas. No fewer than nine ZEW scientists acted as advisers to the Commission in the period covered by this report. Moreover, ZEW President Fuest is a member of the EU inter-institutional "High-Level Group on Own Resources" chaired by Mario Monti. The goal of this group is to develop proposals for the future financing of the European Union and to identify ways to make the present EU own-resources system simpler, fairer, and more transparent. Finally, ZEW succeeds in strengthening its presence and visibility on the European arena with a newly set-up discussion series in Brussels: in 2014, the "ZEW Lunch Debates" series was launched with a remarkable success. Five events in this series took place, bringing together renowned ZEW researchers with experts and an invited



High-profile panel discussion at the ZEW Lunch Debate in Brussels (from left): Nicolas Carnot, advisor on fiscal policy in the Directorate-General for Economic and Financial Affairs, Klaus Regling, Chief Executive Officer of ESM, and Friedrich Heinemann, head of department at ZEW.

high-profile audience to discuss current economic challenges facing Europe. EU Commissioners and high-level EC staff, members of the European Parliament as well as representatives of the European Council, the OECD and industry have participated as panellists in these debates.

### Cooperation Networks

International cooperation serves the purpose of qualification and scientific exchange. The institute therefore maintains cooperation with a growing number of universities, research institutes and organisations worldwide. Comprising joint projects, publications, and mutual research visits, cooperation involves institutions across Europe, in the US, and in Asia. During the period covered by this report, exchange was particularly intensive with the UK and the US, including outstanding partners like Oxford University and University College London in the UK as well as NBER and the Massachusetts Institute of Technology in the US. Research projects within the framework of ZEW's SEEK programme were an important area of collaboration in 2014.

Cooperation with China has notably intensified. In collaboration with Fudan University in Shanghai, ZEW has continued to carry out a monthly survey on macroeconomic trends in China (China Economic Panel), and together with PricewaterhouseCoopers, ZEW and Fudan conduct a quarterly survey on German-Chinese trade. ZEW supports the German Federal Ministry of Education and Research in organising the annual "Sino-German Platform for Innovation". The institute also contributes to the annual Beijing Humboldt Forum. In addition, ZEW welcomed scholars from China for research stays in Mannheim who receive funding from the German Academic Exchange Service (DAAD), the Leibniz Association, the Humboldt Foundation or the Chinese government.



The development and expansion of international networks benefited from the large number of 416 foreign researchers from 49 countries who came to ZEW in the reporting period. The ZEW Visiting Researchers Programme (VRP) provides a framework for research stays.



### Conferences and Publications

ZEW's visibility beyond Europe is strengthened by the institute's participation in international conferences. In 2014 ZEW participated in the annual meeting of the Allied Social Sciences Association (ASSA) in Boston, the most important economics conference in the world, and the European Economic Association & Econometric Society meeting in Toulouse that has a similar importance in Europe. On both occasions ZEW was represented with a stand and offered information about the key research areas of the institute as well as opportunities for cooperation and research stays. At the ASSA job market, ZEW research unit heads and human resources staff conducted job interviews with up-and-coming economists.

Information brochures for specific target groups, press releases, and a website in English, a general information brochure in Chinese, as well as public relations activities at international conferences are further measures to enhance international networking. ZEW regularly welcomes international delegations. In 2014 a group of upcoming Chinese researchers visited the institute and was informed about ZEW activities and cooperation opportunities.



ZEW welcomed a group of up-and-coming researchers from China in Mannheim in 2014. Chinese institutions have become a cornerstone in ZEW's international research network.

## ZEW RESEARCH DATA CENTRE

The ZEW Research Data Centre (ZEW-FDZ) grants external researchers access to original data collected by the Centre for European Economic Research (ZEW). The ZEW-FDZ primarily provides micro-level data from ZEW firm surveys on topics such as innovation activity, start-ups, and the use of information and communication technologies. Data from ZEW expert surveys, e.g. the ZEW Financial Market Test, and from personal interviews are also available.



### Firm Surveys ...

- Business Survey in the Information Economy
- High-Tech Start-up Panel
- Mannheim Innovation Panel (MIP)
- Mannheim Start-up Panel

### ... and Surveys on:

- Corporate Succession in SMEs
- Academic Spin-offs in Germany and Austria
- Eco-Innovation Survey
- Information and Communication Technologies

### Expert Surveys:

- Survey of Participants in UN Climate Conferences
- Transport Market Barometer
- ZEW Financial Market Test

### Personal Interviews:

- ECO-CARS (Survey of Potential Car Buyers)
- SECO@home (Household Survey on Energy Consumption)
- ZEW Secondary School-to-University Transition Panel

External scientists have the opportunity to work with ZEW data within FDZ premises on request. The use of ZEW data by external researchers is restricted to academic research projects. Researchers can also access factually anonymised ZEW datasets as Scientific-Use-Files for external use in their own institution. Selected datasets from the Mannheim Innovation Panel (MIP) are also available as Education-Use-Files for application in university teaching. All use of ZEW data is free of charge and limited to scientific, non-commercial research. ZEW-FDZ has been accredited by the German Data Forum (RatSWD).

In the period covered by this report, 20 external researchers worked with ZEW data within FDZ premises; on average, the visiting researchers came to the FDZ twice a year. ZEW Scientific-Use-Files were utilised by 62 external researchers in 2014. The majority of license agreements were made for MIP data.

Since 1996, a total of 330 external researchers have used MIP data, almost forty per cent of whom worked outside of Germany, and about ten per cent outside of Europe. In the reporting period, MIP Education-Use-Files were applied by four university teachers in seminars.

**Further information:** [www.zew.de/zew-fdz](http://www.zew.de/zew-fdz)

**Contact:**

Dr. Sandra Gottschalk

E-mail: [gottschalk@zew.de](mailto:gottschalk@zew.de)

## DATABASES

### • **Business Survey in the Information Economy**

Quarterly survey of firms from the ICT hardware sector, ICT service providers, media service providers, and knowledge-intensive service providers on their current business situation and the expected development.

Contact: Daniel Erdsiek (erdsiek@zew.de)

### • **KfW/ZEW CO<sub>2</sub>-Panel**

Survey of companies, experts on the EU emissions trading scheme, and researchers regarding the expected development of the EU emissions trading market. The survey is conducted in cooperation with the KfW Banking Group.

Contact: Dr. Peter Heindl (heindl@zew.de)

### • **Mannheim Enterprise Panel (MEP)**

Firm-level data for the analysis of start-ups, company growth, and survival with data from companies with business activities in Germany

Contact: Dr. Sandra Gottschalk (gottschalk@zew.de)

### • **Mannheim Innovation Panel (MIP)**

Database with information on the innovation activities of companies in Germany, collected on the basis of an annual company survey.

Contact: Dr. Christian Rammer (rammer@zew.de)

### • **Mannheim Start-up Panel**

Database with information on business start-ups for the analysis of their development during the first years.

Contact: Jürgen Egelin (egelin@zew.de)

### • **ZEW Financial Market Surveys**

Monthly surveys of experts providing expectation data on financial market trends as well as macroeconomic developments. The surveys are conducted in Germany, Switzerland.

Austria, Central and Eastern Europe, and Turkey.

Contact: Prof. Dr. Michael Schröder (schroeder@zew.de)

## RESEARCH PROGRAMME

STRENGTHENING EFFICIENCY AND COMPETITIVENESS  
IN THE EUROPEAN KNOWLEDGE ECONOMIES (SEEK)

The ZEW research programme “Strengthening Efficiency and Competitiveness in the European Knowledge Economies” (SEEK) has been funded by the State of Baden-Württemberg since 2010. The key objective of SEEK is to strengthen top-level research in economics. Another goal of ZEW in conducting the SEEK programme is to expand international networks and improve the institute’s position in the research landscape, even beyond the project funding period.

Using SEEK funds, ZEW is implementing a number of measures to pursue these goals. The focus lies mainly on research projects that enable cooperation between ZEW researchers and renowned international economists. The project teams work on topics concerning the efficiency and competitiveness of the European knowledge-based economies. The research findings aim to provide decision-makers in politics and business with strategies to overcome the major economic challenges facing Europe. The European Commission’s “Europe 2020” strategy identifies these challenges and defines objectives to be achieved by 2020. Research in the SEEK programme addresses the goals of “Europe 2020” from a scientific point of view.

Independent, scientifically grounded policy advice is particularly high in demand against the backdrop of the ongoing economic and financial crisis in Europe. Since the year under report, the entire SEEK programme has thus been devoted to the economic crisis, as reflected in the central topic, “Overcoming the Crisis in Europe.” SEEK projects examine the origin of the crisis, the conditions for smart, sustainable and inclusive growth as well as long-term strategies to secure economic and financial stability. The target of research funded under the SEEK programme is to deepen our understanding of the crisis and to provide decision-makers in the realms of politics and administration with empirical, science-based expertise.

Since the launch of SEEK, ZEW has invited more than 6,000 international researchers every year to submit proposals for SEEK research projects in close cooperation with ZEW researchers. Project proposals are evaluated by a scientific board that consists of distinguished international researchers, ensuring the scientific quality of the awarding procedure. This competitive approach also guarantees exclusive funding of high-level projects within the framework of the SEEK programme.

All eleven research projects of the fourth funding period launched in 2013 have been completed successfully by autumn of 2014:

- Labour Market Adjustments in Response to Fundamental Technological Innovations
- Can Task-Biased Technological Change Explain Changes in Regional Labour Market Disparities?
- The Effects of Family Policy on Education, Labour Supply, and Fertility Decisions
- Long-Run Benefits of Firms' Investment in Innovation and Human Capital – A Structural Model Approach
- Tax Policy, Productivity and Innovation
- Patent Rights and Researcher Incentives for Knowledge Production, Disclosure and Commercialization: Evidence from a Natural Experiment in Germany
- What Do Legal Cartels Tell us About Illegal Ones?
- The Anatomy of Hard-Core Cartels – Theory and Empirical Evidence
- A New International Division of Labour – Adjustments in European Regions
- Fiscal Policy in Europe After the Financial and Economic Crisis: Incentive, Stabilisation and Distributional Effects
- The Impact of Corporate Income Tax Reform in China

For the 2014 funding period, the scientific board thoroughly evaluated 26 project proposals and selected six projects for promotion, which were launched in April 2014. In accordance with the central SEEK topic, the projects focus on the European crisis:

- Evaluating the Introduction of a Uniform Minimum Wage in Germany: A Structural Equilibrium Job Search Approach
- Human Capital Formation in Young Firms and the Crisis: A Comparative Analysis of Portugal and Germany
- Credit Supply of Banks and SME Financing in the Crisis – Unveiling the Real Economic Effect
- Fiscal Governance and Adjustments Under Crisis Conditions
- Side Effects of Economic Crises in Europe and Provision of Online Public Goods
- Resilience in Times of Crisis: The Role of ICT; Evidence for Europe

The projects are scheduled to be completed by autumn 2015. More detailed information on SEEK projects, results and contact persons can be found on the SEEK website: <http://seek.zew.eu>



### SEEK Annual Conferences

In order to increase ZEW's international visibility, the institute has been hosting annual SEEK conferences since 2011, with each of them attracting some 200 international guests from the fields of academia, politics and business. There have been conferences on the following topics: "Going for Smart Growth with Knowledge and Innovations" (kick-off conference in 2011), "The Green Growth Challenge" (2012), "Engines for More and Better Jobs in Europe" (2013), "Public Finance and Income Distribution in Europe" (2014). High-profile keynote speakers such as EU Commissioner Máire Geoghegan-Quinn, Professor Klaus Töpfer, Executive Director of the Institute for Advanced Sustainability Studies (IASS) and former Federal Minister, as well as renowned researchers like Professor Philippe Aghion, Harvard University, Brownyn Hall, University of California at Berkeley, and Robert N. Stavins, Harvard University, contributed to the huge success of the conferences.

The 2014 SEEK conference "Public Finance and Income Distribution in Europe" brought together international economists to discuss the impact of the EU debt crisis on income development and distribution. Once again, ZEW had the privilege to welcome high-level speakers: Hans Eichel, Germany's former Federal Minister of Finance, Professor Vítor Gaspar, former Portuguese Finance Minister, and Dr. Nils Schmid, Minister of Finance and Economics of Baden-Württemberg, gave keynote speeches. The conference also featured a panel discussion on "Fiscal Union in Europe?" with Dr. Franziska Brantner, Member of the German Bundestag, Dr. Karl Pichelmann, European Commission, as well as Professor Giuseppe Bertola, Business School in Nice, and Professor Kai Konrad, Director of the Max Planck Institute for Tax Law and Public Finance in Munich. Friedrich Heinemann, head of the ZEW Research Department "Corporate Taxation and Public Finance", chaired the discussion.

The second conference day was devoted to science, and included two scientific lectures and a lively discussion between Professor Thomas Piketty, Paris School of Economics, and Professor Hans Peter Grüner, University of Mannheim. Another platform of exchange was provided in the form of scientific sessions, which featured 44 lectures by international researchers who presented their current scientific work.

The fifth SEEK conference is expected to take place in autumn 2015.

### SEEK Programme: An Impressive Success

The SEEK programme has an impressive track record, confirming the research programme's sustainable impact. More than 40 international projects have been carried out under the programme, providing ZEW researchers with the opportunity to closely collaborate with high-profile researchers. Such collaborations considerably improve the quality of scientific research at ZEW. This is reflected by a strong publication record and the great number of SEEK papers accepted for publication in recognised scientific journals. SEEK also provides ZEW researchers with the opportunity to expand their networks within the international scientific community by way of research stays at SEEK partner institutions, of which there have been more than 90. As a result, ZEW has established or intensified cooperative relationships with about 70 international research institutions and universities.



Panel discussion at the 2014 SEEK Conference (from left): Karl Pichelmann (Directorate-General for Economic and Financial Affairs), Giuseppe Bertola (EDHEC Business School), Friedrich Heinemann (ZEW), Franziska Brantner MdB, Kai Konrad (Max Planck Institute for Tax Law and Public Finance)

ZEW's visibility is not only increased by the annual SEEK conferences, but also by presentations, workshops and publications based on SEEK research findings. In order to disseminate SEEK research results within the scientific community, but also beyond academic circles, ZEW researchers gave about 150 lectures at international conferences and organised more than 20 workshops. For the same purpose, the "ZEW policy briefs" inform national and international decision-makers in a concise way about research results of practical significance for business, politics, and administration. They are one of the key elements in ZEW's policy advising activities.

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## LEIBNIZ SCIENCECAMPUS

## MANNHEIM CENTRE FOR COMPETITION AND INNOVATION (MACCI)

The Leibniz ScienceCampus “Mannheim Centre for Competition and Innovation” (MaCCI) was established by ZEW, together with the School of Law and Economics at the University of Mannheim, in January 2012. A



ScienceCampus is a joint initiative of at least one Leibniz institute and one university as well as the federal state in which the participating institutions are located. The idea behind the initiative, which encourages regional partnerships between Leibniz institutes, universities, and potentially between further institutions, is the promotion of scientific excellence.

### Setting Goals for the Leibniz ScienceCampus MaCCI

The aim of MaCCI is to initiate research projects at the intersection of law and economics in the areas of competition policy, regulation and innovation. Particular focus is placed on basic research, on related theoretical and empirical research, and on comparative legal questions and antitrust law. The MaCCI ScienceCampus thus serves to strengthen the position of German legal research in Europe as well as the relevance of such research in business practice. The initiative also creates additional opportunities for up-and-coming researchers, offering opportunities for profiling and career promotion. In addition, the campus also has a long-term impact, improving conditions for the participating institutions to attract scientific talent.

### Background and Motivation

In the past few years European and German competition, innovation and regulation policies have undergone considerable changes. At the same time, the call for policies which are based on empirical evidence has been growing, and as a consequence the need for a tailored system of analysis has increased. Research should no longer investigate the impact of programmes and measures in individual policy areas in isolation; research should consider direct and indirect external influences as well as reciprocal effects between policy fields. Economic assessment of policy measures is therefore increasingly difficult; alongside theoretical and empirical consideration, evaluation must also take complex institutional frameworks into account. This is where legal analysis is of particular relevance: the impact of a variety of legal regulations in competition and innovation policy must be compared; problems must be identified to develop yardsticks based upon economic insights that are consistent with regulatory policy, ensure legal certainty, and can be practically implemented. Against this backdrop, an interdisciplinary dialogue is urgently needed to arrive at application-oriented solutions which comply with economic criteria.

### Areas of Thematic Focus

The MaCCI ScienceCampus focuses on issues which require cooperation between economists and legal scholars. Topics of research within the MaCCI campus include issues such as the establishment of standards from the perspectives of competition law, competition economics and innovation policy, competition in the healthcare sector, public and private enforcement of competition law, issues arising from the implementation and strategic use of intellectual property law (such as patents and trademarks), and the development of competition in telecommunications and energy markets. The two guiding principles of MaCCI, the promotion of an interdisciplinary and an application-orientated approach, are of primary relevance in all of these areas.

### Contributions to Doctoral Education and Study

An additional aim of the ScienceCampus is to contribute to the education of doctoral and Masters students. These contributions are achieved on three levels:

- About every fortnight during the semester, as part of the Mannheim Competition Policy Forum, lectures are held regarding current cases in competition law (e.g. decisions in antitrust cases). Speakers in these events include representatives from authorities and competition consultancies, as well as experts from relevant fields of research.
- Doctoral students are regularly involved in MaCCI projects and some are also integrated in the Centre for Doctoral Studies in Economics (CDSE) at the University of Mannheim.
- The ScienceCampus aims to extend a European network for doctoral education at the intersection of law and economics, with the existing “Competition Law and Economics European Network” (CLEEN) serving as the centrepiece of the network. Currently, about 30 doctoral students are involved in the activities of MaCCI.

### Conferences and Networks

Conferences and workshops organised as part of the MaCCI ScienceCampus especially address topics in the fields of antitrust and regulatory law and economics. In 2014, MaCCI was involved in the organisation of 16 scientific events. In November 2014, for example, the “MaCCI Law & Economics Conference” was held at ZEW. The presentations given by Enrica Detragiache (International Monetary Fund) and Roberta Romano (Yale Law School) concerned economic and legal issues in financial sector regulation. During the panel sessions, participants in the conference discussed the impact of a two-tier banking system in Europe, the introduction of a tax on financial transactions as well as the creation of an upper limit on bank managers’ salaries.

In addition, in December 2014, MaCCI was to host the 170 participants who took part in the twelfth annual conference of the Association of Competition Economics (ACE). The event was opened by Aviv Nevo, economics professor at Northwestern University (Evanston, USA). Competition policy cases were discussed in nine sessions. The majority of discussions featured a representative from the authoritative bodies involved in the case, a representative from the relevant field of consultancy as well as a researcher. The event concluded with a discussion regarding the question, “Effects-Based Analysis of Exclusionary Pricing Practices – Back to Square One?”

About 70 researchers with respective research interests form the central core of the regional MaCCI network. MaCCI benefits from the support of a scientific advisory board composed of renowned international researchers with expertise in the fields of competition, regulation and innovation.



US economist Professor Aviv Nevo held a keynote speech at the 12<sup>th</sup> Annual Conference of the Association of Competition Economics at ZEW.

#### Board of Directors

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#### Coordinators

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- Stefan Frübing, ZEW (fruebing@zew.de)

More Information: [www.macci.eu](http://www.macci.eu)

## LEIBNIZ SCIENCECAMPUS MANNHEIM TAXATION (MATAX)

In April 2014, the Leibniz ScienceCampus “Mannheim Taxation” (MaTax) was launched. The ScienceCampus model is an initiative of the Leibniz Association, aimed at promoting collaboration between universities and non-university Leibniz institutes on the basis of shared fields of research. MaTax is one of six ScienceCampuses which currently exist in Germany and provides a framework for research cooperation between the University of Mannheim and the Centre for European Economic Research in the field of taxation. MaTax is funded by the State of Baden-Württemberg, the Leibniz Association as well as the two participating institutions.



The outstanding expert knowledge at both institutions, ZEW and the University of Mannheim, in the fields of corporate taxation, public finance and fiscal law, is brought together in the shared framework of the MaTax ScienceCampus, thus intensifying the dialogue between participating researchers. The central concern of MaTax is to contribute to a future fiscal policy against the backdrop of European and global integration as well as new economic and social challenges. The interdisciplinary nature of MaTax brings together researchers from the fields of business administration, political science, law, and economics, facilitating collaboration between the disciplines involved. In addition to the cooperative input of the Chair of Tax Law at the University of Mannheim, MaTax also benefits from regional cooperation with the Institute of International Tax Law at Heidelberg University.

In order to achieve the objective of improving fiscal policy, MaTax projects primarily concern the following four areas:

### Promotion of High-Quality Research

One of the key objectives of MaTax is to conduct high-quality research in the field of taxation. To this end, MaTax encourages inter-institutional and interdisciplinary cooperation. A total of eleven projects, financed by MaTax and thematically linked to the primary research concern of the ScienceCampus, were launched in 2014. The first results from these projects were presented and discussed at an internal workshop held in December 2014. The quality of the research is ensured by the board of directors and by a high-profile scientific advisory council.

### Exchange Platform for Researchers

Continual exchange of information between researchers is crucial to the success of scientific work. The MaTax inauguration conference held on September 17 and 18, 2014, therefore played an important role in ensuring scientific excellence. The conference, which will now take place on an annual basis, welcomed some 80 international researchers. The conference featured six scientific sessions, each of which addressed current research findings. Topics included the influence of taxation on investment, basic concepts of tax reform, the determinants of fiscal policy,



taxable income elasticity, and tax avoidance. One particular highlight of the conference was the keynote speech delivered by Professor Joel Slemrod from the University of Michigan. Slemrod pointed out that one key challenge affecting research in the field of tax policy is that of taking appropriate consideration of its dimensions (tax calculation, incidence, and enforcement) and diverse tax-induced behavioural reactions. During his presentation, he made use of numerous current studies in order to illustrate the many potential ways in which these issues may be tackled, thus providing the audience with valuable insights for future studies. Following an intense scientific programme, the MaTax ScienceCampus was inaugurated in an opening ceremony with addresses given by the Minister of Science, Research and the Arts of Baden-Württemberg, Theresia Bauer, as well as the President of the Leibniz Association, Professor Matthias Kleiner.



Professor Matthias Kleiner (President of the Leibniz Association), Theresia Bauer (Baden-Württemberg's Minister of Science), Professor Clemens Fuest (ZEW President) and Professor Thorsten Meiser (Vice President of the University of Mannheim) attended the MaTax opening conference.

### Platform for the Dissemination of Research Findings

To ensure that scientific research is heard by political decision-makers, interaction between researchers, politicians, administration and the public is indispensable. The panel discussion on the "Latest Developments in International Taxation" thus constituted an important element of the MaTax inauguration conference. Similar promising events, including a policy meeting in Brussels, are being organised for 2015. A proposal for an economic policy-advising project by the German Federal Ministry of Finance has also been submitted. Through events and advising projects, MaTax brings together researchers and practitioners, promoting effective communication of research findings.

### Opportunities for Young Researchers

Continued training of young researchers guarantees scientific support for fiscal policy, not only today, but in the future. MaTax offers financial support to young researchers by granting scholarships or funding for projects. Within the framework of MaTax, a new research focus on taxation issues has been established at the Mannheim Graduate School of Social and Economic Sciences (GESS). Its launch in September 2014 was met with a very positive response from MaTax scholars and other doctoral students. Furthermore, an internal MaTax workshop, which gave young researchers the opportunity to receive feedback on their work from experienced scientists, was organised in December 2014. The MaTax Campus Meeting in May 2015 offers an additional great opportunity to gain incentives for new research ideas.

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# » FINDING A PLACE FOR PEOPLE IN THE DIGITAL ECONOMY



Prof. Dr. Holger Bonin

Head of the Research Department  
Labour Markets, Human Resources  
and Social Policy

# labour market

## RESEARCH DEPARTMENT LABOUR MARKETS, HUMAN RESOURCES AND SOCIAL POLICY



Prof. Dr. Holger Bonin  
Head of Department



Junior-Prof. Dr. Melanie Arntz  
Deputy Head



Dr. Susanne Steffes  
Deputy Head

### RESEARCH AREAS

- **Inclusive Labour Markets**  
Contact: Prof. Dr. Holger Bonin
- **Labour Markets in Organisations**  
Contact: Dr. Susanne Steffes
- **Education and Labour Market Entry**  
Contact: Dr. Maresa Sprietsma
- **Changing Labour Markets**  
Contact: Jun.-Prof. Dr. Melanie Arntz

### MISSION STATEMENT

The Research Department “Labour Markets, Human Resources and Social Policy” investigates institutions and working conditions in firms that may facilitate the development of smart, sustainable and inclusive European labour markets. Research questions include: how can we prevent poverty and social exclusion occurring as a result of long-term unemployment? What kind of human capital helps individuals to adapt to the challenges of globalisation as well as technological and demographic change? Answering these questions entails the study of human capital formation in both the education system and on the job, evaluation of social policies, analysis of human resource management strategies and investigation of micro-level adaptation mechanisms to macro-level changes. To successfully tackle these issues, the Research Department specialises in econometric impact assessment methods, including structural approaches, and in the analysis of linked employer-employee data. The Research Department offers scientifically rigorous policy advice mainly on questions concerning structural changes in labour markets and the design of efficient labour market, education and family policies.



## RESEARCH AREA: INCLUSIVE LABOUR MARKETS

- Active Labour Market Policies
- Low-Wage Employment
- Atypical Jobs

The Research Department consists of four research areas that were redesigned and refocused in the year under report to better accommodate current challenges and trends on European labour markets. The newly established “Inclusive Labour Markets” research area is concerned with individual and institutional factors that facilitate or hinder fair employment and personal development. Of particular interest are groups with pronounced employment and income risks, such as the low-skilled, older workers, women with family-related obligations, and migrants. The research area investigates employment and wage dynamics as well as the determinants of successful transition into regular employment. It applies a broad range of micro-econometric tools to the evaluation of active labour market policies aimed at building more inclusive labour markets in Europe.

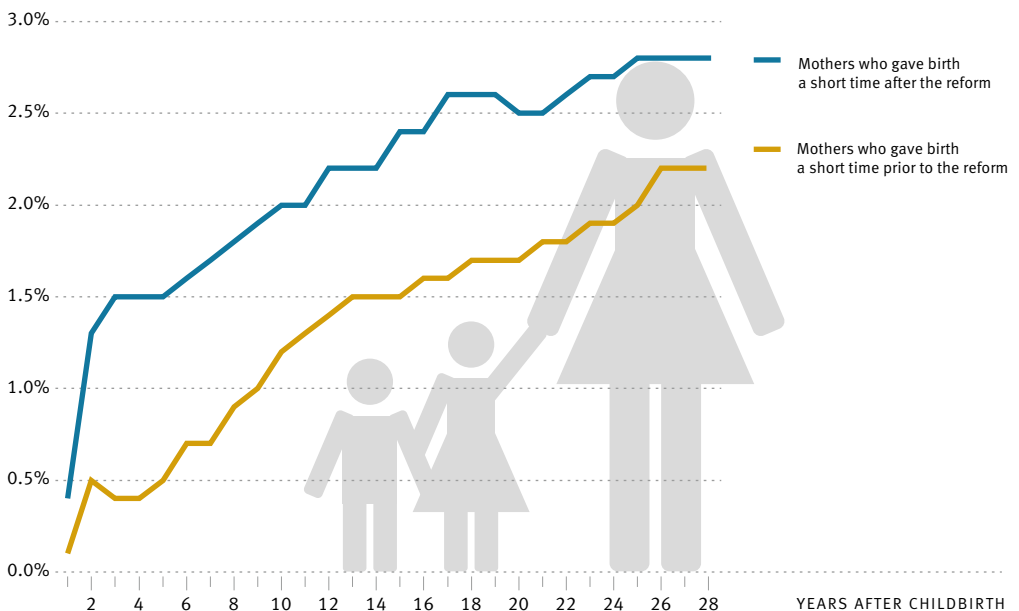
In 2014, the research area prepared several reports addressing acute policy issues in Germany. This included analyses of the potential effects of two recent labour market reforms: the introduction of a national minimum wage and a new early retirement option at age 63. Another report, which attracted considerable public attention, dealt with the impact of immigration on public finances against the backdrop of Germany’s rapidly ageing population. The report showed that the net tax payments made by future immigrants may reduce the sustainability gap in the German inter-temporal government budget, thus providing substantial fiscal relief for the incumbent population.



Such relief, however, will only be forthcoming if future immigrants, on average, are more highly qualified than the population of foreign nationals currently living in Germany. This calls for systematic immigration policy that admits economic migrants on the basis of labour market criteria.

A recently completed research project considered the link between maternity leave durations and the health outcomes of mothers returning to the labour market. More specifically, the project evaluated the first German maternity leave reform, passed in 1979. This change in legislation extended the length of paid, job-protected maternity leave from eight weeks to six months. A comparison of the length of long-term sickness spells of returned mothers who gave birth before and after the change in leave legislation reveals a surprising picture. Figure 1 shows that mothers subject to the extension in maternity leave exhibit more long-term sickness spells (relative to total time spent in the labour market) than those mothers whose leave duration was restricted to eight weeks. One plausible explanation for this counter-intuitive result is that the reform disproportionately induced mothers with poor pre-birth health status to re-enter the labour market.

#### 1] SHARE OF ACCUMULATED LONG-TERM SICKNESS SPELLS OF MOTHERS IN TOTAL TIME SPENT IN THE LABOUR MARKET



Long-term sickness spells are continuous health-related employment breaks of at least six weeks.

Source: BASiD 2007

## RESEARCH AREA: LABOUR MARKETS IN ORGANISATIONS

- Human Resource Management
- Ubiquitous Working
- Work and Health

The “Labour Markets in Organisations” research area investigates employment relationships. It is also interested in how these relationships between workers and firms are affected by structural changes in the labour market. The research area analyses the necessary and sufficient conditions for industrial organisation, human resource management and workplace characteristics to maximise employee productivity, job quality and employability over the life cycle. These topics allow the research area to employ its expertise in both personnel economics and management science, drawing on a toolkit of advanced microeconomic techniques.

In 2014, the Leibniz-funded research programme “Ubiquitous Working” was launched. This research area’s contribution to the interdisciplinary programme is an investigation into the increasingly blurred distinction between work and leisure time resulting from the use of mobile communication devices. Particular attention will be paid to the ways in which this blurring affects individual job experiences and career paths. 2014 also saw the start of a new DFG priority programme called “The German Labour Market in a Globalized World: Challenges Through Trade, Technology and Demographics”. The research area is involved both as the coordinator of the priority programme and as a participant: jointly with Professor Dirk Sliwka (University of Cologne), the research area is pursuing a project investigating the effect of human resource management on employee turnover.

In addition, the “Labour Markets in Organisations” team continued to work on its successful long-term projects. This includes the creation of a longitudinal survey data set, the “Linked Personnel Panel” (LPP), funded by the Federal Ministry of Labour and Social Affairs (BMAS) and pursued in partnership with the University of Cologne and the Institute for Employment Research (IAB). The unique feature of this linked employer-employee data set is that both workers and managers of a given establishment are surveyed on issues relating to strategic human resource management. The second wave of the panel survey was designed in 2014, and data collection will continue until the summer of 2015.

In the period covered by this report, the research area finished work on a research project on performance-related pay for creative tasks. Using laboratory as well as field experiments, this project investigated individuals’ preferred payment schemes for the completion of creative tasks. The project also analysed the interaction of individuals’ choices with their creative ability and their personality. The findings are in contrast with the existing literature, in that those people selecting into variable pay schemes did not, on average, have higher creative abilities than those who preferred fixed pay. One explanation for this irregularity is that self-assessments of individuals’ performance in this setting are often inaccurate. The research project also provided novel evidence on which groups prefer performance pay in a creative setting. These include risk-neutral or risk-loving individuals, those with high self-confidence and those with low subjective stress levels while completing a task.

## RESEARCH AREA: EDUCATION AND LABOUR MARKET ENTRY

- School-to-Work Transition
- Youth Unemployment
- Education Policy Design

The “Education and Labour Market Entry” research area investigates the acquisition of skills and knowledge which support the successful and sustainable entry of young people into employment. Particular emphasis is placed on human capital investments made in schools or in vocational training. In addition, the research area evaluates how education policies and labour market institutions affect the transition from school and higher education into employment, and their impact on early career success. To this purpose, expertise in the economics of education is combined with the application of advanced microeconometrics.

The research area was re-named in 2014 to emphasize the focus on transitions between education and the labour market. An example of research in this field is the evaluation of a dual orientation internship programme that was completed in the reporting period. This project studied an intervention in the federal state of North Rhine-Westphalia which was aimed at helping secondary school students decide how to continue their education. The study showed that the policy measure was effective in reducing social inequalities related to unequal access to university education. Participating in the orientation internship increased the enrolment probability of pupils from less well-educated families in tertiary education by 20 percentage points. This effect is significantly larger than that for pupils from better educated families.

Improving vocational and educational orientation is also at the core of a longitudinal survey of secondary school pupils in which the research area is involved. This project is part of the “Network for Educational Research” of the Baden-Württemberg Foundation. The first wave of data collection took place in Mannheim and Freiburg im Breisgau in the spring of 2014. First findings indicate that, on average, pupils have relatively strong educational aspirations. It also appears that there are significant differences in the degree of support for occupational choice depending on the type of secondary school attended. The determinants of the transitions realised one year later will be investigated once the second wave of data, collected in 2015, has become available.

A study carried out for the Robert Bosch Foundation on youth unemployment in Europe investigated the reasons behind the massive unemployment rates of people aged 25 and under in Southern Europe. It also sought to identify the most promising policies for reducing youth unemployment. Comparing Italy, Spain and Portugal, the study indicated that structural reform of the labour market will be necessary to reduce youth unemployment, even if economic growth rates recover. Reinforcing vocational training opportunities in partnership with businesses would be of particular value, helping to prevent qualification mismatch. In order to alleviate the burden of job losses on younger generations, the duality of the labour market should also be reduced.

## RESEARCH AREA: CHANGING LABOUR MARKETS

- Globalisation and the Labour Market
- Skill-Biased Technological Change
- Spatial Adaptation Processes

The “Changing Labour Markets” research area investigates how labour markets adjust to challenges such as deepening international division of labour, technological change, demographic developments and business cycles. It focuses primarily on the effects of these macroeconomic phenomena at the level of individual agents. Institutional and structural differences between regional and national labour markets in Europe are taken into account, contributing to a better understanding of spatial disparities. The research area analyses occupational, industrial and spatial mobility in their role as potential adjustment processes.

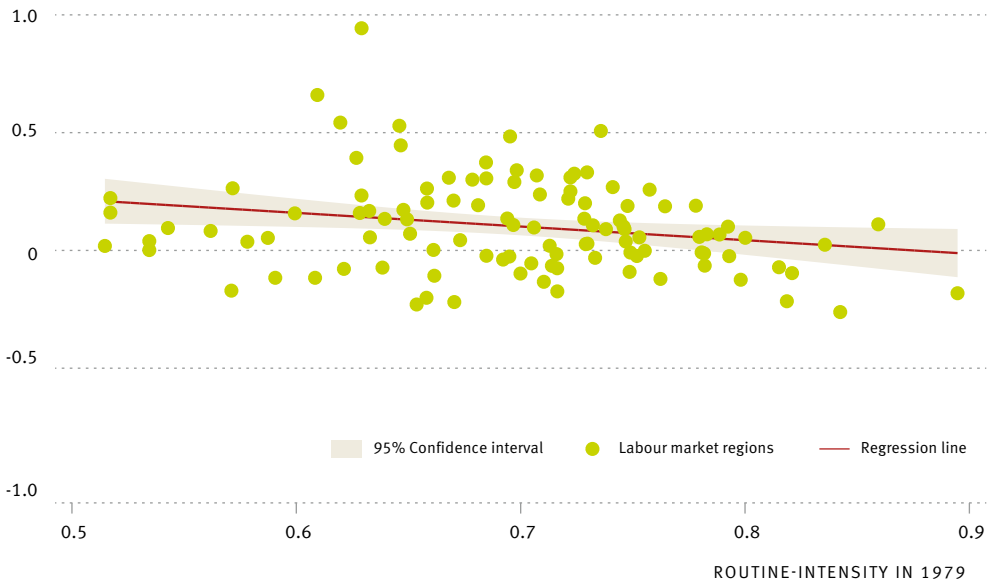
This research area was established in 2014 with the task of empirically investigating the consequences of long-term macroeconomic trends for employees, employers and regional labour markets. The research area also seeks to identify where labour and social policy measures must be implemented to address the threats for certain employment groups posed by these global developments. So far, the research area has mostly investigated the future of work in an increasingly automated and digitised world. In particular, it has analysed the medium and long-term effects of labour-saving automation technologies on employment and wages.

A prime example of this research is a SEEK project on the consequences of automation for employment development in German and European regions. The results show that the regional employment developments over the past three decades have depended on the share of jobs with routine-intensive tasks, which are easier to automate, in these regions. Figure 2 highlights that regions with low shares of routine tasks in 1979 experienced higher employment growth, whereas employment stagnated in regions with a high initial intensity of routine tasks. These insights are particularly valuable as they suggest that automation need not have negative employment effects in regions with high shares of routine-intensive jobs. As the developed theoretical model suggests, this employment-enhancing effect is the result of increased competitiveness and product demand in routine-intensive regions, which can potentially overcompensate the negative employment effect of automation.

In addition, the research area completed a project funded by the Fritz Thyssen Stiftung on the consequences of demographic change on regional innovativeness. The results of the project suggest that the demographic and innovation divide between urban and rural regions may further increase. Due to path dependencies, less innovative and rapidly ageing regions are unlikely to be able to compensate for their competitive disadvantages. Regional actors are called upon to develop new strategies such as substantial cross-sectoral investment subsidies that may stimulate a “big push”.

## 2] LINK BETWEEN ROUTINE-INTENSITY OF TASKS IN 1979 AND INCREASE IN EMPLOYMENT IN THE PERIOD FROM 1979 TO 2008 AT THE REGIONAL LEVEL

EMPLOYMENT DEVELOPMENT  
1979–2008 (IN %)



The graph shows the link between the proportion of routine-intensive tasks in 1979 and the overall employment development in West-German labour market regions in the following 30 years. Regions with routine-intensity of over 80 per cent, for example, have experienced only small employment losses of 0 to 0.3 per cent.

Source: Sample from the Integrated Labour Market Biographies, IAB

## OUTLOOK

In the course of 2015, the Research Department will attempt to make progress on a number of strategic projects that will not only establish a new research infrastructure, but will also be highly relevant for its policy advising activities. One such project is the development and structural estimation of a search and matching model. This model is a joint venture with the “International Distribution and Redistribution” Research Group at ZEW and is being custom-built for the purpose of studying the impact of the national minimum wage recently introduced in Germany. The model will make it possible to conduct ex-ante analyses of the labour market effects of future minimum wage increases. This structural work will be supplemented by research on the effects of the new national minimum wage based on more conventional control group approaches.

In addition, the Research Department will strive to further expand its access to data sources that are of particular relevance to its research interests. The research area “Labour Markets in Organisations”, for example, will participate in the design of the third wave of a representative panel survey focusing on human resource management practices in German industry. The longitudinal dimension of this linked employer-employee data set will enable the department’s researchers to investigate, for instance, the long-term effects of the workplace setting on individuals’ quality of life.

In another project, the “Education and Labour Market Entry” research area will prepare a proposal for a large-scale educational panel study, building on its recent experience with the creation of a panel data set tracking pupils’ entry into the labour market in two cities. The new and larger data set would again follow individuals along their transitions between general schooling, vocational training in schools or firms and employment. It would improve our understanding of individual and institutional factors driving schooling and qualification decisions, and help assess the impact of (often local) interventions aimed at supporting young adults during this critical stage in their lives.

The “Inclusive Labour Markets” research area will start gathering individual-level data suited to the empirical study of both risks and opportunities associated with the digitisation of working life. Understanding these factors is crucial if policy-makers are to be aided in the development of strategies for the protection of employees in work environments increasingly shaped by digital devices and Internet-based employment relations. In a related project, the “Changing Labour Markets” research area plans to conduct a plant-level survey on the diffusion of advanced automation technologies in German production sites. The researchers hope to find out where, how, and to what extent these technologies are currently implemented. In a subsequent step, these data could be used to investigate whether machines are indeed replacing workers, that is, whether they are substitutes, or whether the production process is instead being restructured in such a way as to utilise the two factors as complements.

# » MAKING USE OF THE POTENTIAL OF RADICAL INNOVATIONS.



Dr. Georg Licht

Head of the Research Department  
Industrial Economics and  
International Management







innovation

## RESEARCH DEPARTMENT INDUSTRIAL ECONOMICS AND INTERNATIONAL MANAGEMENT



Dr. Georg Licht  
Head of Department



Jürgen Egel  
Deputy Head



Dr. Bettina Peters  
Deputy Head



Dr. Christian Rammer  
Deputy Head

### RESEARCH AREAS

- **Innovation Processes in Firms**  
Contact: Dr. Bettina Peters, Dr. Christian Rammer
- **Intellectual Property Rights and Intangible Investments**  
Contact: Dr. Georg Licht
- **Technology Transfer**  
Contact: Dr. Maikel Pellens, Dr. Christian Rammer
- **Start-up Growth and Firm Foundations**  
Contact: Jürgen Egel, Dr. Bettina Müller
- **Firm Closures**  
Contact: Dr. Sandra Gottschalk, Dr. Georg Licht
- **ZEW Research Data Centre**  
Contact: Dr. Sandra Gottschalk

### MISSION STATEMENT

The Research Department “Industrial Economics and International Management” investigates the behaviour of firms under dynamic market conditions. It identifies the challenges faced by firms and by economic policy-makers as a consequence of European unification, global integration of markets, and technological development. It also analyses and assesses government economic policy and business strategies, and proposes new courses of action. The Research Department particularly focuses on firm innovation, market entries and exits, business growth and decline, and on company transformation. Relying on approaches from economics and business management, the Research Department pursues cooperation with other researchers in fields such as law and social sciences.



#### RESEARCH AREA: INNOVATION PROCESSES IN FIRMS

- Determinants of Innovative Behaviour
- Indicators and Measurement of Innovation Activities
- Internationalisation of R&D and Innovation
- Innovation Strategies in Firms
- Economic Crises and Innovation Activities
- Evaluation of Research, Technology and Innovation Policy Instruments

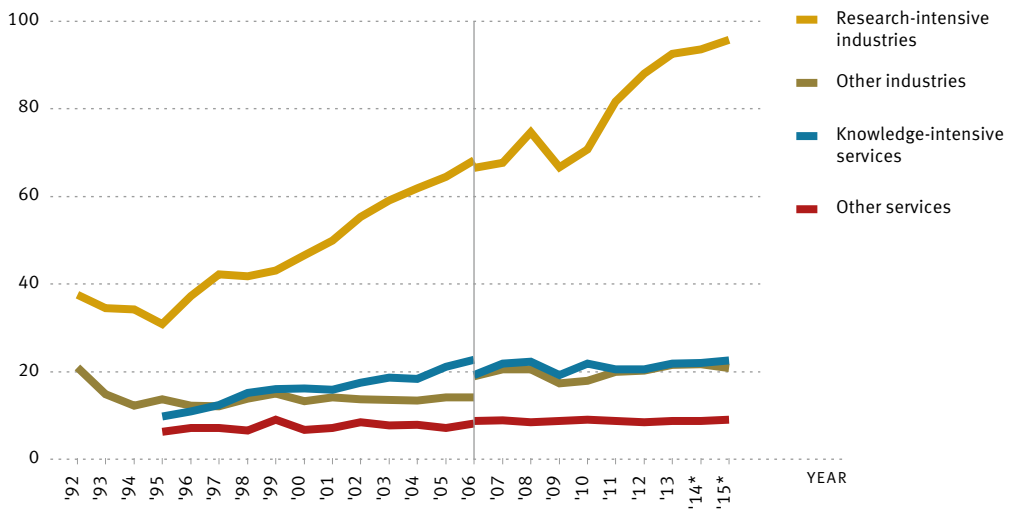
The research area “Innovation Processes in Firms” makes use of microeconomic data derived from empirical research in order to investigate the interplay of institutional conditions and the decisions taken by firms, and to improve our understanding of the innovation processes implemented by companies. Research is carried out in a number of different areas; from investigations into the various innovation management strategies favoured by firms, to the internationalisation of innovation activities, to analyses of innovation-driven growth in employment. The evaluation of programmes designed to promote research and development (R&D) in firms, in particular in small and medium-sized businesses on both a national and international scale, is of particular interest to the Research Department.

A principal project of the Research Department is the Mannheim Innovation Panel (MIP). Commissioned by the Federal Ministry of Education and Research and established in 1993, the MIP supplies an annual panel survey relating to the innovation behaviour of firms in Germany. The MIP is also the German contribution to the European Commission’s Community Innovation Survey

(CIS). In the year under report, the results of the 22<sup>nd</sup> survey were collated. The MIP served, as it has done in previous years, as a crucial source of data for numerous research and advising projects carried out by ZEW, many of which were conducted in cooperation with other institutions and researchers.

## 1] INNOVATION EXPENDITURES OF THE GERMAN ECONOMY, 1992–2015

### INNOVATION EXPENDITURES IN EUR BN



\* Target figures from early 2014

Source: ZEW, Mannheim Innovation Panel

In 2014, two projects were carried out based on MIP data that addressed the interplay of economic growth and innovation activities. In one project, the influence of innovation on the growth of businesses over the course of the business cycle was investigated for the European Commission's Annual Report on Competition Policy. In another research project, financed by the ZEW Sponsors' Association, the role of economic measures and in particular, the importance of implementing suitable innovation strategies during the euro crisis in order to ensure the success of innovation activities, was the focus of research efforts. In addition, the Research Department investigated the extent to which the activities of small and medium-sized businesses advance radical innovation. This was achieved by combining information sourced from the MIP with patent information, which enables the influence of new, "radical" innovation activities on innovation success to be measured.

The "Innovation Indicator Germany" is a project financed by the Deutsche Telekom Foundation in cooperation with the Federation of German Industries (Bundesverband der Deutschen In-

dustrie, BDI). The project uses a comprehensive system of indicators in order to assess the performance of national economies in terms of development, implementation and use of innovation. Since 2010, the Research Department has worked together with the Fraunhofer Institute for Systems and Innovation Research (ISI) to maintain this research project.

Further research activities which concern the European economy include a large collaboration project entitled “Welfare, Wealth and Work for Europe”. This project depends on the cooperation between 33 research institutions in twelve European countries. The Research Department is investigating the contribution of innovation and innovation policy to the transformation of production structures within this project.

In 2014, as part of a project within the SEEK programme, data from the MIP was used in a dynamic structural model to estimate the long-term returns on investments made in innovation and in human capital. The model enables the impact of R&D decisions on the company value to be identified and takes the long-term effects and the dynamic characteristics of R&D investments into account.

## RESEARCH AREA: INTELLECTUAL PROPERTY RIGHTS AND INTANGIBLE INVESTMENTS

- Intellectual Property Rights and Innovation Incentives for Firms
- Enforcement of Intellectual Property Rights
- Intangible Investments
- Technology Market
- Patent Rights in Public Research Institutions

A central topic of investigation in this research area is that of intellectual property rights (particularly patents and trademarks), the efficiency of specific legal systems and their influence on innovation activities, as well as enforcement of legal rights in the case of IP infringement by third parties. The research area’s increasing focus on intellectual property has directed attention towards firms’ investments into the knowledge on which this kind of property is based. Investments made by firms in immaterial goods to strengthen innovation activities, competitiveness, growth and productivity therefore are a particular concern in this research area.

As part of the EU project “Creativity, Innovation and Growth in Europe”, researchers assess the significance of creativity as a factor determining the transformation capacity of the European economy and the significance of the creative economy as a newly emerging industrial sector. The three-year project “Monitoring the German Cultural and Creative Economy” focuses in particular on the situation in Germany. The main objective of the project, which is being carried out in cooperation with the ZEW Research Department “Information and Communication Technologies”, is to provide regular insight into the development of the German cultural and creative economy, and to assess the sector’s strengths, weaknesses and potentials. For the project “Smart Public Intangibles” under the European Unions’ seventh Framework Programme for Research and Technological Devel-

opment, the Research Department conducts theoretical and empirical research into the status of immaterial goods in the public sector. The primary objective is to quantify the influence of immaterial capital in the public sector on innovation, welfare and “smart” growth (this includes the fields of education, R&D and innovation, and transformation into a digital society).

#### RESEARCH AREA: TECHNOLOGY TRANSFER

- Interconnection of Public Research and Private Innovation
- Research Infrastructure and Technology Transfer
- Innovation Policy-Driven Stimulation of Technology Transfer
- Researcher Mobility
- Effects of Public Research Funding

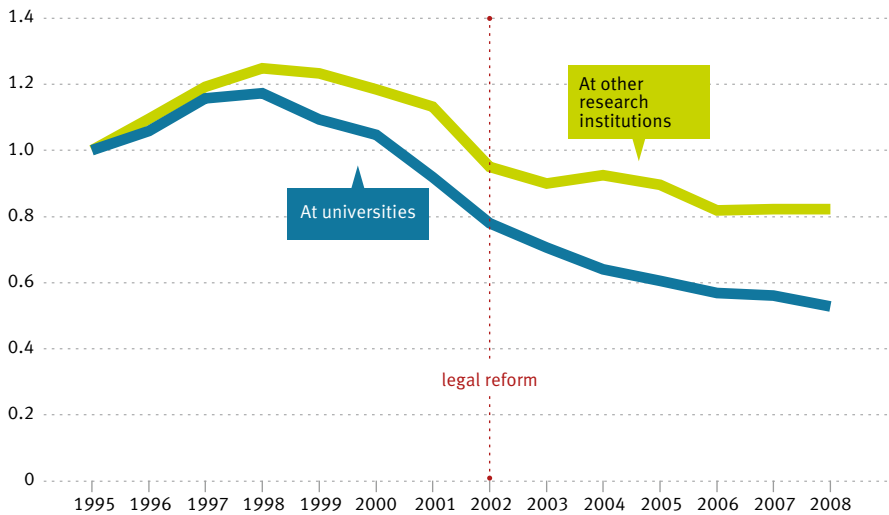
The research area “Technology Transfer” addresses various issues on the intersection of the analysis of innovation processes in firms and the organisation of research in scientific institutions. Researchers analyse, for example, the way in which new knowledge is acquired during the interaction of scientific research and the application-oriented R&D activities carried out by companies. The impact of knowledge and technology transfers on innovation activities and on the success of firms’ innovation policies is another area of interest. What are the effects of cooperation on the research activities of researchers in universities and in non-university research institutions? Another research topic is the evaluation of the success of government measures aimed at promoting cooperation between public and commercial research.

As part of the project, “Effects of the Public Financing of Science and Research in Baden-Württemberg on the Federal State’s Economic Development”, researchers investigate the impact of government-funded research on economic growth and regional development, on the development of new technologies and on the diffusion of technologies in the economy. The contribution made by universities to the qualification and education of the population is also considered here.

In a SEEK project, researchers examined how the abolition of Germany’s “Professor’s Privilege” (Professorenprivileg), a result of changes in German patent law made in 2002 that transfer the right to exploit university inventions from the professor to the university, has impacted incentives to produce, disseminate and commercialise new knowledge. To this end, the effects of legal changes in terms of the number and quality of registered patents, published research papers, and the number of companies subsequently founded by researchers at German universities was investigated. Comparing the number of patent applications by university professors with that of patent applications by researchers at non-university institutions, who did not previously benefit from the “Professor’s Privilege”, allows estimates to be made regarding the impacts of the patent reform.

## 2] IMPACTS OF THE ABOLITION OF THE “PROFESSOR’S PRIVILEGE” ON PATENT REGISTRATIONS (1995 – 2008)

PATENTS PER RESEARCHER (RELATIVE TO 1995)



Source: ZEW Discussion Paper No. 15-007

### RESEARCH AREA: FIRM FOUNDATIONS AND THE GROWTH OF START-UPS

- Indicators and Measurement of Firm Foundations
- Determinants of Firm Growth
- Human Capital Structures in Young Firms
- Family Firms and Hidden Champions
- Financing of Young Firms
- Evaluation of Support for Firm Foundations

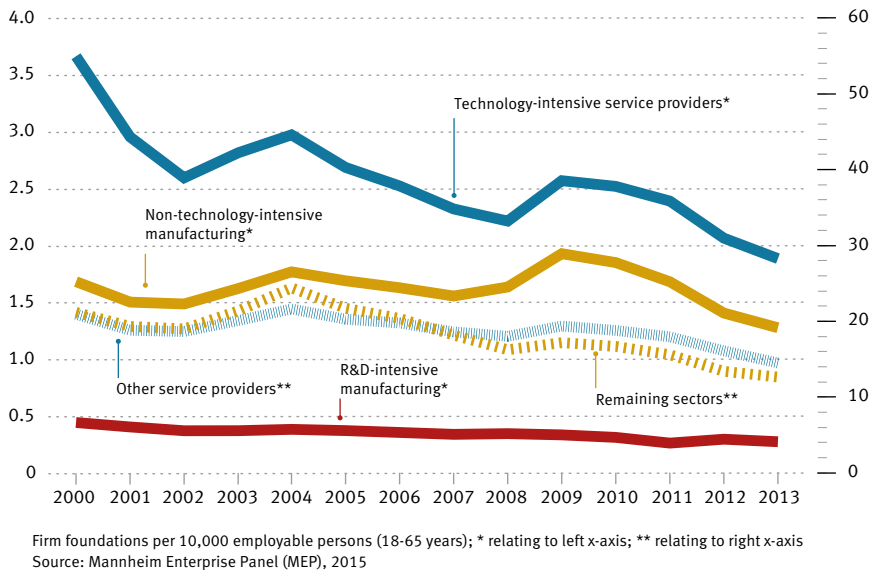
The research area “Firm Foundations and the Growth of Start-ups” maintains a wide range of indicators on firm foundations in Germany and conducts econometric analyses of the development of start-ups as well as their market entry and growth conditions. The ZEW Start-up Panel and the Mannheim Enterprise Panel (MEP), which are being maintained and expanded in on-going project work, provide researchers with unique databases for research into start-ups.

In order to provide potential entrepreneurs with favourable conditions for firm foundations, economic policy-makers must have access to empirically grounded, comprehensive up-to-date information. The ZEW Start-up Panel is an instrument which satisfies these requirements. The



panel tracks the development of newly founded businesses in the years following initial set-up. This allows a wealth of firm-specific information to be collated. Each year some 6,000 firms, a random sample from the Mannheim Enterprise Panel, take part in the telephone survey. The sample includes companies from various sectors and with different years of foundation. The ZEW Start-up Panel improves the quality and quantity of information available for the promotion of start-ups and for research into start-ups in Germany.

### 3] DEVELOPMENT OF START-UP ACTIVITIES IN GERMANY IN MAJOR SECTORS (2000 – 2013)



On the basis of data provided by the ZEW Start-up Panel, the Research Department is working on a project which assesses the significance of the education, qualifications and the professional experience of entrepreneurs and their employees for the success of their new businesses. The ZEW Start-up Panel has also drawn on the data held by the Federal Employment Agency from obligatory social security registrations. The effects of “combined” human capital, i.e. the combination of entrepreneurs themselves and their employees, is an area of particular interest. Suitable indicators are being developed in order to investigate the entire “portfolio” of human capital in young firms.

One area of research within the SEEK project “Human Capital Formation in Young Firms and the Crisis” is how economic crises impact the structure of human capital in young firms. Are firms that are set-up during a crisis at a disadvantage from the very start? Or does the lesser degree of

competition posed by firms already established in markets actually make it easier for newly-established businesses to develop a suitable stock of human capital? Comparing the diverging economic developments which have taken place over the course of the current economic crisis in Portugal and in Germany, two extreme examples, researchers in this area are seeking to provide answers to such questions.

## RESEARCH AREA: FIRM CLOSURES

- Defining Types of Firm Closure
- Effects of the Reform of Insolvency Law
- Structural Transformation and Firm Closures
- Corporate Succession and Transfer of Businesses
- Macroeconomic Effects of Firm Turbulence

Research projects in this area primarily focus on the specific determinants and consequences of the various forms of firm closure such as insolvency, voluntary closure and market exit as a result of fusions. The Mannheim Enterprise Panel (MEP) provides this research area with comprehensive data for analysing the development of businesses prior to closure and identifying alternatives to insolvency. Another point of interest in this research area is the connection between business closures and the emergence of new start-ups.

Ever since ZEW was established, the Mannheim Enterprise Panel (MEP) has been run in cooperation with Creditreform, the largest German credit agency. Creditreform provides ZEW with its company data twice a year. The MEP has been a major source of data for the German start-up statistics and has served as the basis of the Mannheim Start-up Panel. Economists in this research area will use MEP data in coming years to explore firm exits from markets.

2014 saw the initiation of the project “Practices and Effects of Insolvency Procedures”. The impacts of the recent reform steps in German insolvency law (1999 and 2012) have subsequently been investigated. Similar to the chapter 11 procedure in the US, the new “Insolvency Procedure” in Germany, which forms part of the new insolvency regulations, aims at improving the survival chances of firms that have become insolvent. The objective of the project is to assess whether this and the other reform steps have fulfilled their goal. Of particular interest is the question as to whether the reforms in insolvency law have resulted in a more efficient selection process amongst insolvent firms.

The Research Department’s 2014 indicator survey into the development of firms in the knowledge industry, commissioned by the Expert Commission for Research and Innovation, enables international comparison both of the foundation dynamics in research- and knowledge-intensive sectors as well as firm survival and closure.

## ZEW RESEARCH DATA CENTRE

The ZEW Research Data Centre (ZEW-FDZ) gives external researchers the opportunity to access ZEW research data. The majority of the research data supplied by the ZEW-FDZ is micro-level data sourced from ZEW firm surveys. The subjects of investigation in such surveys include innovation activities, start-up development and the use of information and communication technologies. Furthermore, the data from ZEW expert surveys, such as the ZEW Financial Market Test, and ZEW personal interviews may also be accessed.

External researchers may apply for access to ZEW research data for use in scientific research projects. Researchers are then able to make use of this data on the premises of the ZEW Research Data Centre. In addition, the ZEW-FDZ also provides external researchers with selected ZEW research data in the form of anonymised Scientific-Use-Files; these may be used outside of the premises of the ZEW Research Data Centre. Certain data files of the Mannheim Innovation Panel (MIP) are also accessible in the form of Education-Use-Files. These may be used for educational purposes in universities.

In 2014, 62 external researchers made use of the Scientific-Use-Files provided by the ZEW Research Data Centre. Twenty researchers paid one, or even several, visits to ZEW in order to make use of data held on-site. Four users made use of the Education-Use-Files supplied by MIP for teaching purposes.

## OUTLOOK

In the years to come, research will continue into the outlined areas. Based on data provided by the Mannheim Innovation Panel (MIP), the research areas will focus on the impacts of economic crises on the innovation processes undertaken by firms and on the issues arising from the internationalisation of innovation activities, including the consequences for internal innovation management.

Future projects carried out in the research area “Intellectual Property Rights and Intangible Investments” will focus on the role of the intellectual property rights system. Particular emphasis will be placed on the new “European Unitary Patent” and on the national ratification processes currently taking place. Research into intangible investments and property rights relevant to patent law will continue.

More emphasis will be placed on the research area “Technology Transfer”. Example investigations will concern the impact of the financial structure of institutions and the significance of the geographical proximity of researchers on productivity in research fields.

The crucial sources of data in the research area “Firm Foundations and the Growth of Start-ups”, namely the Mannheim Enterprise Panel and the ZEW Start-up Panel, will be further developed in coming years. These sources of information will then serve to answer questions regarding, for example, the reasons behind the continuous decrease in start-ups in Germany. In cooperation with the Central Bank of the Federal Republic of Germany (Deutsche Bundesbank), the

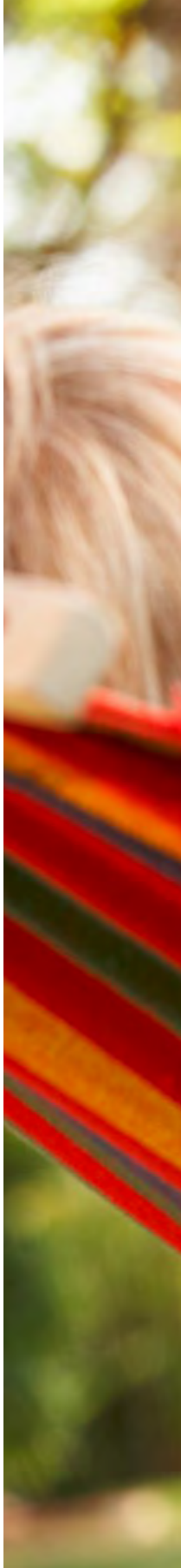
research area will also investigate the “real” effects of the financial and bank crisis on small and young firms. In addition, the Mannheim Enterprise Panel will provide a basis for a new focus on firm closures and fusions. The Research Department hopes to contribute to improving the interpretation of the figures regarding start-up closures and to develop a deeper understanding of the impact of the reforms of insolvency law on the survival and restart of insolvent firms.

# » FLEXIBILITY AND MOBILITY THROUGH DIGITAL TECHNOLOGY.



Prof. Dr. Irene Bertschek

Head of the Research Department  
Information and Communication  
Technologies





flexi  
bility

## RESEARCH DEPARTMENT INFORMATION AND COMMUNICATION TECHNOLOGIES



Prof. Dr. Irene Bertschek  
Head of Department



Dr. Jörg Ohnemus  
Deputy Head

### RESEARCH AREAS

- **Diffusion and Growth Potential of ICT**  
Contact: Dr. Jörg Ohnemus
- **ICT, Markets and Corporate Strategies**  
Contact: Prof. Dr. Irene Bertschek
- **Digital Networks and Knowledge Acquisition**  
Contact: PD Dr. Marianne Saam

### MISSION STATEMENT

The “Information and Communication Technologies” Research Department studies the impact of digitalisation on economic processes. It investigates changes in production, innovation, and the working world brought about by digitalisation, as well as digital markets and platforms. The Research Department’s work provides a foundation for evidence-based policy decisions in order to allow the benefits of ICT for smart value creation, sustainable usage of material and immaterial resources, and inclusive generation of knowledge and wealth to be leveraged at the national and European level. Methodologically, researchers conduct empirical studies, using econometric methods to analyse data gathered from in-house company surveys, internet platforms, and macroeconomic databases.





#### RESEARCH AREA: DIFFUSION AND GROWTH POTENTIAL OF ICT

- ICT and Media Sector, Knowledge-Intensive Service Providers
- Business Cycles of the Information Economy
- Mobile Internet, Cloud Computing, Green IT
- Macroeconomic Effects

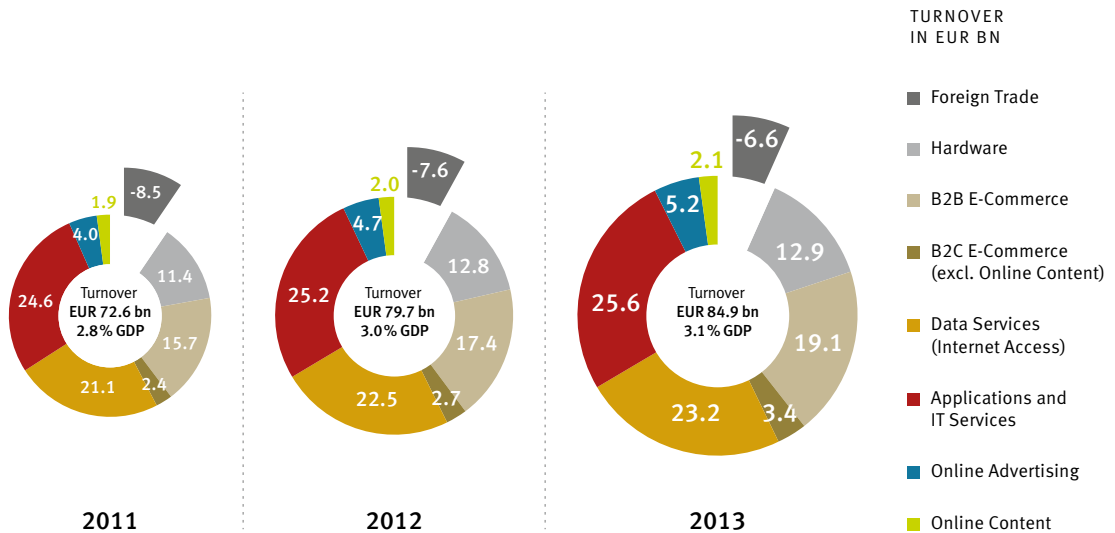
The “Diffusion and Growth Potential of ICT” research area is concerned with the diffusion of ICT, companies’ successes in the production and use of ICT and the macroeconomic effects of these processes. Economists in this area conduct surveys to investigate the adoption of different ICT applications in business, companies’ goals in using ICT and the obstacles and limitations companies face. Macroeconomic contexts are also investigated through projections and the use of external macroeconomic data.

The research area has been studying the importance of intangible assets at the macroeconomic level for several years. At the company level, there is a wealth of evidence to show that investments in ICT are often particularly productive when accompanied by complementary intangible investments in areas such as corporate restructuring or training schemes. A ZEW Discussion Paper presented in 2014 showed that ICT-intensive sectors on the whole achieve higher gains in productivity through intangible capital on the macroeconomic level. The paper was based on econometric analyses using data from the EU project INDICSER, which was completed in 2012.

A comparison of a fictitious sector with high levels of ICT intensity and investment with a sector that has low levels of both yielded a difference in annual growth of over half a percentage point.

Economists in this research area continued their monitoring of the development of the Internet economy, including turnover realised through the Internet, producing the Digital Economy Monitoring Report together with TNS Infratest on behalf of the Federal Ministry for Economic Affairs and Energy for the third time. The Internet economy showed revenues of just under 85 billion euros in 2013; this represents approx. 3.1 per cent of German GDP. The Internet economy grew consistently from 2011 to 2013 both in terms of absolute value and relative to GDP. Particular revenue drivers for hardware are smartphones and tablets, while in the service sector, online advertising and the market for mobile apps have grown in comparison to the previous year (see Figure 1).

#### 1) INTERNET ECONOMY IN GERMANY, 2011–2013



Source: 2014 Digital Economy Monitoring Report

## RESEARCH AREA: ICT, MARKETS AND CORPORATE STRATEGIES

- Productivity and Innovation
- Internationalisation and Outsourcing
- Digital Production and Work Processes
- Online Markets
- Aspects of Competition Economics

The “ICT, Markets and Corporate Strategies” research area focuses on studying the motives behind and consequences of the implementation of ICT applications and complementary business strategies. The aim is to discover how companies can best use ICT to make the most of the potential benefits to innovation and productivity it offers.

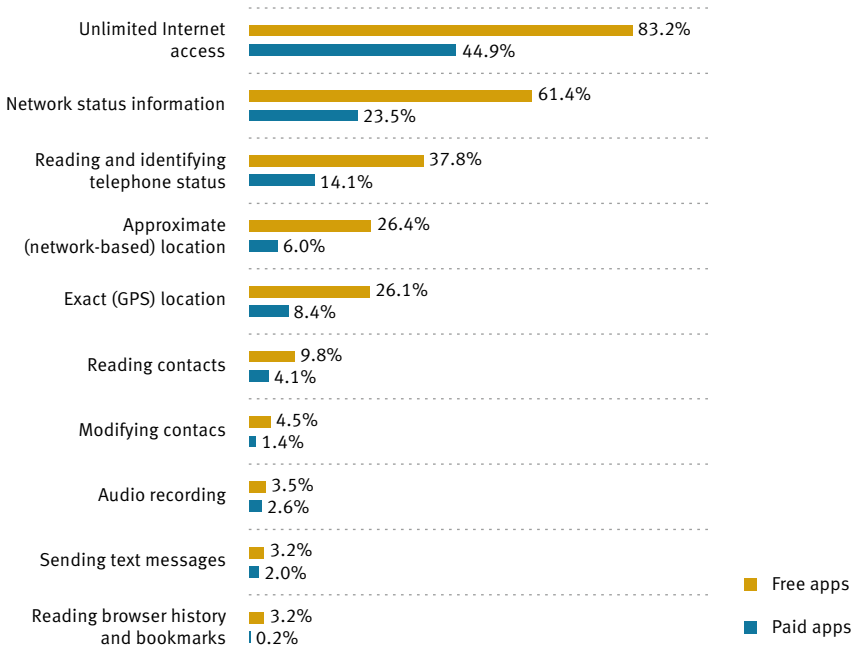
Improvements in wireless high speed Internet and the development of corresponding mobile devices such as laptops, tablets, and smartphones were essential prerequisites for increasing the spread of mobile Internet access. In Germany, the number of mobile Internet users almost tripled between 2008 and 2012, going from 13.6 million to 33.6 million. The 2010 ZEW ICT survey produced representative evidence for the relation between mobile Internet use and business productivity in Germany for the first time. In the period surveyed, 14 per cent of employees at the companies questioned worked with mobile Internet, showing that the technology was still in the initial stages of dissemination.

An econometric analysis concluded that companies which use mobile Internet achieve higher levels of labour productivity (measured in revenues per employee) than companies not using mobile Internet. They are also significantly larger, achieve higher revenues, invest more, and employ more highly qualified workers. Their production processes are characterised by greater ICT intensity. However, an instrument variable estimation shows that a higher proportion of employees using mobile Internet does not unto itself cause greater labour productivity; rather, the positive correlation between mobile Internet use and labour productivity reflects the fact that more successful and productive companies invest in new technologies such as mobile Internet at an earlier point. It is also possible that availability and options for use of the mobile Internet were too restricted in 2010 to generate observable effects on productivity.

A team of researchers investigated the security awareness of users of mobile applications as part of the project “Determinants of Demand for Mobile Applications: The Role of Access Rights”. Apps often require the consumer to grant the provider access rights to their mobile device; this may deter security-aware consumers from using the app. The project collected data on almost every app available in the Google Play store in 2012. Figure 2 shows the number of free and paid apps which require critical access rights.

Free apps demand access rights more frequently: more than 80 per cent of them require the right to access the Internet through the device; for paid apps the figure is just under 45 per cent. The second most common demand is for information about the user's network status (61.4 per cent of free apps versus 23.5 per cent of paid apps require this information). Over a quarter of all free apps access data revealing the consumer's exact location. The results of econometric analyses show that consumers do not prefer apps per se which demand fewer access rights; there is, however, lower demand for apps which access personal information.

## 2] THE TEN MOST COMMONLY DEMANDED CRITICAL PERMISSIONS IN ANDROID APPS, 2012



## RESEARCH AREA: DIGITAL NETWORKS AND KNOWLEDGE ACQUISITION

- Digital Media
- Social Networks
- User-Generated Content
- Education and ICT Skills

The research area of “Digital Networks and Knowledge Acquisition” concentrates on the activities of individual ICT users. In recent years, the range, complexity and flexibility of computer and Internet usage in many areas of life have increased significantly. This changes knowledge acquisition, professional life, and consumption habits. The research area investigates the motives and goals of Internet users, especially in the use of Web 2.0 applications, and the network structures which result.

The research area continued its analysis of contributor behaviour on Wikipedia as part of the Tübingen “Informational Environments” ScienceCampus. The investigation focused on the “peer effect”, that is, how a person’s contributions are affected by those of other contributors with whom they interact. Contributors working on the same article often communicate on the article’s dedicated discussion page. The investigation classed contributors as peers if they did so within a certain time period. The aim of the investigation was to discover whether a person’s individual contributions positively depend on the average activity of their peers. The fact that different contributors’ peer groups only partially overlap was used to build an instrument variable to take the possible endogeneity of peers’ activities into account. Econometric appraisals show that an increase of one per cent in monthly activity by peers raised individual contributions by 0.29 per cent. This shows that the peer effect can increase willingness to voluntarily participate in the creation of a public online resource.

In association with the ZEW Research Department “Labour Markets, Human Resources and Social Policy”, the research area undertook the project “Adequate Employment of Graduates: An Economic Analysis of Job Match Quality” on behalf of the Federal Ministry of Education and Research. The study investigated the importance of subject choice (particularly STEM subjects: Science, Technology, Engineering, and Mathematics) and family background on whether university graduates are able to find employment that requires a university degree.

The 2014 study came to the conclusion that graduates from university-educated households less frequently worked in jobs that do not require a university degree. The lower probability of overqualification can to a large extent be traced back to observable differences in individual characters: graduates from university-educated families are more likely to study subjects with lower risks of overqualification, such as medicine, teaching or STEM fields. In addition, these students are more likely to study at universities rather than technical colleges or polytechnics and achieve higher grades than graduates whose parents do not hold university degrees.

## OUTLOOK

The Research Department will continue to work on studying current trends in ICT and their influence on business. Mobile access technologies, Industry 4.0, big data, cloud services, and social media are all areas whose continuous innovations have a powerful effect on business strategies and working conditions. Together with ZEW's "Labour Markets" Research Department and other project partners from a variety of disciplines, the ICT Research Department is investigating the effects of the ubiquitous availability of information through the Internet on companies and employees, as part of the "Ubiquitous Working" project.

The Research Department will also continue its in-depth analysis of intangible capital. At the sectoral level, research will be expanded to include the public sector under the EU project "Smart Public Intangibles"; this area is growing in significance due to its large-scale investment in ICT, among other factors. At the company level, the investigation will primarily focus on investments in patents and branding.

Due to digitalisation, commercial and public information assets have increasingly been produced on the Internet itself over the last decade, and Internet users have become more and more involved in online social networks and markets. Taking this trend into consideration, the Research Department will continue its research into Wikipedia as a public resource and pricing in online markets in the coming years.

Concerning policy advice, economists in this research unit will further investigate the opportunities and demands of digitalisation in 2015; in particular, the Research Department will play an active role in the debate surrounding the innovation and growth potential of ICT. The Federal Government's 2014 Digital Agenda and the Digital Agenda for Europe provide an important guide to policy areas requiring further economic research.

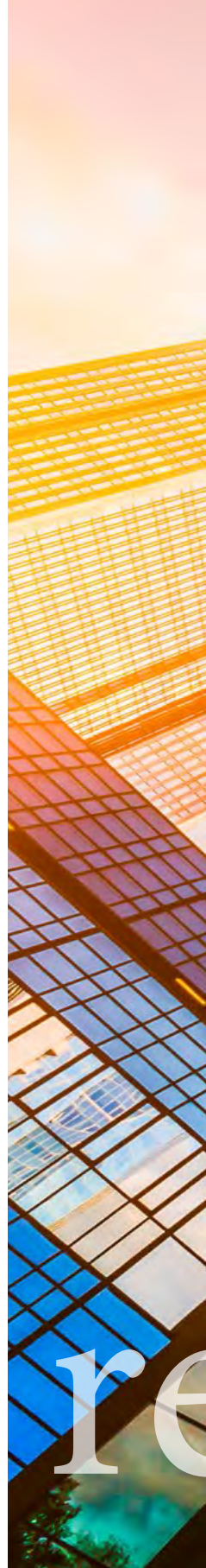




# » HOW DOES BANK REGULATION IMPACT THE REAL ECONOMY?



Prof. Dr. Sascha Steffen  
Head of the Research Department  
International Finance and  
Financial Management  
(as of September 2015)







# bank regulation

## RESEARCH DEPARTMENT INTERNATIONAL FINANCE AND FINANCIAL MANAGEMENT



Prof. Dr. Sascha Steffen  
Head of Department  
(as of September 2015)

### RESEARCH AREAS

- **Financial Intermediation**  
Contact: Dr. Mariela Borell, Jesper Riedler
- **Expectations and Price Formation on Financial Markets**  
Contact: Prof. Dr. Michael Schröder
- **Asset Markets**  
Contact: Dr. Oliver Lerbs

### MISSION STATEMENT

The “International Finance and Financial Management” Research Department analyses international financial markets and financial market institutions. It is engaged in financial market analysis and economic policy advice with the goal of promoting sustainable and inclusive financial markets. The optimal performance of international financial markets, especially in Europe, is a key topic in the Research Department’s work. Important areas of study include the regulation of capital markets, the complex interrelationships between financial markets and the real economy, as well as systemic stability. The Research Department also addresses the effects of demographic change on capital markets, which is a major challenge in coming decades and may result in fundamental changes on financial markets. Analyses in this area are based on the Research Department’s expertise on the intersection between real estate and capital markets.





## RESEARCH AREA: FINANCIAL INTERMEDIATION

- Banks
- Financial Market Regulation and Systemic Risk

The research area “Financial Intermediation” studies the relationships between the financial system and the real economy. Research focuses mainly on banks, although other fields within the financial sector are also considered. The optimal performance of international financial markets is an overarching concern. Important specific issues include investment decisions and risk behaviour on the part of banks and fund managers, the regulation of various market participants, and the associated systemic risks and impacts on the economy in general.

Work on an EU project of particular importance began in January 2014. Titled “Financial Distortions and Macroeconomic Performance: Expectations, Constraints, and Interaction of Agents”, the project aims to develop instruments to analyse the causes and effects of instabilities in financial markets. ZEW’s contribution to the project consists of two agent-based models (see Figure 1) which were developed in parallel and will be combined at the end of the project.

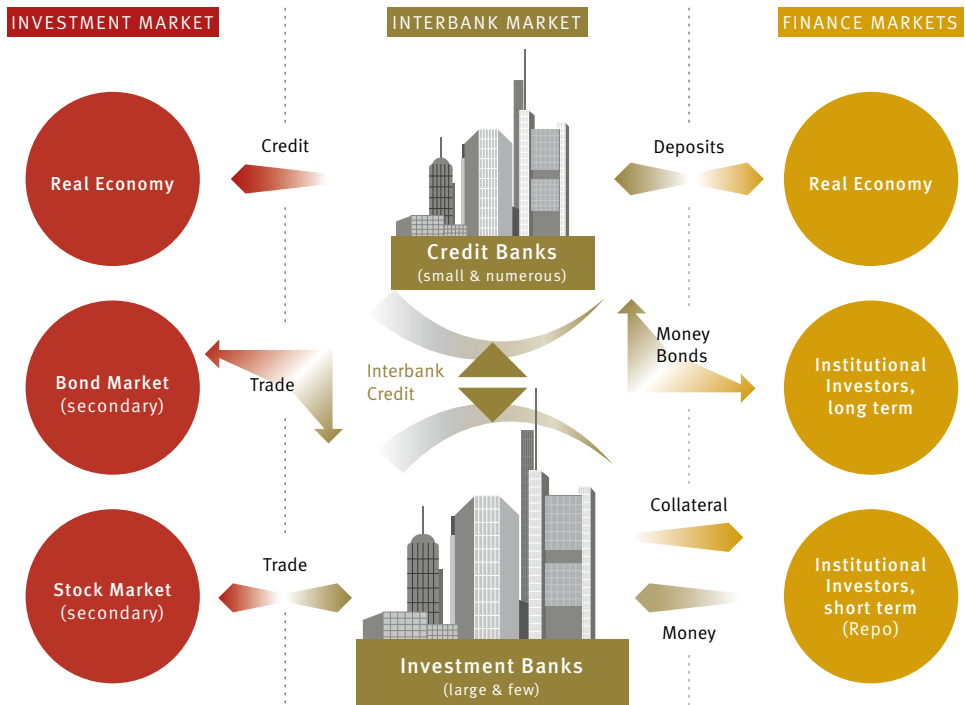
The first model simulates a financial market in which heterogeneous, limitedly rational agents interact on behalf of banks. The agents trade in high-risk securities; prices are set endogenously by supply and demand. As well as securities, the banks hold cash assets and finance themselves through both equity and outside credit. The model’s early simulations produced interesting results: for example, endogenous market structures similar to the real banking market formed. There was also a conflict of interests between the debt maturity rates and market stability: as

maturity rates lowered, the median number of insolvencies fell – but the susceptibility of the market overall to systemic collapse rose. Plans for further development of the model aim to include the effects of regulatory measures such as stricter equity requirements in a realistic theoretical framework.

The second model is an agent-based representation of the real economy: agents representing households and businesses interact in labour and commodities markets. Credit and stock markets act as interfaces with the financial market model; agents use them to finance investment or consumption. By linking the two models, ZEW economists aim to deliver insights into the interconnections between the financial market and real economy, and thus enable evidence-based economic policy advice.

On November 6 and 7, 2014, the MaCCI Annual Conference took place in cooperation with the University of Mannheim. This year's main topic was "Financial Regulation and Competition". The conference focused on the links between research in the fields of commercial law and economics, and objectives in regulating the financial sector.

## 1) AGENT-BASED MODEL STRUCTURE



Within the framework of the Leibniz ScienceCampus “Mannheim Taxation” (MaTax), economists in the research area analysed the potential impacts of financial transaction taxes in terms of incidence and behaviour adaptation. To empirically identify the effects of financial transaction taxes, researchers used detailed data at individual investment vehicle levels and quasi-experimental methods. This project contributes a firmer empirical foundation to current public debates on the introduction of financial transaction taxes.

Meanwhile, further progress has been made on research into the influence of corporate sustainability on businesses’ financing costs under the SEEK project “How Does Corporate Sustainability Influence Credit Costs?”.

## RESEARCH AREA: EXPECTATIONS AND PRICE FORMATION ON FINANCIAL MARKETS

- Expectations Formation and Behavioural Finance
- Expectations Formation and Asset Pricing
- Expectations Formation and the Real Economy

The research area “Expectations and Price Formation on Financial Markets” studies processes of expectation formation and their information content, with a particular focus on financial market variables. Empirical research in this area focuses on the relations between expectations formation and trends in securities markets. The research area investigates the performance and suitability of international financial markets from the perspective of market players while analysing the way expectations are formed. A fundamental aspect of the empirical research in this field is the “ZEW Financial Market Test”, a survey that has been carried out monthly since the end of 1991 and which also forms the basis of the renowned “ZEW Indicator of Economic Sentiment”.

The area’s research can be divided into three fields: the first research field analyses the characteristics and triggers of financial market expectations. Researchers take exogenous variables, such as new information regarding macroeconomic data, as well as variables native to behavioural finance into account.

The second research field concentrates on the content of expectations with regard to future macroeconomic developments and financial market trends. This includes investigating individual expectations’ forecasting quality and identifying the causes underlying particularly good or bad projections.

The third research area considers interactions between securities prices and expectations. The database created by the “ZEW Financial Market Test” is a key resource used by researchers. Some 300 financial market experts take part in the survey; their answers include original expectations about developments in stock markets, interest rates, and currency exchange rates as well as important information on macroeconomic factors, such as changes in economic activity or inflation. The data is compiled into a database of expectation data, which is a firm basis for empirical research into expectation formation. In previous years, it has attracted increasing atten-

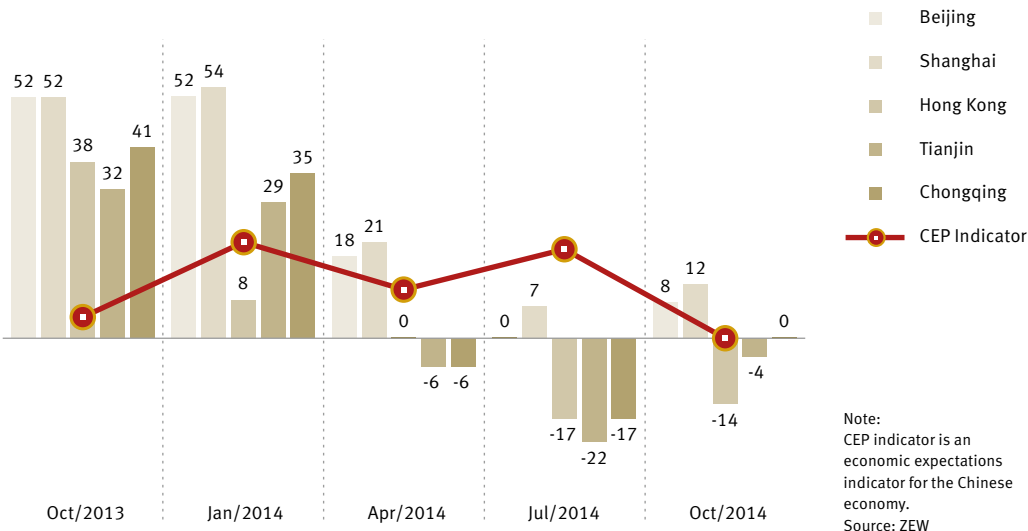
tion from researchers and members of the specialist community. Conclusions such as leading indicators for various macroeconomic and financial market variables are then drawn from the expectation data. Particular attention is paid to the “ZEW Indicator of Economic Sentiment”, which predicts developments in the German economy over the following six months. Findings are reported through a press release and in the ZEW Financial Market Report, which provides a detailed breakdown of the results. The Financial Market Test team is currently working on an evaluation of the forecasting quality of leading indicators for the German real economy. Over the medium term, the team hopes to recruit further survey contributors and will critically review the survey format in order to optimise its value compared to other surveys in this area.

As part of a joint project undertaken with Konstanz University, ZEW economists investigated the potential for improving the forecast quality of time-series models that make use of survey data through the application of Bayesian Vector Autoregressive Models. Using US macroeconomic data, it was shown that the approach was in part able to bring about considerable increases in forecast quality. Alternative estimates for the same time-series model were primarily used as benchmarks.

Since 2013, the Research Department has been working closely with Shanghai’s Fudan University on the monthly “China Economic Panel” survey. Under this project, international financial market actors with expertise concerning the Chinese economy deliver forecasts on key macroeconomic and fiscal variables as well as developments in real estate prices in major Chinese cities

## 2] PRICE EXPECTATIONS FOR RESIDENTIAL PROPERTIES IN DIFFERENT REGIONS OF CHINA

Percentage Answering “Rising” or “Falling”





(see Figure 2). The aim is to derive publishable leading indicators. Another important activity is the effort to strengthen existing research ties with Fudan University on various subjects, including expectations formation and other financial market topics in China, such as real estate and equity markets.

The Research Department's China studies also include the "ZEW-PwC China Economic Barometer" project, which has been running since autumn 2013 in cooperation with PricewaterhouseCoopers. Managers of German companies in China are surveyed on future developments in Sino-German economic and business relations. Key issues addressed by the quarterly survey include trade, corporate takeovers and mergers, capital investment, and the regulatory environment.

One example of research in the area of behavioural finance that draws on survey data from the ZEW Financial Market Test is the project "Stock Market Expectations and Risk Perception Depending on Exact Survey Methods", which was commissioned in September 2013 by the DFG. Over the past decade, increasing importance has been attached to the analysis of expectations for economic growth. Normative decision theories imply that market players pursue subjective expectations, which are invariant in terms of information presentation and exact survey methods. However, there is a wide range of literature documenting breaches of these two invariance hypotheses due to a "framing effect". The project is researching how survey methods impact stock market expectations and risk perception.

ZEW researchers working on a project on price formation in crude oil markets investigated whether different groups of market actors can actively influence crude oil prices. A special focus was placed on how the range of open positions held by different groups of traders impacts pricing in the crude oil futures market. It was established that traders who are fundamentally interested in oil dominate the lower end of the maturity curve, which can be attributed to the fact that these agents also control physical trade of the resource. However, the market presence of investors has practically no measurable influence on the price of futures contracts with low remaining terms to maturity, but does affect how longer-term futures contracts are priced in relation to short-term futures, as investors play an important role in the provision of liquidity for mid- and long-term futures contracts.

## RESEARCH AREA: ASSET MARKETS

- Interplay Between Real Estate and Equity Markets
- Real Estate Market Analysis from a Fiscal Perspective
- Capital Formation and Old-Age Provision

Economists in this research area study financial investments and asset formation, paying particularly close attention to the role played by real estate markets. The relationship between real estate and equity markets in private and institutional investment is a key concern. The optimal function of international financial markets – the overarching concern of the research area – informs the work undertaken by the economists in this area through their analysis of specific markets and products as well as the decision-making behaviour of the agents involved. The Real Es-

tate and Capital Markets Network (ReCapNet) established by the Research Department is an important instrument used by researchers in this field worldwide.

The aim of one of the research area's long-standing projects, the "German Real Estate Financing Index" (DIFI) survey, which has been running since 2011, is to accurately depict the state and developments in commercial real estate financing markets in Germany. The survey, carried out quarterly in partnership with Jones Lang LaSalle, surveys experts from banks, financial advisors, real estate companies, open and closed-end real estate funds, brokers, and insurers. The DIFI is compiled from their assessments on the state of and expectations for financing conditions in four sectors: office space, retail, logistical, and residential. Special questions are tailored to specific current issues, such as the effects of Asset Quality Review and banking stress tests on commercial real estate financing.

The "Credit Scoring: An Economic Assessment" project, carried out on behalf of the Association of Credit Agencies, investigated in an international context the relevance of credit scores for the functionality and efficiency of credit and commercial credit markets. Using statistical methods, credit scoring information, which is vital for calculating the creditworthiness of companies and individuals, is refined to generate an overall score. It was shown that through the use of credit scores, informational asymmetries between borrowers and lenders could be reduced over time in a cost-effective way and credit default predictions could be considerably improved. The project also looked into credit reporting systems in different countries, recommendations on methods in calculating credit scores, and possible improvements in quality control.

## OUTLOOK

In coming years, financial market regulation and the relationships between equity markets and the real economy will be the central concerns in the research area of "Financial Intermediation". The EU project "Financial Distortions and Macroeconomic Performance: Expectations, Constraints, and Interaction of Agents" will be of particular importance. At the end of April 2015, ZEW hosts a project conference in cooperation with all international partner institutions. In addition, long-running research work on corporate sustainability and corporate financing costs will continue. The international research network "European Responsible Investments & Institutions Conference" (ERIIC), which was founded within the framework of the SEEK project titled "Corporate Social Responsibility and Credit Costs", will lead to further intensification of the area's research work.

The "Expectations Formation" research area will continue and deepen its work into explanatory approaches to behavioural finance, special econometric methods, and the evaluation of leading indicators based on the survey results of the "ZEW Financial Markets Test". The area's close cooperation with Shanghai's Fudan University on the monthly joint "China Economic Panel" survey will also continue. The aim is to calculate leading economic indicators for China to

meet the demand for the publication of high-quality data, and to carry out general research into expectations formation and other financial market issues such as real estate and equity markets, which should ultimately lead to publications of considerable value.

The ReCapNet network on real estate and equity markets has been built up over previous years into a well-established international research network. Important areas for development include joint publications, continuing the established research exchanges, and successfully putting on an annual conference. The seventh international ReCapNet conference will be held at ZEW in October 2015. In the coming years the Leibniz-financed SAW project “Homes under Pressure” will determine the research topics in the field of real estate and capital markets. The focus will be on the influence of demographic changes on the value of single-family homes.

# » FAIR DISTRIBUTION OF ENERGY AND CLIMATE POLICY COSTS.



Dr. Klaus Rennings

Acting Head of the Research Department  
Environmental and Resource Economics,  
Environmental Management



climate



## RESEARCH DEPARTMENT ENVIRONMENTAL AND RESOURCE ECONOMICS, ENVIRONMENTAL MANAGEMENT



Dr. Klaus Rennings  
Acting Head of Department



Dr. Oliver Schenker  
Acting Deputy Head

### RESEARCH AREAS

- **Innovation and Sustainable Development**  
Contact: Dr. Klaus Rennings
- **Energy Economics**  
Contact: Dr. Nikolas Wölfling
- **Transport and Mobility**  
Contact: Dr. Martin Achtnicht
- **International Environmental and Resource Policies**  
Contact: Dr. Oliver Schenker
- **Macroeconomic Analysis of Environmentally Relevant Policies**  
Contact: Dr. Sebastian Voigt

### MISSION STATEMENT

The “Environmental and Resource Economics, Environmental Management” Research Department investigates the optimal function of markets and institutions with regard to environmental aspects and resource scarcity. A key focus is placed on European energy and climate policy. Economists in the Research Department conduct economic assessments of policies that impact the environment, such as transport, energy, technology, and economic policies. They also identify conflicts between economic and environmental goals. Given the universal shortage of resources, cost efficiency – that is, the ability of a policy to achieve a defined goal at minimal cost – as well as the equitable distribution of costs in society are key criteria in the assessments conducted by the Research Department.



## RESEARCH AREA: INNOVATION AND SUSTAINABLE DEVELOPMENT

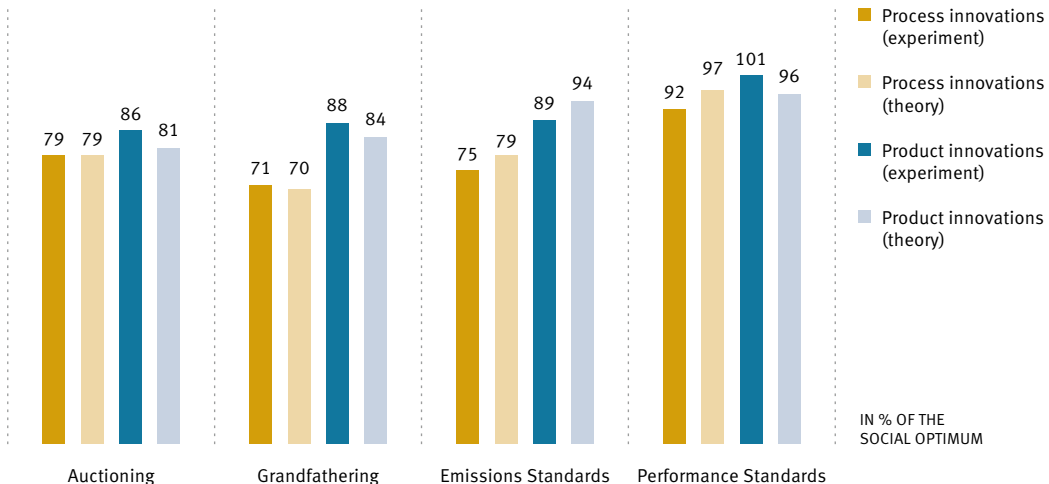
- Determinants and Economic Impact of Environmentally Oriented Innovation
- Integrating Technological Change in Macroeconomic Models
- Innovation Strategies for a Green Economy

Economists in this research area analyse annual innovation surveys to examine the environmental aspects of innovation behaviour in German industry. They specifically seek to identify the determinants of green innovation (such as regulation and cost savings), as well as the impact of innovation on firm performance. The research area primarily uses econometric methods, but also harnesses other methodologies in their work, including general equilibrium models and experiments in both the laboratory and the field.

2014 saw the completion of a project titled “Evaluation of Policy Instruments for Stimulating Environmental Innovation”, which systematically investigated investment incentives for environmental research and development. Technological innovation is highly important, having the potential to both generate economic growth and reduce environmental damage. Innovation can be process- or product-related; the effects of this dual character were theoretically modelled and subsequently experimentally validated in partnership with the Universities of Stirling and Nottingham. The findings suggest that performance standards lead to higher increases in innovation and macroeconomic welfare than market-based instruments with grandfathering clauses or auctioning (see Figure 1). The project is a strong contribution to the literature on this subject and brings together ZEW’s expertise in the field of innovation and experimental economics for the first time.



# 1] INNOVATION UNDER DIFFERENT REGULATORY REGIMES



The innovation-related activity of regulated companies is displayed for each regulatory regime as a percentage of the social optimum; both theoretical values (shaded) and experimental results (full colour) are displayed for each.

Source: ZEW

During the period covered by this report, the research area also concluded the project LIAISE (Linking Impact Assessment Instruments to Sustainability Expertise). The European Union's Excellence Network is dedicated to the improvement of ex-ante policy impact assessments in Europe. The project emphasised the increasing importance of material and resource efficiency in European environmental policy. The study investigated determinants of material use and consumption worldwide based on data from the WIOD (World Input-Output Database) project, in which ZEW was involved. Using decomposition analysis, no decoupling of economic growth and material use could be shown on a global scale, though there was a high degree of heterogeneity between the countries in the data set.

## RESEARCH AREA: ENERGY ECONOMICS

- Sectoral Analysis of Energy Markets
- Competition, Market Design, and Interaction with Environmental Policy
- Energy Demand Behaviour and Market Observation

Economists working in this research area analyse the function and efficiency of German, European, and global markets for energy and raw materials from an environmental perspective. A particular focus is placed on the sectoral analysis of energy markets and market design, as well as on evaluating energy policy.

In the period covered by the report, the research area contributed extensive policy advice to the scientific monitoring process of the “energy transition” installed by the German government. The year began with a comprehensive commentary on the government’s second monitoring report and ended with the publication of a commentary on the first progress report. In addition, a still ongoing study was able to quantify the investment incentive of feed-in tariffs for wind energy at the municipal level. Tariffs that offer higher rates of remuneration to less productive areas lead to alternate investment patterns, yet on the whole reduce deadweight losses. As part of the Helmholtz-Allianz “Energy Trans” project and an investigation into distributional aspects of the energy transition in Germany that was commissioned by the Ministry for Education and Research, research on both household and business energy demand made strong progress. A new project investigating the manufacturing industry’s investment behaviour in energy efficiency measures also received the green light.

The ZEW Energy Market Barometer that is maintained by the research area is unique as an expert panel in Germany. It now serves as a model for the French expert panel run by the Grenoble Ecole du Management, which cooperates closely with ZEW, allowing direct comparison of results within Europe for the first time. A special survey on the consequences of the Ukraine crisis on gas supply security in Europe carried out in the summer of 2014 uncovered interesting and surprising differences in the evaluation of the situation by experts from the two countries.

Economists in the research area were also strongly engaged in the organisation of scientific conferences and events for specific target groups. The Mannheim Energy Conference, which was staged with the cooperation of the “Competition and Regulation” Research Group at ZEW, built on the successes of previous years. The research area also organised the Eberbach Cloister Talk, which addressed fundamental economic issues in the renewable energy revolution, as well as a parliamentary evening in conjunction with the Rhine-Neckar Metropolitan Region.

## RESEARCH AREA: TRANSPORT AND MOBILITY

- Ecological and Socio-Economic Effects of Transport Systems
- Concepts for Sustainable Development in the Transport Sector
- Freight Transport Volumes and Transport Modes

Economists in this research area evaluate options for environmental and transport policy that promise to meet growing mobility needs in a cost-effective and environmentally friendly way. Additional subjects of study include consumer behaviour and consumer responses to regulatory interventions and their socio-economic impact on other economic sectors.

Well-functioning and efficient transport infrastructure is a prerequisite for growth, prosperity and competitiveness in Europe. In the period covered by the report, the research area analysed and evaluated the different transport systems of the countries bordering the Danube as part of the “Socio-Economic Assessment of the Danube Region” project. The project, commissioned by the Baden-Württemberg Ministry of Finance and Economics, brings together industrial, financial, and environmental economists from ZEW and other partners in Germany and Austria to develop strategies to strengthen the economies of the Danube countries within the EU.



Professor Robert N. Stavins, Harvard University (second from left), as a guest at the ZEW workshop on the energy efficiency gap.

Transport-related greenhouse gas emissions and their regulation through market-based instruments was a key subject in 2014. While in recent years the research area's focus had laid predominantly on international shipping, in the year under report road transport has again become a key research topic. The research area investigated how CO<sub>2</sub> emissions of both cars and trucks could be productively evaluated under the EU emissions trading scheme (EU ETS). In the

future, CO<sub>2</sub> emissions could be avoided more cheaply than through increasingly strict sector-specific emissions standards. Part of this research was carried out during a research visit to the Massachusetts Institute of Technology (MIT) in Cambridge, US.

The ZEW/Prognos Transport Market Barometer played an important role in the research area's activities. The survey, which is conducted quarterly and brings together top experts in the transport sector, has been predicting volume and price increases in freight transport since 1998, making it the longest-running industrial indicator in the German-speaking world. It is an important source of information for experts and the general public alike.

In conjunction with Harvard University and Duke University in the United States, the research area organised a workshop entitled "The Energy Efficiency Gap: Reasons and Implications", which brought leading economists from the US and Europe together in Mannheim in March. The "energy efficiency gap" describes the phenomenon that the actual savings from increases in energy efficiency often fall below their theoretical potential. This environmentally relevant subject was also the topic of a side event at the UN World Climate Conference in Lima, Peru, in December 2014 organised by the research area and Harvard University.

## RESEARCH AREA: INTERNATIONAL ENVIRONMENTAL AND RESOURCE POLICIES

- Interaction Between National and International Climate and Energy Policy Instruments
- Emissions Market Analysis
- Climate Change Awareness

Economists in this research area study the economic challenges of regulating global environmental problems. They investigate the efficiency of climate policy as well as the prerequisites for and determinants of international climate protection treaties.

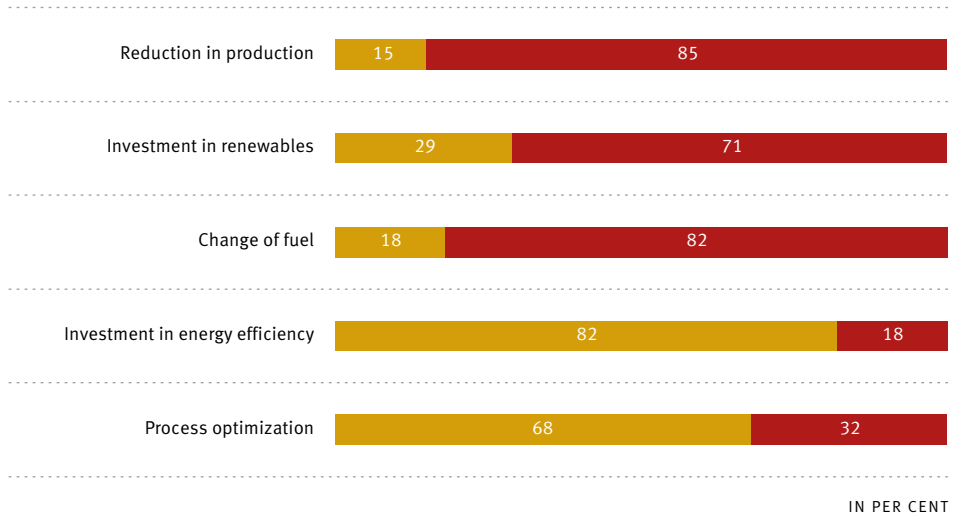
For years the KfW/ZEW CO<sub>2</sub> Barometer has been an important indicator of the condition of market participants in the European emissions trading scheme. In 2013 the barometer was expanded to include a survey of businesses in the manufacturing industry. Given the continuing low price of CO<sub>2</sub>, the measures taken to reduce CO<sub>2</sub> emissions to date have been primarily a secondary effect of process optimization and energy efficiency measures, motivated above all by high energy prices (see Figure 2).

As part of the ENTRACTE project, financed by the European Commission and coordinated by ZEW, the research area organised a high-profile event at the World Congress of Environmental and Resource Economists in Istanbul. The event, which featured a range of prominent attendees, focused on the demands of environmental policy in different regions of the world. The debate showed that regional characteristics must be addressed in creating regulations to ensure lasting effectiveness.

The degree of dependence on preceding stages in the value-added chain varies widely amongst regions and economic sectors. With the aid of a simulation model, the "Climate Policy and National Growth Patterns" project investigated how CO<sub>2</sub> regulation encourages the relocation of stages of production abroad. The project, which was supported by the Federal Ministry of Education

2] TYPES OF CO<sub>2</sub> REDUCTIONTHE CO<sub>2</sub> REDUCTION IN THE COMPANY WAS THE RESULT OF:

■ Yes ■ No



Where CO<sub>2</sub> reduction measures were taken, 82% of the companies surveyed reported that they were a secondary benefit of investment in energy efficiency measures which would have been carried out regardless.

Source: KfW/ZEW CO<sub>2</sub> Barometer 2014, Carbon Edition

and Research (BMBF), showed that energy-intensive sectors had the greatest incentives to relocate production. Thus, a 20% increase in emissions reduction in the EU leads to increased foreign value added of 8.5% in the European metal industry and 3.2% in the manufacturing sector.

In an extensive field experiment in the German coach industry, economists in this research area analysed the demand for voluntary carbon offsetting services based on concrete decision-making behaviour. The results showed that discounts and increases in compensation volumes raise demand in the short term when suppliers bear costs. However, this effect is only sustainable in the long term where suppliers and customers share costs equally.

A Germany-wide household survey into experiences with and expectations regarding climate change was carried out in order to analyse individual adaptation to the effects of climate change. The study also analysed the relationship between life satisfaction and experience with weather-related damage. Early results indicate that impairment to health is the key factor determining climate change's impacts on life satisfaction.

## RESEARCH AREA: MACROECONOMIC ANALYSIS OF ENVIRONMENTALLY RELEVANT POLICIES

- Design and Development of National and International Environmental and Economic Policy Instruments
- Macroeconomic and Sector-Specific Effects of National and International Environmental Policies – Analysis of Efficiency and Distribution, Effects on Competition
- Environmental Effects of Economic Policy Measures

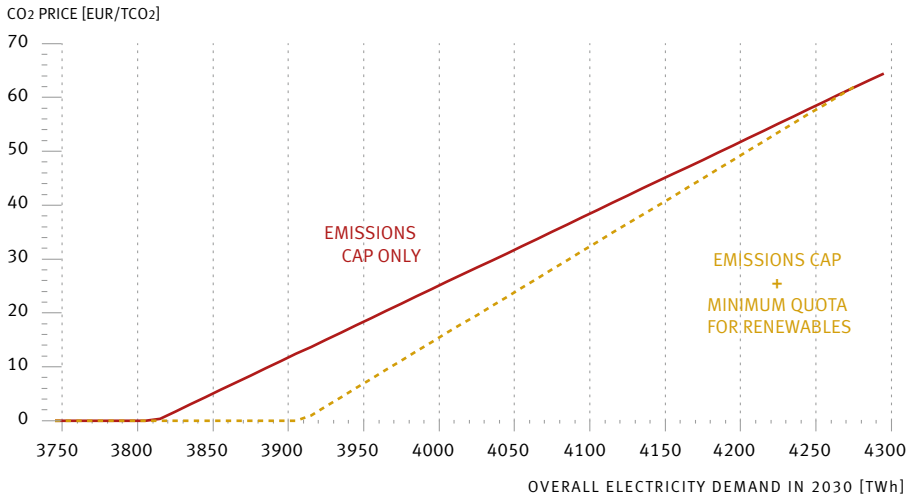
This research area works closely with the Research Department's other research areas, and is thus distinguished by its cross-cutting role. Economists in this area analyse the macroeconomic and sector-specific impacts of environmental policy, with particular emphasis on climate, energy, and resource policies, and on advances in technology and transportation. The research area develops and applies a system of computable general equilibrium (CGE) models and partial models, which facilitate the quantitative estimation of the impacts of economic policy interventions on consumers and producers.

An important focus during the period covered by the report was advising the European Commission in drafting European climate policy. In 2014 the European Commission outlined its targets in climate and energy policy up to 2030. A project carried out for the Directorate-General Enterprise and Industry analysed potential options in drafting these targets and their influence on macroeconomic and sector-specific indicators using the PACE computable general equilibrium model.

The specification of parameters is crucially important when developing economic models. Over the course of the year a method for improving parameter specification in computable general equilibrium models was developed thanks to a grant from the Fritz Thyssen Foundation and a period of research abroad at MIT. The approach is based on the "Optimal Fingerprint Detection Method" used in climatology, and combines model validation with a structured sensitivity analysis. Key advantages of this method include reduction of uncertainties in computing model parameters and the wide range of potential applications in the field of computable equilibrium models.

Employing overlapping climate policy instruments can produce undesired side effects. A project coordinated by ZEW under the aegis of the EU's 7<sup>th</sup> Framework Programme for Research investigated how fluctuations in electricity demand can be seen in the efficiency and effectiveness of the overlapping goals of reducing emissions and renewable energy quotas using a partial model. The impacts of this carry-over effect are predominantly seen in periods of low economic growth. Lower demand for electricity leads to lower emissions. As part of emissions reduction efforts are already covered by minimum quotas for renewable energy, the amount to be covered by the issue price is lower, resulting in lower CO<sub>2</sub> certificate prices, which benefits carbon-intensive energy sources. Figure 3 shows the effects of this scenario on the price of carbon certificates.

## 3] CARBON CERTIFICATE PRICES IN RELATION TO ELECTRICITY DEMAND



In the case of regulations which set an emissions cap only, the price of CO<sub>2</sub> increases consistent with demand. Beneath a certain level of demand the price falls to zero. In this case, demand and emissions are so low that no emissions reduction measures are required to meet targets. If a minimum quota for renewables is set at the same time as an emissions cap, certificate price behaviour changes in relation to simulated energy demand. Compared with the scenario of an emissions cap alone, the price remains at zero for longer despite increasing demand.

Source: ZEW

## OUTLOOK

The Research Department will soon undergo a comprehensive reorganisation, having grown rapidly in recent years. The move by the former head of unit, Professor Andreas Löschel, to the University of Münster is an opportunity to recognise these changes in the Research Department's structural organisation. The reorganisation will split the Research Department into two new fields, and will seek to leverage synergies in the area of content and methodology. The alignment of the new research programmes is then expected to take place in 2015 and 2016; the current research areas will remain until then.

To better address globalised environmental policies, the Research Department's partnerships and advisory activity are increasingly international, and include collaboration with researchers in the US, China, Australia, and South Africa. Specialist workshops are planned for 2015, such as "Behavioural Economics and CGE Modelling"; these events greatly assist networking amongst international experts and researchers in key fields. Another networking-related upcoming project coordinated by the Research Department is the EU network green.eu, which aims to give scientific support to the transition to a green economy. Taking a transdisciplinary approach, the UN Environmental Program (UNEP) and global economic organisation Future Earth are also involved as project partners.

Internally, the Research Department will attempt to work more closely with the “International Distribution and Redistribution” Research Group, especially on the distributional impacts of environmental, climate, and energy policy measures. From a methodical standpoint, a collaborative project on microsimulation is planned, including closer cooperation with the University of Mannheim and other institutions. The Leibniz ScienceCampus “MaTax” will facilitate cross-departmental and cross-institutional exchange.



# » AVOIDING TAX AVOIDANCE.



Prof. Dr. Friedrich Heinemann  
Head of the Research Department  
Corporate Taxation and Public Finance





tax.  
competition

## RESEARCH DEPARTMENT CORPORATE TAXATION AND PUBLIC FINANCE



Prof. Dr. Friedrich Heinemann  
Head of Department



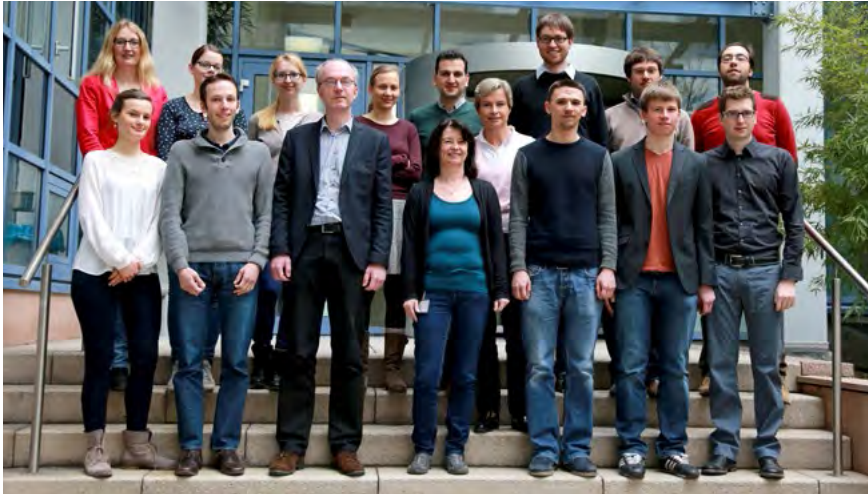
Prof. Dr. Katharina Finke  
Deputy Head

### RESEARCH AREAS

- **Corporate Taxation and Tax Location Analysis**  
Contact: Maria Theresia Evers
- **Empirical Effects of Corporate Taxation**  
Contact: Prof. Dr. Katharina Finke
- **Decision Making in Tax and Financial Policy**  
Contact: Prof. Dr. Friedrich Heinemann
- **Fiscal Policy, Fiscal Federalism and Economic Performance**  
Contact: Dr. Benjamin Bittschi

### MISSION STATEMENT

The “Corporate Taxation and Public Finance” Research Department addresses questions related to corporate taxation and empirical public economics within the broader context of economic integration. The key research question addresses the impact of high international mobility on sustainable tax and financial policies as well as the scope, structure and tasks of the public sector. The Research Department is a leader in Europe for the international comparison of tax burdens thanks to its tax analysis models, including the European Tax Analyzer and the ZEW Tax-CoMM. Moreover, the Research Department possesses extensive expertise in the use of complex datasets in the field of taxation and public finance. Special attention is devoted to European integration processes through the analysis of EU tax harmonisation, the eurozone’s fiscal condition, and the EU budget as well as federal division of responsibilities and fiscal governance.



A major milestone for the Research Department in 2014 was the establishment of the “Mannheim Taxation” (MaTax) Leibniz ScienceCampus in Mannheim. The research area’s economists, working in cooperation with the University of Mannheim, were key initiators of MaTax, which opened its doors in April 2014. The campus is characterised by interdisciplinary cooperation between experts in the fields of economics, law, and political science, and investigates European and global taxation against the backdrop of starkly increasing mobility and other challenges.

#### RESEARCH AREA: CORPORATE TAXATION AND TAX LOCATION ANALYSIS

- International Comparison of Effective Tax Burdens
- Harmonisation of Company Taxation in Europe
- Tax Databases

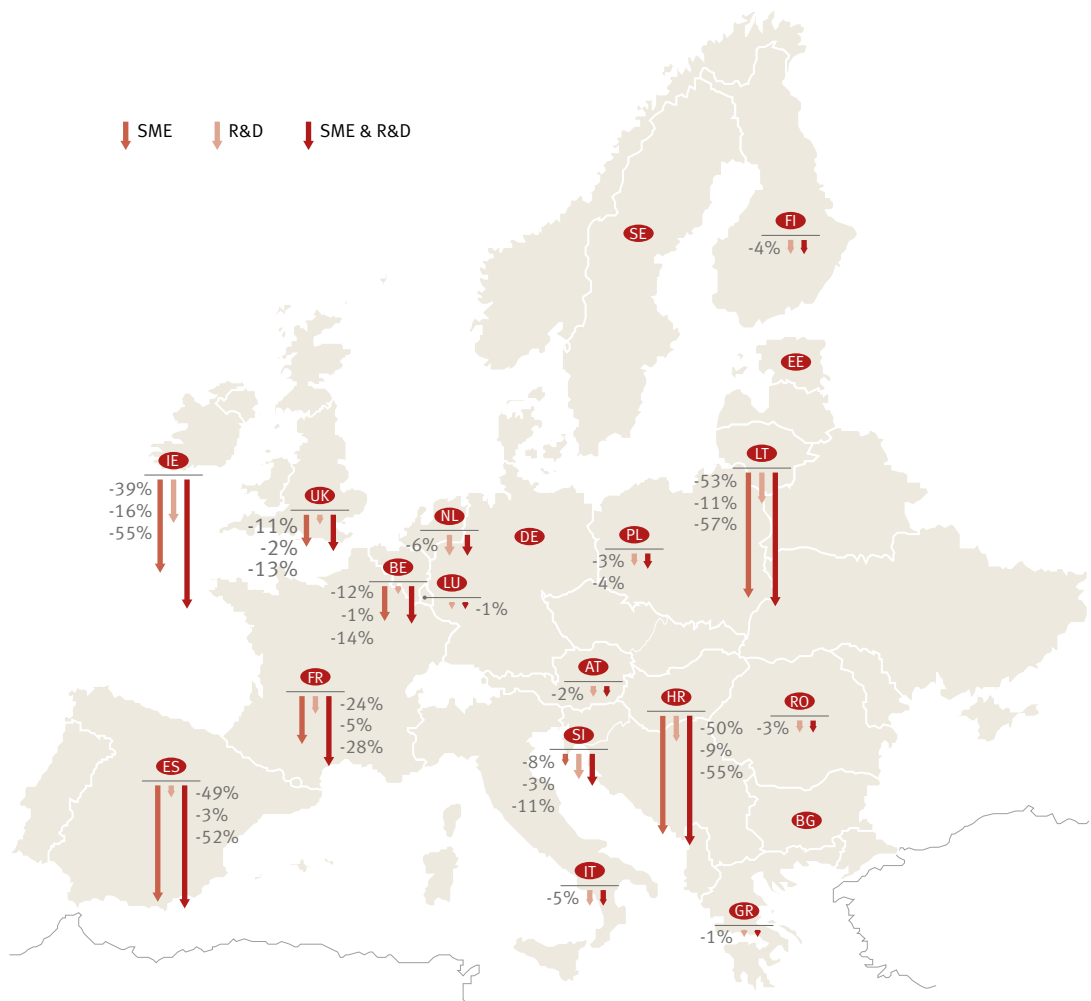
Researchers in this area are concerned first and foremost with analysing corporate taxation in Europe, including national and European reform and harmonisation proposals. In terms of methods, the maintenance and further development of a toolbox of models for comparing international tax burdens is a key activity.

The European Tax Analyzer, the Devereux & Griffith model, and the firm-level microsimulation model ZEW TaxCoMM are the primary tools used by economists in this research area. During the year under review, ZEW researchers continued their on-going analysis of changes in corporate tax burdens in EU Member States, and also provided expert knowledge and advice for current discussions about tax policy reform.



Through research work and publications, the research area has made particular contributions to current debates on aggressive tax planning and harmful tax competition. A focus in this area has lain on the OECD Base Erosion and Profit Shifting (BEPS) initiative. In addition, the research area

1) CHANGES TO MICROENTERPRISES' EFFECTIVE TAX BURDENS WITH THE INTRODUCTION OF SIZE-DEPENDENT TAX INCENTIVES



The chart shows percentage changes in effective tax burdens for microenterprises with the use of size-dependent and R&D tax incentives. "SME" refers to the size-based tax incentive, "R&D" to the effects of tax incentives for research and development, and "SME & R&D" to the joint effect of both types of incentives.

Source: ZEW calculations

continued its work on the tax effects of Intellectual Property (IP) Box regimes, which are enjoying growing popularity in Europe. IP Box regimes offer reduced tax rates on intellectual property and are consequently regarded as instruments of unfair tax competition by some governments.

Tax incentives for small and medium-sized enterprises (SMEs) were another focus of research in the period covered by the report. On behalf of the EU Commission, researchers investigated how tax incentives for SMEs influenced the effective tax burdens of SMEs in 20 selected EU Member States. The study, which was based on the European Tax Analyzer, was able to definitively conclude that microenterprises profit most from SME tax incentives. Microenterprises are defined as companies with fewer than ten employees, turnover of less than two million euros or total assets of less than two million euros.

Figure 1 shows changes to microenterprises' effective tax burdens with the introduction of size-related tax incentives (including tax incentives for R&D). Comparison across the selected EU Member States shows that tax incentives for microenterprises in Croatia, Ireland, Lithuania, and Spain are particularly generous. In these countries, microenterprises' profits are subject to reduced tax rates up to a certain threshold or, as is the case in Ireland, are completely exempt from corporate tax altogether.

## RESEARCH AREA: EMPIRICAL EFFECTS OF COMPANY TAXATION

- Taxation and Decision-Making Behaviour of Multinational Companies
- Taxation and R&D Activity
- Microsimulation

In the research area “Empirical Effects of Corporate Taxation”, ZEW economists investigate the effects of taxation on the behaviour of taxpayers in general and of businesses specifically. Work in this area is closely related to the research area “Corporate Taxation and Tax Location Analysis”. For example, a recent research project used effective tax rates calculated by the first research area to investigate the extent to which falling effective tax rates in Europe are primarily caused by tax competition within Europe or by pressure to compete with other economic regions. The study shows that corporate tax burdens decreased primarily due to competition between European countries.

The question of how taxation influences the profits reported by companies remains highly relevant. The key issue in this context is the extent of profit shifting and the empirical importance of tax planning strategies. As part of a project undertaken in this research area, economists analysed the relation between corporate taxation and the flow of international licensing fees. The study's results indicate that licensing flows are tax-sensitive, and that taxation in the recipient country plays a particularly important role. A number of papers on tax policy related to this and further empirical studies were written over the course of the year under report, contributing to the BEPS debate and giving advice on options for reform. A second investigation into profit re-

porting looked into accounting issues, such as the deviation between commercial and taxable profit determination.

Work on the relationship between taxation and innovation in companies was continued under the auspices of the SEEK research programme in the period covered by this report. The studies show that regulations which allow for taxation of asset shifting (“exit taxation”) have a negative impact on patent registration. A further research project in the SEEK programme concerned the integration of tax departments in the decision-making processes of multinational organisations. It was shown that tax considerations do not exert a great influence in the early stages of investment in research, but rather become significant in later stages together with research output. These studies are part of a dissertation that was completed in the period covered by this report.

#### RESEARCH AREA: DECISION MAKING IN TAX AND FINANCIAL POLICY

- Positive Analysis of Tax Policy
- Determinants of Structural Ability to Undertake Reforms
- Determinants of Public Debt

The research area “Decision Making in Tax and Financial Policy” undertakes economic policy analyses of fiscal decision-making. Researchers in this area conduct studies to examine the determinants of real fiscal policy, which often diverges considerably from the empirical findings and normative implications of research in public economics. In addition to examining taxation and spending, the research area also conducts studies on debt policy.

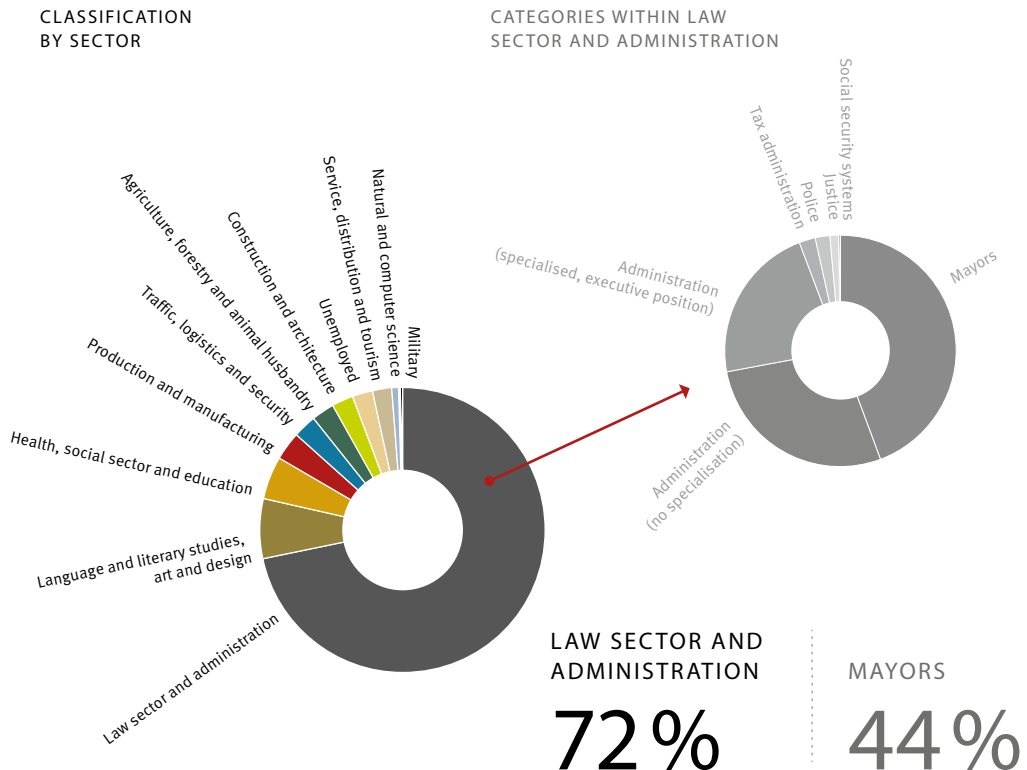
In the year covered by the report, the research area concluded its work on a project financed by the EU’s 7<sup>th</sup> Framework Programme for Research (“WWWforEurope”), publishing policy papers on the consequences of policy reform together with international project partners. These papers presented suggestions for improving the chances of success for globalisation and free trade strategies. The recommendations are centred around the creation of credible compensation instruments that would safeguard those who lose out as a consequence of reforms, including, for example, active labour market policy.

At the national level, the analysis of tax and federal preference formation amongst the members of German state parliaments was continued in 2014. Data for the study were taken from surveys undertaken in all 16 German state parliaments under the Mannheim DFG (German Research Foundation) Collaborative Research Centre 884, “The Political Economy of Reforms”. In the year under report the second phase of the survey took place, which not only provided information on the credibility of the constitutional debt brake, but also covered topics such as restructuring of the federal states. Empirical analysis of debt limit expectations revealed striking asymmetry: the self-assessment of the likelihood of members’ own federal states remaining within the debt limit was markedly more optimistic than the assessments of members from other state parliaments.

At the municipal level, work continued on how mechanisms of direct democracy influence fiscal outcomes. Economists studied how referenda impact municipal tax policy (specifically the

relative implications for local municipal taxes and property taxes) and efficiency in providing municipal services. It was shown that mechanisms of direct democracy tend to go hand in hand with higher efficiency in providing services and a stronger emphasis on local municipal taxes (relative to property taxes). Also at the municipal level, a project looking into the impacts of political budget cycles was carried out on behalf of Thyssen Foundation. These cycles imply that election dates influence budget policy. Thanks a new set of data, ZEW economists were also able to document the professional qualifications held by mayoral candidates in Baden-Württemberg. Figure 2 shows a breakdown of the candidates' professions by sector; this data will allow researchers to investigate regional self-selection of mayoral candidates.

## 2] MAYORAL CANDIDATES' PROFESSIONAL QUALIFICATIONS



Source: ZEW survey; classification according to the German Federal Employment Agency



## RESEARCH AREA: FISCAL POLICY, FISCAL FEDERALISM AND ECONOMIC PERFORMANCE

- Fiscal Policy in International Competition
- EU Financial Constitution
- The Non-Profit Sector

The research area “Fiscal Competition and Federalism” is dedicated to analysing federal systems, fiscal governance, and the interrelationships between fiscal policy and economic performance. Among other things, researchers seek to determine which federal structures and which supporting measures and institutions encourage positive performance. “Performance” here encompasses both fiscal dimensions (sustainable debt burdens, efficient administration) and dimensions of general economic performance (growth, productivity, business performance).

In the period covered by this report, economists in the research area were engaged as advisors in the debate on reforms to determine the future of financial equalisation in Germany. A concept for reorganising Germany’s financial equalisation system was published and presented at the “Convention for Germany”, an event headed by former German President Roman Herzog that aimed to showcase reform strategies. The concept envisages greater regional tax autonomy in combination with provisions for the regulation of historical debts and the “verticalisation” of financial equalisation instruments.

Joining the Europe-wide debate on strengthening the institutional organisation for the eurozone, the research area has introduced a model for a future debt rescheduling procedure for eurozone nations. The “VIPS” model (“Viable Insolvency Procedure for Sovereigns”), which was discussed as part of a ZEW Lunch Debate event in Brussels, dedicates particular attention to difficult transitional problems. These problems arise because debt rescheduling procedures are vital for maintaining a consistent framework across the eurozone, yet announcement of their introduction would be associated with increased risk of a further flare-up in the eurozone crisis.

The 2014 ZEW Public Finance Conference focused on the role of tax administration specifically and public administration in general. The research area also contributed work on the same topic to the EU Commission’s European Competitiveness Report, methodically investigating the links between indicators and administrative efficiency, with a special focus on microdata concerning business performance.

The research area is also becoming increasingly involved in studying the division of tasks between different federal levels and the divisions between the public and non-profit sectors. The non-profit centre is often used to shore up the provision of government services, and public assets which were traditionally financed through taxation are increasingly being provided for by the non-profit sector and thus effectively financed by donations. The study’s focus in this area also lay on the determinants of private citizens’ donation behaviour and its interaction with non-profit organisations’ fundraising activities.

## OUTLOOK

The European Tax Analyzer will be developed further in 2015. In addition to simplifying the manageability of sensitivity analyses and data output, the development of a percentage measure of effective tax burdens is planned. This will expand on the previous absolute burden measure. A comprehensive international study of trends in effective tax burdens over the past 20 years will then be carried out. Particular attention will be devoted to issues such as profit tax levels in relation to the tax base, tax incentives for SMEs, and research and development.

With a view to the empirical effects of corporate taxation, a planned project will investigate the extent to which the relaxation of rules governing the interrelationship between the commercial balance sheet and tax balance sheet leads to the use of alternative accounting options aimed at minimising tax. A parallel study is also planned which will use meta-analysis to quantitatively assess empirical evidence for the determinants of book-tax differences and their role in the context of income smoothing and reporting strategies for minimising taxes.

From a financial point of view, the effectiveness of fiscal rules in containing new indebtedness is a subject of key significance. Work has already begun on a comprehensive metastudy on this topic. The aim is to summarise the available empirical results on the effects of fiscal rules to allow stronger general conclusions to be drawn than is possible from individual primary studies.

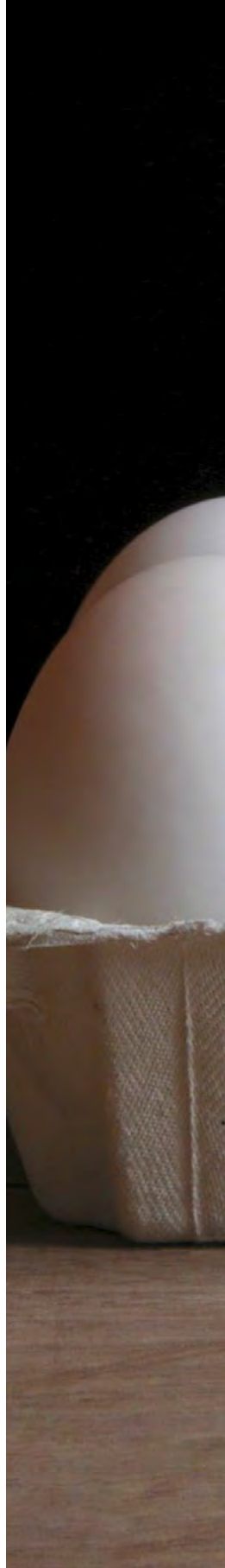
Carrying out the upcoming projects under the auspices of the MaTax ScienceCampus is a priority for the Research Department. These projects include studies on the structure of European tax systems, the European Court of Justice's jurisdiction in tax matters, and the tax-based determinants of corporate donations.

# » UNDERSTANDING THE CAUSES OF INEQUALITY.



Prof. Dr. Andreas Peichl

Head of the Research Group  
International Distribution and  
Redistribution





inequality

## RESEARCH GROUP INTERNATIONAL DISTRIBUTION AND REDISTRIBUTION



Prof. Dr. Andreas Peichl  
Head of Group



Dr. Mathias Dolls  
Deputy Head



Dr. Holger Stichnoth  
Deputy Head

### RESEARCH AREAS

- **Income and Wealth Distribution**  
Contact: Dr. Philipp Dörrenberg
- **Tax and Transfer Policy**  
Contact: Dr. Holger Stichnoth
- **Prospects for the European Monetary Union**  
Contact: Dr. Mathias Dolls

### MISSION STATEMENT

The Research Group “International Distribution and Redistribution” investigates trends in income and wealth distribution as well as other indicators of inclusion and equal opportunity. A major research focus is on redistribution through tax and transfer systems and associated economic effects. Adopting national, European, and international perspectives, the Research Group conducts empirical analyses of developments in these areas. The Research Group’s empirical studies aim to support the implementation of a sustainable tax and transfer system and stable European institutions.

Using a variety of econometric techniques, the Research Group conducts microdata analyses to explore trends in wealth and income distribution as well as to identify causal effects. The Research Group studies both existing tax and transfer systems and the potential economic effects of reform proposals. Work in this area takes into account the distributional and efficiency aspects of tax and transfer systems, as well as their incentive and insurance effects over the life cycle.



In addition to traditional studies of national systems, researchers are increasingly engaged in studies on European topics, such as the debate over the introduction of a fiscal union as a response to the sovereign debt crisis. The macroeconomic stabilisation effects of fiscal institutions in the European Monetary Union and similar topics are of major relevance to the Research Group's studies in this area.

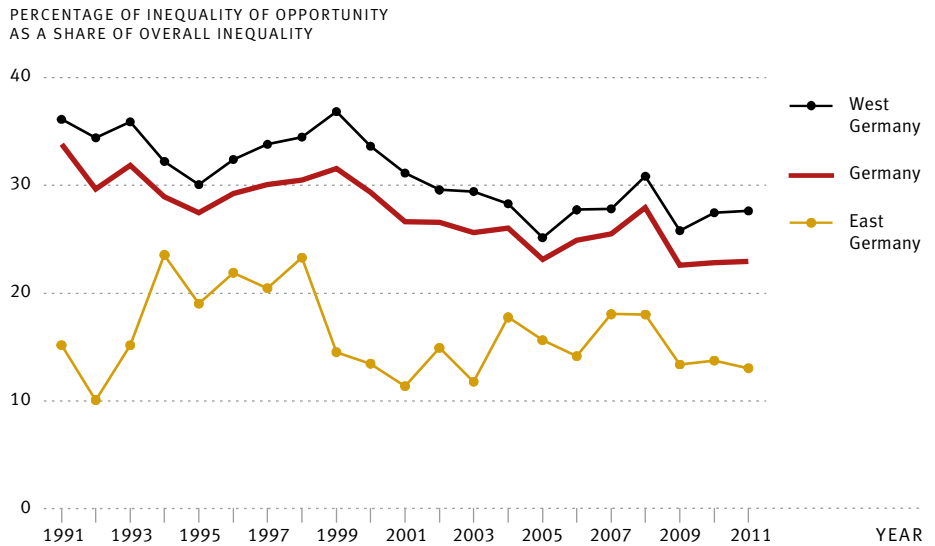
#### RESEARCH AREA: INCOME AND WEALTH DISTRIBUTION

- International Income and Wealth Distribution
- Equal Opportunity
- Drivers of Increased Inequality

The research area “Income and Wealth Distribution” investigates trends in income and wealth distribution in international contexts by analysing various indicators. Particular attention is devoted to the empirical analysis of equal opportunity and to longitudinal and life-cycle perspectives. Research in this area also addresses the potential drivers of growing socio-economic inequality, for example globalisation, skill-biased technological change and demography, as well as the particular role of tax and transfer systems. Individual preferences regarding redistribution and attitudes towards “fair” tax systems are additional areas of research. Based on these studies, researchers provide policy advice for reforms of the tax and transfer system to improve equality of opportunity.

The research area's empirical work is predominantly based on high-quality administrative data and internationally comparable microdata taken from various sources, including statistics on income and living conditions contained in the "EU Statistics on Income and Living Conditions" (EU-SILC).

## 1] INEQUALITY OF OPPORTUNITY AS A SHARE OF OVERALL INEQUALITY



The chart shows inequality of opportunity as a share of overall income inequality for Germany overall (red line), West Germany (black), and East Germany (gold).  
Source: ZEW

In the period covered by the report, the research area carried out a study into developments in equal opportunities in East and West Germany since the fall of the Berlin Wall (see Figure 1). The study concluded that equality of opportunity has risen overall since German unification. Research was based on annual survey data collected from 1992 to 2011.

Equal opportunity can be measured according to the wage difference attributable to individual merit and achievement rather than social background; this measure is of central importance in the debate over income inequality.

One main finding from the study is that the probability of attaining higher incomes based on individual efforts are markedly higher in the former East than the former West Germany, meaning that a "rags-to-riches" success story would be far less likely to happen in the West than in the East. At the same time, however, average incomes in the new federal states were about 19.5% lower than in the old federal states. Furthermore, overall income inequality – that is, the total inequality caused by both individual efforts and external factors – is about 17% lower.



Several causes of this East/West discrepancy can be inferred from the studied microdata. First, gender-related wage disparities are lower in the East than in the West. This has a positive effect on measures of equal opportunity. Furthermore, in the West, parental education, income and socio-economic status have a far greater influence on the educational attainment and income of a child than in the East. Various factors are responsible for this finding, including the wider availability of childcare in the East.

Following German reunification, inequality of opportunity fell in West Germany, while in the East it rose for a short time, before falling back to immediate post-reunification levels by the end of the 1990s. In West Germany, in contrast, inequality of opportunity initially fell. Between 1995 and 2000, it rose temporarily to pre-reunification levels, before falling to a historic low in 2005. Over the past decade, inequality of opportunity has gradually increased in West Germany.

#### RESEARCH AREA: TAX AND TRANSFER POLICY

- Tax Incidence and Tax Effects
- Analysis of Reforms and Reform Proposals
- Optimal Tax and Transfer Policy Design
- Incentive Effects of Tax and Transfer Systems Over the Life Cycle

The research area “Tax and Transfer Policy” employs various methods to study the efficiency, distribution, and welfare effects of tax and transfer systems from national, European, and international perspectives. Researchers in this area conduct ex-post analyses using administrative microdata to assess the impact of implemented reforms. Ex-ante analyses address the effects of reform proposals using behavioural microsimulation models and experimental methods (for example, laboratory and field experiments). Based on the results of these empirical studies, researchers develop policy recommendations for designing efficient and equitable tax and transfer systems.

In recent years researchers have developed dynamic models for estimating the behavioural effects of tax and benefits over the entire life cycle in cooperation with, amongst others, Professor Richard Blundell of University College London and the Institute for Fiscal Studies. The models investigate the interaction between fertility and career decisions over the life cycle. Special focus is placed on identifying the determinants of the salary losses associated with career breaks. Further development of the models has been planned for 2015, supported by the German Research Foundation and France’s Agence nationale de la recherche. Amongst other topics, research will be carried out into the influence of family policy on birth patterns in the context of different national institutions and cultures.

Another major project undertaken by the research area is the development of a model for the ex-ante evaluation of the effects of a universal minimum wage in Germany. The model will be a unique calling card for ZEW, as there is an increasing demand for research and policy advice in this area. The research area is working closely in this project with the Research Department of “Labour Markets, Human Resources and Social Policy”.

## RESEARCH AREA: PROSPECTS FOR THE EUROPEAN MONETARY UNION

- Fiscal Integration in Europe
- Analysis of National Fiscal Policies in Europe

This research area analyses national fiscal policies and studies fiscal integration in Europe, including proposals for creating a European fiscal union. Such proposals range from stricter fiscal policy rules and their enforcement to fiscal equalization mechanisms as well as common tax and transfer systems, such as a European unemployment insurance system.

The efficiency, distributional and stabilisation effects of tax and transfer systems are a key concern in the analysis of national fiscal policies in Europe. Empirical analyses are carried out using the European tax and transfer microsimulation model EUROMOD, which uses harmonised micro-data to enable the assessment of national policies. Up-to-the-moment changes to tax and transfer legislation within the EU 28 can be evaluated and hypothetical policy reforms can be simulated.

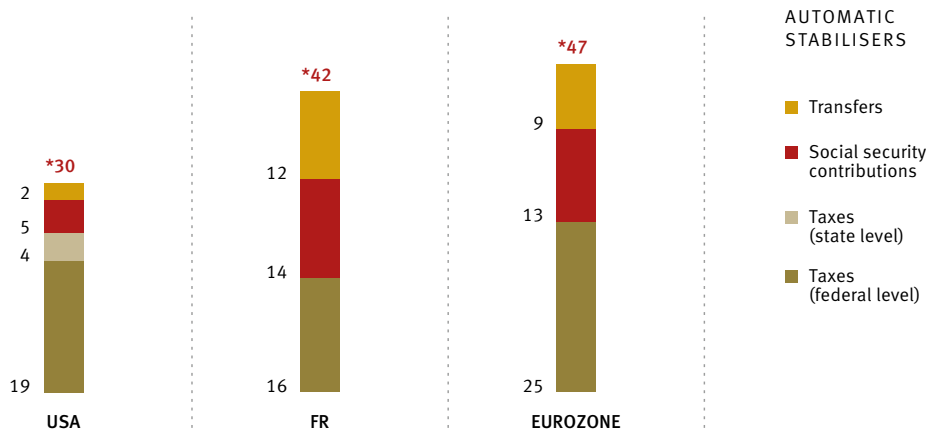
The research area is notable for its international research ties as well as its political relevance (which has a strong potential to attract third-party funding). For example, the research area has carried out a study on fiscal policy in the eurozone in the context of the current institutional framework. The study, which was commissioned by the German Federal Ministry of Finance, also compared automatic stabilisation mechanisms in Europe and the US. Figure 2 shows the extent to which a macroeconomic shock such as the most recent financial and economic crisis is absorbed by tax and transfer systems in the US, France, and the eurozone. Automatic mechanisms in the eurozone stabilise the income of households by approximately 47 per cent. The corresponding figures for France and the US are 43 and 30 per cent, respectively. The study concluded that the Stability and Growth Pact provides policy-makers with considerable room for manoeuvre, allowing them to engage in countercyclical policy.

This research area also monitors the prospects for fiscal union in Europe. Recently, increasing attention has been devoted to the economic and political debate surrounding various reform proposals; in coming months and years, demand for research and policy advice in this area can be expected to rise. Thanks to the strong reputation ZEW researchers enjoy in this area, they were asked by the European Parliament and the European Commission to carry out studies into the economic effects of a universal European unemployment insurance scheme. These studies were presented at academic conferences, at two expert hearings held by the European Parliament’s Employment Committee, and at workshops organised by the European Commission. Current research projects using the EUROMOD European simulation model are investigating the stabilisa-

tion and distributive effects of various proposals for fiscal integration. The research area is working closely with international partners from the Institute for Social and Economic Research at the University of Essex, and the Center for Operations Research and Econometrics at the Université catholique de Louvain in Belgium.

## 2] INCOME STABILISATION THROUGH TAX AND TRANSFER SYSTEMS

### – AUTOMATIC STABILISERS IN THE US, FRANCE, AND THE EUROZONE



The stabilisation coefficient\* indicates how many per cent of an economic shock are absorbed by automatic stabilisers.

## OUTLOOK

A strategically important project for the Research Group is an assessment being conducted for the German Federal Government's Poverty and Wealth Report. The project involves partnerships with other research institutes and should contribute to establishing the still relatively new Research Group as an important source of expertise on distributional analysis at the national level.

A key aim is to raise the profile of the group at the European level. The Research Group has already undertaken a number of advisory projects at the EU level, but hopes to further expand its ties with reputable foreign research institutes. A research project on the evaluation of family policy commissioned by the German Research Foundation and France's Agence nationale de la recherche is particularly important in this regard. A further project with partners from Austria, Russia, and Turkey has also been proposed.

The “MaTax” Leibniz ScienceCampus, launched in 2014, aims primarily to pool and intensify tax research at the University of Mannheim and ZEW. At the same time, MaTax serves as a platform for strengthening cooperation on tax research within ZEW, particularly with the Research Department “Corporate Taxation and Public Finance”. Among other projects, the Research Group plans to use a recently completed assessment of Germany’s fiscal equalisation scheme between federal states (the Länderfinanzausgleich) as a springboard for a research paper. Economists in this research unit also plan to study bracket creep.

Researchers in this group are preparing collaboration in partnership with the Research Department of “Labour Markets, Human Resources and Social Policy”. ZEW’s existing competencies in the economic analysis of family policy are to be further strengthened. In addition, researchers aim to investigate the effects of a legal minimum wage using an impact analysis model. In this area, there is strong demand for research and policy advice. Cooperative activities are also planned with the Research Department of “Environmental and Resource Economics, Environmental Management”. The distributional effects of the German energy transition (Energiewende) are of particular interest in this regard.



# » OPEN MARKETS AND EFFECTIVE REGULATION.



Prof. Dr. Kai Hüschelrath  
Head of the Research Group  
Competition and Regulation





regu  
lation



## RESEARCH GROUP COMPETITION AND REGULATION



Prof. Dr. Kai Hüschelrath  
Head of Group

### RESEARCH AREAS

- **Competitive Strategy and Competition Policy**  
Contact: Dr. Wolfgang Briglauer, Ulrich Laitenberger
- **Competition and Regulation in Network Industries**  
Contact: Dr. Dominik Schober, Oliver Woll

### MISSION STATEMENT

The “Competition and Regulation” Research Group studies government competition policy as well as private sector competitive strategy in network industries and other economic sectors. Interdisciplinary collaboration with legal, business and engineering scholars is particularly important in the Research Group’s work. The goal of this collaboration is to contribute to the adoption of evidence-based competition and regulatory policies. The Research Group systematically takes into account incentives created by laws and law enforcement as well as the strategic behaviour of firms.



## RESEARCH AREA: COMPETITIVE STRATEGY AND COMPETITION POLICY

- Case-Based and Macroeconomic Analyses of Company Mergers
- Public and Private Enforcement of Competition Law
- Evaluation of Competition Policy Institutions and Rules
- Industry Studies

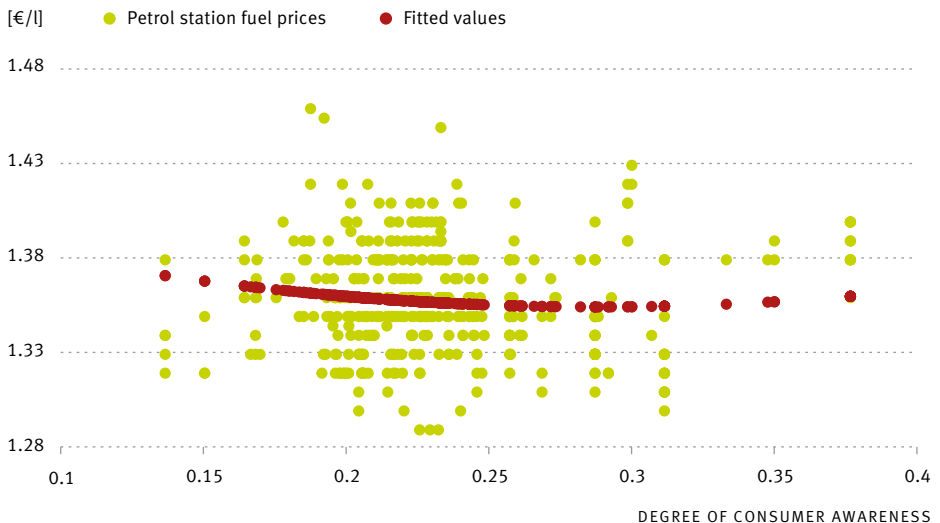
In this research area, ZEW economists study how firms gain, defend and expand competitive advantage in the market. The results are used to assess the economic effects of company behaviour and to draw conclusions regarding competition policy. Competitive strategy and competition policy influence each other in many ways and both are mutually affected by existing antitrust regulations. Against this backdrop, the Research Group studies the overlap between economics, business management and law, applying both theoretical and empirical methods. A key goal is to generate original insights by combining and expanding expertise in all three areas. A particular emphasis is placed on assessing the economic benefits of mergers, and on coordination between companies in making production and sales decisions.

In the topic area of “Industry Studies”, researchers studied the impact of greater market transparency through Internet-based information platforms on competition using the example of petrol stations. ZEW economists found that the availability of continuously updated information about petrol prices influenced price setting, but did not generally lead to lower prices for customers. They found that greater awareness among consumers living in the vicinity of a petrol station significantly affected whether the station’s fuel prices were comparatively high or low.

For the purposes of this study, consumer awareness was defined as the informed share of the local resident population between 18 and 35 years of age. Studies by the Federal Cartel Office have shown that this population group makes the greatest use of information platforms. At night, when demand drops, petrol station prices in areas with greater consumer awareness are the lowest and prices in areas with low information awareness are the highest. During daytime, when demand is higher, fuel prices decrease with increasing degrees of consumer awareness. However, once a mid-level of consumer price awareness has been reached, the researchers observed that prices began to rise once again even with further increases in awareness (see Figure 1). High daytime fuel prices in areas with high levels of price awareness can be explained by the fact that fuel operators also take advantage of increased price transparency. They can use the price information to better coordinate their own prices with the competition, thereby counteracting or even reversing an excessively sharp drop in fuel prices.

In the topic area of “Evaluation of Competition Policy Institutions and Rules” researchers examined a selected group of European cartel cases to determine the factors that influenced the likelihood of filing and winning an appeals procedure. In addition, a SEEK project conducted in collaboration with ZEW Research Associate Joseph E. Harrington (University of Pennsylvania, US)

#### 1] RESULTS OF THE MODEL FOR 20 JUNE 2014, 6:00 PM



The figure illustrates a situation with high demand (20 June 2014, 6:00 PM). The blue dots represent the observed filling station prices according to the degree of consumer awareness. The results of the econometric estimation model are represented as “fitted values” (in red). The “fitted values” depict the identified effect of a statistically significant resumption of price increases beyond a certain level of consumer awareness

investigated the reasons for the recent collapse of the German cement cartel and the ways that companies responded to the collapse in their price setting.

An interdisciplinary project with Eckart Bueren from the Max Planck Institute for Comparative and International Private Law (MPI) explored the design of nation-specific rules for interest charges on cartel damages and their impact on the expectable damage amounts. The 2<sup>nd</sup> MPI-ZEW Private Law & Economics Workshop in Mannheim further strengthened the interdisciplinary cooperation with MPI.

## RESEARCH AREA: COMPETITION AND REGULATION IN NETWORK INDUSTRIES

- Trends in Energy, Telecommunication and Transport Markets
- Impact of Sector-Specific Regulation on Market Structure and Market Conduct
- Development and Evaluation of Market Designs, Network Regulations and Policy Instruments in Energy and Telecommunication Markets

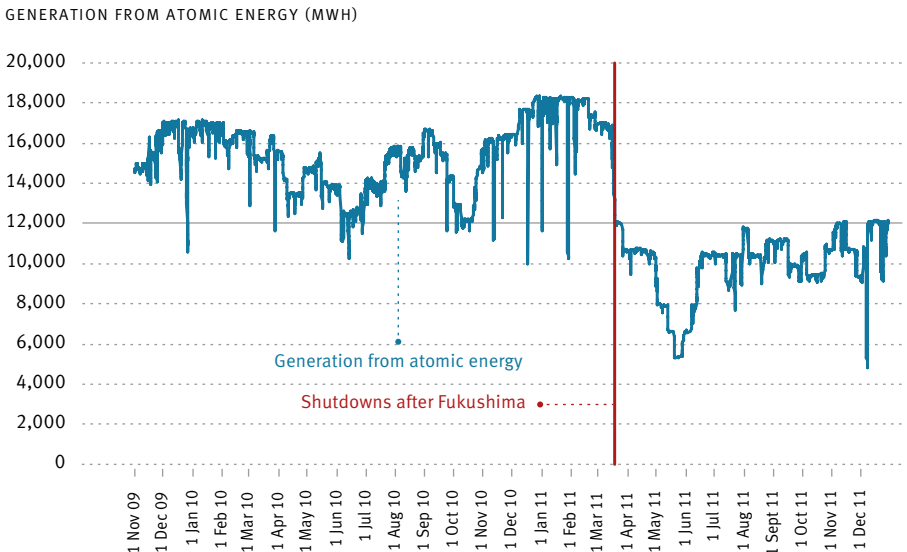
Economists in this area study the design of effective and efficient regulatory schemes. Important questions in this regard concern how sector-specific regulation impacts market structure and market conduct, as well as how to ensure adequate investment for the replacement or expansion of infrastructure capacity. With regard to energy markets, multiple factors compel the constant re-assessment of current conditions, including the increasing integration of European energy markets and German policies designed to promote the adoption of renewables. In telecommunication markets, substantial investments and risks associated with new fibre-optic communication networks raise important questions – for example, about the terms of network access imposed by market participants, and about the necessity of sector-specific ex-ante regulation in general. In addition to energy and telecommunication markets, scientists in this area also focus on airline and railway transport markets.

In a number of projects in the “Development and Evaluation of Market Designs” topic area, ZEW economists focused on the optimal design of regulatory framework conditions for the replacement and expansion of broadband infrastructure. In one study, comparing panel data from 2004 to 2013 for a group of established firms and a group of (unregulated) alternative providers in EU-27 member states, ZEW economists looked at the impact of relevant upstream service regulations on investment incentives according to different panel econometric specifications. They also examined the impact of competition between mobile telephony and existing land-based broadband networks. The researchers found that intensified service competition induced by regulation resulted in a significant reduction of investment in fibre-optic network expansion. When they looked at the competitive influence of mobile telephony competition, they showed a similarly negative trend, but this finding was not statistically significant in all of the model specifications. There were also indications that for established firms, existing nationwide network coverage by copper-based infrastructure had a negative impact on their investments in fibre-optic networks.

In the topic area of “Trends in Energy, Telecommunication and Transport Markets”, ZEW economists, in cooperation with ZEW Research Associate Michael Waterson (University of Warwick, UK), studied the impact of the shutdown of a number of German nuclear power plants following the Fukushima earthquake in March 2011 (see Figure 2). The study showed price increases of about seven per cent in Germany and Austria along with effects in neighbouring nations linked through border interconnections. These price increases are partially attributable to a shift to more expensive technologies, especially during hours with low residual load (that is, power load without feeds from renewable energy). The price increases are also based in part on the increased market power that resulted from the lower ratio between available power plant capacity and demand.

As part of the Helmholtz Alliance ENERGY-TRANS, in conjunction with outside researchers and drawing on the Alliance’s integrated transformation research, ZEW economists analysed major issues related to the energy transition in Germany, specifically to identify the fundamental design challenges of a sustainable energy transition policy. A focus of their work was a study on

## 2] NUCLEAR POWER GENERATION (IN MWH) FROM NOVEMBER 2009 TO DECEMBER 2011



The figure shows the nuclear power generation (in MWh) from November 2009 to December 2011. The red vertical line marks the moment when a number of nuclear power plants were shut down following the earthquake in Fukushima, Japan. One can see a significant drop in nuclear energy generation in March 2011.

capacity markets and their alternatives, which was conducted together with the Leipzig Environmental Research Centre, the German Aerospace Centre in Stuttgart, Freie Universität in Berlin, and the Zirius Centre for Interdisciplinary Risk and Innovation Studies at the University of Stuttgart. Also participating in this study was the ZEW Research Department of “Environmental and Resource Economics, Environmental Management”.

## OUTLOOK

The founding of the Leibniz ScienceCampus “Mannheim Centre for Competition and Innovation” (MaCCI) in 2012 expanded and consolidated the “Competition and Regulation” Research Group’s already close collaboration with the School of Law and Economics at the University of Mannheim. This collaboration will be further intensified in coming years.

The Research Group will continue its on-going work on a number of research topics. Within the topic area “Public and Private Enforcement of Competition Law”, researchers will examine how the most recent European Commission Directive on strengthening private sector enforcement of community competition law will impact public sector enforcement. In the topic area of “Case-Based and Macroeconomic Analyses of Company Mergers”, economists will analyse the factors influencing the length of European Commission merger control procedures and whether the 2004 reform of the underlying regulation has had a measurable impact on their efficiency.

In the topic area of “Industry Studies”, ZEW economists will examine how extensively a more competitive organisation of health care markets could counteract the constantly rising health-care expenditures resulting from demographic change. In addition, the 2013 liberalisation of the long-distance coach transport market in Germany will serve as the impetus for a closer examination of the competitive relationships developing in that market. In the area of petrol station markets, researchers will continue their analysis of the interplay between market transparency and competition.

In the topic area of “Current Developments in Energy, Telecommunication and Transport Markets”, researchers plan to pursue several subprojects related to different branches. In the area of energy, a number of projects will investigate how security of supply will be affected by future systemic transformation on both the generation and demand side resulting from the energy transition in Germany. They will analyse the expediency and efficiency of different regulatory tools. In the area of telecommunications, a key question is when and under what conditions network owners must provide access to service-based competitors – particularly in view of the major investments and risks involved in the expansion of fibre-optic communication networks. Important related issues in the area of competition policy concern appropriate public subsidy levels as well as the extent to which cooperation schemes for network expansion are legally permissible and economically efficient.

# SCIENTIFIC OUTPUT, COMMITTEES AND EXTERNAL RELATIONS

► SCIENTIFIC OUTPUT

► COMMITTEES AND EXTERNAL RELATIONS





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- Achtnicht, M. and R. Madlener (2014), Factors Influencing German House Owners', Preferences on Energy Retrofits, *Energy Policy* 68, 254–263.
- Andries, P. and D. Czarnitzki (2014), Small Firm Innovation Performance and Employee Involvement, *Small Business Economics* 43 (1), 21–38.
- Arntz, M., R. Wilke and S. Lo (2014), Bounds Analysis of Competing Risks: A Nonparametric Evaluation of the Effect of Unemployment Benefits on Migration, *Empirical Economics* 46, 199–228.
- Arntz, M., T. Gregory and F. Lehmer (2014), Can Regional Employment Disparities Explain the Allocation of Human Capital Across Space?, *Regional Studies* 48 (10), 1719–1738.
- Aschhoff, B. and C. Grimpe (2014), Contemporaneous Peer Effects, Career Age and the Industry Involvement of Academics in Biotechnology, *Research Policy* 43 (2), 367–381.
- Bargain, O., M. Dolls, D. Neumann, A. Peichl and S. Sieglösch (2014), Comparing Inequality Aversion across Countries when Labor Supply Responses Differ, *International Tax and Public Finance* 21 (5), 845–873.
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- 14-003, Asatryan, Z., T. Baskaran and F. Heinemann, The Effect of Direct Democracy on the Level and Structure of Local Taxes.
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- 14-045, Scheffler, W. and M. Köstler, Harmonisierung der Gewinnermittlung in der EU – Analyse der Übergangsregelungen bei Einführung einer Gemeinsamen Körperschaftsteuer-Bemessungsgrundlage.
- 14-046, Scheffler, W. and M. Köstler, Vorteile einer GKB / GUB außerhalb der Gewinnermittlung – Eine Analyse aus Sicht des deutschen Steuerrechts.
- 14-047, Evers, M. T., K. Finke, S. Matenaer, I. Meier and B. Zinn, Evidence on Book-tax Differences and Disclosure Quality Based on the Notes to the Financial Statements.
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#### International Distribution and Redistribution

- 14-001, Bargain, O., M. Dolls, H. Immervoll, D. Neumann, A. Peichl, N. Pestel and S. Sieglöcher, Tax Policy and Income Inequality in the U.S., 1979–2007.
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- 14-027, Bonin, H., R. Schnabel and H. Stichnoth, Zur Effizienz der

ehe- und familienbezogenen Leistungen in Deutschland im Hinblick auf soziale Sicherungs- und Beschäftigungsziele.

- 14-040, Löffler, M., A. Peichl and S. Sieglöcher, Structural Labor Supply Models and Wage Exogeneity.
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- 14-124, Kontbay-Busun, S. and A. Peichl, Multidimensional Affluence in Income and Wealth in the Eurozone – A Cross Country Comparison Using the HFCS.

#### Competition and Regulation

- 14-008 Bueren, E., K. Hüschelrath and T. Veith, Time is Money – How Much Money is Time? Interest and Inflation in Competition Law Actions for Damages.
- 14-010, Schober, D., S. Schaeffler and C. Weber, Idiosyncratic Risk and the Cost of Capital – The Case of Electricity Networks.
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- 14-057, Fink, N., P. Schmidt-Dengler, K. Stahl and C. Zulehner, Registered Cartels in Austria – Coding Protocol.
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- 14-059, Genesove, D., L. Persson, F. Steen, P. Schmidt-Dengler, K. Stahl, O. Toivanen, C. Zulehner and A. Hyttinen, Registered Cartels: An International Comparison.
- 14-062, Smuda, F., P. Bougette and K. Hüschelrath, Determinants of the Duration of European Appellate Court Proceedings in Cartel Cases.
- 14-063, Hüschelrath, K. and F. Smuda, The Appeals Process: An Empirical Assessment.
- 14-084, Harrington, J. E., K. Hüschelrath, U. Laitenberger and F. Smuda, The Discontent Cartel Member and Cartel Collapse: The Case of the German Cement Cartel.
- 14-085, Briglauer, W., The Impact of Regulation and Competition on the Migration from Old to New Communications Infrastructure: Recent Evidence from EU27 Member States.



## PRIZES AND AWARDS

Finke, K., Matthias-Erzberger Research Award for Dissertations, Nordbadener Chamber of Tax Consultants, Heidelberg.

Hillrich, A., Beste Final Thesis (Master), Volksbank Weinheim Foundation.

Hüschelrath, K., First Place, American Bar Association, Section of Antitrust Law, Chicago, USA.

Mokinski, F., Best Conference Paper Award, Honourable Mention (Young Economist Category), Isaac Kerstenetzky Award 2014, Fundacao Getulio Vargas, Brasilia, BR.

Radev, D., Best Final Thesis (Dissertation), University Prize, Deutsches Aktieninstitut, Frankfurt am Main.

Radev, D., Best Final Thesis (Dissertation), Special Award of Deutsche Bundesbank, Johannes Gutenberg University Mainz.

Sommerfeld, K., Friedrich August von Hayek Award, Albert Ludwigs University of Freiburg.

## DOCTORAL GRADUATIONS

**Labour Markets, Human Resources and Social Policy**

Fries, Jan, University of Freiburg, "Five Essays in Labour Economics".

**Industrial Economics and International Management**

Crass, Dirk, Maastricht University, NL, "The Impact of Brands on Innovation and Firm Performance".

Köhler, Christian, TU Dortmund University, "Vertical Relationships, Competition, Knowledge Search and Innovation – Empirical Evidence for German Enterprises".

Schliessler, Paula, Catholic University of Leuven, BE, "Empirische Aufsätze zu Patenten und Patentverletzungen".

**Information and Communication Technologies**

Kummer, Michael, University of Mannheim, "IKT, Suchverhalten und Marktallokation".

Niebel, Thomas, Goethe University Frankfurt, "Essays on Information and Communication Technologies, Services and Growth".

Sarbu, Miruna, Saarland University, "Software, Firm Performance and Work Organisation: An Empirical Analysis".

**International Finance and Financial Management**

Busl, Claudia, Augsburg University, "Transmission Channels and Spillover Effects in a Globalised World".

Mokinski, Frieder, University of Konstanz, "Three Essays on the Econometrics of Survey Expectations Data".

Schleer, Frauke, Justus Liebig University Giessen, "Nicht-lineare Zeitreihenmethoden und Makroökonomische Ungleichgewichte".

**Environmental and Resource Economics,  
Environmental Management**

Rexhäuser, Sascha, Catholic University of Leuven, BE, "Essays on Environmental Innovations and Firm Behaviour".

**Corporate Taxation and Public Finance**

Evers, Lisa, University of Mannheim, "Intellectual Property (IP) Box Regimes. Tax Planning, Effective Tax Burdens, and Tax Policy Options".

Scheuring, Uwe, University of Freiburg, "Empirische Evidenz von Steuerwirkungen bei nationalen und internationalen Unternehmensübernahmen".

**International Distribution and Redistribution**

Dörrenberg, Philipp, University of Cologne, "Empirical Essays on Tax Compliance".

**Competition and Regulation**

Schober, Dominik, University of Duisburg-Essen, "Elektrizitätsnetzregulierung".

## HABILITATION

**Information and Communication Technologies**

Saam, Marianne, Goethe University Frankfurt, "Essays on Knowledge, Technology and Growth".

## CONFERENCES AND WORKSHOPS

Workshop: Familienpolitik in Deutschland im Spiegel der Wissenschaft (13.2.2014)  
Organisation:  
Holger Stichnoth, ZEW

Workshop: The Productivity of IT-based Services – Closing Workshop (13.–14.2.2014)  
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Workshop: The Energy Efficiency Gap: Reasons and Implications (12.–13.3.2014)  
Organisation:  
Martin Achtnicht, ZEW

Workshop: Second ZEW/IAB/RCEA Workshop on Spatial Dimensions of the Labour Market – The Relocation of Jobs (13.–14.3.2014)  
Organisation:  
Melanie Armt, ZEW  
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Conference: MaCCI Annual Conference (13.–15.3.2014)  
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Conference: Public Finance 2014 – Public Administration and Economic Performance (28.–29.4.2014)

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Conference: Third Mannheim Energy Conference (5.–6.5.2014)

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SEEK Conference: Public Finance and Income Distribution in Europe (15.–16.5.2014)

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Conference: Dynamics of Entrepreneurship (Code II) (22.–23.5.2014)

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SEEK Workshop: European Public Finances Through the Financial Crisis (10.–11.6.2014)

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Conference: 12<sup>th</sup> ZEW Conference on the Economics of Information and Communication Technologies (16.–17.6.2014)

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Conference: Recent Developments in Macroeconomics (23.–24.6.2014)

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ZEW Summer Workshop: Advances in Microeconometrics and Programme Evaluation (30.6. –4.7.2014)

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SEEK Workshop: Wikipedia Data Extraction and Analysis (11.–12.8.2014)

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SEEK Workshop: Legal and Illegal Cartels (10.9.2014)

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Workshop: Empirische Steuerforschung (11.–12.9.2014)

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Conference: First Annual MaTax Conference (17.–18.9.2014)

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Conference: Sixth ReCapNet Conference “Real Estate Markets and Capital Markets” (24.–25.10.2014)

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Conference: MaCCI Law and Economics – Financial Regulation and Competition (6.–7.11.2014)

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Conference: National Systems of Entrepreneurship (20.–21.11.2014)

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Conference: 12<sup>th</sup> Annual Conference of the Association of  
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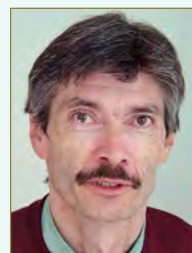
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The association funds new research projects at ZEW and provides a platform for exchange between the worlds of business, politics, and academia. In the year covered by this report, long-standing chairman Dr. Peter Bettermann left office. ZEW is indebted to Peter Bettermann due to his commitment to science and research.

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Gathering of the ZEW alumni network at the 2014 Economic Forum

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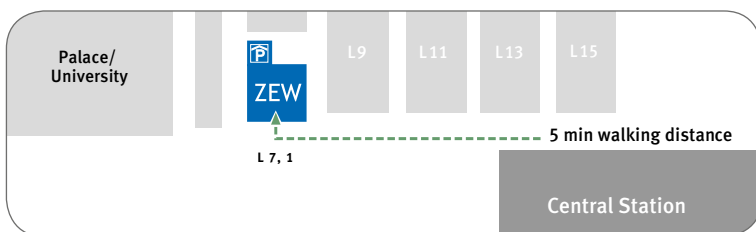


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