

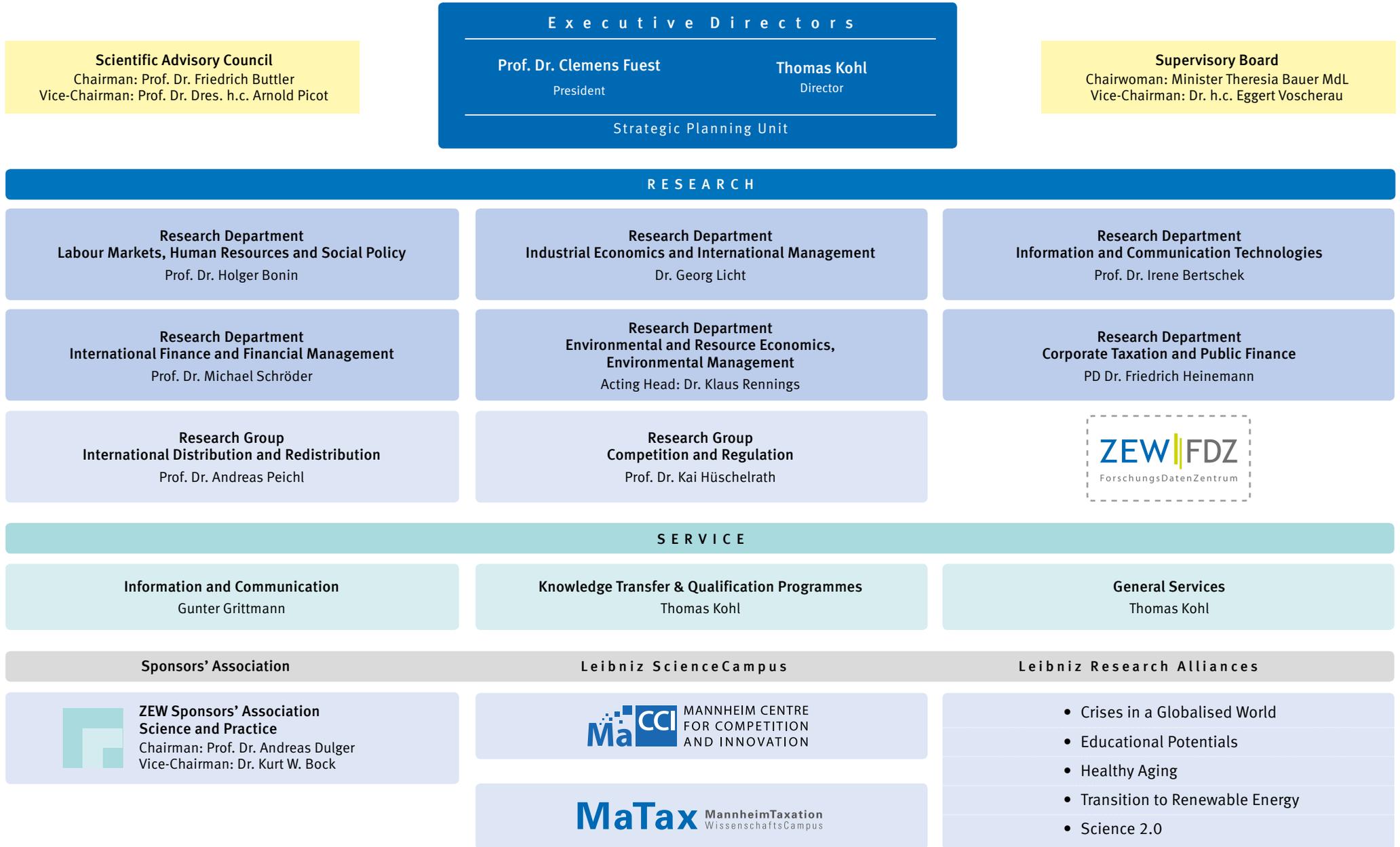
Annual Report 2013



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2013

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Round table discussion at ZEW: EU Commissioner Günther H. Oettinger, Prof. Wolfgang Franz, Prof. Andreas Löschel as well as guests from the worlds of politics and business discuss European energy and climate policy.

January 2013

ENERGY AND THE CLIMATE: A DISCUSSION WITH EU COMMISSIONER GÜNTHER OETTINGER AT ZEW

The future energy and climate policy challenges facing Europe were the main topic of a roundtable discussion at ZEW with EU Commissioner for Energy Günther H. Oettinger. The event was attended by guests from the areas of business and politics from the Rhine-Neckar Region and by researchers from ZEW. Oettinger advised the German government against going it alone. Given its high energy demands, he stressed that Germany must work together with its European partners to achieve its environmental objectives, lest it damage its industrial base.

January 2013

PRESERVING THE EUROPEAN SUCCESS MODEL

Within the framework of the ZEW lecture series First-Hand Information on Economic Policy, Roland Koch delivered a talk titled "Germany at the Intersection Between Success and Euro Crisis". The chairman of the board at Bilfinger SE, Koch described the central poles between which Germany – along with the rest of Europe – is situated. On the one hand, Europe's economic importance on the global scale has declined, while China has been busy establishing itself as an economic superpower. On the other hand, Europe has lost some of its visionary force in its successful attempts to safeguard peace. Making matters worse is the massive loss of trust in Europe's ability to meaningful control events caused by the euro and sovereign debt crises. Koch urged the audience members to take these developments seriously. Europe must close ranks if it is to preserve its values, mode of life, and prosperity.

How to preserve the European model of society and prosperity in a globalised economy? Roland Koch spoke at ZEW within the framework of the lecture series „First-Hand Information on Economic Policy“.



February/March 2013

THE END OF AN ERA – FRANZ SAYS GOODBYE

In 2013, an era came to an end at ZEW: After serving 16 years as president, Wolfgang Franz stepped down for a well-deserved retirement. At a festive goodbye ceremony on 28 February 2013, numerous eminent guests from the realms of academia, business, and politics gathered to thank Franz for his long and successful tenure at the helm of ZEW. Axel A. Weber (UBS) held the encomium for his former colleague on the German Council of Economic Experts, and Baden-Württemberg's Minister-President, Winfried Kretschmann, awarded Franz the Officer's Cross of the Order of Merit for his excellent work.

More than 350 guests attended the goodbye ceremony for Wolfgang Franz at ZEW, among them long-standing companions and renowned representatives from the worlds of politics, academia and society.





The Minister-President of Baden Württemberg, Winfried Kretschmann, honours Wolfgang Franz's dedication to research, education and policy advice with the Federal Cross of Merit.

February/March 2013

THE START OF A NEW ERA – FUEST SAYS HELLO

As Wolfgang Franz was saying goodbye, the new ZEW President, Clemens Fuest, was taking office. In 2012 the respected Oxford economist was picked from the ZEW supervisory board to be the next president. Like his predecessor, Fuest is an experienced researcher and policy advisor. In his farewell address, Franz expressed his confidence in the future of ZEW, which had become one of Europe's leading economic research institutes during his tenure: "I am certain that ZEW will continue its success story under its new president."

From Oxford to Mannheim – Clemens Fuest takes office as new ZEW President and Director of Science and Research.





Handover ceremony: Minister-President Winfried Kretschmann, the new ZEW President, Prof. Clemens Fuest, his predecessor Prof. Wolfgang Franz, ZEW Director of Business and Administration Thomas Kohl, and Theresia Bauer, Baden-Württemberg's Minister of Finance and Chairwoman of the ZEW Supervisory Board.

April 2013

SEEK CONFERENCE – ENGINES FOR MORE AND BETTER JOBS IN EUROPE

Youth unemployment in Southern Europe, demographic change, and a shortage of skilled labour in Germany – growth is needed for more and better jobs all throughout Europe, but how to achieve it? This was the question asked by the 150 participants from the realms of academia, business, and government who assembled at the ZEW conference “Engines for More and Better Jobs in Europe”, the third conference within the “Strengthening Efficiency and Competitiveness in the European Knowledge Economies” (SEEK) research programme. The keynote speakers on the first day were Frank-Jürgen Weise (German Federal Employment Agency), Stefano Scarpetta (OECD), and Rita Asplund (Research Institute of the Finnish Economy). On the second day, about 40 international researchers presented papers across a multitude of sessions.

Frank-Jürgen Weise, Chairman of the Federal Employment Agency, held the keynote speech at the first day of the SEEK Conference.





The second day of the third SEEK Conference was dedicated to sessions and presentations on European labour market and vocational education issues.



A confirmed advocate of European integration at ZEW: Dr. Wolfgang Schäuble, Federal Minister of Finance, addresses the role of Europe's institutions in the 21st century within the lecture series Mannheim Economic and Monetary Talks.

April 2013

WOLFGANG SCHÄUBLE SEES NO REASON FOR RESIGNATION IN EUROPE

Some 400 people crammed in to hear Germany's Minister of Finance, Wolfgang Schäuble, speak at the Mannheim Economic and Monetary Talks, a lecture series held at ZEW. His talk was about the key role played by institutions in making the European Union strong. He attributed Germany's relatively stable economic situation to its effective institutions, and argued for bolstering European institutions to make the EU more competitive. He stressed that much has been achieved since the debt crisis. Countries such as Ireland, Spain, and Greece have taken important strides towards recovery. And though Europeans have to be constantly reminded of the merits of integration, Europe has "no reason for resignation".

June 2013

CREATING OPPORTUNITIES FOR YOUNG PEOPLE IN EUROPE

“Creating Opportunities for Young People in Europe” – as its title makes plain, the lecture by Ursula von der Leyen, then Federal Minister of Family Affairs, Senior Citizens, Women, and Youth, addressed a subject of key importance for Europe’s future. According to von der Leyen, youth unemployment in Europe, especially in the South, is a scourge that threatens long-term democratic stability, which is why labour markets urgently need reform. An important instrument for improving young people’s job opportunities, she argued, is the dual vocational education system, which can be found in Germany and Switzerland, among other countries. She also made the case for more mobility in Europe so as to better coordinate labour market supply and demand. Von der Leyen delivered her talk to some 200 guests as part of the ZEW lecture series “First-Hand Information on Economic Policy”.

Can the dual vocational education system improve the employment opportunities of young people in Southern Europe? Dr. Ursula von der Leyen made the case for reforms in Europe to create opportunities for the young generation.



June 2013

THE ZEW ECONOMIC FORUM: FINANCIAL MARKET REGULATION AND BANK BAILOUTS

The 2013 ZEW Economic Forum ran under the title “Can the Banks Still Be Saved? The Impact of Financial Market Regulation”. The forum’s prominent podium speakers – Claudia Buch (at the time Halle Institute for Economic Research), Michael Kemmer (Association of German Banks), Sabine Lautenschläger (at the time German Bundesbank), and Uwe Schroeder-Wildberg (MLP AG) – began by discussing what stronger regulation might bring. Afterwards, in a section titled “Science for Practice”, ZEW researchers presented studies on the use of overdraft protection, the potential effects of a two-tier banking system, and on the criteria start-up founders use to choose a bank. In the forum’s final section, Ulrich Schröder (KfW Bankengruppe) talked about the problems of long-term financing in times of crisis and Martin Blessing (Commerzbank) discussed new rules to foster a more robust financial system.





ZEW President Clemens Fuest, Thomas Kohl, Director of Business and Administration, and the keynote speakers of the 2013 ZEW Economic Forum Dr. Ulrich Schröder (KfW) and Martin Blessing (Commerzbank).

Can the banks still be saved? This question was at the heart of the panel discussion at the Economic Forum featuring renowned panellists: Prof. Claudia Buch (then Halle Institute for Economic Research), Dr. Uwe Schroeder-Wildberg (MLP AG), Prof. Michael Schröder (ZEW), Sabine Lautenschläger (then German Bundesbank) and Dr. Michael Kemmer (Association of German Banks).





Lecture by ZEW labour market economist Holger Bonin on board the MS Wissenschaft, where the Research Department "Labour Markets, Human Resources and Social Policy" presented an exhibition piece about demographic change.

July 2013

HANDS-ON RESEARCH ON BOARD THE MS WISSENSCHAFT

In July 2013, economists from the Research Department of "Labour Markets, Human Resources and Social Policy" at ZEW chose a unique setting to present their work: a converted cargo ship christened the MS Wissenschaft. The ship dropped anchor in Mannheim from 19 to 21 July, 2013, after travelling almost 3,500 kilometres on German and Austrian waterways. Visitors to the on-board exhibition "Every Generation in the Same Boat" had the opportunity to learn about demographic change in fun ways. For instance, ZEW provided a computer simulation game that shows how social changes shape demographic development. Dials allowed users to switch between statistics – birth rates, immigration, life expectancy – and see their effects on population, average income, and the number of employed.

September 2013

ZEW PRESIDENT FUEST RECEIVES GUSTAV STOLPER PRIZE

"A worthy recipient who within just a few years has left a lasting mark on economy policy debates" – these are the words spoken by Michael Burda, the chairman of the Verein für Socialpolitik, as he presented ZEW President Clemens Fuest with the 2013 Gustav Stolper Prize. Burda noted that Fuest, whose research focuses mostly on international fiscal policy and public finance, has argued for a European solution to the government debt crisis. His work, Burda continued, has clearly demonstrated that while there are simple answers to the debt crisis, there are no simple solutions. The ZEW President saw the prize as encouragement "to continue to do his best at research and publicize his findings." The ceremony took place at the 2013 annual conference of the Verein für Socialpolitik, in Düsseldorf, the world's largest gathering of German-language researchers in economics.

Professor Michael Burda, chairman of the Verein für Socialpolitik, presents ZEW President Clemens Fuest with the Gustav Stolper Prize in Düsseldorf.





Firmly established at ZEW: the training course "Strengthening Macroeconomic Policies" for experts and executive staff from Vietnam. Reception by the mayor of Mannheim (back row, middle) in the council chamber of the city

September 2013

NEXT ROUND FOR ASIA KNOWLEDGE TRANSFER

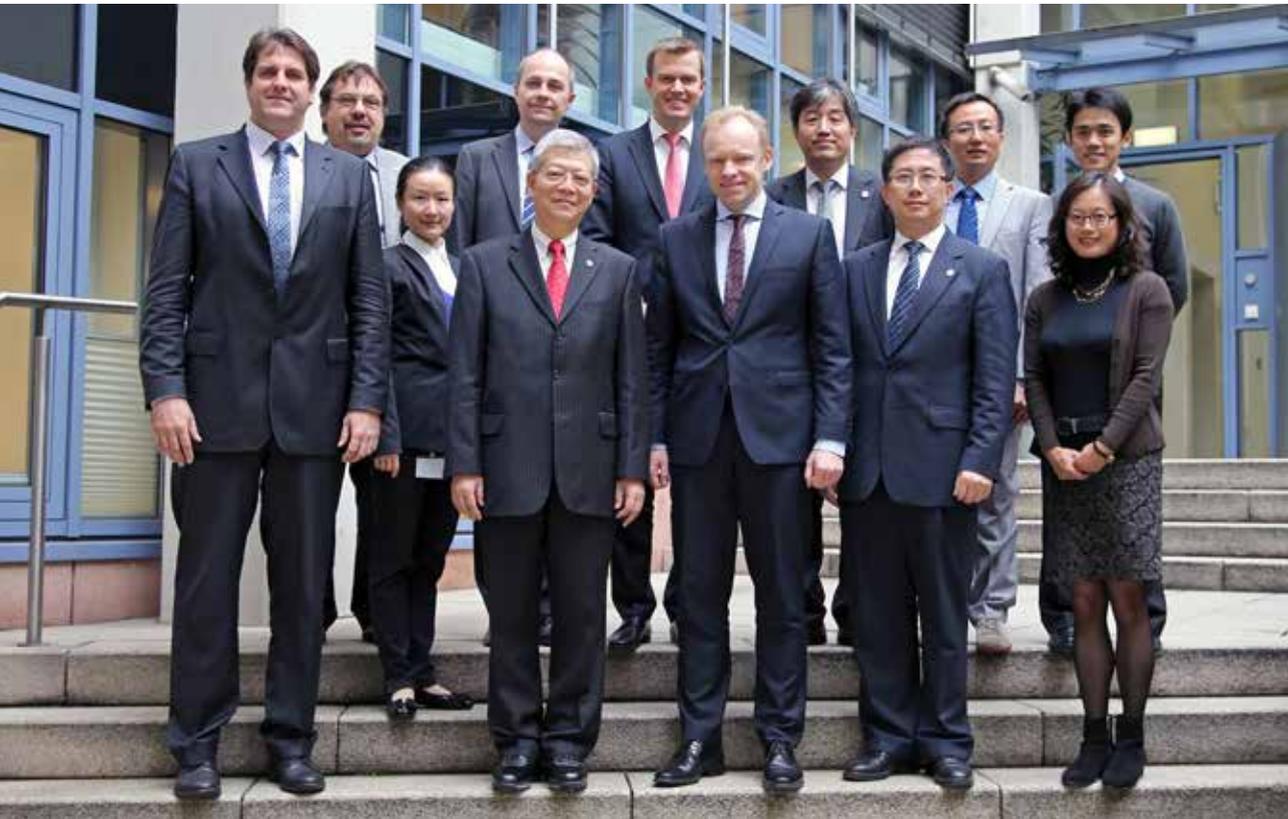
September 2013 marked the fifth time in as many years that experts and executive staff from Asia travelled to ZEW to take part in the demanding ten-week training course "Strengthening Macroeconomic Policies" (MPS+). The participants, who numbered 20 in all and who came from various state organisations in Vietnam, learned about macroeconomic subjects such as fiscal policy, financial markets, labour markets, trade theory, trade policy, growth theory, and sustainability. The course was taught in English by ZEW researchers and other specialists, and was organised by ZEW's "Knowledge Transfer & Qualification Programmes" department.

October 2013

ZEW FORGES PARTNERSHIP WITH FUDAN UNIVERSITY

In 2013, ZEW took another important step in expanding its relations with China by signing a partnership agreement with Shanghai's Fudan University. The signatures of ZEW President Clemens Fuest and Fudan President Yang Yulian sealed what had already been a long and fruitful cooperation. Fudan University is among the country's best and, as Yang Yulian noted, it has "the highest number of foreign students of all universities in China." ZEW and Fudan University plan to ramp up their previous research cooperation while improving their collective efforts to train young scientists and foster the transfer of knowledge. In Fuest's estimation, the partnership agreement "is an ideal foundation on which to build a bridge between research at ZEW and at Fudan University."

Building bridges between Mannheim and Shanghai: ZEW President Fuest and Yang Yulian (front row, fourth from the right), President of Fudan University, signed a cooperation agreement.



December 2013

AGAINST BACKWARD ECONOMIC POLICY

Christoph M. Schmidt, the president of RWI Essen, presented to an audience of some 200 invited guests the 2013-14 report of the German Council of Economic Experts, which he chairs. In the 2013 election campaign, German political parties often emphasized the wrong things, said Schmidt. As an example, he pointed out the debate concerning the growing rift between rich and poor. This debate, he said, overlooks empirical data showing that income inequality has remained quite stable over the past 20 years in Germany. The real challenges faced by Germany are demographic change and high levels of government debt. He argued that a forward-thinking economic policy must continue to consolidate public budgets.

Professor Christoph M. Schmidt, head of the German Council of Economic Experts, continued in the tradition of his predecessor Professor Wolfgang Franz and presented the Annual Economic Report of the council within the lecture series First-Hand Information on Economic Policy at ZEW.





Shared history: Christoph M. Schmidt and Clemens Fuest were both students of Professor Heinz König, former president of the University of Mannheim and founding director of ZEW.

EDITORIAL

- ▶ LETTER FROM HERMAN VAN ROMPUY,
PRESIDENT OF THE EUROPEAN COUNCIL
- ▶ LETTER FROM THE BOARD OF DIRECTORS

LETTER FROM HERMAN VAN ROMPUY, PRESIDENT OF THE EUROPEAN COUNCIL



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Unlike the United States, which can build on a shared intellectual economic heritage, Europe's historic self-understanding on economic affairs is diverse and remains largely national. In the United States, the institutional memory of the 1930s has been at the heart of the policy response in 2008/2009. In Europe, in contrast, there was no collective response to the crisis of the early part of the 20th century, but rather a series of national policies. So, France is traumatised by the deflation of the 1930s and Germany by the inflation of the 1920s. As a result, it is not surprising that some six years after the onset of the biggest financial crisis since the 1930s, there is still no common understanding in Europe of what happened. Important differences amongst intellectuals and policy-makers remain.

For some, this crisis is merely a financial crisis: imported from the United States and spread to an under-regulated and poorly supervised financial system. For others, it is the result of excessive public debt building up over the years. For yet others, it is a crisis of competitiveness, resulting in large external imbalances that need to adjust; while for others again, the crisis is essentially one of lack of demand, which can be addressed by fiscal expansion, especially in the countries with an important surplus on their current account. And finally, for yet others, the key component of Europe's economic challenge represents a structural growth crisis that raises the risk of long-term stagnation.

These differences in the understanding of the crisis are running deep, and they matter as they are impacting policy-makers' responses to the crisis. What shall we do, for example, for Europe to return to sustainable and inclusive economic growth? Shall we stimulate demand or supply? What shall we do to reduce the high level of unemployment that we observe in many EU Member States, especially among the young? Do we need more labour market flexibility, and how low should labour costs be? Unsurprisingly, once more, one hears different answers to these questions. Independent research institutes with a focus on Europe therefore play a crucial role. They help us not only in identifying root causes and appropriate policy responses. But they also help in developing a "shared" analysis of the multitude of issues that we confront in our complex and highly interdependent economies. The eurozone, in particular, deserves close attention, and I was glad to see that responses to European challenges have been major research topics at ZEW in recent years. I therefore would like to thank ZEW, its management and staff for their excellent and insightful policy contribution on European issues over the past year.

Now with the end of my mandate as European Council President approaching, and stepping back, I am pleased to say that we have indeed made good progress Towards a Genuine Economic and Monetary Union, the report I presented to the European Council in June 2012. Decisive steps have been taken over the last year towards the completion of a banking union, which was a gaping hole and a source of instability in EMU. To me, the banking union is the biggest policy change since the introduction of the euro itself, and to EU standards, it is all happening with the speed of light.

Aside the banking union, there are other issues related to the deepening of the economic and fiscal union on which more common ground still needs to be found. For some, the Maastricht architecture, now complemented with the solidarity mechanism and the banking union, is perfectly sufficient. For others, this is not enough. For them, deeper economic policy coordination and elements of risk sharing beyond the banking union remain essential components of any mature monetary union. It will be for my successor(s) to look again into these thorny questions, and I am confident that they can rely on ZEW for rigorous and timely analysis and impartial advice.

I wish ZEW all the best in its future endeavours.

A handwritten signature in black ink, appearing to read 'H. Van Rompuy', with a long horizontal stroke extending to the right.

Herman Van Rompuy
President of the European Council

LETTER FROM THE EXECUTIVE DIRECTORS



Prof. Dr. Clemens Fuest
President

Thomas Kohl
Director of Business and Administration

When we look back on 2013, one event stands out most: the festive send-off for the long-serving ZEW President and Director of Science and Research, Wolfgang Franz. The grand farewell ceremony took place in February, and was attended by the Minister-President of Baden-Württemberg, Winfried Kretschmann, members of the state parliament, numerous other government representatives, and countless friends from the realms of business, academia, and politics. We all owe Wolfgang Franz our appreciation and gratitude for his very successful 16-year tenure.

Yet 2013 brought other noteworthy changes at ZEW. One of the most important was the inauguration of a new Research Group devoted to a leading-edge field: International Distribution and Redistribution. Another was the opening of the ZEW Research Data Centre, which makes a valuable contribution to scientific infrastructure by giving external researchers access to troves of empirical data. Some more good news: “MannheimTaxation” (MaTax) got the go-ahead to begin operation, making it the second Leibniz ScienceCampus alongside the “Mannheim Centre for Competition and Innovation”

(MaCCI), with joint funding from ZEW, the University of Mannheim, the Leibniz Association, and Baden-Württemberg. Also of note, ZEW began work on implementing a modern workflow system that will facilitate administrative tasks and enable staff to spend more time on their research.

In 2013 ZEW continued to expand its international networks. One highlight here was the signing of a partnership agreement with Shanghai's Fudan University, which counts among the top universities in China. The partnership not only provides an ideal platform for long-term collaboration; it also helps realise ZEW's vital objective of strengthening its ties to Chinese institutions. The partnership provides for research stays in Germany and in China and for close cooperation with graduate education. ZEW also worked to cultivate its fruitful partnerships in universities and research institutions in Europe and North America.

Another notable event in 2013 was the two-day conference "Engines for More and Better Jobs in Europe", held on April 25–26, which drew 150 participants from all over the world. Esteemed experts from politics and academia delivered keynote addresses: Frank-Jürgen Weise, the chair of Germany's Federal Employment Agency; Steffano Scarpetta, the deputy director of the OECD's Directorate for Employment, Labour and Social Affairs; and Rita Asplund, the director of the Research Institute of the Finnish Economy. The conference was part of the "Strengthening Efficiency and Competitiveness in the European Knowledge Economies" (SEEK) research programme.

In the area of scientific output, ZEW researchers had an impressive year: 90 papers accepted by peer-reviewed journals; just shy of 400 lectures in Germany and abroad; and 250 projects, many with third-party funding. The most important clients include German and foreign ministries, the European Commission, the German Research Foundation, professional associations, and corporations. ZEW also organised some 40 workshops and conferences across its nine research units.

In 2013 academic development continued to be one of ZEW's main priorities. Kai Hüschelrath and Andreas Peichl received chaired professorships at the University of Mannheim – two more heads of ZEW research units to have this honour. As for students, eleven doctoral candidates submitted their dissertations. In the area of vocational training, five young apprentices began their careers in a variety of fields at the institute.

An important juncture between business and science is the ZEW Sponsors' Association for Science and Practice. In 2013 the Sponsors' Association once again provided valuable support: prominent speakers like Roland Koch (chairman of Bilfinger SE), Wolfgang Schäuble (German Minister of Finance), Ursula von der Leyen (then German Minister of Labour and Social Affairs), and Christoph Schmidt (chair of the German Council

of Economic Experts) came to ZEW and fostered discussion between researchers and leaders in politics and society. In December 2013, the chair of the Sponsors' Association, Peter Bettermann, stepped down with the end of his term. We would like to thank him for his extraordinary – and unpaid – engagement for our institute. At the same time, we would like to extend warm greetings to our new chair, Andreas Dulger, the executive director of ProMinent Dosiertechnik GmbH.

Finally, we would like to thank all the members of our staff. Their work and their enthusiasm are the foundation of our success. We also want to thank the State of Baden-Württemberg, the German federal government, and all members of the Sponsors' Association for their intellectual and financial support. We owe thanks to the members of our Scientific Advisory Board and Supervisory Board, as well as our research associates, who have been vital in establishing ZEW's strong position in the field. In addition, we thank our clients in Germany and abroad for placing their trust in us through a variety of research and policy advice projects.

Every member of ZEW contributed to the institute's stellar performance in 2013. And though major challenges lie ahead, we are in an excellent position to tackle them successfully.



Prof. Dr. Clemens Fuest
President



Thomas Kohl
Director of Business and Administration

ABOUT US

- ▶ THE INSTITUTE
- ▶ THE RESEARCH UNITS

ZEW IN BRIEF

The Centre for European Economic Research (ZEW) in Mannheim was founded in 1991 and is a member of the Leibniz Association. Under the leadership of Professor Clemens Fuest, the President of the institute, and Thomas Kohl, Director of Business and Administration, ZEW currently employs a staff of about 190 in six Research Departments, two Research Groups, and three Service Departments. ZEW is one of Germany's leading economic research institutes, and enjoys a strong reputation throughout Europe.

Mission and Research Objectives

ZEW pursues four key objectives:

- To conduct high-quality research
- To provide scientifically grounded economic policy advice
- To train up-and-coming economists
- To inform the professional and lay public

Research Mission

ZEW's research mission is to study the "Optimal Performance of Markets and Institutions in Europe". The research findings help to elucidate how the political and institutional environment for market activities should be best organised to promote a sustainable and prosperous development of Europe's knowledge-based national economies. This mission shapes the core research activities pursued at ZEW, e.g.:

- The integration of European financial markets
- Sustainable and efficient strategies for international climate policy
- National and European tax policy against the backdrop of increased factor mobility
- Securing employment and income in times of demographic change
- Innovation policy in the context of global competition
- Private and entrepreneurial use of information and communication technologies
- Financial stress and macroeconomic development
- Cartel law and competition policy institutions
- Prospects for the European Monetary Union

From a methodological perspective, ZEW's research profile is shaped by theory-based approaches to empirical economic research. A key feature of research conducted at ZEW is the combination of macro- and microeconomic methods as well as the institute's openness to interdisciplinary approaches and cooperation.

Outstanding Characteristics

Although ZEW is closely networked with universities and applies university-level standards, the research conducted at ZEW is clearly different from economics research at universities. ZEW has broader goals: more weight is placed on policy advice and knowledge transfer. Moreover,

ZEW is the only economics research institute in Germany offering a wide array of training seminars for researchers and executive staff.

Due to the size of the institute and the broad spectrum of topics studied by its research units, ZEW has the capability to complete major economic policy advising projects. ZEW's infrastructure enables the institute to develop, maintain, and utilise complex analytical models such as the European Tax Analyzer or the PACE computable general equilibrium model. Furthermore, ZEW's research units undertake long-term surveys and build up extensive databases. ZEW's broad resource basis is a prerequisite to developing and maintaining data sets like the ZEW Financial Market Test and the Mannheim Innovation Panel.

Networks with Universities

ZEW cooperates closely with a number of universities in Germany, Europe and worldwide. The centrepiece of ZEW's university network is the institute's permanent link with universities in the Rhine-Neckar Metropolitan Region: the institute cooperates with the Universities of Mannheim and Heidelberg in doctoral programmes, research projects, and academic development of research staff. ZEW also promotes talented researchers by cooperating with international universities. Moreover, ZEW is involved in one research group, in one priority programme and in one Collaborative Research Centre of the German Research Foundation (DFG).

The institute benefits from the close cooperation with some 60 research associates, most of whom are professors at German and international universities. They contribute their expertise and experience to the work of ZEW's research units. Many ZEW researchers teach at universities.

The ZEW Visiting Researchers Programme promotes scholarly exchange by bringing international academics to the institute for sojourns. The institute's successful work is also reflected in the fact that ZEW researchers are appointed to professorships and assistant professorships at universities. In 2013, ZEW researchers were appointed to the universities of Mannheim and Leipzig as well as to the Furtwangen and the Heilbronn University of Applied Sciences; in the past few years, ZEW researchers had also been appointed to the universities of Berlin (FU), Bonn, Hohenheim, Kassel, Marburg, Rotterdam as well as to the RWTH Aachen University.

RESEARCH PERFORMANCE

Research excellence at ZEW has various dimensions:

- The publication of research findings in scientific journals
- International networks with research institutions
- Ongoing knowledge exchange through conferences, workshops and research visits
- Development, maintenance and evaluation of unique data stocks

Publications

Publication of research findings in recognised international journals with an external referee process is a core indicator of a research institution's scientific output. ZEW has one of the best publication performances of German economic research institutes: Between 2011 and 2013, a total of 235 papers written by ZEW researchers were accepted for publication in journals with a peer-review system. In 2013, more than one out of two ZEW researchers published a paper in a refereed journal. ZEW's publication success is the result of the joint work of many researchers, not of just a few leaders in the field.

Cooperation Partners

Close cooperation with research institutions in Germany and abroad is a decisive factor for ZEW's successful research. The institute maintains cooperation with German and international universities, research institutes, and organisations. Great value is placed upon the international scope of the network as well as its interdisciplinary nature.

The majority of partners are European institutions, while partners in North America and Asia are becoming more and more important. One example is the cooperation with Fudan University in Shanghai. The cooperation agreement signed in 2013 has created a good foundation to build bridges between ZEW's and Fudan University's research. The objective of the agreement is to co-operate in qualifying up-and-coming researchers and to strengthen knowledge transfer.

Scientific Events

The institute organises numerous conferences each year. ZEW researchers present their work for discussion at national and international conferences. In 2013, ZEW's research units staged some 40 scientific conferences and workshops attracting several hundred German and international researchers. ZEW researchers gave just shy of 400 presentations at conferences in Germany and abroad in 2013. ZEW promotes the success of its staff at conferences by offering tailor-made seminars to teach effective presentation techniques and rules of conduct for participating in international events.

International conferences are also an opportunity to promote ZEW as an institution and employer. The human resources and the public relations departments of ZEW thus represent the institute at important national and international meetings, e.g. the VFS Annual Conference and the ASSA Meetings in the United States.

Development and Maintenance of Research Data

In most cases, individual-level data is the basis for empirical research work at ZEW. The institute maintains the infrastructure necessary for the collection, processing, and in-house assessment of data according to established scientific standards. Whenever possible, ZEW researchers process data sets to make them accessible for the professional public at the Research Data Centre (FDZ). The Research Data Centre grants external users access to a number of databases (according to data security guidelines). ZEW's realisation of a Research Data Centre is yet another contribution to the development of scientific infrastructure.

QUALIFICATION OF STAFF

The promotion of talented researchers is a key aim of ZEW. Training for researchers includes:

- Participation in doctoral programmes and courses provided by universities
- ZEW qualification programme “Econometrics”
- Periods of paid release for research projects and publications
- Seminars on scientific methods and project management
- Mentoring by heads of unit, senior researchers and research associates

Two Pathways Leading to a Doctoral Degree

Graduate education is the core element of promoting up-and-coming academics at ZEW. Two-thirds of ZEW’s scientific staff are working on their dissertations. At the same time they benefit from training courses at the institute and become familiar with the day-to-day practice of academic research.

On average, ZEW’s doctoral candidates require less than five years to complete their doctorate. Afterwards, many successful doctoral candidates pursue their career in the private sector, in associations or government institutions. Scientifically outstanding doctoral students have the chance to continue their career at ZEW as post-doctoral researchers. Many of them are appointed to professorships at universities. The institute currently employs some 70 doctoral candidates.

In order to meet the requirements of the wide range of research topics and personalities, doctoral education is carried out in an open framework. University graduates who begin their research career at ZEW can attain their doctoral degree by following one of two pathways:

- By working as a full-time staff member in a ZEW research unit within the framework of ZEW’s in-house doctoral programme
- By participating in the ZEW Doctoral Studies Network (ZEW DocNet).

ZEW’s in-house doctoral programme involves writing a dissertation based on collaborative research projects. Together with experienced economists and the heads of the ZEW research units, young researchers develop a topic for their dissertation based on on-going project work. Once doctoral students are matched with a research topic, a dissertation supervisor is sought out at a German or a foreign university. The completion of the dissertation is based on the regulations for doctoral studies at the selected university. The candidate also has the opportunity to enrol in doctoral courses at the cooperating university.

A few years ago, ZEW launched a second pathway for doctoral students: the ZEW DocNet. This international network links ZEW with graduate programmes offered by German and foreign universities. Graduates who choose the ZEW DocNet pathway have to apply for admission to the graduate school of a participating university first. Doctoral candidates complete the entire programme at their universities. After the course phase they pursue their project work either in part or entirely at ZEW. The ZEW DocNet pathway is currently made use of by 14 candidates. In the coming years, the DocNet will gain even greater importance in ZEW’s doctoral education programme.

Qualification Programme

ZEW helps to advance the careers of its staff with a qualification programme.

Activities financed under the qualification fund include:

- Temporary release from project responsibilities at ZEW to complete one's own research
- Longer research stays at German and foreign research institutions
- Participation in seminars, doctoral colloquia, and summer schools

All research staff have access to ZEW's internal professional development programmes, including courses in econometrics, ICT, foreign languages, communication, and management skills.

ZEW also familiarises students with empirical research methods. It employs a large number of interns and research assistants from the nearby universities. The institute offers them an opportunity to apply the theoretical and methodological knowledge they have acquired in university seminars in research practice.

Professional Training of Service Staff

For ZEW, the professional development of service staff is as important as the training of researchers to secure an outstanding research environment. Besides training programmes related to an employee's area of work, the institute offers an education programme in English language skills. ZEW offers up to nine vocational training positions. Apprentices benefit from the support of personal mentors during their vocational training for technical or administrative professions at ZEW.

ECONOMIC POLICY ADVICE

One of ZEW's key objectives is to provide economic policy advice based on rigorous economic research. ZEW researchers advise associations and international organisations as well as decision-makers from the worlds of politics and administration at the European, federal and state level.

Areas of Policy Advice

ZEW's science-based economic policy advising activities include:

- Scientific studies and reports on behalf of public authorities
- Participation of ZEW researchers in parliamentary hearings, formal consultations with parliaments, ministries, and the EU Commission; memberships in advisory boards
- Consultations with representatives of the European Commission, ministers, members of parliament, and high-level administration staff
- Participation in public debates on economic policy via media contributions

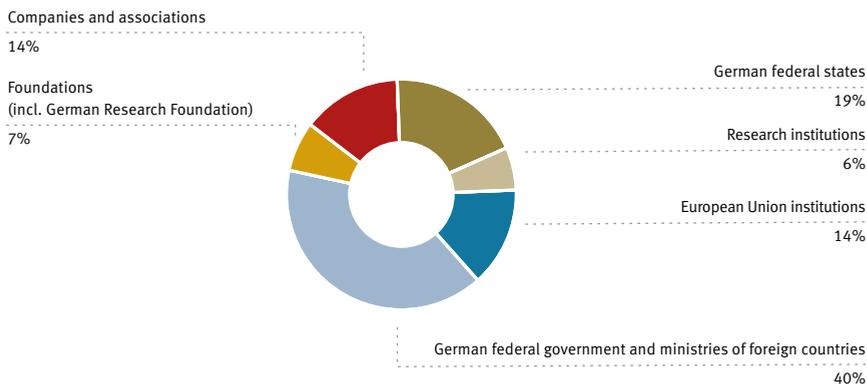
Science-Based Economic Policy Advice

ZEW's credo is to provide policy advice based on solid scientific data and according to scientific standards. It is therefore not one specialised team of "policy advisors" who are in charge of policy advising, but each researcher at ZEW. Policy advice and the publication of scientific work go hand in hand – policy advice and research are complementary, and scientific findings are at the heart of the advising process. This concept ensures the scientific quality of ZEW's activities in this field.

Clients

In 2013, the institute's third-party funding amounted to some 8.5 million euros. German ministries and ministries from other countries accounted for almost 60 per cent of the total volume and are thus ZEW's most important clients, followed by companies and associations as well as the European Commission with a respective share of nearly 14 per cent. The German Research Foundation (DFG) and other foundations contributed approx. seven per cent, and research institutions accounted for six per cent of third-party funding.

SOURCES OF THIRD-PARTY FUNDING IN 2013



KNOWLEDGE TRANSFER

It is one of ZEW's key aims to communicate research findings to the specialist communities, political decision-makers and the interested public. ZEW has permanent ties to the worlds of academia, business, and politics providing the institute with fresh impetus to enrich and improve its research work, its advising activities, and its training programmes.

ZEW uses various channels of communication for knowledge transfer to different target groups:

- ZEW Discussion Papers and book series
- Information brochures and research reports
- Seminars, conferences, and symposia
- Scientific and public events
- Print and electronic media

ZEW Publications

The core medium for the dissemination of research results is the ZEW Discussion Papers series. ZEW Discussion Papers undergo a thorough review process prior to publication. They are available free of charge via the ZEW website or scientific databases. ZEW Discussion Papers have been attracting wide attention in the economics community, as demonstrated by their high download numbers at RePEc.

ZEW also publishes its research work in two established book series: the ZEW Economic Studies (publisher: Springer) are released in English, while the ZEW Wirtschaftsanalysen (publisher: Nomos) are published in German.

The institute's periodic publications and research reports have a wide readership, including academics and students from many disciplines, specialists and executive staff, as well as citizens with a general interest in economic policy. The publications and research reports contain selected research findings, discuss survey results, feature opinion pieces on economic policy, and provide information concerning conferences, meetings, and ZEW seminars. In order to increase ZEW's international perception, general information about the institute is available in German, English and Chinese.

Electronic Information Resources

ZEW passes information to the media and the general public via a comprehensive range of regularly updated online resources. Current news items and a large number of research papers are available on the institute's website. Some 5,900 subscribers receive ZEW's monthly newsletter in German or in English. The newsletter provides information on research findings, publications, events, and job offers.

The institute's special web platforms are composed by topic and provide quick access to interconnected projects, publications, reports, press releases, and contact information, thereby facilitating research on a specific issue.

Efficient Communication

ZEW publishes some 100 press releases and hosts twelve press conferences every year to inform the media about the institute's research findings and to participate in economic policy debates. Publications based on a corporate design enhance the recognition value of ZEW's informational media. The target groups benefit from a reader-friendly layout as well as informative graphics and illustrations in ZEW media.

Events

Numerous ZEW events provide a platform for networking with research institutions, firms, government agencies, and organisations. They are also an opportunity to keep in touch with the general public. Apart from scientific conferences, ZEW organises events with renowned speakers for stakeholders of the institute and wider target groups. These events include:

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

Knowledge Transfer and Qualification Programmes

Every year, ZEW's unique range of seminars attracts several hundred participants from the fields of science, administration and business. The institute offers a professional training curriculum with a sound scientific basis and a practical orientation. ZEW researchers and experts from organisations and enterprises collaborate closely to ensure that the seminars meet the highest quality standards.

The Service Department "Knowledge Transfer & Qualification Programmes" offers various seminar types: Annually, some 30 expert seminars are offered to participants from the worlds of academia, business, and politics. Alongside the strong demand for seminars on macro- and microeconomic topics (e.g. financial market analysis and transfer prices), ZEW's methodological expertise (e.g. in econometrics) is also highly sought after. Additionally, ZEW organises the annual Mannheim Corporate Tax Day where tax experts meet business representatives.

Each year ZEW organises some 30 seminars for firms and public institutions that wish to offer their employees tailor-made professional training.

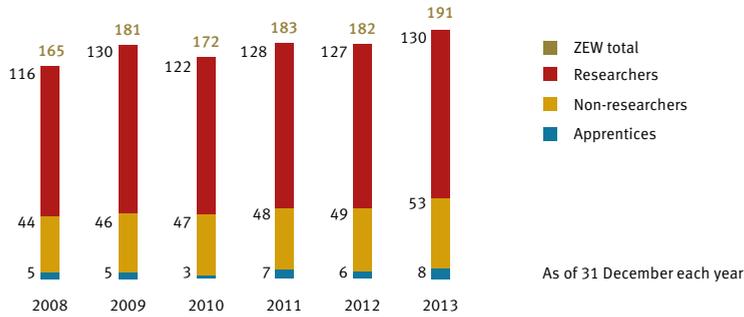
The seminars also provide in-house professional qualification opportunities for ZEW employees, for instance presentation and moderation techniques in German and English.

STAFF REPORT AND FINANCIAL STATEMENT

Staff Report

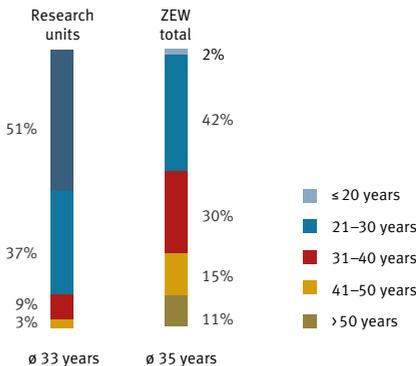
At the end of 2013, ZEW had 191 staff members (2012: 182); 130 of whom were engaged in research (2012: 127). In the period covered by this report, 24 researchers departed from ZEW (2012: 17). Half of the departing researchers accepted jobs at universities or government institutions; nearly one-third joined companies and associations. Figure 1 shows the staff development over time.

1] STAFF DEVELOPMENT

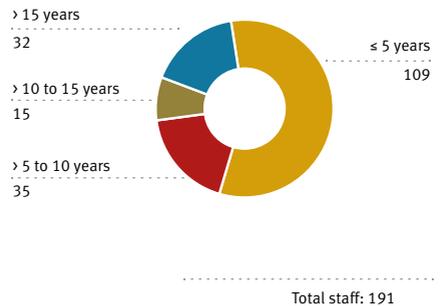


The majority of staff members in ZEW's research units are scholars with degrees in economics. The average age of ZEW researchers is 33, reflecting ZEW's wealth of talent. Across all units, the average staff age is 35 (see Figure 2). In accordance with the ZEW human resources policy, the vast majority (86 per cent) of research staff have fixed-term contracts. The total share of fixed-

2] AGE DISTRIBUTION



3] DURATION OF EMPLOYMENT

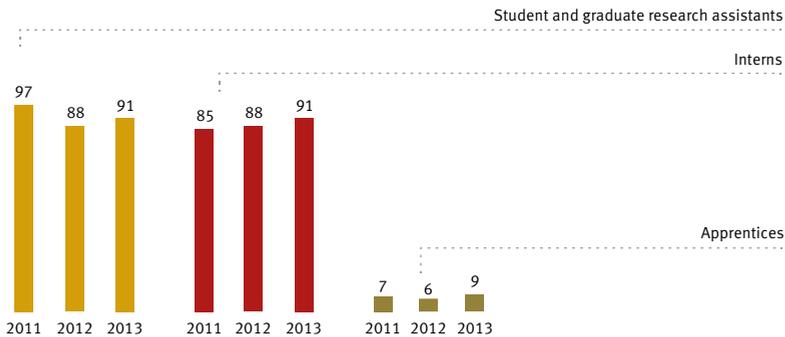


term labour arrangements, including the Service Departments, is about two-thirds. The fluctuation of staff members is also reflected in the high number of 109 employees (2012: 99) who have been with ZEW for less than five years (see Figure 3).

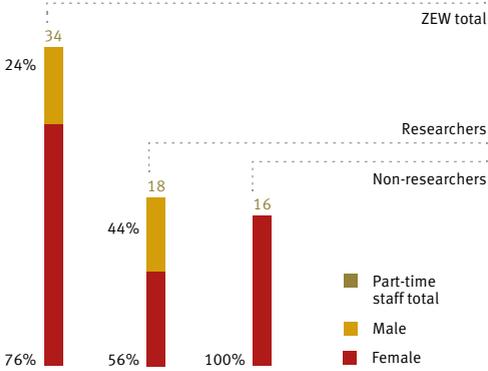
ZEW employs interns as well as student and graduate research assistants, thereby contributing to the qualification and professional education of young academics. Interns receive significant support and mentorship prior to embarking on a career. In the course of 2013, 91 interns (2012: 88) were engaged at ZEW (see Figure 4). Student and graduate research assistants primarily come from the Universities of Mannheim and Heidelberg as well as other universities in the Rhine-Neckar Metropolitan Region. At ZEW, they have an opportunity to obtain professional work experience in a research or service unit. In the period covered by this report, 91 students (2012: 88) were engaged as assistants at ZEW. In some cases, promising young academics stay connected to ZEW when they have completed their university degrees.

A large number of research associates from German and foreign universities support ZEW's research. Over the period covered by this report, numerous visiting researchers were also engaged in ZEW research work.

4] STAFF IN TRAINING



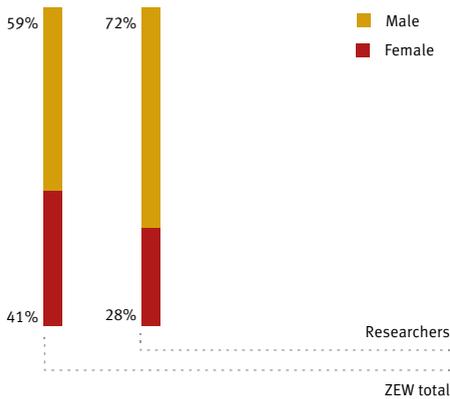
5] PART-TIME STAFF



As an employer, ZEW is in particular attractive for young researchers due to the flexible organisation of working hours. A total of 35 staff members (2012: 27) at year’s end were taking advantage of a personalised part-time schedule. This represents 18 per cent (2012: 15 per cent) of the institute’s overall staff (see Figure 5). Flexible working hours contribute to a healthy balance between professional and family life.

During the reporting period, the share of female researchers was 28 per cent. Across all of ZEW, 41 per cent of staff are female (see Figure 6). Quite remarkably, the share of female senior researchers is 55 per cent.

6] STAFF BY GENDER



Financial Statement

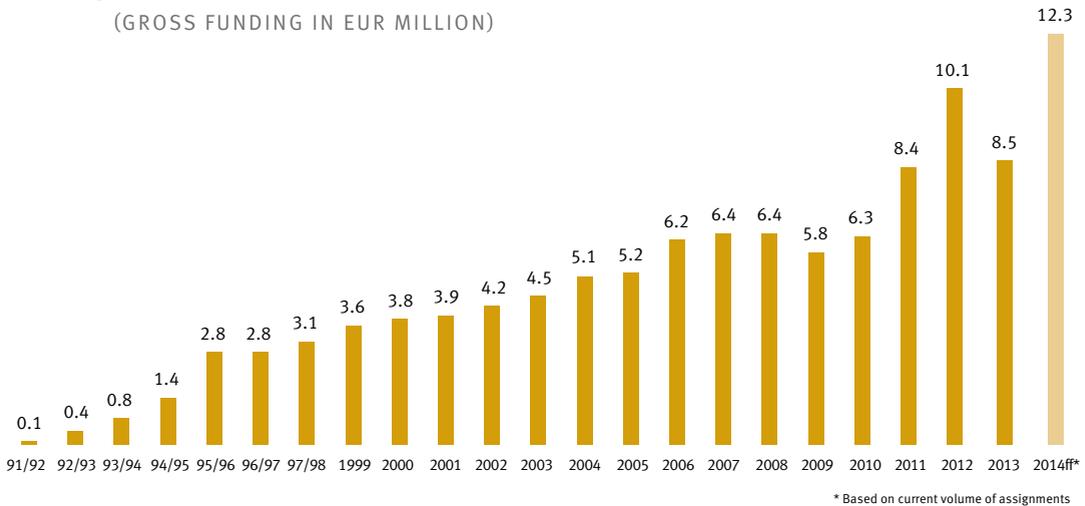
The balance sheet for ZEW’s endowment, finances, and revenues shows a positive picture for the fiscal year of 2013. This is particularly noteworthy because conditions were rather difficult due to the economic and financial crisis in Europe in conjunction with increased national and international competition for third-party research funding. Nevertheless, the share of third-party funds (including other revenues) remains almost constant at the high level of 46 per cent in 2013 (2012: 50 per cent).

Since its foundation in 1991, ZEW has attracted third-party funding worth more than EUR 113 million (as of March 2014). The magic mark

of EUR 100 million was exceeded in 2012. The volume of third-party-funded projects in the year 2014 and following currently amounts to EUR 12.3 million (see Figure 7). These figures prove the high esteem accorded to ZEW’s research work and economic policy advice.

ZEW’s financial charter, which allows for the receipt of general funding in fixed amounts, enables the institute to designate surplus revenues from increases in third-party funding as “appropriated reserves”. The net income results from the profit-and-loss statement and withdrawals from the “appropriated reserves”.

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



For the fiscal year of 2013, the institute has thus registered an annual surplus of EUR 0.06 million (2012: EUR 0.81 million) and a net income of EUR 0.73 million (2012: EUR 1.36 million, see Figure 8). The Board of Directors' recommendation to the Supervisory Board is to add this surplus to the "appropriated reserves" and to use it primarily for the qualification of staff members and the initiation of new research projects.

As shown in Figure 9, the current total capital of EUR 16.62 million is slightly below the 2012 number of EUR 16.73 million. This is mainly due to a reduction in stocks. Regarding the sources of funds, the slightly lower volume of total capital is predominantly reflected in the advances received. The cash and equivalents balance proves good liquidity.

To summarise, the following developments in ZEW's financial position were of significance in the fiscal year of 2013: Total revenues were lower in 2013 (EUR 18.75 million) than in 2012 (EUR 20.50 million). This is primarily attributable to a decline in gross turnover to EUR 8.54 million as compared to EUR 10.12 million in 2012. By contrast, the net turnover (gross turnover minus third-party services) exceeded the 2012 figure of EUR 6.97 million and amounted to EUR 7.01 million. Total expenses were EUR 18.69 million, lower than last year's figure of EUR 19.69 million. This is mainly attributable to a decrease in "other operating expenditures" and in "allocations to special items for contributions to fixed assets".

8] ZEW PROFIT-AND-LOSS-STATEMENT*

(in K euros)	2009	2010	2011	2012	2013*
Institutional funds	7,600	7,766	8,503	9,189	9,177
Joint Initiative for Research and Innovation Funding	848	794	646	487	330
Third-party funds (turnover, inventory changes, subsidies)	5,819	6,281	8,397	10,116	8,535
Other business revenues, financial profit	528	440	359	357	274
Income from the reversal of the special item for contributions to fixed assets	295	320	341	353	439
Total revenues	15,090	15,601	18,246	20,502	18,755
Staff expenditures	9,753	9,992	10,300	10,637	11,118
Third-party services	1,069	990	1,344	1,302	1,216
Other operating expenditures	4,287	4,081	4,750	6,471	5,338
Asset write-offs	295	320	341	353	439
Allocation to special items for contributions to fixed assets	240	468	629	919	571
Other taxes	5	29	12	11	13
Total expenses	15,649	15,880	17,376	19,693	18,695
Profit/loss for the financial year	-559	-279	870	809	60
Withdrawals from appropriated reserves	1,161	967	790	554	672
Net income	602	688	1,660	1,363	732

* Preliminary figures

9] ZEW BALANCE SHEET AS OF 31 DECEMBER 2013*

	31-12-2012 in K euros	31-12-2013 in K euros		31-12-2012 in K euros	31-12-2013 in K euros
ASSETS			LIABILITIES AND EQUITY		
Intangible assets	58	284	Share capital	26	26
Real estate	2,286	2,958	Appropriated reserves	3,074	3,765
Equipment	671	655	Other reserves	2,170	2,170
Downpayments made and construction in progress	241	55	Net income	1,363	732
Fixed assets	3,256	3,952	Shareholder's equity	6,633	6,693
Stocks	4,288	3,117	Untaxed reserves	1,626	1,757
Receivables	724	1,037	Reserves	2,760	2,843
Investments/ cash at banks	6,871	8,405	Advances received	4,185	2,726
Current assets	11,883	12,559	Liabilities	1,521	2,597
Prepaid expenses	88	105	Outside capital	8,466	8,166
Total	15,227	16,616	Total	16,725	16,616

* 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 a key benchmark for a successful research institution. International research cooperation is also an important factor in the competition for third-party funds.

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 architecture of the “ENTRACTE” project, ZEW coordinates a consortium of nine partners. Against the backdrop of the debate about the EU energy and climate policy, the ENTRACTE project assesses the interaction of the different policy goals concerning renewables and climate protection.

ZEW will intensify its commitment in the new Framework Programme “Horizon 2020”. Apart from collaborative projects, the institute plans to apply for grants from the European Research Council that support individual researchers in the area of top-level basic research. Moreover, ZEW seeks



ZEW is increasing its presence on the international arena. Professor Clemens Fuest at the Baden-Württemberg State Representation in Brussels

membership in a “Knowledge Innovation Community” (KIC) focusing on health research together with European partners from industry, academia, and administration. In addition, ZEW is eager 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.

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 fields. Moreover, ZEW President Fuest has been appointed to 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. A regular exchange of views between Fuest and high-ranking representatives of the EU Commission and institutions such as the OECD further strengthens the international focus of ZEW. Finally, ZEW continues to increase its presence on the European arena with the Brussels-based “ZEW Lunch Debates” series, which brings together renowned experts and an invited high-level audience to discuss current economic challenges for Europe.

International cooperation serves the purpose of qualification, scientific exchange and enhances the quality of research. The institute therefore maintains cooperation with more than 200 universities, research institutes and organisations from 39 countries. Cooperation comprising joint projects, publications, and mutual research visits includes institutions across Europe, in the US, and a growing number of partners in Asia. During the period covered by this report, scientific exchange was particularly intensive with the UK and the US with 34 and 25 cooperation partners, including outstanding institutions like Oxford University and University College London in the UK as well as Harvard University and the Massachusetts Institute of Technology in the US. Research projects within the framework of the SEEK programme were an important area of collaboration between renowned researchers from the above-mentioned universities and ZEW in 2013.

Cooperation with China has notably intensified in the reported period. In collaboration with the Fudan University in Shanghai, ZEW has carried out a monthly survey on macroeconomic trends in China (China Economic Panel) since 2013, and together with PricewaterhouseCoopers, ZEW and Fudan conduct a quarterly survey on the German-Chinese trade. The long-standing cooperation with Fudan University was taken to a whole new level by the signing of a cooperation agreement, the objective of which is to benefit up-and-coming economists and to support the knowledge transfer process. ZEW furthermore supports the German Federal Ministry of Education and Research in organising the annual “Sino-German Innovation Forum”. The institute also contributes to the annual Beijing Humboldt Forum. In addition to that, ZEW welcomes a growing number of scholars from China who receive funding from the German Academic Exchange Service (DAAD), the Leibniz Association, the Humboldt Foundation or the Chinese government for research stays in Mannheim every year.

The development and expansion of international networks benefited from the large number of foreign researchers (443) from all over the world who came to ZEW in the reporting period. The ZEW Visiting Researchers Programme (VRP) provides a framework for research stays.



ZEW's visibility beyond Europe is further strengthened by the institute's participation in the annual meeting of the Allied Social Sciences Association in the US, the most important econom-

ics conference in the world, where ZEW provides information about the key research areas of the institute, opportunities for cooperation, job vacancies, and research stays. At the ASSA job market, ZEW research unit heads and human resources staff also conduct job interviews with up-and-coming economists.

Information brochures for specific target groups, press releases, and a website in English, as well as public relations activities at international conferences are further measures to enhance international networking. In the period covered by this report, ZEW has launched a version of the ZEW general information brochure in Chinese to support cooperation with research partners in China.



Clemens Fuest and Doris Brettar meet economists at the ASSA Conference in Philadelphia who are interested in working at ZEW as a visiting researcher or a member of staff.

For more information please contact:

Dr. Daniela Heimberger
International Research Cooperation Officer
E-mail: heimberger@zew.de

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 innovation activity, start-ups, the use of information and communication technologies, and further topics. Data from ZEW expert surveys, e.g. the ZEW Financial Market Test, and from individual-level surveys are also available.

**Firm surveys ...**

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

... and surveys on:

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

Expert surveys:

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

Individual-level surveys:

- ECO-CARS (Survey of Potential Car Buyers)
- SECO@home (Household Survey on Energy Consumption)

External scientists have the opportunity to work with ZEW data within FDZ premises on request. The use of ZEW data by external researchers is limited to academic research projects. Researchers can also access factually anonymised ZEW datasets as Scientific-Use-Files for external use in their own institute. 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 24 external researchers in 2013. The majority of license agreements were made for MIP data. Since 1996, a total of 265 external researchers have used MIP data, almost two-fifth of whom worked outside of Germany, and about nine per cent outside of Europe. As of the end of 2013, ZEW Education-Use-Files have been used for teaching by 21 researchers for university courses.

Further information:

www.zew.de/zew-fdz

Contact: Dr. Sandra Gottschalk

E-mail: gottschalk@zew.de

DATABASES

• KfW/ZEW CO₂-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)

• 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)

• 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)

• 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. Sandra Gottschalk (gottschalk@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)

• ZEW Financial Market Surveys

Monthly surveys of experts that provide 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 objective of the “Strengthening Efficiency and Competitiveness in the European Knowledge Economies” (SEEK) research programme is to intensify collaboration between ZEW economists and renowned external researchers. Since its launch in 2010, this state government-funded landmark project has contributed to strengthening top-level economic research. ZEW’s goal in conducting the five-year research programme is also to further improve the institute’s position in the international research landscape, even beyond the project period. This goal is being pursued through international research projects, scientific publications and conferences, economic policy advice, and additional research infrastructure.

Within the framework of the programme, economists employ empirical methods to address the efficiency and competitiveness of the European knowledge-based economies. Another goal of this programme is to offer decision-makers in the worlds of politics and business strategies to overcome the major challenges facing the European economies as they have been delineated in the “Europe 2020” strategy of the European Commission. Projects within the SEEK framework contribute to the goals of “Europe 2020” from a scientific point of view.

Researchers investigate how the formation of human capital, IT adoption, incentives for research and development as well as the management of diminishing natural resources should be best organised to strengthen the capacity for innovation and productivity, and to secure jobs and prosperity. SEEK projects address the factors that are fundamental to the competitiveness of knowledge-based economies, such as well-functioning financial institutions and capital markets as well as an efficient public sector. Another objective of SEEK is to improve our understanding of the mechanisms that support economic stability in an increasingly interconnected world economy. The programme comprises processes of knowledge generation, the diffusion and adoption of knowledge, the efficient use of knowledge and the effects on economic key factors, e.g. framework conditions necessary to strengthen the efficiency and competitiveness of knowledge-based economies.

SEEK was launched in early August 2010. More than 6,000 international researchers have since been invited every year to submit proposals for SEEK research projects in close cooperation with ZEW researchers. Project proposals are evaluated by a scientific board consisting of distinguished international researchers. This competitive procedure ensures the highest scientific quality. After an in-depth review process, the following projects were approved in the past years:

2010 Call for Proposals – Approved Projects:

- Product Innovation Under Uncertainty – The Effect of Dynamic Resource Allocation
- The Research Use Exemption from Patent Infringement – Boon or Bane?
- Interaction Between Innovation and Firm Dynamics and Its Impact on Industry Structure and Economic Growth

- Patent Litigation in Europe
- How Do Banks Screen Innovative Firms?
- Taxation and Corporate Innovation
- Firm Behaviour over the Product Life Cycle. Entry, Exit and Pricing Strategies on Online Price-Comparison Sites
- Anticipated Technology Shocks in the European Economies
- Induced Climate-Related Innovations, Crowding out, and Their Impacts on Competitiveness

2011 Call for Proposals – Approved Projects:

- Fostering Competitiveness of the European Car Industry
- Estimating the Macroeconomic Elasticity of Substitution between Clean and Dirty Production
- The Division of Tasks, Offshoring and the Competitiveness of Europe’s Knowledge Economy
- The Effect of (Relative) Wages and Human Capital on Fertility Choices: Lessons From East Germany’s Fertility Decline after Unification
- Incentives and Creativity – Enhancing Innovation in Europe’s Knowledge Economies
- Diffusion of Climate-Friendly Technologies – The Role of Intellectual Property Rights, Human Capital and Environmental Policy
- How Philanthropy Affects Corporate Competitiveness in Europe
- Private Funding of Higher Education – Human Capital as an Asset Class

2012 Call for Proposals – Approved Projects:

- Taxation and Corporate Innovation
- Financial Stress and Economic Dynamics: Asymmetries Within and Across Euro Area Countries
- Effects of Knowledge and Learning in Technology Adoption: Social Networks, Adoption, and Persistence in the Video Game Market
- Corporate Social Responsibility and Credit Costs
- Does the German Government Distribute Direct R&D Subsidies Efficiently?
- Competitiveness Impacts in the World with Uneven Carbon Constraints: Examining the Implications of the EU Emissions Trading Scheme on Energy-Intensive Industries
- Why Do Governments Fund Applied Research Institutions? – Theory and Empirical Evidence from the German Fraunhofer Institutes

The research projects of the first three funding periods (2010–2012) have all been completed successfully. More detailed information on SEEK projects, results and contact persons can be found on the SEEK website: <http://seek.zew.eu>.

Eleven SEEK projects from the 2013 call for proposals are currently in progress:

- 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: Incentives, Stabilisation and Distributional Effects
- The Impact of Corporate Income Tax Reform in China

The first project results are expected by October 2014.

The fifth call for proposals period started in November 2013; the projects were launched after an evaluation by the scientific board on April 1st, 2014. Against the backdrop of the European economic and financial crisis, the central topic of the 2014 call for project proposals is “Overcoming the Crisis in Europe.” The target of new SEEK research projects is to deepen our understanding of the crisis and to provide politicians and decision-makers with empirical, science-based expertise. Therefore, SEEK projects will examine the origin of the crisis, the conditions for sustainable and inclusive growth as well as long-term strategies to secure economic and financial stability. The focus will once again be on the framework conditions decisive for the competitiveness of knowledge-based economies.

Within the framework of the SEEK projects, ZEW researchers have the opportunity to enhance their networks within the international scientific community. The members of all SEEK projects disseminate their scientific findings through workshops, discussion papers and publications in journals. Furthermore, the “ZEW policy briefs” spread research results beyond academic circles: in a concise way they inform national and international decision-makers about ZEW research results with policy impact.

In addition to the wide-ranging scientific agenda of the SEEK research programme, measures are taken to improve the competitiveness and cooperation capacity of ZEW. For instance, ZEW has rented additional space for international workshops and conferences as well as office space for visiting researchers.

Furthermore, ZEW has been hosting the annual SEEK conferences since 2011 attracting some 200 international guests from the fields of academia, politics and business. High-profile keynote speakers such as EU Commissioner Máire Geoghegan-Quinn, Prof. Dr. Klaus Töpfer, Executive Director of the Institute for Advanced Sustainability Studies (IASS), as well as renowned researchers like 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 2013 SEEK conference “Engines for More and Better Jobs in Europe” brought together international economists to discuss the current development of the European labour markets. The conference focused on the key challenges the European national economies are facing in labour market policy, such as the high rate of youth unemployment. Once again, ZEW had the privilege to welcome high-profile speakers: Keynote speakers of the first day of conference were Frank-Jürgen Weise, Chairman of the Executive Board of the German Federal Employment Agency; Stefano



How to create a “European Job Miracle”? Panel discussion at the SEEK Conference with Jo Ritzen (former Dutch Education Minister), Hilmar Schneider (CEPS), Gerard Pfann (Maastricht University) and the presenter, Holger Bonin (ZEW).

Scarpetta, Deputy Director for Employment, Labour, and Social Affairs at the OECD; and Rita Asplund, Research Director at the Research Institute of the Finnish Economy (ETLA). The first conference day also featured a panel discussion addressing the question of “How to Create a European Job Miracle?” with Josef Ritzen, former Dutch Minister of Education, Culture, and Sciences; Hilmar Schneider, Director of CEPTS/INSTEAD in Luxembourg; and Gerard Pfann, Professor at Maastricht University. The discussion was chaired by Holger Bonin, head of ZEW’s Research Department of “Labour Markets, Human Resources and Social Policy”. At the end of the first day of the conference, Baden-Württemberg’s Minister for Federal, European, and International Affairs,

Peter Friedrich, welcomed the participants at a conference dinner and gave a brief overview of the labour market situation in Baden-Württemberg. The second conference day was devoted to science. Forty scientific lectures and two keynote speeches by international researchers Samuel Bentolila, professor at the Center for Monetary and Financial Studies (CEMFI) in Madrid, and Torben M. Andersen from the University of Aarhus addressed various aspects of the current labour market situation in Europe.

The fourth SEEK conference “Public Finance and Income Distribution in Europe” takes place at ZEW in Mannheim on April 25–26, 2014. The conference focuses on income and wealth inequality, fiscal policy and government debt, as well as on the prospects of a European fiscal union.

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LEIBNIZ SCIENCECAMPUS

MANNHEIM CENTRE FOR COMPETITION AND INNOVATION (MACCI)

In cooperation with the School of Law and Economics at the University of Mannheim, ZEW established the Leibniz ScienceCampus “Mannheim Centre for Competition and Innovation” (MaCCI) in



January 2012. A ScienceCampus is a joint initiative of at least one institution within the Leibniz Association, at least one university, as well as the federal state in which the university is located, and may also include the federal level. The objective of initiatives like MaCCI is to promote excellent research on the basis of a regional partnership between Leibniz institutions and universities, which is also open to third parties. The duration of a Leibniz ScienceCampus is usually seven years or longer, depending on the research topic.

Objective

The MaCCI ScienceCampus aims to initiate research projects at the intersection of law and economics in the areas of competition policy, regulation, and innovation. The focus is on basic, applied-theoretical, and empirical research as well as on research in comparative law and on economic analysis of law. In this way, the MaCCI ScienceCampus strengthens the position of legal research in Germany and Europe as well as the impact of economics on legal practice. It offers opportunities for young researchers, and, over the long term, improves the position of the participating institutions on the international market for scientific talent.

Background and Motivation

The three main research areas of the MaCCI ScienceCampus – competition policy, regulation, and innovation – have undergone significant changes in recent years, both in Germany and at the European level. At the same time, there is increasing demand for evidence-based policies, calling for tailor-made analyses of each individual policy measure. Such analyses should take into account direct and indirect policy impacts as well as reciprocal effects between policy areas. As a result, an economic assessment of policy measures is becoming more difficult, and complex institutional frameworks have to be considered in theoretical and empirical analyses, too. This is precisely where legal analysis becomes relevant: It is crucial to comparatively assess the effects of previously implemented regulations upon competition and innovation. It is just as important to identify problems and develop yardsticks based upon economic insights that are consistent with a view to regulatory policy, ensure legal certainty, and are viable for practical implementation.

In the field of competition policy, the “More Economic Approach” represents a variant of evidence-based policy. While previous approaches were based on the preconditions for free market processes and derived evaluation criteria for existing markets against this backdrop, the “More Economic Approach” is ultimately interested in positive or negative market results.

This approach was adopted in the reform of the European Competition Law in 2004 (Regulation 1/2003), which led to a reform of the German Competition Law (7th Amendment to the Act against Restraints of Competition). Key elements of the reform were the shift from the former ex-ante notification system to an ex-post legal exemption system, the “decentralisation” of competition law enforcement, and the strengthening of private antitrust enforcement. Yet a comprehensive answer to the question which role private enforcement should play in antitrust law has not been found.

Against this background, interdisciplinary discussion is essential to develop solutions that ensure legal security and provide an economic analysis in step with the actual practice, especially of complicated individual cases. Comparative analysis and economic evaluation of the decentralised application of competition law by EU Member State authorities, which has been neglected so far, are of great practical interest as well.

Focal Points

The MaCCI ScienceCampus focuses on problems that require cooperation between economists and legal scholars. Specific topics addressed by MaCCI are the analysis of standards from the viewpoints of competition law, competition economics, as well as innovation policy. Furthermore, core topics studied by MaCCI include competition in the health sector, public and private enforcement of competition law, enforcement and strategic use of intellectual property rights (such as patents and trademarks), and the development of competition in the telecommunications and energy markets. These topics allow for a consistent realisation of MaCCI’s two key principles: interdisciplinary and application-oriented research. The goal of the MaCCI ScienceCampus is to provide academically outstanding as well as applicable results.

Contributions to Doctoral Education and Teaching

The ScienceCampus contributes to doctoral and master student education on three levels:

- Within the framework of the Mannheim Competition Policy Forum, presentations on current problems regarding competition law cases (e.g. antitrust law decisions) are organised on a fortnightly basis. Representatives from authorities, competition consultants and scientific experts are lecturers at the Mannheim Competition Policy Forum.
- Doctoral candidates are involved in MaCCI projects and some are 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 already existing “Competition Law and Economics European Network” (CLEEN) serving as the centrepiece of the network.

About 40 doctoral candidates are currently involved in MaCCI activities.

Conferences and Networks

Within the framework of the ScienceCampus, conferences and workshops are organised on topics concerning competition law and competition economics. In 2013, MaCCI was involved in the organisation of 13 scientific events. More than 80 researchers with expertise in various aspects of competition economics and law form the core of the regional MaCCI network. MaCCI is supported by a scientific advisory board that consists of renowned international researchers from the areas of competition, regulation and innovation.

Board of Directors

- Thomas Kohl, ZEW
- Dr. Georg Licht, ZEW
- Prof. Dr. Martin Peitz, University of Mannheim
- Prof. Dr. Heike Schweitzer, University of Mannheim

Coordinator

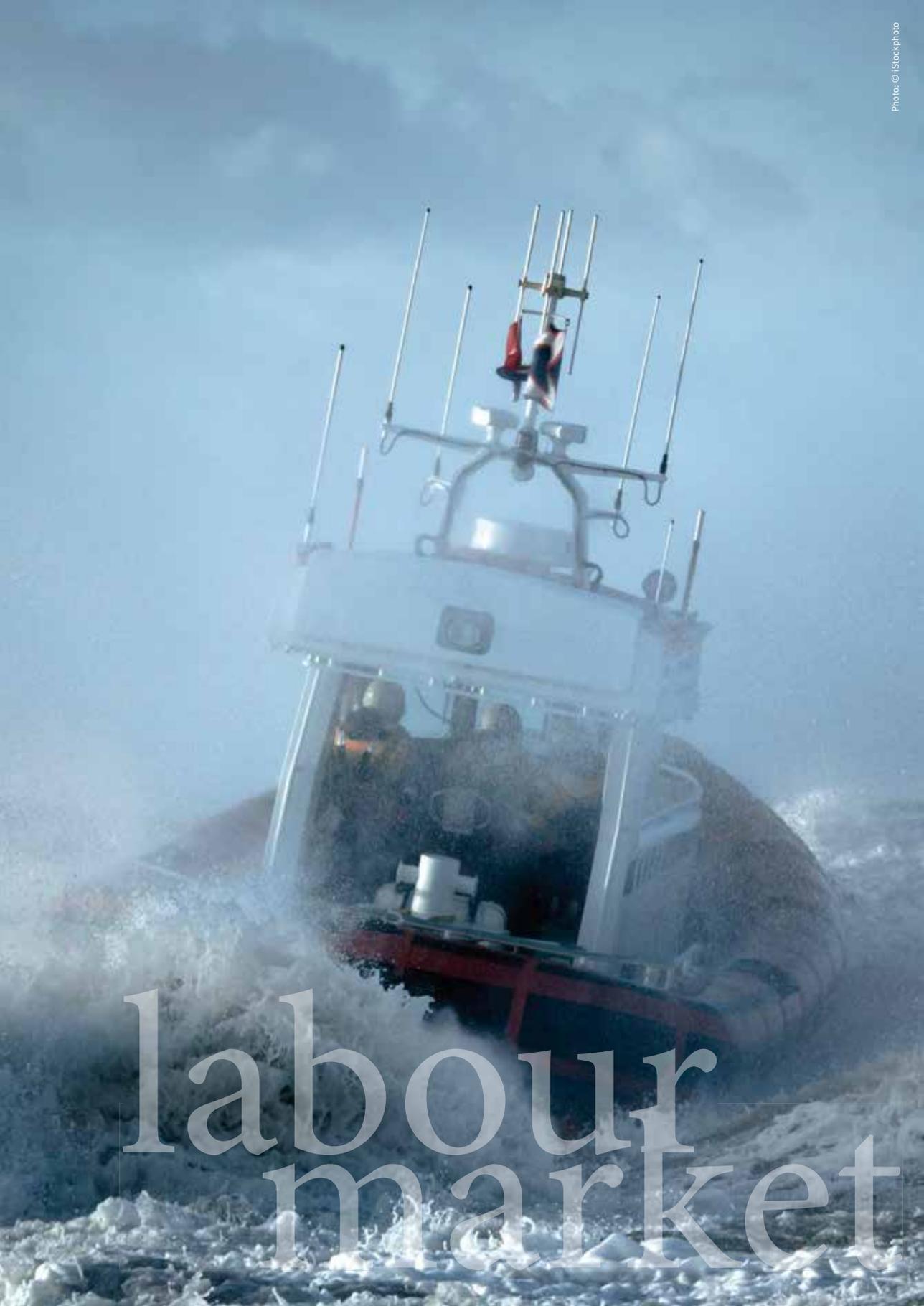
- Prof. Dr. Kai Hüschelrath, ZEW (hueschelrath@zew.de)

» KEEP THE LABOUR MARKET ON COURSE.



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



Jun.-Prof. Dr. Melanie Arntz
Deputy Head

RESEARCH AREAS

- **Employment and Wages**
Contact: Jun.-Prof. Dr. Melanie Arntz, PD Dr. Nicole Gützgen
- **Education Economics**
Contact: PD Dr. Friedhelm Pfeiffer, Dr. Maresa Sprietsma
- **Social Welfare Institutions**
Contact: Prof. Dr. Holger Bonin
- **Personnel Economics**
Contact: Dr. Susanne Steffes

MISSION STATEMENT

The Research Department “Labour Markets, Human Resources and Social Policy” investigates how to best organise labour market institutions and provide working conditions in firms to achieve high levels of employment and equitable wages in Europe’s knowledge-based economies. The Research Department approaches labour market issues from a microeconomic perspective, and its expertise lies in the area of micro-econometric methods, particularly in techniques for programme evaluation. The Research Department has special know-how in analysing register data and in analysing human resource management using firm-level data. It uses structural models to predict ex ante the impacts of labour market and social policy interventions. From the perspectives of education economics, the Research Department studies the factors that promote the development of cognitive and non-cognitive skills and contribute to success on the labour market. In addition to basic research, it provides scientifically grounded policy advice to provide economic policy-makers with information and recommendations for devising strategies to combat skill shortage and promote the efficiency of labour markets in the face of demographic and technological change.



RESEARCH AREA: EMPLOYMENT AND WAGES

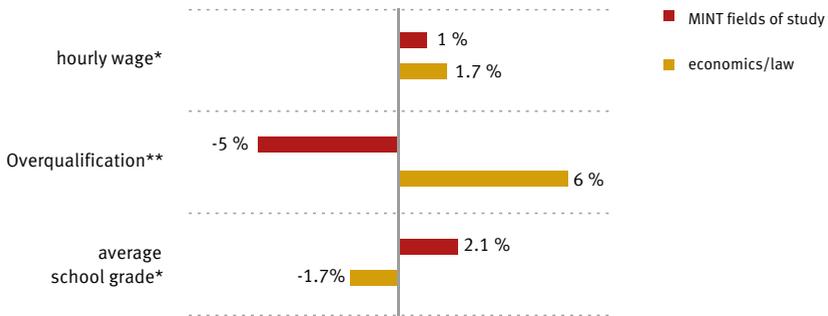
- Wage Formation and Income Inequality
- Employment Dynamics

Economists in this research area study labour market imperfections caused by institutions, rigidities, and adjustment frictions. Based on the findings of this research, they elaborate policy options for improving the functioning of the labour market. The dynamics of individual employment histories is an additional subject of research, particularly the determinants of transitions between education, employment, unemployment, and non-employment. Further areas of study are wage formation, wage dynamics, and income inequality, with an emphasis on wage and employment outcomes in regional, sectoral, and skill- and firm-specific labour markets.

During the year under review, economists in this research area were engaged in a variety of activities. In addition to conducting a feasibility study for an in-depth evaluation of sectoral minimum wages in Germany using advanced econometric techniques, they continued empirical investigation of the wage distribution and wage inequality in Germany. As part of a project financed by the German Research Foundation (DFG), researchers analysed wage mobility trends in East and West Germany in recent decades. This research showed that as wage inequality has increased, fewer workers have changed their wage position over time. The findings also suggest that men have experienced significantly greater upward mobility than women. Over the time frame of the study, however, gender differences narrowed somewhat. Upward mobility has increased slightly over the long run for women and decreased slightly for men. These results are consistent with the observation that gender-specific wage gaps have narrowed in Germany in recent decades.

As part of a project conducted on behalf of the Federal Ministry of Education and Research (BMBF), economists in this research area have been examining the impact of a student’s choice of a field of study on wages and employment adequacy after graduation from university. Figure 1 shows differences between university graduates in two aggregate fields of study who were employed between 2001 and 2011. On average, the hourly wage is about 1.7% higher for graduates in business and legal studies than for college graduates overall, while MINT (mathematics, engineering, natural sciences, technology) graduates earn about 1% more than the average. However, the risk of overqualification for graduates from MINT fields of study is five percentage points below average, whereas this risk is six percentage points above average for graduates with business and legal studies degrees. University graduates were rated as overqualified if, according to their own judgement, they felt that their job would not require a university degree. Moreover, the MINT graduates had better grades at school on average. Average grades in mathematics and German during the last year at school were about 2.1 per cent better for MINT graduates than for university graduates overall. Differences in average wages and in the propensity of overqualification between graduates from different fields of study are presumably related to their choice of a field of study as well as their personal characteristics. The differences in school grades suggest that students in MINT fields are positively selected, which may partially explain the differences in wages and overqualification. In order to account for unobserved characteristics such as talent, the study employed instrumental variable techniques. In this way, the causal effect of the choice of a field of study on differences in wages and the risk of overqualification could be identified.

1] DIFFERENCES BETWEEN UNIVERSITY GRADUATES BY FIELD OF STUDY



* Deviation from average value in % ** Deviation from average value in percentage points

The likelihood of overqualification is 31.3 percentage points lower for graduates in MINT fields of study than the average for all men with a university degree who are employed.

Source: ZEW calculations based on the Socio-Economic Panel Study, 2001–2011

RESEARCH AREA: EDUCATION ECONOMICS

- Formal Education
- Informal Education

Economists in this research area contribute to a better understanding of ways to improve educational processes in families and public institutions to help people realise their full potential on the labour market. Which factors make for effective learning? How beneficial are investments in education over the life cycle? To answer these questions, ZEW researchers conduct longitudinal studies employing individual-level data. On this basis, they assess the process of learning in schools, in vocational programmes, and at universities, and evaluate educational policies and related institutions.

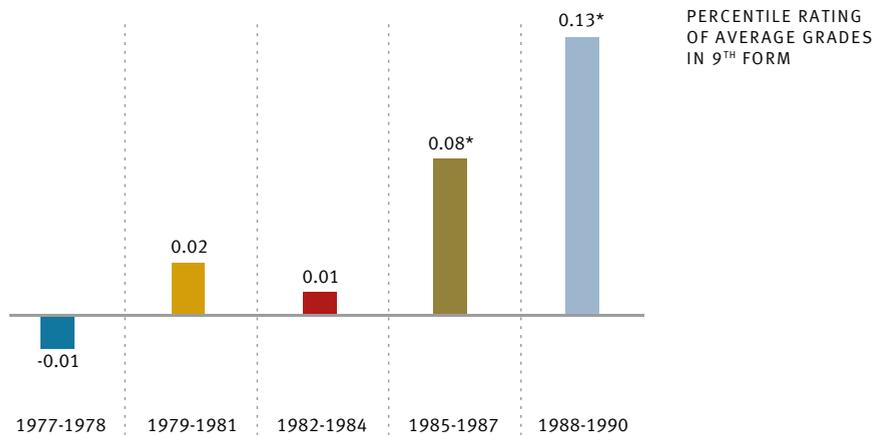
During the year under report, research in education economics at ZEW focused especially on the transition from school to work and on the development of career choices. A project on behalf of the Baden-Württemberg Foundation was initiated as part of the newly created interdisciplinary “Educational Research Network”. This project aims to create a longitudinal database for two locations, Mannheim and Freiburg, that will document students’ transition into further education or the labour market as they complete their lower secondary education (Sekundarstufe 1). Over the next years, data will be collected that enable empirical analysis of transition at the end of secondary school, taking into account the specific transitional options available in Baden-Württemberg. The project on the “dual orientation internship”, a programme in North Rhine-Westphalia that aims to encourage students in upper secondary education (Sekundarstufe 2) to pursue university degrees, was continued. In a further project, the efficacy of measures designed to improve vocational education opportunities for disadvantaged youth working at firms in the metals and electronics industry in Baden-Württemberg was investigated.

A second research focus was the credit risk and return associated with tertiary education. In cooperation with the ZEW Research Department “International Finance and Financial Management”, researchers in this area conducted a study within the SEEK research programme to investigate the risks and returns of investing in human capital for private investors through “human capital contracts”. Human capital contracts provide financial support for tertiary education in exchange for a percentage of the graduate’s future earnings over a specified period of time. The results of the study show that human capital contracts offer investors significant diversification advantages compared to a financial portfolio.

A third focus of the research area is on how educational institutions affect children’s educational outcomes. For example, during the period under review, a study in collaboration with the Institute for the Evaluation of the Labour Market and Education Policy (IFAU) in Uppsala was concluded that examined the long-term consequences of greater school choice. A reform implemented in Sweden that gave parents greater freedom of choice about the schools that their children could attend was evaluated. Using precise geographical information about the location of the schools available for selection and the parents’ home addresses, the study identified the causal effect of the school reform.

Figure 2 illustrates the estimated effect on students' performance if parents had one additional school available to choose from. With regard to average grades at the end of the 9th grade, the reform resulted in slight but significant improvement. The positive effect is greater in later cohorts of children, who were more affected by the reform. However, if one follows the students impacted by the reform through age 25, only minimal to no effects are detectable in terms of their success in university education, employment, improved health, increased cognitive capacities, or reduction in deviant social behaviour. Therefore, the effects of increased school choice appear to be modest and short-lived.

2] SHORT-TERM AND LONG-TERM EFFECTS ON STUDENTS OF A LARGER NUMBER OF SCHOOL CHOICE OPTIONS



If one additional school was available for parents to choose at the time of the reform, the percentile rating of average grades at the end of the 9th grade increased by 0.13 points for students born between 1988 and 1990. The percentile rating indicates on a scale of 0 to 100 an individual student's position in the ranking of average grades for the birth cohort.

Source: ZEW calculations. The *-sign indicates statistically significant effects.

RESEARCH AREA: SOCIAL POLICY INSTITUTIONS

- Evaluation of Labour Market Policies
- Behavioural Microsimulation

Economists in this research area analyse how social policies, especially labour market and family policies, affect individuals and households. Typically, researchers focus on employment and wage outcomes, yet they also examine various dimensions of employability. The objective is to identify the causal effects of programmes and specific policy measures and to provide policy-makers with high-standard policy evaluation. The studies conducted in this research area rely on a broad spectrum of advanced control group approaches and on behavioural microsimulation.

During the year under review, economists in this research area continued their study on a German occupation-based language assistance programme for migrants, and also concluded a comprehensive evaluation of a wage subsidy programme for disadvantaged youths. The “training bonus” (*Ausbildungsbonus*) provided financial support to employers who offered additional training positions to youths who are not among the most recent cohort of graduates and still seeking an apprenticeship position. The principal objective of the impact assessment study was to determine whether the programme actually stabilised the employment situation and improved the apprenticeship completion rates of the programme participants.

The findings showed that the training bonus did not have a significant positive impact. On average, subsidised training contracts lasted exactly as long as comparable non-subsidised training contracts. The propensity of successfully completing an apprenticeship was actually 2.7 percentage points lower for subsidised training contracts than for non-subsidised training contracts (see Figure 3). These average values conceal an approximately 1.2 percentage point higher rate of successful completion of training by subsidised women, whereas subsidised men had a completion rate that was around four percentage points lower than non-subsidised men. In any case, these differences are too small to be considered a statistical effect of the training bonus.

As the programme, according to ZEW’s impact assessment study, did not generate any substantial positive impact, the decision of policy-makers to abandon it appears consistent.

In 2013, the research area also completed a comprehensive evaluation of marriage- and family-related benefits in a study commissioned by the Federal Ministry of Family Affairs, Senior Citizens, Women and Youth and the Federal Ministry of Finance. Toward the end of the five-year project, ZEW economists investigated the impact of marriage and family benefits across the life cycle, especially on the birth rate. The analysis was conducted on the basis of a dynamic life cycle model that can describe how employment and fertility choices are made depending on individual preferences and social policy institutions. In coming years, ZEW will work to further develop this model.

The results of ZEW’s behavioural simulation studies have gained major prominence in current public discussion about family policies in Germany. The findings support the conclusion that publically supported child care – especially high-quality care – has a substantial positive effect

3] EFFECTS OF THE TRAINING BONUS ON THE LIKELIHOOD OF SUCCESSFULLY COMPLETING AN APPRENTICESHIP



on a range of family-policy goals such as income stabilisation, reconciliation of family life and work, and rising fertility. The assessment of some other important family-related instruments, in contrast, revealed conflicts of aims, especially concerning the tax-free extension of government health insurance held by a working partner to their spouse holding a minor job or being out of the labour market, and the “splitting rule”, which allows spouses to pool and equally divide their income to determine tax liability.

RESEARCH AREA: PERSONNEL ECONOMICS

- Insider Econometrics
- Enterprises and Demographic Change

The “personnel economics” research area examines how strategic human resource management can improve firm competitiveness and performance. Researchers in this area empirically investigate how incentive systems and other factors help to enhance the productivity and loyalty of employees. To this end, various types of data are used: representative (panel) data, especially linked employer-employee data; personnel data drawn from individual company records; data generated in field experiments.

During the year covered by the report, work in this research area focused on the adaptation processes of firms to technological and demographic change. As part of the SEEK research pro-

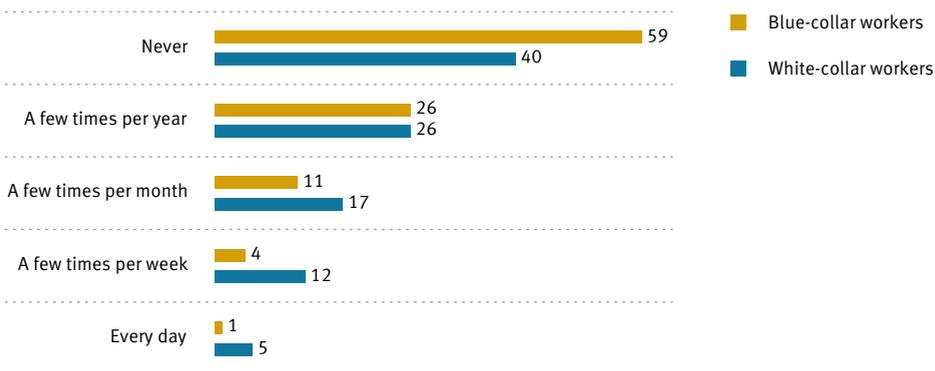
gramme, a project addressed how changes in firms’ needs for skilled labour resulting from basic technological innovation affect wage structures, and how they affect the chances on the labour market for those workers whose skills have become out-dated. In another project conducted on behalf of the Federal Ministry of Labour and Social Affairs (BMAS), researchers surveyed company managers and works councils about firms’ strategies to retain skilled employees. The results were reported in the “Unternehmensbarometer Fachkräftesicherung 2013”, which provides an up-to-date picture of personnel strategies for developing human capital potentials.

In 2013, the research area successfully continued several long-term projects, including experimental research on efficient incentive systems for creative work and the Linked Personnel Panel (LPP), an innovative research database which is being developed in cooperation with Professor Dirk Sliwka of the University of Cologne on behalf of the Institute for Employment Research (IAB) and the BMAS. The LPP combines a survey of firm managers regarding the strategic components of human resource management with an employee survey that examines workers’ experience with personnel management measures, working conditions, and their perceptions of work-life quality.

During the period covered by the report, the first wave of the LPP was analysed. The findings of the employee survey provide the first comprehensive picture of the extent to which the boundaries between professional and private life are blurred among employees in Germany. According to the survey, 30 per cent of today’s white-collar employees work from home at least occasionally, while this is the case for only two per cent of blue-collar workers. As shown in Figure 4, 34 per cent of white-collar workers and 16 per cent of blue-collar workers receive work-related phone

4] FREQUENCY OF WORK-RELATED TELEPHONE CALLS AND E-MAILS DURING OFF-HOURS

HOW OFTEN DO YOU RECEIVE JOB-RELATED PHONE CALLS OR REPLY TO JOB-RELATED E-MAILS DURING OFF-HOURS?



Weighted values
Source: ZEW calculations based on the 2013 LPP wave

calls or respond to work-related e-mails at least once a month during leisure time. Among white-collar workers, only 40 per cent report that they never have to deal with such work-related interruptions during their off-time.

The erosion of spatial and temporal boundaries between private and work activities – a phenomenon that can be referred to as “ubiquitous working” – and its consequences for employees and for firms have not been thoroughly investigated to date. In the future, researchers in this area will continue to track the evolution of this phenomenon using LPP data. In addition, a large-scale project will investigate the effects of “ubiquitous working” on health and on work-life balance. This project will be undertaken in collaboration with researchers from other disciplines, such as occupational medicine and organisational psychology, and is supported by the Leibniz Association with funds from the Joint Initiative for Research and Innovation.

OUTLOOK

Multiple waves of macroeconomic crises have shaken Europe in recent years; European labour markets are currently sailing in turbulent waters. In Germany, as well, the seas are growing rougher: The downward trend in the unemployment rate has come to a halt, and conflicts have intensified about equitable income distribution and working conditions in firms. In this situation, more than ever, policy-makers need reliable empirical information to help them keep the labour market on course and to achieve a high level of employment under socially acceptable conditions. There is growing demand for forecasts concerning the prospective impact of policy measures before they are implemented in practice. To meet these planning needs, the Research Department will work on enhancing its competencies in the field of structural evaluation methods. These methods will complement the control group studies that have long characterized the Research Department’s work. Structural modelling, for example, allows for responses to the urgent question of how to best design a general minimum wage in Germany without jeopardizing employment.

The organisational structure of the Research Department will be revised in 2014 in order to focus research work more specifically on the challenging social policy and labour market issues that are critically important for designing a European economy aimed at inclusive growth. The following themes will shape the Research Department’s agenda in the foreseeable future:

- determining the conditions for successful entry into the labour market given the backdrop of an alarmingly high rate of youth unemployment;
- developing appropriate pathways for integrating social groups with especially high employment risks into the labour market;
- designing good workplaces that meet the needs of both employers and employees; and
- creating the necessary structures to manage the process of adaptation in labour markets that are subject to global competition.

» YOUNG BUSINESSES – A KEY DRIVER OF FUTURE INNOVATION.



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 Research and Innovation Policy**
Contact: Dr. Bettina Peters, Dr. Christian Rammer
- **Start-ups and Industry Dynamics, Firm Foundations**
Contact: Jürgen Egel, Dr. Bettina Müller
- **Cross-Section Area: Data**
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 challenges faced by firms and economic policy due to European unification and globalisation. It also analyses and assesses economic policy and conditions, and proposes new courses of action. Relying on approaches from economics and business management, the Research Department focuses on firm innovation, market entries and exits, business growth and decline, and company transformation. The Research Department also cultivates cooperation with other disciplines such as law and social sciences.



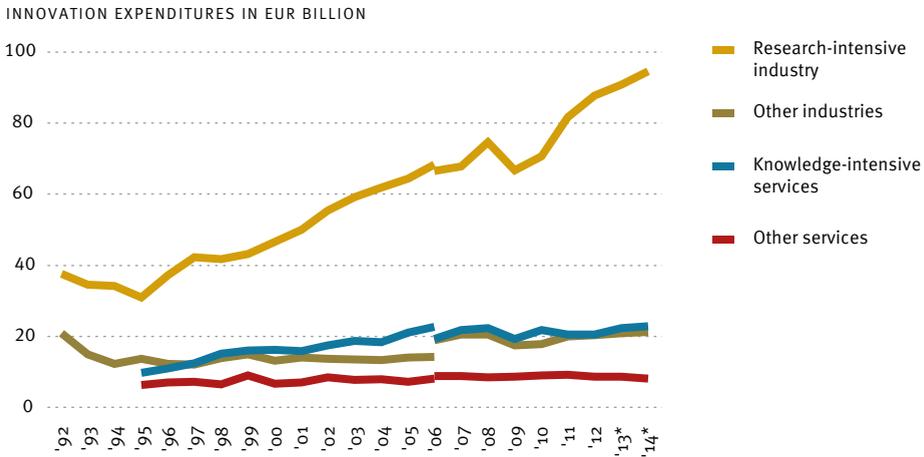
RESEARCH AREA: INNOVATION RESEARCH AND INNOVATION POLICY

- Determinants of Innovative Behaviour
- Indicators and Measurement of Innovation Activities
- Internationalisation of R&D and Innovation
- Intellectual Property Rights and Innovation Incentives
- Public R&D Infrastructure and Technology Transfer
- Evaluation of R&D and Innovation Policy
- International Trends in R&D and Innovation Policy

Since 1993, a main task of the Research Department has been the Mannheim Innovation Panel (MIP), an annual panel survey on firm innovation in Germany. It is commissioned by the Federal Ministry of Education and Research and carried out together with Infas and the Fraunhofer Institute for Systems and Innovation Research (ISI). MIP is also Germany's contribution to the European Commission's Community Innovation Surveys (CIS). In 2013, the 21st year of the survey, the MIP continued to provide crucial data for numerous ZEW research and advising projects, many of which were carried out in collaboration with other institutes and researchers.

Among the new research projects started in 2013 are two studies on the relationship between economic activity and innovation. Another is an investigation of how innovation influences firm growth over the course of the business cycle for the European Commission's Annual Report on Competition Policy. In a project financed by the ZEW Sponsors' Association for Science and Practice, researchers examined the role of innovation strategies to secure innovation during crises.

1] INNOVATION EXPENDITURES IN THE GERMAN ECONOMY, 1992–2014



Target figures from early 2013

Source: ZEW, Mannheim Innovation Panel

By linking information from the MIP with patent information and measuring the influence of radical innovation on innovation success, investigators also considered the extent to which small and medium businesses advance profound innovations.

Also in 2013, the Research Department published nine new papers on the basis of MIP data. Their topics included the influence of intellectual property rights on patents, brands, and innovation incentives; the long-term returns on investments in research and development; the relationship between environmental innovation and firm profitability; and the effect of innovations on employment in European comparison.

The “Innovation Indicator Germany” is a project of the Deutsche Telekom Foundation in cooperation with the Federation of German Industries (BDI). It uses a holistic indicator approach to assess the performance of 28 national economies with regard to the development, introduction, and use of innovation. Since 2010, the Research Department has worked together with Fraunhofer ISI on implementing the project’s research. The researchers assess the relevance of different input and output indicators by employing an innovation indicator exclusively containing variables that can account for a country’s scientific, technological, and economic performance. Unlike many similar indicators, the innovation indicator from ZEW and Fraunhofer ISI heavily weights the efficiency of transforming inputs into outputs.

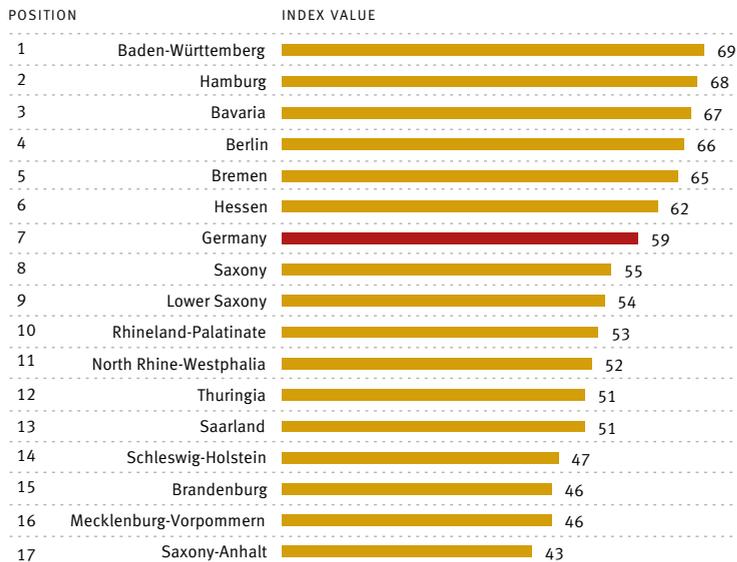
In 2013, ZEW investigators also assessed innovation in Germany’s 16 federal states (Figure 2). Six countries were found to have an above-average performance: the three city-states and the three southern federal states (Baden-Württemberg, Bavaria, and Hessen). Baden-Württemberg came in first thanks to an economy heavily oriented to innovation.

In 2013 the Research Department continued its previous work on countries' key enabling technologies. Specifically, it analysed areas of research and technology in Austria that will play a key role in the future competitiveness of its industry. For the EU Commission it devised a system for up-to-date monitoring of developments in key enabling technologies. The system employs indicators based on patent, production, demand, foreign trade, and firm data.

Other research includes a large joint project together with 33 institutions on welfare, growth, and labour. For their part, ZEW economists examine how innovation and innovation policy contribute to production structures. In the EU project "Creativity, Innovation and Growth in Europe", the Research Department's staff analyses the significance of creativity as a driving force for transformation in Europe's economy and the meaning of the creative economy as an emerging industry.

The Research Department pursued numerous studies as part of the SEEK programme in 2013. For the project "Does the German Government Distribute Direct R&D Subsidies Efficiently?", researchers examined the connection between public funding of R&D projects and patents received. One of the questions they asked was whether the social revenues from funded projects are higher than the revenues of R&D activities financed solely by private funds. In another SEEK project, researchers asked how the elimination of Germany's Hochschullehrerprivileg (professor's privilege) in 2002 affected incentives to produce, disseminate, and commercialize new knowledge. As part

2] INNOVATION INDICATOR 2013, RESULTS FOR THE FEDERAL STATES



Source: Fraunhofer-ISI/ZEW/Deutsche Telekom Foundation/BDI

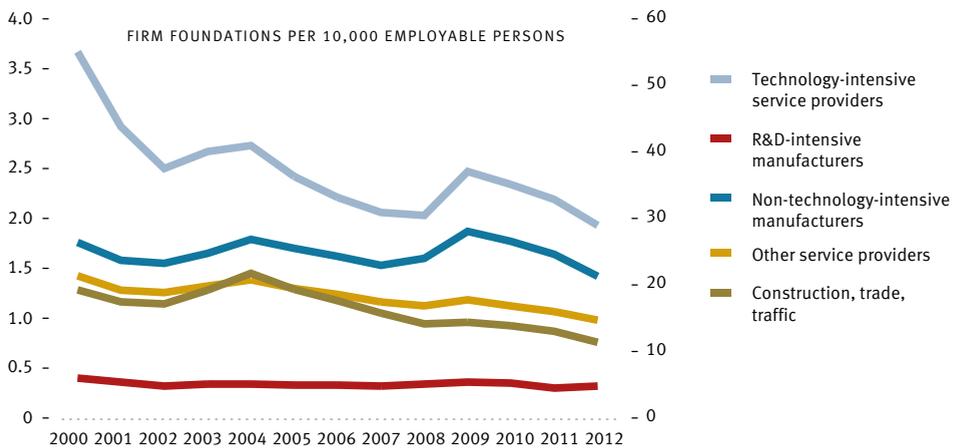
of the study, they examined the effects of legal changes on the number and quality of registered patents, published papers, and spin-off companies by scientists at German universities.

RESEARCH AREA: START-UPS AND INDUSTRY DYNAMICS

- High-Tech Start-ups
- Firm Survival and Insolvency
- Determinants of Firm Growth
- Evaluation of Public Support for Young Firms
- Financing of Young Firms

Another part of the Research Department’s work is the KfW/ZEW Start-up Panel. It is designed to provide comprehensive, up-to-date empirical data to optimize conditions for business start-ups. The Panel is a collaboration between ZEW, KfW Bankengruppe, and Creditreform. It tracks the development of start-ups over several years and supplies a broad spectrum of firm-specific information. Each year, the Panel surveys some 6,000 companies by telephone. The annual survey is based on a random sample of companies from different sectors and start-up years from

3] START-UP ACTIVITY IN GERMANY BY SECTOR (2002–2012)



Source: Mannheim Start-up Panel

the Mannheim Enterprise Panel (MEP). The KfW/ZEW Start-up Panel improves the data used for studying and fostering start-ups in Germany. In 2013, the Panel concentrated on employment in young companies, firm innovation and innovation success, financing conditions for young companies (especially options for employing external equity), and investment.

ZEW also sought to increase the Start-up Panel's analytical scope by collaborating with the Institute for Employment Research (IAB) to correlate enterprise data with selected employee data. Using this linked employer-employee dataset made available for the first time in 2013, ZEW investigated how employees contribute to company performance and innovation.

In 2013, Germany's Federal Ministry for Economic Affairs and Energy (BMWi) commissioned ZEW to determine the share of start-ups funded by private investors and the extent of their investments. BMWi also gave ZEW the task of investigating how Germany's energy transition (Energiewende) has affected start-up dynamics. For this, ZEW identified young companies whose business models directly involve renewable energy, and examined their activities. Likewise, researchers shed light on existing companies that entered the green energy sector and discussed possible obstacles for new start-ups.

Another field within the research area has been the analysis of firm dynamics in specific product markets. Over the past few years, the creative economy has received special attention in this regard, with ZEW analysing firm dynamics for the German government's annual culture and creative economy report. For the government's expert commission on research and innovation, ZEW tracked the development of start-ups, shutdowns, and assets in the German science sector. One focus in 2013 was how sector start-up activity in a company's first year affects its probability of survival.

CROSS-SECTIONAL AREA: DATA

- ZEW Research Data Centre
- Mannheim Innovation Panel (MIP)
- Mannheim Enterprise Panel (MEP)
- Mannheim Start-up Panel
- Data on Start-up Activity in Germany

The research conducted on innovation and firm dynamics would not be possible without the firm-related databases ZEW has generated over the past few years. The improvement and expansion of these databases is one of the crucial tasks carried out by the Research Department's personnel. The databases comprise the Mannheim Enterprise Panel and the Mannheim Innovation Panel, which provide unique firm-related panel data. The KfW/ZEW Start-up Panel primarily focuses on new businesses in their first years. It has been generated since 2008 and will be continued as the Mannheim Start-up Panel as of 2014. In addition, thanks to a partnership with Bureau van Dijk Electronic Publishing (BvDEP), ZEW enjoys exclusive access to the world's largest M&A database.

Another part of the Research Department’s work is to collect data from patent offices (in particular the European Patent Office, the German Patent and Trademark Office, and PATSTAT) and prepare them for research projects. The Research Department regularly links its European patent data with its enterprise databases and makes them available to ZEW’s other research units.

In 2013, ZEW opened its Research Data Centre, significantly improving access to its microdata for external researchers. The microdata includes individual data from ZEW firm surveys, such as data from the MIP, the Business Survey in the Information Economy, and the Mannheim Start-up Panel, and ZEW expert surveys such as the ZEW Financial Market Test. External researchers may access ZEW data at the premises of the Research Data Centre. In 2013, 21 external researchers made a total of 39 visits to ZEW.

The Research Data Centre also makes available anonymised Scientific-Use-Files. The most popular of these are those of the MIP. 268 external researchers have made use of this data (see Figure 4); 42 undertook their analyses at ZEW. At users’ request, ZEW has also provided MIP Education-Use-Files for university instruction.

4] EXTERNAL DATA USERS OF THE MANNHEIM INNOVATION PANEL BY REGION



OUTLOOK

In coming years, the Research Department will continue its work in the topic areas of “Innovation Research and Innovation Policy” and “Start-ups and Industry Dynamics”, though the emphasis in both areas will shift somewhat. In innovation research, the department will strengthen its structural model approach while putting more focus on the role of financing restrictions, especially with regard to credit. It will carry on its analysis of how intellectual property rights affect innovation, but do more to stress their long-term effects on a firm’s success. In the area of industry dynamics, the Research Department will continue to ramp up its integrated examination of start-ups and shutdowns. Using preliminary studies undertaken in 2013 – including those titled “Entrepreneurial Learning” and “Second Chance” –, researchers will use MEP data to analyse interdependencies between these phenomena. The Research Department will also analyse industry dynamics in specific sectors and technology areas to determine interactions between market entries and exits. Furthermore, the Research Department plans to continue its study of start-up financing and company growth, but with additional focus on the significance of financing decisions for subsequent market exits.

In the next few years, the Research Department will increase its work on the economics of science, an area located at the juncture of its two concentrations. Specifically, it will consider the interplay of public and private research in the open innovation approach and how to organise public research to increase exchange between science and the private sector and improve the applicability of scientific output. It will also expand its analysis of knowledge markets, including those for new technologies (e.g. patents) and the acquisition of knowledge enterprises, whose value primarily results from research and innovation. In the area of data infrastructure, the Research Department will continue its studies of existing datasets.

» PROMOTING GROWTH THROUGH DIGITALISATION.



Prof. Dr. Irene Bertschek
Head of the Research Department
Information and Communication
Technologies





internet

RESEARCH DEPARTMENT INFORMATION AND COMMUNICATION TECHNOLOGIES



Prof. Dr. Irene Bertschek
Head of Department



PD Dr. Marianne Saam
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 Research Department “Information and Communication Technologies” studies economic aspects of the production and use of ICT. The Research Department investigates how companies, markets, and knowledge acquisition should be managed to optimally exploit ICT’s potential to boost growth and employment. In terms of methodology, a focus is placed on empirical – and, in particular, microeconomic – analyses using firm-level data collected in-house. The Research Department also studies internet platforms and macroeconomic data. The overarching research approach addresses ICT’s key role in knowledge-based economies: as tools, media for knowledge and information transmission, market platforms, infrastructure components, and as enablers of business organisation and innovation.



RESEARCH AREA: DIFFUSION AND GROWTH POTENTIAL OF ICT

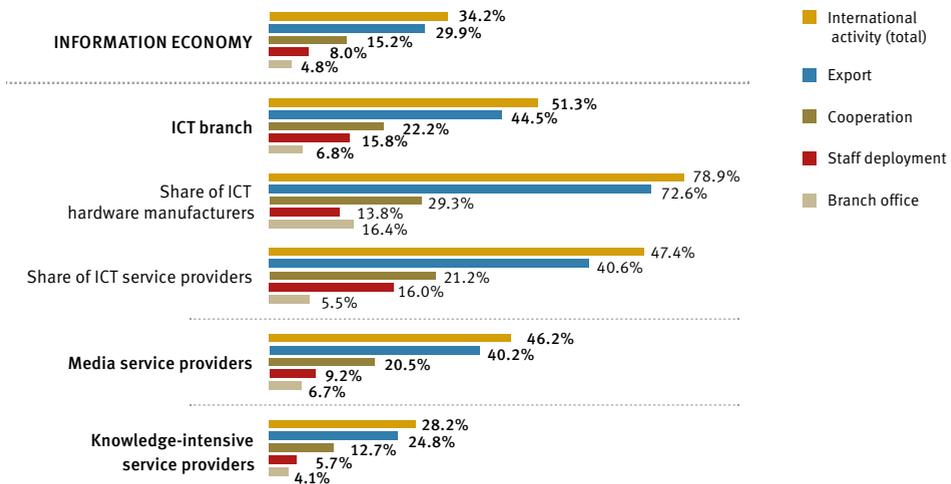
- ICT and Media Sector, Knowledge-Intensive Service Providers
- Business Cycles of the Information Economy
- Mobile Internet, Cloud Computing, Green IT
- Macroeconomic Effects

This research area is concerned with the diffusion of ICT as well as the success of firms in the ICT sector and ICT-intensive industries. Economists in this area conduct surveys to investigate which ICT applications are used by firms, their goals in using ICT, as well as the associated obstacles firms perceive. In addition to identifying the ways in which specific technologies may be further developed, researchers examine how the successful use of ICT can promote growth in firms, specific sectors, and in entire national economies.

One recent wave of ZEW's quarterly survey of ICT-intensive firms, titled "Business Survey in the Information Economy", focused on the international activities of ICT firms. Germany's export activities in traditional manufacturing areas such as mechanical engineering, the automotive industry, and the chemical industry are well known. But the survey found that German firms in the information economy, which are predominantly service-sector firms, also have a strong international presence. About a third of these companies export their services, work with international partners, send staff abroad, or have foreign subsidiaries (Figure 1). In addition, the rate of export

among these companies is nearly 30%, making them the most likely to engage in international activities. The share of firms with international activity among the ICT hardware manufacturers is nearly 79% – close to twice the average share in the information economy as a whole. Nearly half of ICT service providers and media service providers are active internationally. The share of international activity among knowledge-intensive service providers is almost 30%, making them the least likely to engage in international activities. However, the distribution of activity within this sub-sector is quite uneven: as would be expected, legal and tax professionals with country-specific expertise are less likely to engage in international activities than consulting firms or research and development companies.

1] INTERNATIONAL ACTIVITIES OF INFORMATION ECONOMY COMPANIES



An estimated 47.4% of ICT service providers have an international presence. The most common form of international activity is the export of products and services (40.6% share). Source: ZEW

As part of the EU project SERVICEGAP, researchers in this area have worked on quantifying knowledge as an input produced by the entire national economy. Knowledge is frequently produced in a way analogous to physical capital: current investments are intended to yield returns in the current year as well as in future years. Using data available from the INTAN-Invest platform on the aggregate commercial economies of various EU countries, researchers in this area have for the first time produced comparative sector data for intangible capital (apart from software) in ten European countries. The data show that the ratio of intangible capital to value added in the manu-

facturing sector tends to be higher than in the service sector. This is a surprising result because services are believed to be more closely linked with intangible capital. One reason is that a large portion of expenditures in the manufacturing sector are devoted to research and development, and this type of expenditure is typically capitalised at a relatively low depreciation rate.

Together with the Research Department “Environmental and Resource Economics”, department economists investigated Green IT – a topic of growing public and political debate. This term generally refers to ICT’s potential as a tool for optimising energy production and demand, as well as for replacing physical processes with virtual ones. Yet the use of ICT itself automatically entails the consumption of energy. In order to get a clearer picture of the net effect, researchers combined data from 1995 to 2007 on ten OECD countries from various sources. The results show that an increase in the use of ICT tends to be accompanied by a reduction in the overall consumption of energy. In particular, the study demonstrated that the demand for other sources of energy besides electricity (for example heating energy, gas, oil, coal or fuels) falls without any accompanying significant effect on the demand for electricity. In addition, the study indicates that the negative relationship between the use of ICT and energy consumption is more pronounced in the manufacturing and transport sectors than in the service sector.

RESEARCH AREA: ICT, MARKETS AND CORPORATE STRATEGIES

- Productivity and Innovation
- Internationalisation and Outsourcing
- Enterprise 2.0
- Online Markets
- Aspects of Competition Economics

In a knowledge-based economy, new ICT applications provide firms with essential tools to respond to competitive pressures from increased internationalisation, unstable economic circumstances, and changing demand conditions. Economists in this research area study motivations for the use of ICT as well as its impact. They also focus on complementary business strategies, such as outsourcing.

As part of a project funded by the German Federal Ministry of Education and Research (BMBF) entitled “The Productivity of IT-based Services”, economists in this research area used data from the ZEW ICT survey from 2004, 2007, and 2010 to study the connection between the use of complex corporate software applications and corporate productivity. A focus was placed on three software application areas: resource planning (ERP), supply chain management (SCM), and customer relationship management (CRM). The results demonstrate a positive, significant relationship between the use of SCM software and productivity. The results do not, however, indicate the same relationship with regard to the other two software types. In addition, researchers studied a topic of intense current debate: which corporate strategies make the use of ICT more productive – i.e. are complementary to IT? Using the survey data allows researchers to determine

which companies use decentralised organisational structures – for example, business units with independent responsibility for costs and earnings. Companies could use decentralised organisational structures to facilitate the flow of information and thereby increase the advantages of using corporate software. The results of the study show that companies which had implemented several decentralisation measures frequently also used several different corporate software applications. The study finds no additional increase in productivity when corporate software and efforts to decentralise the workplace were combined.

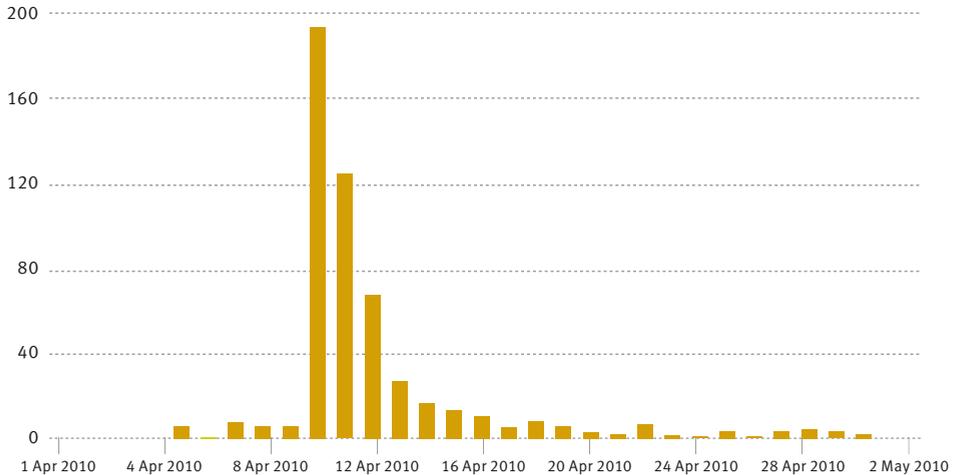
RESEARCH AREA: DIGITAL NETWORKS AND KNOWLEDGE ACQUISITION

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

This research area focuses on the use of ICT by individuals for education, work, and private activities. The constant improvement of information processing and communication technologies requires individual users to adapt their skills, and companies to adapt their workplace organisation. At the same time, these technologies offer new opportunities to exchange information and acquire knowledge (for example, through online forums and digital networks). Researchers in this area study internet users' motivations to engage in these activities as well as their impact. They also consider the dynamics of digital networks.

As part of the interdisciplinary Tübingen ScienceCampus “Informational Environments” and in partnership with the Knowledge Media Research Center in Tübingen, economists in this research area studied Wikipedia article contribution activity as a prototypical public good of the information economy. By analysing user behaviour on Wikipedia, researchers determined that a particular article was accessed on average 30% of the time by clicking on hyperlinks on neighbouring pages. Generating data for this statistic was an enormous challenge because individual Wikipedia users cannot be tracked, and only general statistics for an entire page are available. ZEW researchers used statistics from individual pages that suddenly experienced extraordinary traffic because of exogenous shocks to user awareness (for example, natural catastrophes or plane crashes). Figure 2 shows that after several members of the Polish government died in a plane crash near the Russian city of Smolensk in 2010, the number of clicks for the page about the Smolensk Kremlin, a fortress from Czarist times, increased as well, even though it had no connection with the catastrophe. The study also shows that there was one additional article contribution for every 1000 clicks. Considering that the number of Wikipedia readers is many times the number of authors, this is a significant statistic. But the results also confirm the assumption that hyperlinks are more important as a navigation tool for readers than for authors.

2] CLICKS TO ACCESS A WIKIPEDIA ARTICLE ABOUT THE SMOLENSK KREMLIN AFTER THE 2010 PLANE CRASH



After a tragic plane crash on 10 April 2010 in Smolensk, the page about the Smolensk Kremlin, which normally is accessed less than ten times a day, was accessed nearly 200 times.

A SEEK project in partnership with the Copenhagen Business School and the University of Texas in Arlington examined behaviour among members of “Raptr”, an online platform for computer games. In this study for the computer game market, researchers discovered that users become strongly attached to specific game types and tend to play several games that all share the same genre, game console, publisher, and target age group. Users are most affected by word-of-mouth promotion on the network, with more experienced users having the greatest influence on the rest.

OUTLOOK

In the period covered by this report, this former Research Group was transformed to a Research Department. The change reflects ZEW’s commitment to putting more emphasis over the long term on investigating the economic effects of information and communication technologies. The Research Department will continue to focus on the analysis of intangible capital in 2014. Researchers will also study this topic at the sector level as part of an EU project focusing on the public sector, where large ICT investments play a significant role. On the corporate level researchers will pay particularly close attention to investments in patents and brands in their analysis. The Research Department will contribute to the national debate about the growth potential of ICT at the Eighth National IT Summit, which was put off until 2014 due to the Bundestag elections.

Mobile access technologies and social media are two fields of innovation that are rapidly changing the working world, consumer behaviour, and corporate strategies. The Research Department will pursue several research projects to study their effects on employees and companies. In 2014 researchers will also conduct the sixth ZEW ICT survey. The goal is to study current ICT trends and their influence on corporate success. To better analyse platform data – for example, from Wikipedia – the Research Department will expand its interdisciplinary cooperation in the area of semantic analysis in order to refine the classification of Internet content and article contribution behaviour. The Research Department will also contribute to the Leibniz Association's Science 2.0 research alliance.

» PREVENTING PRICE BUBBLES ON CAPITAL MARKETS.



Prof. Dr. Michael Schröder
Head of the Research Department
International Finance and
Financial Management



price bubbles

RESEARCH DEPARTMENT INTERNATIONAL FINANCE AND FINANCIAL MANAGEMENT



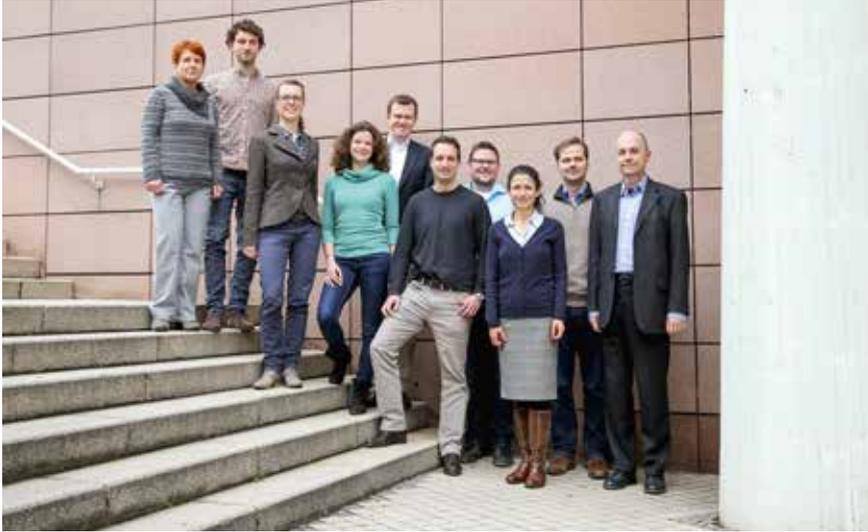
Prof. Dr. Michael Schröder
Head of Department

RESEARCH AREAS

- **Financial Intermediation**
Contact: Dr. Mariela Borell
- **Expectation and Price Formation on Financial Markets**
Contact: Prof. Dr. Michael Schröder
- **Asset Markets**
Contact: Prof. Dr. Michael Schröder

MISSION STATEMENT

The Research Department “International Finance and Financial Management” analyses international financial markets, and is the largest research unit of its kind in Germany. It sees itself as one of the most important German providers of financial market analysis and economic policy advice. The optimal performance of financial markets both in Europe and internationally is a key topic in the Research Department’s work. Important aspects of study include the regulation of actors on capital markets as well as the interrelationships between financial markets and the real economy.



RESEARCH AREA: FINANCIAL INTERMEDIATION

- Banks
- Financial Market Regulation and Systemic Risk
- Alternative Investments

Economists in this research area analyse the relationships between the financial system and the real economy. In this regard, a focus is placed on the analysis of banks, but attention is also devoted to other important areas of the financial sector. The optimal function 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 associated systemic risks. In their analysis of banks, researchers study the relationship between regulation and governance in determining risk behaviour. A research project in cooperation with the University of Frankfurt, for example, is using microeconomic methods to examine the role played by international banks' internal capital markets in transmitting shocks, as well as how these internal capital markets affect the real economy.

A recent project undertaken on behalf of the Federal Ministry of Finance (BMF) examined how to improve transparency in commodity and commodity futures markets, as well as the role played by financial investors. The researchers analysed the scope and intensity of financial investors' involvement in commodity futures markets. A specific area of interest was to determine the information available about the activities of market actors, as well as to identify potential market abuse. Based on their findings, ZEW researchers developed recommendations for improving

market transparency, which they linked to existing and planned regulatory measures in the United States and Europe. A notable finding is that the current level of transparency in commodity futures markets is remarkably good, and will soon further improve as a result of regulatory measures, whereas the physical commodities markets continue to show a serious lack of transparency. Among the recommendations put forward by ZEW economists is that the regulatory and transparency rules currently in effect in the US and Europe be extended to include as much of the world as possible. In addition, they emphasized the importance of enlarging the scope of the information available to market participants and regulators concerning physical commodities markets.

The research area also participated in a similarly oriented project on behalf of BP titled “Financial Investment and the Impact on the Price of Oil”. This project examined how the quantity of open positions held by different trading groups affects pricing on the crude oil futures market. The analysis specifically showed that the market presence of financial investors has practically no measurable influence on the price of shorter-term futures contracts, but does influence differences between the pricing of short-term and longer-term futures contracts.

A new area of study for the research area is the field of sustainable capital investments, i.e. investments selected on the basis of ethical, social, or ecological criteria. One key research question is how information about firms that comes to light in estimations of sustainability affects investment decisions by investors and financial intermediaries (e.g. the granting of credit or capital costs). While earlier studies looked at sustainable funds and indices in terms of performance, in the near future, studies will focus on how sustainability issues impact firms’ borrowing costs.

The SEEK project “Corporate Social Responsibility and Credit Costs” is using data from an international panel of firms to examine the relationship between sustainable corporate practices and the cost of borrowing. As part of this project, economists are also investigating the credit costs for companies that are active in industries with a negative social reputation, such as the alcohol, tobacco, nuclear energy, weapons, and gambling industries. For companies in these industries, it is presumed that long-term corporate risks (legal costs, pollution, image problems, etc.) could lead to higher borrowing costs, as creditors might demand risk premiums.

RESEARCH AREA: EXPECTATION AND PRICE FORMATION ON FINANCIAL MARKETS

- Expectation Formation and Behavioural Finance
- Expectations and Asset Prices
- Expectations and the Real Economy

Economists in this research area investigate selected issues related to price formation for securities. They focus in particular on expectations and expectation formation in relation to securities, as well as how expectations relate to financial market prices and the real economy.

With a special emphasis on financial-market variables, economists in this research area investigate the process by which heterogeneous individual expectations are formed, and also explore the substance of these expectations. Empirical investigations undertaken by ZEW research-

ers seek to illuminate relationships between expectation formation and financial market prices. For example, researchers explore whether and to what extent there are distortions in expectations that lead to corresponding distortions in price formation. Similarly, they conduct empirical analyses of the ways that individual expectations may differ, and about the possible connections between the intermittent occurrence of homogeneity in individual expectations and herd behaviour on financial markets.

There are three distinct strands of research in the work undertaken by economists in this area. The first concerns the forms and dynamics of financial market expectations. Here, consideration is given to exogenous factors, such as the availability of new macroeconomic data, as well as factors discussed in the context of behavioural finance. The second strand focuses on the information content of expectations in relation to future macroeconomic changes and developments on the financial markets. This includes examination of the prognostic accuracy of individual expectations and the determination of reasons for especially good or bad forecasts. Finally, the third strand focuses on the reciprocal interactions between security prices and expectations.

The ZEW Financial Market Test, a monthly survey conducted since the end of 1991, is a key source of data for the Research Department's empirical studies. More than 200 financial experts participate in the survey, providing primary expectation data on the future development of the stock market, interest rates, and currency prices, as well as on important macroeconomic factors such as changes in economic growth and inflation. The data compiled over the years have produced a very extensive database and provide an excellent foundation for empirical research on expectation formation, a subject that has attracted increasing attention in the field of economics in recent years.

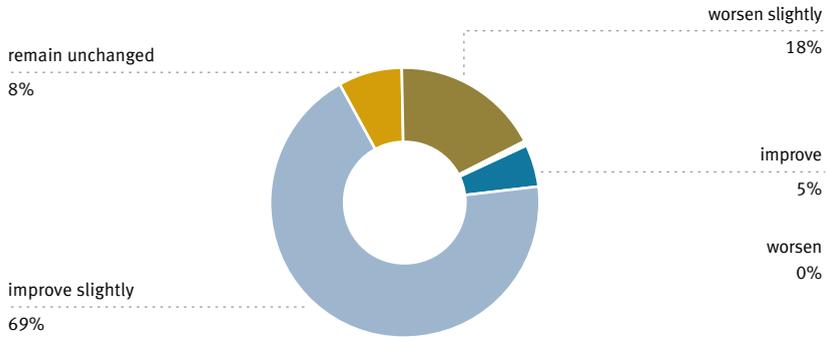
Since 2013, economists in the research area have been closely cooperating with their colleagues at Fudan University in Shanghai in conducting the monthly "China Economic Panel" survey. The aim is to develop forecast indicators for China in relation to the macroeconomy, financial markets, and real estate markets that achieve a high level of public attention. As part of this collaboration, ZEW economists establish close academic relationships with researchers at Fudan University who work on expectation formation and other financial market topics (e.g. real estate and capital markets). A key goal in the collaboration is to produce excellent scholarship and publications.

An additional project currently underway with regard to China is the ZEW-PwC Economic Barometer for China. This quarterly survey, which is being developed in collaboration with PricewaterhouseCoopers, seeks to forecast trends in Chinese-German trade, M&A transactions, and investment, as well as elucidate regulatory issues.

In the realm of behavioural finance, researchers began a new project supported by the German Research Foundation (DFG) entitled "Stock Market Expectations and Risk Perception Depending on the Exact Elicitation Form". The project was launched in September of 2013. Normative decision-making theories predict that actors pursue clear subjective expectations, which are invariant in relation to the way information is presented or the exact elicitation method. However, there is also a broad set of studies in the literature that describe a "framing effect", which runs counter to these two assumptions of invariance. In this new project, ZEW economists will investigate how the elicitation method influences stock market expectations and risk perception.

1] CHINA ECONOMIC PANEL

WITHIN THE NEXT 12 MONTHS, THE ECONOMIC SITUATION IN CHINA WILL...



The November survey conducted for the China Economic Panel from 19 November to 28 November 2013 involved 39 analysts. The illustration shows responses to a question about China's economic situation in 12 months (i.e. in November 2014).

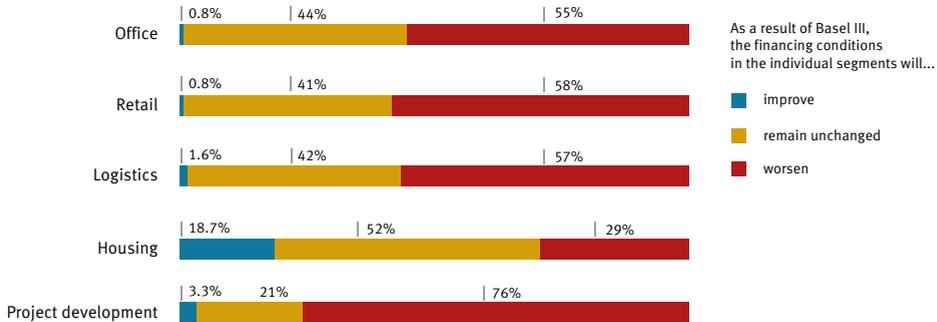
RESEARCH AREA: ASSET MARKETS

- Real Estate and Capital Markets
- Analysis of Real Estate Markets
- Wealth Formation and Old-Age Provisions

Economists in this research area study financial investments and asset formation, paying particularly close attention to the role played by real estate markets. The optimal function of international financial markets – the overarching concern of the Research Department – 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 involved actors.

A study conducted on behalf of the Federal Institute for Research on Building, Urban Affairs, and Spatial Development (BBSR) investigated the anticipated effects of the Basel III accord on real estate financing in Germany. ZEW researchers studied how the new system could potentially impact suppliers and products in the real estate financing market. Moreover, they analysed the impact of the EU's Solvency II Directive on the German real estate financing market. The results showed that in the area of residential real estate, Basel III is expected to have no impact, whereas in the area of non-residential real estate, higher capital requirements are likely to lead to increased borrowing costs.

2] CHANGES IN FINANCING CONDITIONS AS A RESULT OF BASEL III



Financial Market Test Special Question from Dec 2012 for the project "Impact of Basel III on Real Estate Finance in Germany"; participation: 123 financial market experts.

Also in 2013, the research area prepared an expert report on the macroeconomic and social significance of the real estate industry. This report was drafted in collaboration with the Cologne Institute for Economic Research (IW) and the International Real Estate Business School (IREBS) on behalf of the Federal Ministry of Transport, Building, and Urban Development (BMVBS), the German Association for Housing, Urban Development, and Spatial Development (DV), and the Society for Real Estate Research (GIF). The expert report concluded that the real estate industry has exercised a major stabilising influence on the German economy. Since 2008, the sector has grown at an average rate of two per cent per year, thereby contributing to the rapid economic recovery that took place after the recession. The great stability of the real estate industry stems in part from solid real estate financing. A major challenge facing the German real estate industry is the regionally heterogeneous shrinking of the population.

Economists in the area are involved in preparing the German Real Estate Financing Index (DIFI), a quarterly survey of actors in the German real estate market on their expectations for the development of the German real estate financing market during the next six months. The DIFI is conducted by ZEW in collaboration with Jones Lang LaSalle (JLL), and queries experts from consulting firms, banks, real estate firms, open and closed real estate funds, insurance companies, and brokerages. The DIFI is calculated based on the experts' current assessment and forecast of future financing conditions in four industry segments: commercial real estate, retail, logistics, and residential real estate.

OUTLOOK

In coming years, the regulation of financial markets and reciprocal effects between capital markets and the real economy will be key subjects of research. Of particular significance is an EU 7th Framework Programme project starting in January 2014 titled “Financial Distortions and Macroeconomic Performance: Expectations, Constraints, and Interaction of Agents”. This project will concentrate on modelling and analysing the correlations between the real economy and the financial sector. The project team is applying new methodologies in the field of economics, i.e. agent-based models to investigate the macroeconomic effects of behaviour on the part of banks as well as the effects of regulatory measures.

The Research Department is collaborating with Professor Andreas Engert of the University of Mannheim to prepare the next MaCCI Annual Conference, titled “Financial Regulation and Competition”. The Conference will take place on 6–7 November 2014 at ZEW.

Economists in the research area of “Financial Intermediation” will continue their multi-year projects on corporate sustainability and firms’ borrowing costs. The international research network “European Responsible Investments & Institutions Conference” (ERIIC), founded as part of the SEEK project “Corporate Social Responsibility and Credit Costs”, will enable further intensification of research work on sustainability. In the study of expectation formation, greater emphasis will be placed on explanatory approaches from the field of behavioural finance, as well as specialised econometric methods. An example of the economists’ work in the area of behavioural finance is a new project funded by the German Research Foundation (DFG) titled “Stock Market Expectations and Risk Perception Depending on the Exact Elicitation Form”.

Since 2013, economists in the Research Department have been closely cooperating with their colleagues at Fudan University in Shanghai in conducting the monthly survey “China Economic Panel”. The aim is to develop forecast indicators for China in relation to the macroeconomy, financial markets, and real estate markets that achieve a high level of public attention. As part of this collaboration, ZEW economists establish close academic relationships with researchers at Fudan University who work on expectation formation and other financial market topics (e.g. real estate and capital markets). A key goal in the collaboration is to produce excellent scholarship and publications.

The Leibniz Network on “Real Estate and Capital Markets”(ReCapNet) has been established over the past several years and has become recognised as a major international research network. Its main activities include joint publications, the reciprocal exchange of researchers, as well as the staging of an annual conference. The sixth International ReCapNet Conference will be held at ZEW on 24–25 October 2014.

» SCARCITY PRICING – AN INSTRUMENT FOR A NEW ELECTRICITY MARKET REGIME.



Dr. Klaus Rennings

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





energy

RESEARCH DEPARTMENT ENVIRONMENTAL AND RESOURCE ECONOMICS, ENVIRONMENTAL MANAGEMENT



Dr. Klaus Rennings
Acting Head of Department



Dr. Martin Achtnicht
Acting Deputy Head



Dr. Oliver Schenker
Acting Deputy Head

RESEARCH AREAS

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

MISSION STATEMENT

The Research Department “Environmental and Resource Economics, Environmental Management” investigates the optimal function of markets and institutions with regard to environmental aspects and resource scarcity. A key focus is placed on 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, a central criterion in the economic assessments is cost efficiency – that is, the ability of a policy to achieve a defined goal at minimal cost.



RESEARCH AREA: ENERGY ECONOMICS

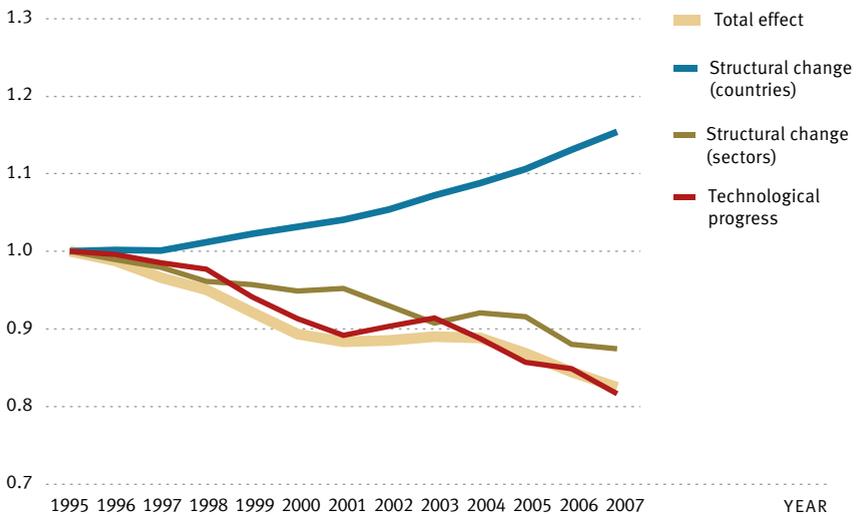
- Energy Demand and Consumer Behaviour
- Policy Instruments and Regulation
- Analysis of Energy Market Developments

Economists working in this research area analyse German, European, and global markets for energy and raw materials from an environmental perspective. Energy demand and consumer behaviour, regulation, and market developments are all key subjects of study. A guiding principle in such work is the cost-effectiveness and sustainability of energy supplies.

Germany's attempt to transform its entire energy economy, the *Energiewende* ("energy transition"), was a defining issue in 2013. ZEW economists were extensively involved in providing research support for this effort. For example, ZEW economists are participating in the Energy-Trans research alliance, primarily funded by the Helmholtz Foundation, which is investigating technical, economic, and social factors associated with the energy transition. Current projects are examining household energy demand and the growing threat of "energy poverty" facing low-income households. In addition, researchers in this area are studying issues related to market design and the cost-effective regulation of energy markets. In a recent study, for example, they examined the extent to which changing emission-certificate costs have been asymmetrically passed along to consumers in electricity markets. Specifically, they found that rising CO₂ prices led to a significant price increase on the spot market, but declining CO₂ prices led to a lower and less significant price decline. The study demonstrated that when notification of impending anti-trust investigations is given to providers, this pricing behaviour changes.

Also in 2013, as part of a SEEK project conducted in collaboration with the Italian Fondazione Eni Enrico Mattei (FEEM), economists in the research area investigated energy efficiency at the global, national, and sectoral levels. The economists employed data sets they developed themselves (for example, about the type and number of energy efficiency measures), and then disaggregated trends into single components (see Figure 1). They demonstrated that technological progress is more important as a driver for the development of energy efficiency than structural change.

1] GLOBAL DEVELOPMENTS IN ENERGY EFFICIENCY



The figure shows the distribution of energy intensity (the reciprocal of energy efficiency) at the global level between 1995 and 2007. It should be noted that as a whole, energy intensity decreased (overall effect). The economic importance of energy-intensive economies such as China has increased (structural change at the national level), whereas energy-intensive sectors have lost importance (structural change on the sectoral level). However, technological progress was the decisive factor for overall development.

The research area is also involved in the federal government’s Energy of the Future monitoring programme in the context of the energy transition in Germany. ZEW economists are coordinating the work of the commission’s experts in the monitoring process. A number of energy policy issues have become the subjects of intense public interest, including energy prices. Economists in the research area conduct a biannual survey, the ZEW Energy Market Barometer, which polls some 200 energy industry experts regarding price development and other current issues, such as the prospects for developing fracking and the problem of “energy poverty”.

In June, the research area organised the 2013 Mannheim Energy Conference in coordination with the ZEW Research Group “Competition and Regulation” and the Mannheim Centre for Com-

petition and Innovation (MaCCI). Major presentations at the international conference by more than 70 researchers addressed liberalisation in the electricity market, regulation and competition in energy markets, changes in the energy mix, and energy demand and energy efficiency.

RESEARCH AREA: INNOVATION AND SUSTAINABLE DEVELOPMENT

- Rules, Indicators, and Strategies for Sustainable Economic Activities
- Determinants and Economic Impact of Environmentally Oriented Innovation
- Macroeconomic Analysis of Green Technology

Economists in this research area analyse the annual innovation surveys to examine the environmental aspects of innovation behaviour in the 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.

The research area conducts numerous interdisciplinary and transdisciplinary research projects. In 2013, it concluded the project “Lead Market Strategies: First Mover, Early Follower and Late Follower”, which addressed the technological leadership in environmental policy held by a number of nations, as well as alternative policy strategies. A positive secondary economic effect of ambitious national environmental policies is that the domestic economy takes a lead role in the development of environmental technologies. Regulation creates incentives for domestic providers and consumers to offer and to use especially environmentally friendly products and processes. In this way, domestic suppliers can develop a competitive advantage in experience with environmental technologies compared to their competitors from other nations that adopt the trend toward regulation more slowly. By examining success factors in current lead markets specifically with a view to energy-efficient coal-fired power plants and refrigerators, researchers showed that German suppliers have first-mover advantages. However, competitors are catching up in the mid-to-lower quality segment, where there are second-mover advantages for lower-cost products manufactured in emerging nations. The economists also formulated specific policy strategies (classical first-mover policy, environmental foreign policy, selective industrial policy) that take into account the changing global competitive situation.

At the European level, economists in the research area are supporting sustainable economic activity through ex ante policy impact assessments that seek to determine the economic, social, and ecological effects of potential policy measures. These research activities are being conducted as part of the European Network of Excellence LIAISE (Linking Impact Assessment Instruments to Sustainability Expertise). The goal of ZEW’s participation is to create improved tools to enable EU decision-makers to estimate the qualitative and quantitative effects of their environmental policy interventions. For this purpose, the researchers are further developing general equilibrium models. When developing such models, there is a strong need for sustained dialogue between developers and users. Such dialogue has been a hallmark of work to develop a partial

model for metallic raw materials. This model will be used to depict the market for rare earth elements, and was developed at several workshops in collaboration with the European Commission and its Directorate-General for the Environment. In the early development phase, ZEW economists took political priorities into consideration in order to ensure the model's results remain relevant as well as robust. For example, the modelling of recycling activities was enhanced in order to depict the higher recycling rates that are the aim of the EU Commission.

RESEARCH AREA: INTERNATIONAL ENVIRONMENTAL AND RESOURCE POLICIES

- Institutionalisation of International Environmental and Resource Policies
- Conflicts of Interest with International Trade and Investment Regimes
- International Climate Policy and Resource Management

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

During the year covered by the report, researchers continued to use empirical and experimental analyses to study the importance of the fairness preferences of heterogeneous actors, which play a crucial role in the chances for the success of an international climate protection treaty. Their studies are based on a worldwide survey of national representatives to UN Climate Conferences. While the findings did confirm major differences between the positions of the most important actors, they also showed that an approach that includes combined burden-sharing rules might overcome the current impasse in negotiations. In the medium term, the European Union will continue to be among the few international actors with compulsory climate protection goals. The key regulatory instrument for achieving these goals is the EU Emissions Trading Scheme (EU ETS). Gathering information about the ETS is a major focus of the KfW/ZEW CO₂ Barometer, an annual survey of international market experts from all firms regulated under the scheme. This year's survey shows that current low price levels for CO₂ certificates offer little incentive for CO₂ emissions abatement or related green innovation.

The configuration of European climate and energy policy for the decade between 2020 and 2030 is the subject of current political debate. In this context, ZEW is coordinating the project ENTRACTE (Economic INSTRuments to Achieve Climate Targets), sponsored by the European Commission's 7th Framework Programme. ENTRACTE seeks to analyse the interrelationships between goals for renewable energy and environmental protection as well as differences in economic growth rates. The results indicate there are particularly high efficiency losses when such goals are pursued during phases of low economic growth.

The increased frequency of extreme weather events both inside and outside Europe illustrates the relevance of another major element of climate policy – adaptation to the consequences of climate change. In this context, the research area concluded a multi-year project on behalf of the German Federal Environment Agency to study and evaluate alternative policy approaches to pro-



Presentation of ZEW research results by Professor Löschel at the UN Climate Conference in Warsaw

mote private adaptation to climate change and to develop policy recommendations for a national adaptation strategy in Germany. In addition, the researchers analysed a nationwide survey of German households regarding climate adaptation, including private preventive behaviour regarding floods. The results confirmed that prior experience and current expectations regarding potential damages both play an important part in determining such behaviour.

At two side events at the UN Climate Conference in Warsaw, economists from the research area presented the results of two current research projects: ENTRACTE and “The Importance of Fairness Principles for Successful Cooperation”, the latter of which is supported by the Federal Ministry of Education and Research (BMBF). These presentations triggered fruitful discussions with negotiators as well as NGO representatives, political decision-makers, and academics.

RESEARCH AREA: TRANSPORT AND MOBILITY

- Ecological and Socio-Economic Effects of Transport Systems
- Concepts for Sustainable Development in the Transport Sector
- Traffic Volume and Modal Split in Freight Transport

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.

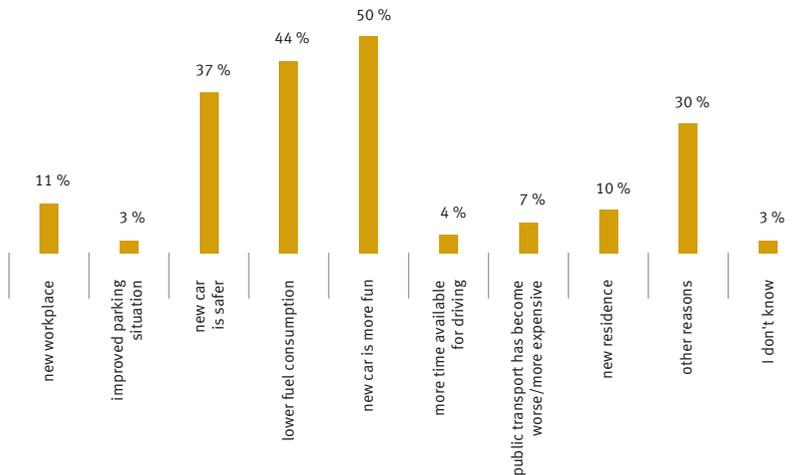
Building on their earlier work, economists once again focused in 2013 on the regulation of CO₂ emissions in the international shipping industry. In particular, they studied the best ways to integrate the shipping industry into the existing EU ETS emissions trading scheme. Implementation of this type of regional approach was analysed theoretically, especially with a view to the cost-efficient regulation of the CO₂ emissions generated by maritime transport. In addition, using model-based simulation calculations, researchers investigated the impact of such regulation on the German and European maritime industry. These research findings were used to support the German federal government’s position in negotiations at the International Maritime Organization (IMO).

During the year under review, market observation continued to be an important element in the research area’s work. Since 1998, the quarterly ProgTrans/ZEW Transport Market Barometer has surveyed experts in the transport industry about their expectations regarding transport prices and volume trends in various freight traffic markets. The Barometer is Germany’s oldest and most broadly constituted transport market index, serving as a valuable indicator of economic activity for the transport industry and researchers, and a source of information for the general public.

As part of the interdisciplinary and transdisciplinary REBOUND project, sponsored by the Federal Ministry of Education and Research (BMBF), economists in the research area have investigated what is known as the “rebound effect”. This concept describes how increased energy effi-

2] REBOUND EFFECT IN THE TRANSPORTATION SECTOR

Why do you drive more frequently with your new car than you did with your old one?



The figure shows the distribution of responses to the question of why automobile drivers drive more kilometres in their new car than in their old car. This question is taken from a nationwide household survey where several answers were permitted. The question was only asked of those individuals who had sold or scrapped at least one car in 2011–2012 and replaced that vehicle with a new one, and had also indicated that they drove more kilometres with the new car.

ciency can lead to the more intensive use of consumer goods, such as automobiles, with the end effect that more energy is consumed than before. Using microdata from a representative household survey, they were able to empirically explain rebound behaviour (see Figure 2) and quantify rebound effects. The findings show that rebound effects play a greater part in the transportation sector than the household sector. One reason for this could be that compared to heat and electricity, up to now, there has been more still unsatisfied need for transportation.

RESEARCH AREA: MACROECONOMIC ANALYSIS OF ENVIRONMENTALLY RELEVANT POLICIES

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

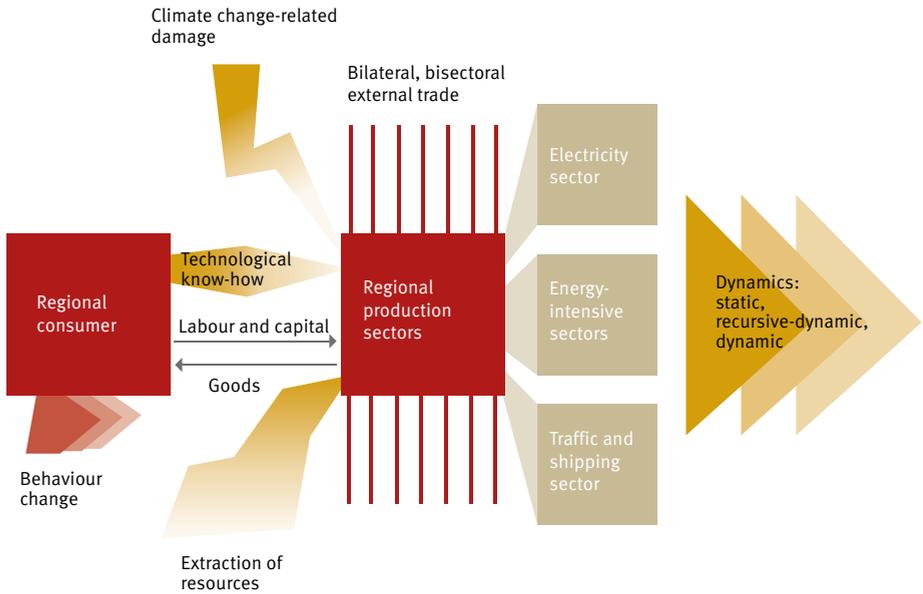
This research area works closely with the Research Department's other research areas, and is thus distinguished by its cross-cutting role. Economists in this area analyse the macroeconomic and sector-specific impacts of environmental policy, with particular emphasis on climate, energy, and resource policies, 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. The economists' quantitative analyses are based on microeconomic theory as well as econometric estimations for the purpose of model calibration. In 2013, the research area successfully concluded the SEEK project "Asymmetrical Climate Policy and Competitiveness", conducted in collaboration with the Washington, D.C. research institute "Resources for the Future" (RFF). The results of the study suggest that despite long-term risks for the competitiveness of European industry, it was important to eliminate trade barriers in order to fully take advantage of gains in productivity resulting from trade. This finding is of direct relevance to the current debate about liberalising trade between the EU and the United States. Dead-weight losses can result when one disregards the productivity gains attained through trade.

During the year under review, the research area also played an important role in advising the European Commission on the design of European climate policy. As an interim step along the path toward achieving a low-CO₂ economy by 2050, the European Commission is planning to establish goals for climate and energy policy through 2030. In a project for the EU Commission's Directorate-General for Enterprise and Industry, economists in the research area are using the PACE computable general equilibrium model (see Figure 3) to analyse the formulation of such goals and their impact on macroeconomic and sectoral economic indicators.

In addition to the EU's emissions trading scheme, greater attention is being directed toward strategies to reduce CO₂ emissions in China, currently the world's greatest emitter. In several Chinese provinces and cities, pilot emissions trading schemes are currently being introduced,

which will be expanded into a national system in coming years. As part of a project conducted on behalf of the EU Commission's Directorate-General for Climate Action, economists in the research area used the PACE model to investigate different design options for a Chinese emissions trading system. The primary goal was to incorporate European experiences while expanding upon them to fit the particularities of the Chinese national economy. The research work included reciprocal research residencies on the part of scientists from Fudan University and ZEW.

3] THE RESEARCH AREA'S MODEL PORTFOLIO



The figure shows important components of the research area's model portfolio (with PACE "Policy Analysis Based on Computable Equilibrium" at the centre). As part of the research projects in this area, economists are focusing on the further development of these numerically calibrated model components.

OUTLOOK

Studies conducted by the Research Department aim to improve the informational basis available to policy-makers as well as analyse concrete options for energy and climate policy. Science-based economic policy advice is being provided by the Research Department in the context of Germany's broad-based effort to transition to renewables, the "energy transition", and as part of the federal Government's "Energy of the Future" monitoring process. The Research Department's contribution is especially directed at finding solutions for concrete issues related to implementation. Economists in the Research Department will focus specifically on the regulation and design of energy markets, energy demand by households and industry, energy efficiency and innovation, the expansion of renewable energy sources, and the distributive effects of energy and climate policy, particularly with a view to energy poverty. They will employ innovative databases for the empirical analysis of firms (such as official firm data), households (such as representative surveys), and renewable energy sources. To enhance applied methods, researchers will link existing computable equilibrium models with other models, such as sectoral models of the energy markets and microsimulation models.

International climate policy will continue to be a major focus of work for the Research Department. In addition to their work on German climate policy, researchers will also address these issues at the European level and in emerging countries such as China. Since a global solution for the problem of climate change remains unlikely, the effects of unilateral climate policy measures on European competitiveness and trade will take on particular importance in the future. Researchers will continue to analyse the determinants of voluntary cooperation among sovereign nations, which will offer an indication of the chances for successfully concluding an international climate protection treaty. Given the prolonged stalemate in international climate negotiations, policy-makers are paying increasing attention to what are known as bottom-up approaches. In recent years, the Research Department has become involved with studying the combination of emissions trading schemes with other regions of the world, such as Australia and China. The analysis of heterogeneous approaches to climate policy and the impact of regulatory overlap will become a future focus of the Research Department's work.

» FINDING A WAY OUT OF THE DEBT SPIRAL.



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





government debt

RESEARCH DEPARTMENT CORPORATE TAXATION AND PUBLIC FINANCE



PD Dr. Friedrich Heinemann
Head of Department



Florian Misch, PhD
Deputy Head

RESEARCH AREAS

- **Corporate Taxation and Tax Location Analysis**
Contact: Prof. Dr. Christoph Spengel, Lisa Evers
- **Empirical Effects of Corporate Taxation**
Contact: Prof. Dr. Christoph Spengel, Dr. Katharina Finke
- **Decision Making in Tax and Financial Policy**
Contact: PD Dr. Friedrich Heinemann
- **Fiscal Policy, Fiscal Federalism and Economic Performance**
Contact: Florian Misch, PhD

MISSION STATEMENT

The Research Department “Corporate Taxation and Public Finance” 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 tax and financial policy 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. 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, fiscal governance in the eurozone, and the EU budget.



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 of analysis. During the year under review the researchers in this area continued their on-going analysis of changes in corporate tax burdens in EU Member States, and also provided guidance for current discussions about tax policy reform. Once again, the European Commission has contracted ZEW with calculating effective tax burdens for EU Member States as well as other countries. This four-year project encompasses annual calculations as well as ad hoc analyses of other topics, such as tax planning for multinational corporations.

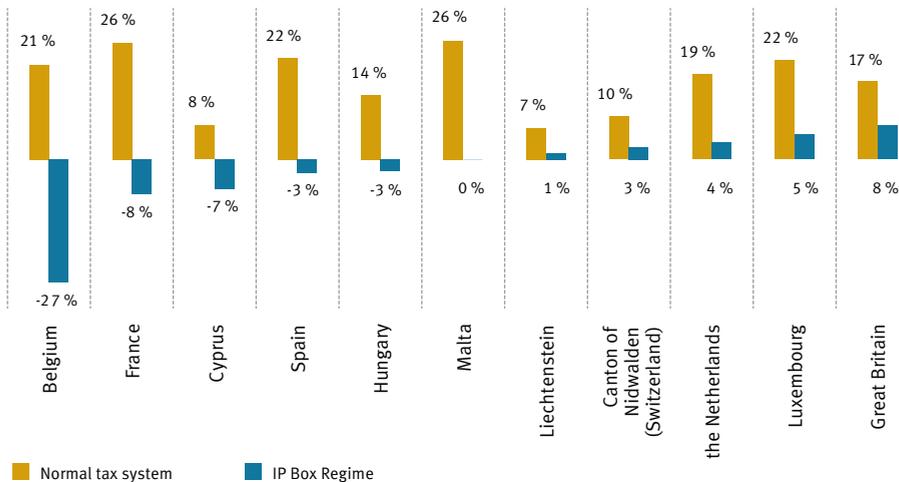
Over the past ten years, the researchers in this area have successfully prepared the BAK Taxation Index, which depicts the effective tax burden for firms as well as for highly skilled workers in 84 locations in 24 nations across Asia, Europe, and the United States. The BAK Taxation Index is prepared on behalf of the Swiss economic research institute BAK Basel Economics AG.

Researchers have contributed to discussions about aggressive tax planning and harmful tax competition through a number of research papers and publications. A major focus was placed

on the analysis of “Intellectual Property Box Regimes”, which are gaining in popularity in Europe, but are regarded by some critics (particularly in Germany) as an instrument for unfair tax competition. IP Box Regimes provide for lower tax rates on income from licensing and other revenues earned from the commercialisation of intangible assets (especially patents). Using the Devereux & Griffith model, ZEW researchers determined the effective tax burden for all eleven European nations that have implemented IP Box Regimes. They analysed the incentive effects resulting from IP Box Regimes on the amount and the location of investments in R&D as well as the site selected for the commercialisation of intellectual property. Figure 1 shows the average effective tax burden for an investment in an in-house patent if one applies the regular corporate tax rates on the one hand, and the corresponding IP Box Regime tax rate on the other.

Over the past year, the research area also provided expert analyses on the potential quantitative impact of various proposed tax reforms under discussion in Germany and in Europe. In the run-up to the 2013 German Bundestag elections, researchers in this area analysed how the opposition parties’ proposals for income and corporate tax reform would impact effective tax burdens on firms and their shareholders. In 2013, the research area also completed a study com-

1] AVERAGE EFFECTIVE TAX BURDEN FOR INVESTMENT IN AN IN-HOUSE PATENT (LICENSING, EQUITY FINANCING)



Source: ZEW calculations, Evers et al. (2013), IP Box Regimes in Europe, ZEW Discussion Paper No. 13-070.

The calculations are based upon the following economic assumptions: nominal interest rate: 5%, inflation rate: 2%, economic depreciation: 15.35%, return: 20%. Negative average tax burdens were determined for Belgium, France, Cyprus, Spain, and Hungary, since investment costs for the in-house patent (R&D expenses) are deductible at the normal tax rate while revenues are only subject to a reduced tax rate through the IP Box Regime.

missioned by the Federal Ministry of Finance on the impact of the European Commission's proposed common consolidated corporate tax base on tax distribution and revenue. This study relied on the ZEW TaxCoMM microsimulation model developed by this Research Department.

RESEARCH AREA: EMPIRICAL EFFECTS OF CORPORATE TAXATION

- Taxation and the Decision Behaviour of Multinational Enterprises
- Taxation and R&D Activity
- Microsimulation

This research area investigates the effects of taxation on the behaviour of taxpayers in general and firms in particular. There are many points of interconnection between this research area and the previous one. On the one hand, researchers in this area undertake studies that build upon the tax burden indicators developed by the "Corporate Taxation and Tax Location Analysis" research area. On the other hand, the results of these studies are used by the first research area to incorporate empirically grounded behavioural responses into tax-burden modelling, including the ZEW TaxCoMM microsimulation model.

Among the projects concluded by researchers in this area during the year under review was a study funded by the German Research Foundation (DFG) to investigate the influence of taxation on corporate takeovers. They found that the transition from tax credit procedures to exemption procedures in Japan and the United Kingdom has been associated with an increased likelihood of corporate purchasers coming from these two countries. The DFG approved the renewal proposal for this project, which will examine, among other things, whether taxation of capital gains leads to a measurable "lock-in effect" with regard to the numbers and volumes of corporate takeovers. The term "lock-in effect" describes the reluctance of investors to relinquish a position because of the resulting tax consequences.

An important line of research in this area addresses the issue of how tax policies influence innovation activity among firms. As part of the SEEK programme, researchers are examining the degree to which tax standards linked to shifts of intangible assets affect corporate investment in research and development. One focus of the research project was on how taxation affects the way firms report profits. As part of a meta-analysis, researchers conducted a quantitative analysis of the existing evidence on this question. The analysis showed that profit allocation in multinational corporations responds to tax rate differences. In addition, looking at Germany as a typical high-tax country, a propensity matching score was used to investigate the extent to which profit shifting led to differences in tax burdens between multinational corporations and a control group of specific national firms. They showed that multinational corporations with connections to low-tax nations paid significantly lower taxes in Germany. However, this effect has been substantially reduced as a result of the 2008 tax reform. This study was part of the successful completion of a doctoral dissertation by a participating researcher during the year under review.

A second part of the study was devoted to tax reporting, and examined the discrepancies between the determination of profits through book accounting and tax accounting. The study took advantage of a unique dataset that includes both taxable and book accounting data for approx. 150 firms. Researchers also began the process of expanding this database into a panel. In the future, the panel data will make it possible to measure the tax sensitivity of changing accounting practices in the context of a natural experiment resulting from implementation of the Accounting Modernisation Act (Bilanzrechtsmodernisierungsgesetz).

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

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 sector economics. In addition to examining taxation and spending, the research area also conducts studies on debt policy.

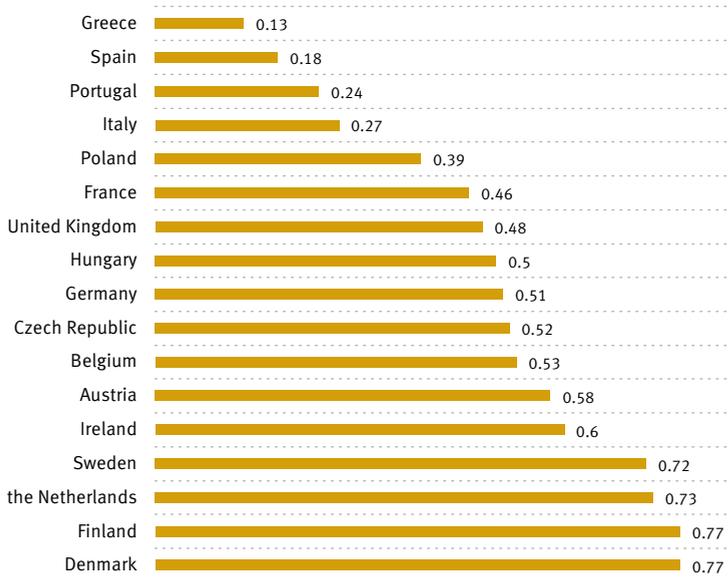
During the year under report, researchers conducted analyses and projects at both the national and European level. In the context of the European debt crisis, researchers undertook a project financed by the 7th EU Framework Programme to examine the causes of resistance to reform by some countries in the European Union. In a theoretical analysis, they explored conceivable obstacles to reform based on behavioural economics and political theory, and then compared them quantitatively. The analysis demonstrated that the Southern European nations at the vortex of the crisis actually were in an especially unfavourable position with respect to institutional adaptability (see Figure 2).

At the national level, researchers continued their analyses of how German state parliamentarians form their opinions about federal and state tax policy. They used results from surveys they conducted at all 16 German state parliaments as part of the Mannheim Collaborative Research Centre (SFB) 884 “The political economy of reforms”. The research yielded, for example, predictions concerning the expectable majority situations in the German Bundesrat for reform decisions scheduled for 2020 concerning the structure of the national financial equalisation scheme. The German Research Foundation gave the SFB a very positive evaluation and renewed its mandate, so the analyses will be continued and expanded for another four-year period.

At the municipal level, researchers investigated the impact of direct democratic processes on fiscal outcomes. Their initial focus was on Bavarian communities, because of the quantitative importance of referenda in this region. Some of these analyses used regression discontinuity design to identify political processes, such as the exploitation of discontinuity in municipal charters.

This year’s ZEW Public Finance Conference focused on the interplay between institutional frameworks and political actors in public finance. The choice of focus for the conference reflects

2] REFORM CAPACITY INDEX



Standardised between 0 (very low) and 1 (very high reform capacity).

Source: Heinemann, F. und T. Grigoriadis (2013), Origins of Reform Resistance and the Southern European Regime, WWWforEurope Working Paper No. 20, Wien.

the growing insight that in addition to institutions as a whole, individual decision-makers are of critical importance for the conduct of fiscal policy. A paper presented by a ZEW doctoral candidate showed that the number of years that a finance minister has held office is positively correlated with his success in reducing government deficits.

RESEARCH AREA: FISCAL POLICY, FISCAL FEDERALISM AND ECONOMIC PERFORMANCE

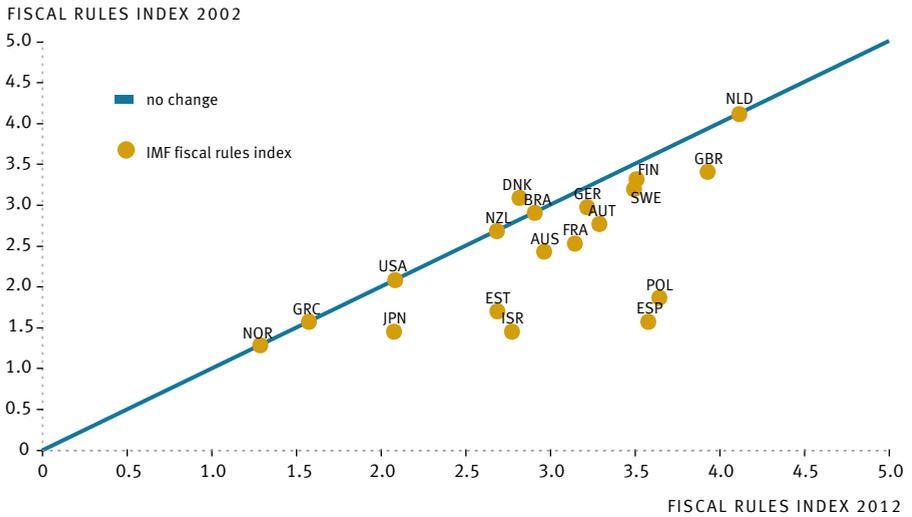
- Fiscal Federalism in Germany and Europe
- Fiscal Governance
- Fiscal Policy and Economic Performance

This research area is devoted to studying federal systems, fiscal governance, and the relationship between fiscal policy and economic performance. The central question is which federal system and which accompanying rules and institutions best assure positive performance. In this regard, “performance” refers both to the fiscal dimension (sustainable debt, efficient administration) as well as overall economic performance (growth, productivity, and business performance).

Researchers in this area examine the division of responsibilities between different federal levels along with the delimitation between the public and the non-profit sectors. With its broad range of services, the non-profit sector often functions as a substitute for direct government services. Public goods that have traditionally been financed through taxation are increasingly provided by the non-profit sector and thus, in part, through donor funding. A continuing focus of the analyses in this area is on the charitable behaviour of private individuals and its interactions with fundraising activities by charitable organisations.

A project funded through the SEEK programme investigates the effects of taxation on profits on firms’ performance and innovation activity and seeks to develop policy recommendations based on these findings. The project makes three major research contributions: first, the relationship between taxes and innovation and the relationship between taxes and productivity is being examined in a theoretical model focusing on financing constraints of firms. Second, a unique dataset linking information on profit taxation with firm-level information is used, thereby enabling an empirical examination of relevant questions and hypotheses. Third, the effects of taxation on innovation will be examined empirically using compelling identification strategies.

3] FISCAL RULES INDEX BY NATIONS AND REGIONS



ZEW calculations, based upon A. Schaechter, T. Kinda, N. Budina and A. Weber (2012). Fiscal Rules in Response to the Crisis – Toward the “Next-Generation” Rules. A New Dataset. International Monetary Fund Working Paper No. 12/187. Nations with index values on the diagonal (blue line) showed no change in the fiscal rules index in 2012 compared to 2002. Nations with index values to the right (or left) of the diagonal had stronger (weaker) fiscal rules in 2012 compared to 2002.

The research area expanded the scope of its agenda to include empirical analysis of the quality of tax administration and its influence on competitiveness at the national level. Negative experiences in several EU nations have made it apparent that an efficient public sector is an important factor for competitiveness. In this context, researchers also work on a project funded by the EU Commission to investigate the costs and the impact of problems in public administration at the firm level. Finally, they launched a new project that examines the impacts of fiscal rules by means of a “fiscal rules index” that measures the quality of fiscal regulation. This project will fill a gap in the existing literature by developing an innovative identification strategy to test the causality of effects. The analysis conducted within the framework of this project includes both taxes and public investments, thereby making a valuable contribution to current debates about fiscal policy at the European level.

OUTLOOK

Two innovations will play a major part in the upcoming work of the Research Department – namely, the successful application to establish the “MaTax” Mannheim ScienceCampus, and the launch of the ZEW Research Group “International Distribution and Redistribution”.

The MaTax ScienceCampus emerged from a joint initiative by this Research Department together with ZEW President Professor Clemens Fuest and Professor Christoph Spengel at the University of Mannheim, and the Research Department will continue to play a major part in its further development. The research agenda for MaTax is closely linked to the Research Department’s existing scientific work. A focus will be placed on the challenges currently facing tax policy-makers resulting from new forms of competition and the European sovereign debt crisis. The ScienceCampus will further enhance public visibility of existing collaborative efforts with the University of Mannheim and contribute to making Mannheim a true centre of European research on taxation. Along with Christoph Spengel, other participating university partners include Professor Thomas König (political science, University of Mannheim), Professor Eckhard Janeba (economics, University of Mannheim), Professor Ulrich Schreiber, Professor Johannes Voget, and Professor Michael Woywode (all Business School faculty members, University of Mannheim); Professor Thomas Fetzner (legal studies, University of Mannheim), and Professor Ekkehart Reimer (legal studies, Heidelberg University).

Additional prospects for future projects in the Research Department are related to the new ZEW Research Group “International Distribution and Redistribution”. With its focus on household-related European microsimulation models, the group will develop major new methodological competencies at ZEW that will have diverse points of connection to the Research Department’s agenda (for example, distributive aspects of tax policy and the effects of a European “fiscal union” on stabilisation). Close cooperation with this new Research Group has been fostered by conceptual considerations and personal connections between the researchers involved.

» EFFICIENT ALLOCATION, FAIR DISTRIBUTION, AND A STABLE ECONOMY.



Prof. Dr. Andreas Peichl
Head of the Research Group
International Distribution and
Redistribution



99
%



distrib
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RESEARCH GROUP INTERNATIONAL DISTRIBUTION AND REDISTRIBUTION



Prof. Dr. Andreas Peichl
Head of Group



Dr. Holger Stichnoth
Deputy Head

RESEARCH AREAS

- **Distribution of Income and Wealth**
Contact: 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 welfare. The Research Group also studies redistribution through tax and transfer systems and its economic effects. Adopting national, European, and international perspectives, the Research Group focuses in particular on the empirical analysis of developments in these areas.

Using a variety of econometric techniques, the Research Group examines micro-level data to explore trends in wealth and income distribution and 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 incentive and insurance effects across the life cycle.



The distribution of income and wealth as well as the economic effects of redistribution and transfer systems are currently the subject of heated public debate. The new Research Group “International Distribution and Redistribution” started its work at ZEW in early October 2013. ZEW’s goal in establishing the group is to make a contribution to this important field of economics while also placing public debate on a more objective footing by furnishing empirical studies and analysis. The research results are intended to serve as a reliable, scientific basis for tax and social policy recommendations.

In addition to traditional studies of national systems, researchers are increasingly engaged in studies on European topics – for example, the debate about the introduction of a fiscal union as a response to the debt crisis. The macroeconomic stabilisation effects of fiscal institutions in the European Monetary Union are of major relevance to the Research Group’s studies in this area.

RESEARCH AREA: DISTRIBUTION OF INCOME AND WEALTH

- The International Distribution of Income and Wealth
- Equality of Opportunity
- Drivers of Growing Inequality

Researchers in this area investigate trends in the distribution of income and assets using various indicators in an international context. Studies in this area focus in particular on the empirical analysis of inequalities in outcomes and opportunities, ideally in 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. In addition, researchers examine individual preferences regarding redistribution and attitudes towards “fair” tax systems. Based on these studies, the Research Group offers tax and social policy recommendations to improve equal opportunity.

The Research Group’s empirical work is predominantly based on high-quality administrative data and internationally comparable micro-level data – for example, from the “EU Statistics on Income and Living Conditions” (EU-SILC). In terms of methodological approaches, ex-post analyses are the most frequent form of study. The research draws on various strands of literature and aims to bring them together in the analyses.

RESEARCH AREA: TAX AND TRANSFER POLICY

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

In this area the Research Group employs various methods to study the efficiency, distribution, and welfare effects of tax and transfer systems from a national, European, and international perspective. Researchers in this area conduct ex-post analyses using micro-level administrative data 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 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. The Research Group is currently refining these models in a research project funded by the SEEK programme as well as in cooperation with Professor Richard Blundell (of University College London and the Institute for Fiscal Studies), among others. The project studies the interaction between fertility and career decisions over the life cycle. A special focus is being placed on identifying the determinants of the salary losses associated with career breaks. The study relies on administrative data and sophisticated life-cycle modelling methods. The model will be used to study the impacts of family-policy measures, among other things. A key aim is to simulate the effects of different regulations concerning parental leave and parental leave benefits.

RESEARCH AREA: PROSPECTS FOR THE EUROPEAN MONETARY UNION

- Empirical Analysis of Reform Proposals on Fiscal Integration in Europe
- Tax and Benefits Systems in Times of Economic and Financial Crisis

This research area studies the fiscal integration of Europe, particularly proposals for creating a European fiscal union. Such proposals range from stricter fiscal policy rules and their enforcement to fiscal equalization mechanisms and common tax and transfer systems (e.g. a European unemployment insurance system).

As part of a SEEK project, researchers have analysed national fiscal policies across the EU since the financial and economic crisis in terms of their effects on income distribution, stabilisation, and efficiency. For the empirical analysis researchers used EUROMOD, a European tax-benefit microsimulation model allowing a micro-based analysis of national policies. In simple terms, EUROMOD is a gross-net calculator that produces a detailed model of the tax and benefits policies in the EU-27 linked with harmonized micro-level data. The model can simulate gross and net incomes, creating a representative profile of households in the individual EU Member States. This research project crucially relies on the ability of EUROMOD to assess reforms to tax and transfer systems over a long period.

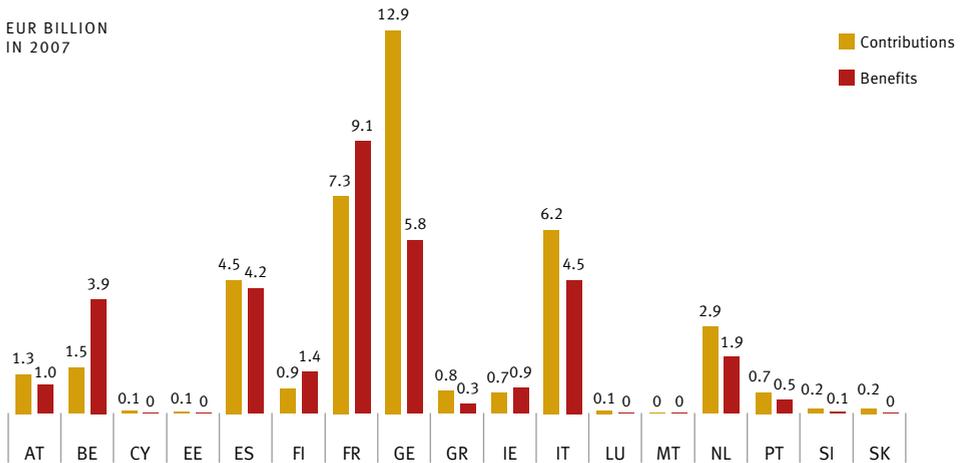
The European Parliament's Employment Committee invited the newly formed Research Group in October 2013 to conduct a study on the economic effects of a European unemployment insurance system. Among the proponents of such a system is the President of the European Council, Herman van Rompuy. It is believed such a system would increase stability in the eurozone when member states are hit by asymmetric macroeconomic shocks. Such a system would also help to harmonize business cycles within the monetary union, proponents assert. The objective of the Research Group's study was to analyse the automatic stabilising effects that would potentially result from a common unemployment insurance system in the eurozone.

Calculations using EUROMOD show that a European unemployment insurance system providing basic coverage (50 per cent wage replacement) with a maximum time limit of 12 months could be financed on a relatively small budget. It would have been revenue-neutral across the EU in 2007 given a social insurance wage deduction of 1.3% (amounting to 67 billion euros). In order to avoid frequently adjusting contribution levels, a European unemployment insurance system would have to be permitted to take on debt. This would also automatically increase stabilising effects.

Static simulations show that contribution and transfer payments from a European unemployment insurance system would have been very unevenly distributed in 2007 (Figure 1). Assuming that each individual who received benefits from national unemployment insurance systems would also have qualified for European unemployment insurance, Germany would have paid contributions amounting to 12.8 billion euros and received benefits amounting to six billion euros. France, on the contrary, would have had a positive net balance. These results indicate that the precise institutional design of a European unemployment insurance system is important for its redistributive effects, and that it may be necessary to harmonise national unemployment insurance sys-

tems to a certain degree. Further dynamic simulations will determine to what extent a European unemployment insurance system could function to stabilise business cycles.

1] HYPOTHETICAL CONTRIBUTIONS AND BENEFITS PAYMENTS
FOR A EUROPEAN UNEMPLOYMENT INSURANCE SYSTEM IN 2007



Source: ZEW calculations, based on EUROMOD

OUTLOOK

The newly formed Research Group “International Distribution and Redistribution” will cooperate closely with ZEW’s other research units. Individual members of the new group come from the Research Department “Labour Markets, Human Resources and Social Policy”, and will continue to work with this department in the future. A particular focus of joint research will be on family policy.

Another area of joint research will involve the development of a structural model for the ex-ante estimation of the effects of general or industry-specific minimum wages. Here the methodological expertise of the Research Group in the area of structural modelling will be particularly useful.

The cooperation with the Research Department “Corporate Taxation and Public Finance” will be further strengthened through the Leibniz ScienceCampus “Mannheim Taxation” (MaTax), which starts in 2014. One post-doctoral researcher from each of the two research units will coordinate the collaboration. MaTax’s primary goal is to consolidate and ramp up tax research efforts at the University of Mannheim and ZEW. The ScienceCampus will also serve as a platform

for strengthening cooperation within ZEW on tax topics. For example, researchers plan to conduct joint conferences and workshops attended by a range of ZEW research units.

In coming months and years, the Research Group's empirical studies and analyses will also contribute to academic discussion and economic policy debate surrounding the institutional development of a European fiscal union.

» OVERCOMING THE CRISES IN EUROPE.



Dr. Marcus Kappler
Acting Head of the Research Group
Growth and Business Cycles
(until March 31, 2014)



macro economics

RESEARCH GROUP GROWTH AND BUSINESS CYCLES



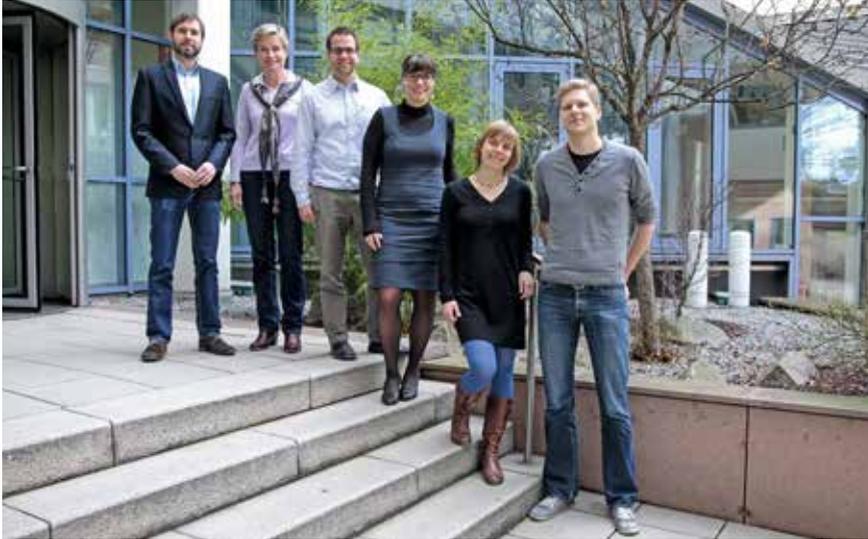
Dr. Marcus Kappler
Acting Head of Group
(until March 31, 2014)

RESEARCH AREAS

- **Growth and Institutions**
Contact: Dr. Jan Hogrefe
- **Analysis of Economic Linkages**
Contact: Dr. Andreas Sachs
- **Development of Analytic Tools and Methods**
Contact: Claudia Busl, Frauke Schleer

MISSION STATEMENT

The Research Group “Growth and Business Cycles” investigates how institutions, demographics, and global markets shape economic growth and activity in Europe. It is the only Research Group at ZEW with a macroeconomic focus and is responsible for coordinating joint research projects in this area. Economists in this Research Group are the primary experts for the media and interested public when it comes to questions of global economic development and policy. They also provide analysis and forecasts on the macroeconomic challenges faced by public institutions and industry.



In 2013 the Research Group, together with the University of Mannheim, organised the fourth annual iteration of the international conference “Recent Developments in Macroeconomics”. The goal of this conference series is to give researchers a platform to discuss current topics in macroeconomic research. In addition to numerous lectures on labour market topics, fiscal and monetary policy, there were the keynote speeches from Carlo Favero (Università Bocconi, Milan) and Willi Semmler (New School for Social Research, New York).

RESEARCH AREA: GROWTH AND INSTITUTIONS

- Economic Crises and Potential Output
- Macroeconomic Effects of Demographic Change
- Impact of Labour Market Reform on Employment
- Analysis of Structural Unemployment
- Effects of Globalisation on Employment

The research area “Growth and Institutions” is devoted to understanding long-term growth and employment, with an emphasis on institutions and the mechanisms that govern goods and labour markets. In addition, the group investigates the macroeconomic effects of demographic change.

The Research Group’s expertise lies in studying and appraising potential output and assessing mid-term macroeconomic projections. For instance, in the biannual economic forecast pre-

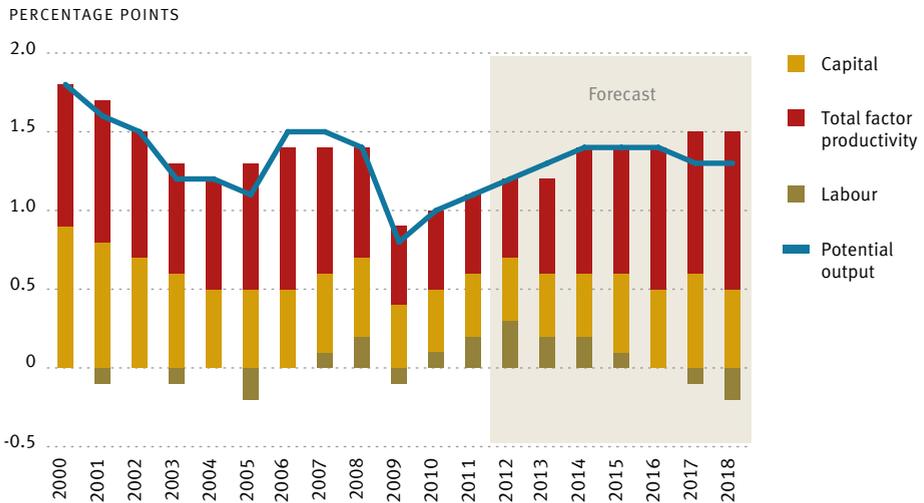
pared together with the Kiel Institute for the World Economy, the Research Group assesses Germany’s potential output based on mid-term projections – an indispensable part of Germany’s fiscal planning and stability programme. The potential output assessment models developed for this purpose are regularly used in commissioned research projects.

One of the Research Group’s projects is the analysis of the long-term effects of crises on potential output. The goal is to examine whether crises generally have a long-term negative influence on potential output via labour supply, to identify the extent of this influence, and to ascertain whether it can be mitigated through specific labour market measures. The researchers focus on how skill mismatch – a suboptimal form of human capital utilisation – arises from the re-allocation of production factors in countries affected by crisis.

The Research Group also develops alternative methods for estimating potential output by incorporating financial market data on cyclical developments. Alternatives are needed because financial markets can cause structural, long-term distortions to the economy – as was the case with the credit-driven booms in some countries before the onset of the financial crisis – and because traditional methods for estimating potential output and output gaps fail to take into account distortions like these.

Another area of work is the investigation of employment effects from labour and product market institutions and the organisation of these institutions in Europe’s national economies. Most of this research is carried out as part of the project “Towards a New Growth Path: Welfare, Wealth

1] POTENTIAL OUTPUT AND GROWTH FACTORS IN GERMANY



Potential output: Percentage change relative to previous year; growth factors by percentage points
 Source: Federal Statistical Office; joint calculations and projections by IfW and ZEW

and Work for Europe”, which is funded by the European Commission’s 7th Framework Programme. The Research Group is responsible for general organisation and coordination, and directs research in “Governance Structures and Institutions at the European Level”, one of the project’s five main research areas. The point of the work is to deliver valuable information on the need for – and possibilities of – supranational policy coordination in the EU. In 2012 and 2013, the Research Group published its preliminary results in a series of discussion papers and summarized them in a policy report. The project’s broad four-year funding has enabled ZEW to establish this research area among competing institutions in Germany and abroad, while the international network has helped its reputation grow outside the borders of its field.

In 2013 Baden-Württemberg’s Ministry of Finance and Economics commissioned the Research Group to examine the socio-economic development of Danube countries as part of the EU “Strategy for the Danube Region” (EUSDR). For the study, the Research Group will analyse the basic economic data from the region to determine its possibilities, requirements, and outlook, and make recommendations for improving the economy of the concerned countries. The Research Group also serves as coordinator for the project (which runs through 2015) and works together with the Institute for Applied Economic Research in Tübingen (IAW), the Vienna Institute for International Economic Studies (WIIW), and numerous experts from the Danube region.

The effects of globalisation and the offshoring of production on the labour market remains an important topic for the Research Group. As part of a SEEK project, the Research Group worked together with ZEW’s “Labour Markets, Human Resources and Social Policy” Research Department as well as with international partners to identify disparities in European labour market development and investigate the role played by globalisation and technological change.

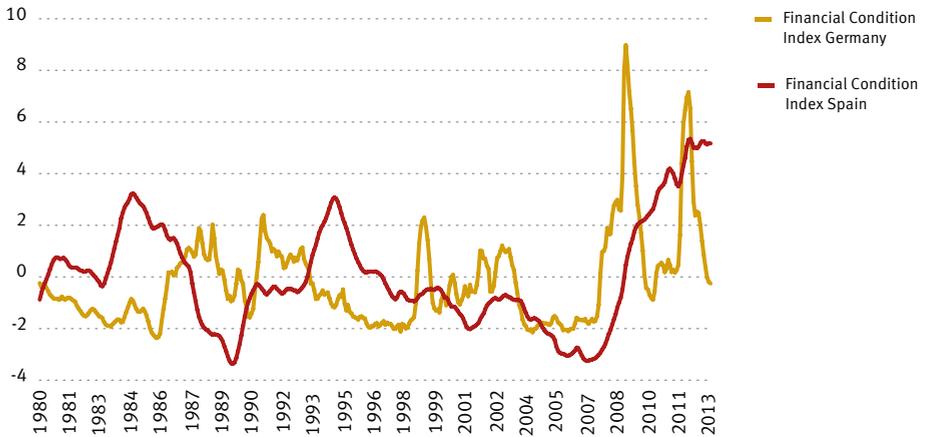
RESEARCH AREA: ANALYSIS OF ECONOMIC LINKAGES

- International Business Cycles and Business Cycle Shocks
- Financial Market Stress and Macroeconomic Trends
- Business Cycle Research and Forecast Evaluation

In this area (formerly “Analysis of Short-Term Macroeconomic Relationships”) the Research Group studies questions relating to temporary fluctuations in capacity utilisation in goods and labour markets. This includes the appraisal of economic shocks in view of global and country-specific events, specifically those in the eurozone. How can the eurozone crisis be overcome effectively? What improvements have been made in the countries affected by the crisis?

Despite the grave economic and political consequences of financial crises, too little research has been devoted to understanding the relationship between the financial sector and macroeconomic development. As part of a SEEK project, the Research Group examined how stress on the financial market affects economic activity in euro countries. Researchers found that for most of these countries shocks in the financial sector trigger prolonged negative reactions in economic activity. The SEEK project gave the Research Group a chance to establish itself in an important

2] STATE OF FINANCIAL MARKETS



The figure shows financial stress indicators for Germany and Spain. The higher the indicator values are, the greater the stress and vulnerability in the financial sector.
Source: ZEW calculations

research field and to build up an international network. Figure 2 shows some financial market indicators for Germany and Spain.

The Research Group also worked together with Börsen-Zeitung to prepare monthly economic forecasts for Germany and the eurozone. On the basis of these forecasts, the Research Group develops a novel indicator, known as the ZEW Revisionsindikator, which measures how economic data influences the sentiment of forecasters at banks and institutions.

A further topic in the research area is the study of the determinants that synchronize business cycles. Special emphasis was placed on the role of foreign direct investments, whose importance has increased significantly in past decades. The research was continued as part of the European Commission’s project “Towards a New Growth Path: Welfare, Wealth and Work for Europe”.

RESEARCH AREA: DEVELOPMENT OF ANALYTIC TOOLS AND METHODS

- Methods for Assessing Potential Output
- Forecast Models for Sectoral Business Cycles
- Non-Linear Time-Series Models
- Macroeconomic Multi-Country Models

The research area “Development of Analytic Tools and Methods” pursued a number of tasks in the year under review. One was to advance macroeconomic multi-country models, which are useful when investigating economic shocks in the eurozone. Another is to develop methods for

forecasting mid-term economic development. A cornerstone here is the method deployed by the European Commission as part of the Growth and Stability Pact and used to assess economic activity when drawing up Germany's national budget.

The evaluation and expansion of existing non-linear time series analysis tools is another part of the research area. These tools are currently being used to analyse interactions between financial markets and the real economy. Potential areas of application include research on macroeconomic inequalities, current account imbalances, and growing state debt.

In 2013, as part of the project "Towards a New Growth Path: Welfare, Wealth and Work for Europe", the Research Group examined domestic and international effects of labour market reforms using a dynamic stochastic two-country general equilibrium (DSGE) model. In doing so, it developed new models for DYNARE, a software package for DSGE models used to evaluate all types of economic reforms. For instance, the Research Group employed these models to evaluate the effects of the Hartz reforms in Germany and the effects of labour market reforms proposed last year by the European Commission for France. Economists in the Research Group are currently working to expand the model into a three-country structure.

Finally, as part of the SEEK project "Anticipated Effects of Technology Shocks in the European Economies", and in various policy advising projects for BASF SE and Evonik Industries, the Research Group worked to assemble large macroeconomic datasets and sectoral forecasting tools and developed automated systems for their generation, management, and update.

OUTLOOK

Economists in the Research Group focus on the long-term economic development of goods and labour markets. They investigate the factors that influence potential output and long-term trends of employment and labour market participation in developed economies using country-specific indicators and statistics. A particular concentration in future research will be the effects of prolonged crises in the eurozone on labour volumes and on the potential output of European countries affected by the crisis. Moreover, researchers involved in this work will develop alternative methods for estimating potential output by incorporating financial market data. This research forms the basis for future projects funded by the EU Framework Programme "Horizon 2020".

The Research Group also has the task of conceiving new approaches for explaining globalisation and its effects on economic growth and employment, so as to identify key developments and possibilities for new policies early on. In doing so, it will regard economic growth and activity as two sides of the same coin, putting greater emphasis on short-term dependencies between countries and sectors and between the economy and the financial sector.

» FAIR COMPETITION AND EFFECTIVE REGULATION.



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



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RESEARCH GROUP COMPETITION AND REGULATION



Prof. Dr. Kai Hüschelrath
Head of Group

RESEARCH AREAS

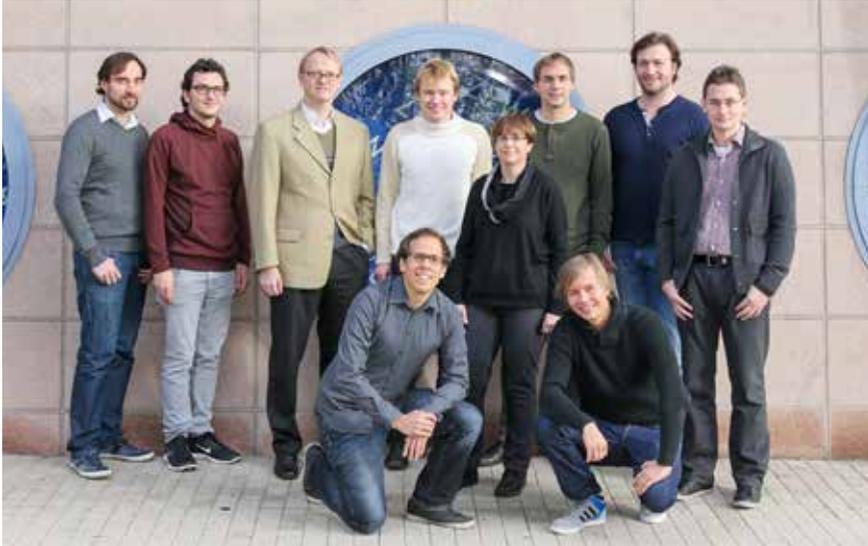
- **Competitive Strategy and Competition Policy**
Contact: Dr. Wolfgang Briglauer, Prof. Dr. Kai Hüschelrath
- **Competition and Regulation in Network Industries**
Contact: Dominik Schober, Oliver Woll

MISSION STATEMENT

The Research Group “Competition and Regulation” studies government competition policy as well as private-sector competitive strategy in network industries and other economic sectors. Interdisciplinary collaboration with legal and business 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.

Studying this broad and complex subject necessitates a variety of activities, including market studies of the status quo, economic investigations of legal practice, the analysis of incentives arising from existing legislation (including comparisons between laws and institutions), and the examination of effects on firm behaviour.

The Research Group works closely with the Leibniz ScienceCampus “Mannheim Centre for Competition and Innovation” (MaCCI), founded by ZEW and the University of Mannheim in 2012.



RESEARCH AREA: COMPETITIVE STRATEGY AND COMPETITION POLICY

- Analysis of Mergers and M&A Trends
- 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 on the market. The results are used to assess the economic effects of company behaviour, and to draw conclusions regarding competition policy. Competitive strategy and policy influence each another 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 predominantly empirical methods. A key goal is to generate original insights by specifically combining and expanding expertise in all three areas. A particular emphasis is placed on assessing the welfare benefits of mergers, and on coordination between companies in making production and sales decisions.

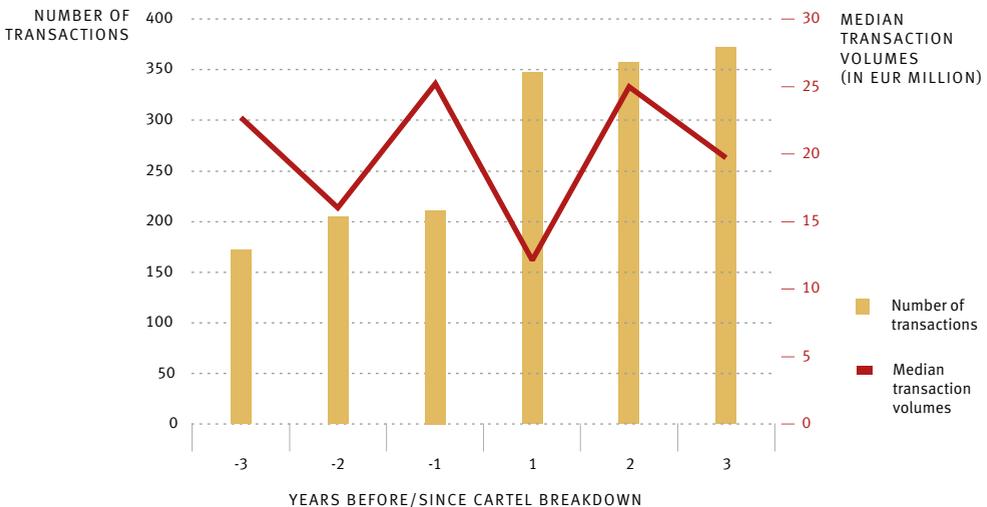
For the “Public and Private Enforcement of Competition Law” project, ZEW researchers are investigating the connection between corporate mergers and the breakdown of cartels. To test the hypothesis that the breakdown of cartels stimulates merger and acquisition activities in impacted sectors, the Research Group used the Zephyr database to study merger and acquisition activities in 24 cartel sectors over periods that included a cartel breakdown. The results showed that

the number of mergers worldwide increased by up to 51 per cent after a cartel breakdown if the three years before the cartel breakdown were compared with the three years afterward. In the three years before the cartel breakdowns there were 696 corporate mergers in the sectors considered by the study. In the three years after, there were 1,052 mergers. When solely horizontal mergers (mergers of corporations at the same level in the production chain) are considered, researchers found that merger activity worldwide increased by up to 83 per cent. In this connection, the total number of mergers worldwide rose from 196 to 359 (Figure 1).

In the topic area of “Industry Studies”, ZEW economists examined how discount agreements affect the German generic pharmaceuticals industry. The study, which was conducted on behalf of the German Federal Ministry for Economic Affairs and Energy, focused in particular on impacts to market structure, supplier diversity, and competition. The project was performed in collaboration with the University of Duisburg-Essen and May & Bauer GbR.

Two interdisciplinary projects being undertaken in conjunction with legal scholars analysed various aspects of the private enforcement of competition law. Together with Sebastian Peyer from the Centre for Competition Policy (CCP) at the University of East Anglia (UK), researchers developed an integrated approach to public and private cartel enforcement. A joint project with

1] HORIZONTAL MERGER TRENDS WORLDWIDE IN THE CONTEXT OF CARTEL BREAKDOWNS



The graph shows the number and the median transaction volume of horizontal mergers worldwide in the three years before and the three years after a cartel breakdown. For example, in the year before the cartel breakdown there were only about 200 mergers in the sectors considered in the study and the median transaction volume was about 25 million euros. In the year after the cartel breakdown the number of takeovers increased to about 350 while the media transaction volume sank to about 12 million euros.

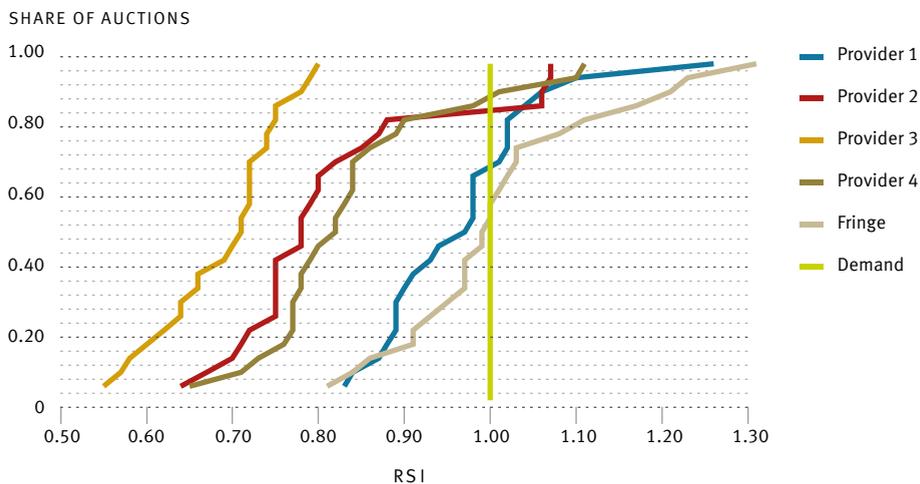
Eckart Bueren from the Max Planck Institute for Comparative and International Private Law (MPI) explored if and under what circumstances potential damages to suppliers of a cartel can be quantified and pursued in court. The first MPI-ZEW Private Law and Economics Workshop in November 2013 in Hamburg placed the interdisciplinary cooperation with MPI on an even broader footing.

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 research 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 behaviour, 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 Euro-

2] RESIDUAL SUPPLY INDEX IN THE MARKET FOR NEGATIVE OFF-PEAK SECONDARY RESERVE POWER



The graph shows the RSIs for the four most powerful suppliers as well as for the competitive fringe. The RSI is an index for measuring a firm's market power. It indicates the share of demand that can be satisfied if the provider's capacity is removed. For example, no more than 80% of the total demand can be satisfied without Provider 3.

pean energy markets and German policies designed to promote the adoption of renewables. In telecommunications 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 the “Development and Evaluation of Market Designs” topic area, ZEW economists examined the effects of various potential auction designs on the efficiency of electricity markets. The German Federal Network Agency provided firm-level, anonymised bidding data for the study. Researchers analysed market structure and market power by applying common measures such as the Herfindahl-Hirschman Index (HHI), concentration ratios, as well as measures developed for electricity markets like the pivotal supplier index (PSI) and the residual supply index (RSI). Using this approach, researchers identified a heavily concentrated market with highly pivotal suppliers (suppliers that are essential for satisfying demand) in an environment with completely inelastic demand and high barriers to entry (Figure 2). A subsequent analysis of individual bid strategies determined that price increases could be traced back to the pay-as-bid auction design.

Several studies were carried out in 2013 in the area of “Transport Markets”. Researchers performed an ex-post evaluation of mergers in the aviation industry. In addition, they evaluated competitive contracting procedures in the German regional passenger rail sector. Since 1996 the public authorities awarding contracts have implemented divergent contracting procedures. This raises the question of which design parameters – e.g. pertaining to the duration of the contract, or to revenue-sharing between the awarding authority and rail service operator – yield better outcomes. The results of an empirical analysis indicated that more companies participate in a call for bids when the contract duration is long and when the company’s revenue risks are low. The market leader DB Regio is more likely to win contracts if it serviced the lines in the past and the line network is long. DB Regio is also more likely to win contracts with a long duration if used vehicles are permitted and fewer competitors participate in the call for bids.

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 expanded in coming years.

The research topics defined by MaCCI will continue to guide the Research Group’s activities. In the “Public and Private Enforcement of Competition Law” project, researchers will study how competition law can best be enforced. In this project, a focus will be placed on analysing specific factors from a legal and economic point of view, such as the calculation of fine levels, the assessment of damages caused by competition infringement, and the effects of leniency programmes.

Within the scope of the “Industry Studies” topic area, researchers will study whether a more competitive organisation of health care markets can help to alleviate the health care expenditure increases associated with demographic change. Some examples of current measures that researchers will evaluate in terms of their effects on competition include parallel importing or re-importing, the 2007 introduction of discount agreements between health insurance funds and pharmaceutical manufacturers, as well as the merger control procedures applied to public health insurance funds since 2013.

Within the topic area of “Trends in Energy, Telecommunication and Transport Markets”, researchers will work on a range of subprojects. In the area of energy markets, researchers will examine how the adoption of renewables will affect security of supply on both the producer and consumer side. They will also analyse various regulatory instruments in terms of their usefulness and efficiency. With regard to telecommunications markets, substantial investments and risks associated with the expansion of fibre-optic communication networks raise important questions concerning when and under what conditions network owners must provide access to service-based competitors. 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 – for example, between conventional telecommunications network operators and energy or transport companies – are legally permissible and economically efficient.

SCIENTIFIC OUTPUT, COMMITTEES AND EXTERNAL RELATIONS

▶ SCIENTIFIC OUTPUT

▶ COMMITTEES AND EXTERNAL RELATIONS

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Conference: MaCCI Annual Conference (15–16 February 2013)

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Conference: Consumption-Based Approaches in Climate Policy

(6–7 March 2013)

Organisation:

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 Glen Peters, Center for International Climate and Environmental Research, Oslo, NO

Workshop: Second KIT-ZEW Workshop on the Economics of Science
(10 April 2013)

Organisation:
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Conference: Fiscal Performance – The Role of Institutions and Politicians (11–12 April 2013)

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SEEK Conference: Engines for More and Better Jobs in Europe
(25–26 April 2013)

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Workshop: Intangible Assets (2–3 May 2013)

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Conference: ZEW/MaCCI Conference – Economics of Innovation and Patenting (3–4 June 2013)

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Conference: Ten Years of Regulation 1/2003 (7 June 2013)

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Conference: 11th ZEW Conference on the Economics of Information and Communication Technologies (21 June 2013)

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Conference: Mannheim Energy Conference (24–25 June 2013)

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ZEW Summer Workshop: Current Fiscal Policy Challenges in Europe
(2 July 2013)

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Conference: Recent Developments in Macroeconomics
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Conference: The Global Market for Environmental Technologies: Do We Need a New Pioneering Policy? Lead Markets Closing Conference
(27 September 2013)

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Conference: 5th ReCapNet Conference – Real Estate Markets and Capital Markets (18–19 October 2013)

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Conference: Der Rebound-Effekt von Energieeffizienz-Verbesserungen

(18 October 2013)

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Workshop: ZEW/KMRC Wikipedia Workshop (8–9 November 2013)

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Conference: Taxing Multinational Firms (18–19 November 2013)

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Workshop: The Impact of Human Resource Management – Empirical

Analyses of Firms and Employees (22–23 November 2013)

Organisation:

Susanne Steffes, ZEW

Workshop: Family Economics and Family Policy

(27–28 November 2013)

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**Conference: MaCCI Law and Economics – Die Wettbewerbspolitik
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The ZEW Sponsors' Association for Science and Practice (Förderkreis Wissenschaft und Praxis am Zentrum für Europäische Wirtschaftsforschung e.V.) was founded by business representatives in the Rhine Neckar region to support ZEW's work. An impressive number of large and medium-sized firms as well as renowned personalities from the region, the State of Baden Württemberg, and Germany are members of the association.

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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In 2013, the following researchers were at ZEW within the Visiting Researchers Programme:

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The institute's alumni met on the occasion of the ZEW Economic Forum in June 2013.

ZEW ALUMNI

The ZEW alumni network provides a forum for former ZEW staff to stay in touch with colleagues and with the institute. ZEW keeps alumni posted on news about the institute, research results and professional training seminars. Former staff can provide ZEW with valuable input for research work. ZEW alumni traditionally meet once a year on the occasion of the ZEW Economic Forum.

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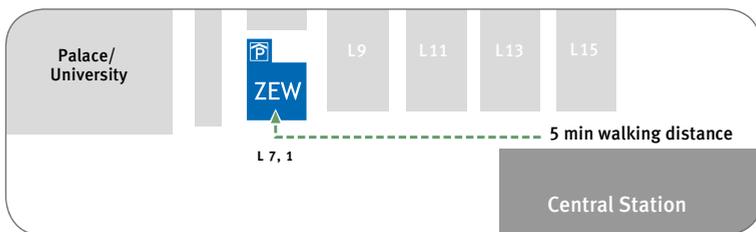
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Travelling by plane via Frankfurt International Airport

Mannheim is just a short trip from Frankfurt Airport. Travel time via ICE high-speed train to Mannheim Central Station is about 30 minutes.

Travel time to Frankfurt by plane (non-stop)
 from New York: approx. 8 hrs / from Beijing: approx. 10 hrs



By foot from Mannheim Central Station

It is a five-minute walk from Mannheim Central Station to ZEW.

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