

# Annual Report 2009





**Imprint**

**ZEW Annual Report 2009**  
June 2010

**Publisher**

Centre for European Economic Research (ZEW)  
Mannheim

L 7, 1 · 68161 Mannheim · Germany

**Address**

P.O.B. 10 34 43 · 68034 Mannheim · Germany

Phone +49/(0)621/1235-01  
Fax +49/(0)621/1235-224  
E-mail [info@zew.de](mailto:info@zew.de)

Internet [www.zew.de/en](http://www.zew.de/en), [www.zew.eu/en](http://www.zew.eu/en)

**Executive Directors**

Prof. Dr. Dr. h.c. mult. Wolfgang Franz  
President,  
Director of Science and Research

Thomas Kohl  
Director of Business and Administration

**Public Relations**

Gunter Grittmann  
Phone +49/(0)621/1235-132  
E-mail [grittmann@zew.de](mailto:grittmann@zew.de)

Kathrin Böhmer  
Phone +49/(0)621/1235-103  
E-mail [boehmer@zew.de](mailto:boehmer@zew.de)

**Editor**

Beatrix Immig

**Layout**

Media Design, ZEW

**Photos**

ARTIS Uli Deck (1)  
Erich Dichiser (24)  
European Parliament (1)  
Yvonne Lupp (4)  
Private (8)

**Print**

NINO Druck GmbH,  
Neustadt/Weinstraße

## Scientific Advisory Council

Chairman: Prof. Dr. Friedrich Buttler  
Vice-Chairman: Prof. Dr. Dres. h.c. Arnold Picot

Prof. Dr. Dr. h.c.  
Wolfgang Franz  
President  
Director of Science and Research

## RESEARCH

### Research Department International Finance and Financial Management

PD Dr. Michael Schröder

- International Financial Markets and European Integration
- Financial Market Analysis
- Investments and Financial Services
- Corporate Finance
- Real Estate and Financial Markets

### Research Department Human Capital

- Employment
- Social Welfare
- Personnel Economics
- Education Economics

### Research Department Industrial Economics and International Management

Dr. Georg Licht

- Innovation Behaviour and Innovation Strategies
- Research, Technology and Innovation Policies
- Market Development and Firm Dynamics
- Competition and Regulation
- Firm Level Databases

### Research Department Corporate Taxation

- Corporate Taxation
- Empirical Economics
- Fiscal Competition
- Decision Making

### Research Department Environmental Resource Economics, Environmental Management

PD Dr. Andreas Löschel

- Innovation and Sustainable Development
- Energy Economics
- Transport and Mobility
- International Environmental and Resource Policies
- Macroeconomic Analysis of Environmentally Relevant Issues

### Research Group Information and Communication Technologies

Dr. Irene Bertschek

- ICT Sector and Diffusion of ICT
- ICT and the Labour Market
- ICT, Firm Strategies and Competition

### Research Group Product Market

- Analysis of Local Markets
- Analysis of Spatial Markets
- Development Economics

## Supervisory Board

Chairman: Minister ret. Gerhard Stratthaus  
Vice-Chairman: Dr. h.c. Eggert Voscherau

## Executive Directors

Dr. h.c. mult.  
Wolfgang Franz

**Thomas Kohl**

Director of Business  
and Administration

Research

## ZEW Sponsors' Association for Science and Practice (Registered Society)

Chairman: Dr. Dr. Peter Bettermann  
Vice-Chairman: Dr. Kurt W. Bock

## Research Department Labour Markets, Human Resources and Social Policy

Dr. Holger Bonin

Wages and Salaries  
Institutions  
Economics  
Economics

## Research Department Corporate Taxation and Public Finance

Dr. Friedrich Heinemann

Location and Tax Location Analysis  
Aspects of Corporate Taxation  
Federalism and Federalism  
Innovation in Tax and Financial Policy

## Research Department Economic and Management

Research  
Policies

## Research Group Economic Growth and Business Cycles

Prof. Dr. Dr. h.c. mult. Wolfgang Franz

Long-Term Macroeconomic Relationships  
Short-Term Macroeconomic Relationships  
Development of Analytic Tools and Methods

## S E R V I C E

### Information and Communication

- Public Relations
- Editing
- Events
- New Media
- Special Library
- International Coordination

### Knowledge Transfer and Qualification Programmes

- Expert Seminars
- Specific Training Programmes for Enterprises and Institutions

### General Services

- Human Resources
- Finance and Accounting/Controlling
- IT
- Purchase, Organisation
- Media Design and Distribution



# ZEW

 Leibniz  
Gemeinschaft



The background is a solid blue color with several abstract, white, curved lines that sweep across the page from the bottom left towards the top right, creating a sense of movement and depth.

Annual Report  
2009



# Content

## LETTER FROM

|   |   |
|---|---|
| The European Energy Commissioner, Günther Oettinger .....                                     | 3 |
| The Executive Directors of ZEW, Prof. Dr. Dr. h.c. mult. Wolfgang Franz and Thomas Kohl ..... | 4 |

## ABOUT US

|                  |   |
|------------------|---|
| <b>ZEW</b> ..... | 6 |
|------------------|---|

Mission and Research Objectives · Funding · Organisation · Human Resources ·  
Networking with University Partners · Outstanding Characteristics of the Institute

|  |    |
|--|----|
| <b>Research Units in Profile</b> ..... | 10 |
|--|----|

Research Areas · Central Projects · Outlook · Selected Clients · Selected Cooperation Partners

|                                     |    |
|-------------------------------------|----|
| <b>Qualification of Staff</b> ..... | 18 |
|-------------------------------------|----|

Doctoral Education · Qualification Programme · Professional Development for  
Non-Scientific Employees

|                                       |    |
|---------------------------------------|----|
| <b>Economic Policy Advising</b> ..... | 22 |
|---------------------------------------|----|

Channels for Policy Advising · Clients · Quality Management

|                                 |    |
|---------------------------------|----|
| <b>Knowledge Transfer</b> ..... | 24 |
|---------------------------------|----|

ZEW Publications · Databases · Cooperation Partners and Visiting Researchers  
Programme · Participation in Scientific Conferences · Events at ZEW · Public Relations ·  
High Quality Seminars for External Participants

## ZEW IN 2009

|   |    |
|---|----|
| <b>Activities of Research Units</b> ..... | 30 |
|---|----|

International Finance and Financial Management · Labour Markets, Human Resources  
and Social Policy · Industrial Economics and International Management · Corporate Taxation  
and Public Finance · Environmental and Resource Economics, Environmental Management ·  
Information and Communication Technologies · Growth and Business Cycles

|                                |    |
|--------------------------------|----|
| <b>Scientific Output</b> ..... | 70 |
|--------------------------------|----|

Publications in Refereed Journals · ZEW Book Series · ZEW Discussion Papers · Conferences

|   |    |
|---|----|
| <b>Staff Report and Financial Statement</b> ..... | 78 |
|---|----|

## COMMITTEES AND EXTERNAL RELATIONS

|                                |    |
|--------------------------------|----|
| <b>Supervisory Board</b> ..... | 84 |
|--------------------------------|----|

|  |    |
|--|----|
| <b>Scientific Advisory Council</b> ..... | 86 |
|--|----|

|                                  |    |
|----------------------------------|----|
| <b>Research Associates</b> ..... | 88 |
|----------------------------------|----|

|                                   |    |
|-----------------------------------|----|
| <b>Visiting Researchers</b> ..... | 90 |
|-----------------------------------|----|

|   |    |
|---|----|
| <b>ZEW Sponsors' Association for Science and Practice</b> ..... | 92 |
|---|----|

|                         |    |
|-------------------------|----|
| <b>ZEW Alumni</b> ..... | 94 |
|-------------------------|----|

|                            |    |
|----------------------------|----|
| <b>STAFF CONTACT</b> ..... | 96 |
|----------------------------|----|

|   |    |
|---|----|
| <b>SUBSCRIPTION OF ZEW PUBLICATIONS</b> ..... | 99 |
|---|----|

LETTER FROM

## The European Energy Commissioner, Günther Oettinger



As the Commissioner for Energy, it is my pleasure to introduce the ZEW 2009 Annual Report, aiming to present its latest research activities and scientific results.

The Centre for European Economic Research (ZEW) is an important actor within the European Research Area (ERA), currently participating in over a dozen projects funded by the 7<sup>th</sup> Framework Programme for research, technological development and demonstration activities (FP7). The ZEW's research department "Environmental and Resource Economics, Environmental Management" is particularly active in such projects and plays an important policy advisory role.

The 2020 vision for the ERA aims to achieve free circulation of researchers, knowledge, and technology within Europe. Joint research efforts, both at Member States and at European Union (EU) level, already provide remarkable results. Our new technologies are instrumental for reducing greenhouse gas emissions, for enhancing the competitiveness of our industry, and for creating "green jobs".

The Commission's endeavour is to create conditions that foster technological progress by putting in place a stable and predictable policy framework at the EU level. As such, the Europe 2020 strategy for smart, sustainable and inclusive growth sets up a vision of structural and technological changes required to move towards a low-carbon, resource-efficient and climate-resilient economy by 2050.

We are putting in place a policy whose target is nothing less than the transformation of the entire energy system, with far-reaching implications on how we source and produce our energy, how we transport and trade it, and how we use it. In short,

we must make low-carbon technologies affordable and competitive – a market choice. This is the core idea behind the European Strategic Energy Technology Plan (SET-Plan).

The EU's approach focuses on the European Industrial Initiatives (EII). Industry-led, the EIIs aim to strengthen industrial participation in energy research and demonstration, boost innovation and accelerate deployment of low-carbon energy technologies. EIIs target sectors in which working at EU level adds most value, and technologies for which the barriers, the scale of the investment and the risk involved can be better tackled collectively.

And while we are looking forward to ambitious longer term policies for 2050, we acknowledge that the technological progress needs to go hand in hand with our regulatory policy and other measures that tackle the challenges ahead of us. I therefore believe that the progress depicted in this Annual Report will also be a valuable contribution to our energy policy.

**Günther Oettinger**  
European Commissioner for Energy

## The Executive Directors of ZEW, Prof. Dr. Dr. h.c. mult. Wolfgang Franz and Thomas Kohl



Thomas Kohl and Wolfgang Franz

2009 was a very successful year for ZEW. We further strengthened our position as one of the leading economic research institutes in Germany and Europe while also improving our international reputation.

A particular challenge in 2009 was the evaluation of ZEW conducted by the Leibniz Association. This evaluation was aimed at ensuring the scientific quality of Leibniz Association member institutes. Findings of the evaluation, which will be officially released in the summer of 2010, will determine the future funding received by ZEW.

In the numerous research projects that were carried out in 2009, ZEW once again honoured its core mission to investigate the “optimal performance of markets and institutions in Europe”. Despite the economic crisis we acquired 5.8 million euros in third-party funding. In the period covered by this report, ZEW researchers also completed 117 projects for national and international clients and funding institutions. The results of our research were published in numerous articles in refereed journals and presented by ZEW economists in some 500 presentations at internal and external conferences and workshops, both within Germany and abroad.

Together with the German National Library of Economics, ZEW successfully digitised its complete archive of discussion papers in 2009. According to a statistical assessment performed by RePEc, ZEW Discussion Papers are one of the “Top 25 Working Paper Series” worldwide.

Thirty-six new staff members were hired over the course of 2009, bringing ZEW’s total head count to 181 by the end of the year. In 2009 ZEW also fulfilled its mission to support the academic advancement of young researchers. Ten graduate students received their PhDs, two researchers completed their habilitations, and two staff members were appointed as junior professors.

ZEW strives to support youth education and the next generation’s interest in economic topics. ZEW is particularly proud of the numerous visits made by school classes to the Institute in 2009, as well as of the organisation of a “Scholarship Holder Day” within the scope of the “Talent in the State of Baden-Württemberg” programme.

In 2009 ZEW further developed its cooperative relationships with universities and research institutes around the globe – particularly in China and the US – as well as with highly recognised researchers, such as Prof. James J. Heckman, PhD, a Nobel Prize recipient in Economics. Over 250 foreign researchers from 32 countries visited ZEW in 2009. Particularly noteworthy in this regard were the 16 financial market experts from China and Vietnam who conducted research stays at ZEW to expand their knowledge in the field of macroeconomics. They visited the Institute to take part in a comprehensive project on development cooperation.

Last year the ZEW Sponsor’s Association for Science and Practice again provided key support

for the Institute's research activities and events, including the ZEW Economic Forum and the lecture series "First-Hand Information on the Current Economic Policy". Within the scope of this lecture series, talks were given by René Obermann, the CEO of Deutsche Telekom, and by the former president of the German Federal Cartel Office, Dr. Bernhard Heitzer. The ZEW Economic Forum attracted a great deal of interest in 2009, not least due to its many renowned keynote speakers, including the long-time chief economist of the European Central Bank, Prof. Dr. Dr. Otmar Issing; the former president of the North-Rhine Westphalian Academy of Sciences, Humanities and the Arts, Prof. Dr. Manfred Neumann; two former minister presidents of the German state of Saxony, Prof. Dr. Georg Milbradt and Prof. Dr. Kurt Biedenkopf; the former minister of finance of the state of Saxony-Anhalt, Prof. Dr. Karl-Heinz Paqué; the former minister of economics and labour, Wolfgang Clement; as well as the former federal minister of economics, Dr. Otto Graf Lambsdorff.

The state of Baden-Württemberg attaches a great deal of importance to research. For this reason, it plans to finance a ZEW research programme titled "Strengthening Efficiency and Competitiveness in the European Knowledge Economies" (SEEK). With

this programme, ZEW hopes to strengthen its position within the international research community while also making a lasting contribution to the EU's Agenda 2020. Furthermore, through the programme ZEW aims to intensify its cooperation with leading international researchers while also increasing the volume of articles it publishes in renowned academic journals.

We would like to extend a very special thanks to all of ZEW's staff. Without their dedication, ZEW's success would not be possible. We would also like to express our thanks for the financial support received from the state of Baden-Württemberg, the federal government, and from the ZEW Sponsor's Association. In addition, we owe a great debt of thanks to the members of the Supervisory Board, the Scientific Advisory Council, and our research associates, all of whom again made a valuable contribution to the Institute's work with their constructive assistance and trenchant advice. The Institute would not enjoy the excellent reputation that it does without their support. Last but not least, we would like to thank our clients and funding institutions for the confidence they place in us.



Mannheim, June 2010

Prof. Dr. Dr. h.c. mult. Wolfgang Franz,  
President,  
Director of Science and Research

Thomas Kohl,  
Director of Business  
and Administration

# ABOUT US

▶ ZEW

The Centre for European Economic Research (ZEW) in Mannheim is an economic research institute and a member of the Leibniz Association (WGL). Under the leadership of Prof. Dr. Dr. h.c. mult. Wolfgang Franz, president of the Institute, and Thomas Kohl, director of business and administration, ZEW employs a staff of 180 in five 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 research of the highest quality
- To provide exceptional economic policy advising
- To train young economists
- To inform the professional and lay public

These objectives are interconnected and can only be accomplished as a whole. The quality of the Institute's policy advising is founded on academic excellence. First-class research depends on the ongoing development of our staff. Staying in close contact with the professional and lay public enables us to constantly keep our research and advice up to date. This ensures that our work is highly relevant for the economic challenges of our time.

ZEW's guiding mission is to study the "optimal performance of markets and institutions in Europe". Our research helps to elucidate how the political and institutional environment for market activities should be best organised in order to promote the sustainable and efficient development of Europe's knowledge-based national economies.

This mission directs the research activities pursued at ZEW, e.g.:

- The integration of the European domestic financial market
- Sustainable and efficient strategies for international climate policy
- Goal-directed national and European tax policy in the face of increased factor mobility
- Employment and income security in the face of higher demand for skilled labour

- Economic development via business start-ups and innovation against the backdrop of global competition
- The efficient use of new information technology
- Institutions and functional income distribution

From a methodological perspective, the Institute's research profile is shaped by theory-based approaches to empirical economic research. Our expertise lies particularly in the area of applied micro-econometrics and in computable general equilibrium models.

A key feature of research conducted at ZEW is its combination of macro- and microeconomic methods. When required by the problem at hand, we adopt an interdisciplinary approach.

### Funding

ZEW's total budget in 2009 was 11 million euros. The Institute's most important financial source with 53 per cent was the basic funding received from a partnership between the state and federal governments. These funds are used predominantly for economic research which is not tied to an order and for infrastructure.

Another financial source for ZEW is the third-party funding. More than 40 per cent of the Institute's financial resources are obtained from research projects for third parties, including the European Commission, ministries and institutions of the federal and state governments, as well as companies, associations, and local authorities.

In 2009 ZEW received a total of 1.113 million euros from the German Research Association (DFG) and other scientific foundations. This amount provides us with an excellent financial scope for basic research.

### Organisation

ZEW is subdivided into the areas "Research" and "Service". Five research departments and two research groups are responsible for research, advice, and qualification at ZEW. Research groups are smaller units with a strong cross-sectional character.

The research units are supported by three service departments. The service department “Information and Communication” is responsible for public relations. The unit “Knowledge Transfer and Qualification Programmes” carries out an extensive seminar programme. The service department “General Services” takes over cross-departmental tasks in the fields of human resources, finance and accounting, IT, purchase, media design, and sales.

There are several committees which influence ZEW’s strategic development. The Supervisory Board consists of eleven members from the worlds of politics, business, and academia and has a monitoring as well as advising function. The Scientific Advisory Council, consisting of representatives from the worlds of academia and business, actively follows and evaluates ZEW’s work. The ZEW Sponsors’ Association for Science and Practice (Registered Society) is conceptually and financially supporting ZEW’s work. The firms belonging to this association facilitate a constant exchange between the domains of research and practice.

### Human Resources

ZEW relies on a flexible staffing concept. Nine out of ten researchers are employed on a temporary basis. The Institute places a strong emphasis on promoting young researchers. The average researcher’s age is 32.

In order to ensure a high standard of excellence in research and economic policy advising, ZEW promotes the ongoing development of its staff by granting periods of paid release from normal project work. These sabbaticals can be used for postgraduate doctorates, postdoctoral theses, or fellowships at renowned universities and research institutions. Typically, graduates work at ZEW for a period of five years, earn their doctoral degree, and then pursue a career mostly in the private sector or at government institutions. This turnover facilitates the direct transfer of knowledge to the private sector and economic-policy institutions. At the same time, this encourages the continuous flow of new knowledge from universities to ZEW, which prevents stagnation.

On the other hand, ZEW is also highly reliant on the knowledge and experience of its long-term staff.

Senior researchers are responsible for supervising their younger counterparts, and are also in charge of research and advising projects in collaboration with the heads of the Institute’s research units.

The Institute’s research associates support ZEW’s work with a great deal of dedication and function as academic advisors to young researchers. Numerous visiting scholars also play a vital role at ZEW.

### Networking with University Partners

Networking in the areas of research and advising between ZEW and universities rests on three pillars: permanent structures, collaborative projects, and individuals.

Permanent structures are the centrepiece of ZEW’s university network. The Institute collaborates closely with colleges in the region. Contracts with the Universities of Mannheim and Heidelberg facilitate the common use of resources and collaboration in the area of doctoral programmes. The joint appointment of junior professors will also soon take place. We have already implemented first junior professorships with the WHU – Otto Beisheim School of Management and the Heidelberg University. The University of Mannheim is actively involved in the staffing of research units heads at ZEW; the University sends faculty members to serve on ZEW’s search committee. ZEW has also developed the ZEW Doctoral Studies Network, which provides professional development opportunities for doctoral students. This programme integrates young researchers into a variety of domestic and international doctoral programmes.

ZEW actively seeks the support of its university partners for advising projects as the need arises. These partners are integrated into projects under contractual agreements. ZEW frequently collaborates with universities within the scope of projects funded by research foundations and institutions. The Institute is involved in a Collaborative Research Centre titled “Governance and the Efficiency of Economic Systems”, two research groups, and three priority programmes of the German Research Foundation (DFG).

ZEW is highly networked to universities through individuals. The Institute is currently collaborating with more than 40 research associates. These asso-



ciates, who are for the most part professors at German and international universities, play a regular part in the work of the research units. Conversely, many ZEW researchers are engaged as lecturers at universities. The ZEW Visiting Researchers Programme promotes scholarly exchange by bringing academics to the Institute for extended research residencies.

### Outstanding Characteristics of the Institute

Although ZEW is closely networked with universities and applies university level standards in its research activities, our work is clearly differentiated from economics research conducted at universities.

- ZEW sets broader goals than economics faculties. Policy advising and knowledge transfer have considerably higher significance for us.
- The size of ZEW and the broad spectrum of topics studied by our research units permit us to take on comprehensive and complex economics advising projects – including, for example, an evaluation of the effects of recent reforms to Germany’s unemployment benefit system (the so-called Hartz IV reforms).
- ZEW’s infrastructure and resources make it possible to develop, maintain, and offer complex analytical models, such as the European Tax Analyzer or the PACE computable general equilibrium model. By the same token, we are able to under-

take long-term surveys which university faculties would not be in a position to sustain, such as the ZEW Financial Market Test and the Mannheim Innovation Panel.

On account of the Institute’s close integration of policy advising and economic research as well as its highly flexible staff model, ZEW has set a unique precedent among German economic research institutes. ZEW has also attained a special status thanks to its fields of study and research objectives.

No other economics research institute engages in the study of the following research subjects with the same degree of comprehensiveness:

- International financial markets
- European research and innovation policy
- International comparisons of corporate taxation
- Economic outcomes of early childhood education and non-cognitive abilities
- Business start-ups
- Use of information and communication technology by employees and companies

No other economics research institute in Germany:

- systematically integrates macro- and micro-economic perspectives in all of its research units;
- offers a comprehensive seminar programme for the advanced education of specialised and managerial staff, as well as the general public, in order to promote knowledge transfer;
- receives more support from the German Research Foundation.

# ABOUT US

► RESEARCH UNITS IN PROFILE

## International Finance and Financial Management



**Head of Department**  
 PD Dr. Michael Schröder  
 +049/(0)621/1235-140  
 schroeder@zew.de

**Deputy**  
 Dr. Peter Westerheide

This research department is devoted to the scientific analysis of international financial markets. It is the largest economic research department of its kind within Germany. The department is a key provider of analysis and policy advising services in the area of financial markets. The optimal performance of international and, in particular, European financial markets is a guiding concern in the department's research.

### Research Areas

- International Financial Markets and European Integration
- Financial Market Analysis
- Investments and Financial Services
- Corporate Finance
- Real Estate and Financial Markets

### Central Projects

- The financing of innovative companies in Europe and its effects on innovation, employment, growth, and competitiveness
- ZEW Financial Market Test
- Leibniz Network: Real Estate and Capital Markets

### Outlook

In the coming years, the department will focus on four areas of research. The stability of international financial markets as well as the significance of the financial sector for the real economy will be subjected to closer analysis. A much greater focus will also be placed on questions related to the formation of expectations in financial markets. In June 2010, for example, the department will host the annual ZEW Summer Workshop for doctoral students and postdocs on the topic of expectation formation in financial markets. Venture capital and private equity will continue to be the main topic of study in the research area of Corporate Finance. Research activities will also be expanded within the Leibniz Network on Real Estate and Capital Markets – first formed at the beginning of 2009 – as well as within the department's research area of the same name.

### Selected Clients

- European Commission
- German Federal Ministry of Finance
- German Federal Ministry of Economics and Technology
- German Federal Ministry of Labour and Social Affairs
- German Research Foundation (DFG)

### Selected Cooperation Partners

- Prof. Shaun Bond, PhD, University of Cincinnati
- Prof. Massimo G. Colombo, PhD, Polytechnic University of Milan (POLIMI)
- Prof. Reint Gropp, PhD, European Business School, Oestrich-Winkel
- Prof. Dr. Lukas Menkhoff, University of Hannover
- Prof. Dr. Steffen Sebastian, University of Regensburg
- Prof. Dr. Peter Winker, Giessen University

## Labour Markets, Human Resources and Social Policy



### Head of Department

Dr. Holger Bonin

+049/(0)621/1235-151

bonin@zew.de

### Deputies

Jun.-Prof. Dr. Melanie Arntz

PD Dr. Friedhelm Pfeiffer

The “Labour Markets, Human Resources and Social Policy” research department investigates how to best organise institutions in the labour market and manage working conditions in firms so as to achieve high levels of employment and satisfying distribution of income in the knowledge-based European economy.

### Research Areas

- Employment and Wages
- Social Welfare Institutions
- Personnel Economics
- Education Economics

### Central Projects

- Evaluation of labour market policies targeted at young adults on behalf of the Federal Ministry of Labour and Social Affairs
- Flexibility in heterogeneous labour markets as part of a Research Network of the German Research Foundation (DFG)
- Design of personnel policies under technical and organisational change for various private enterprises

### Outlook

Opening up new data sources for research drives the department’s agenda. We have launched initiatives to use the German National Education Panel (NEPS) for education research, the register data of the German Pension Administration for the analysis of wage and employment dynamics over the individual life cycle, and personnel records from private enterprises for the econometric study of personnel management issues. In response to growing demand by government authorities, we intend to further diversify our portfolio of programme evaluation projects to include systematic assessment of policies related to the family and human capital. We are extending our linked micro-macro simulation model to incorporate bargaining processes within the household. In the face of demographic and skill-biased technological change in the German labour market, we are increasingly focusing on the question of how to guarantee an adequate supply of skilled labour.

### Selected Clients

- European Parliament
- German Research Foundation (DFG)
- Federal Ministry of Labour and Social Affairs
- Baden-Württemberg Ministry for Economic Affairs
- Ernst & Young AG

### Selected Cooperation Partners

- Institute for Employment Research (IAB)
- Central Institute of Mental Health (ZI)
- German Socio-Economic Panel (SOEP)
- Prof. James J. Heckman, PhD, University of Chicago

## Industrial Economics and International Management



### Head of Department

Dr. Georg Licht

+049/(0)621/1235-177

licht@zew.de

### Deputies

Jürgen Egel

Dr. Christian Rammer

This research department analyses the dynamic aspects of competition between firms as well as the optimal function of markets for goods, knowledge, and technology. A guiding concern is whether and how regulation and market intervention can raise the general welfare in national economies. Considerable attention is devoted in particular to studying the innovation behaviour of firms; merger, acquisition, and start-up activities; the growth dynamics of young firms; and competition in network- and grid-bound markets. The department is one of Europe's leading economic research centres for the empirical study of innovation and start-up activities.

### Research Areas

- Innovation Behaviour and Innovation Strategies
- Research, Technology and Innovation Policies
- Market Development and Firm Dynamics
- Competition and Regulation
- Firm Level Data Bases

### Central Projects

- The Mannheim Innovation Panel: A leading assessment of innovation activities in the German economy
- Indicators for comparing Germany's innovative strength internationally and for measuring current developments in innovation policy
- The KfW/ZEW Start-up Panel: An assessment of start-up activities and young companies
- Reasons why many new companies fail within the first five years
- Vertical integration and competition in the electricity market for household customers

### Outlook

In light of ongoing changes in corporate innovation strategies, more attention will be paid in the future to the consequences of the increasing internationalisation of research and innovation activities. The department also intends to place greater emphasis on the relationships between technological and organisational innovations and their impact on firm competitiveness. Alongside the further development of the KfW/ZEW Start-up Panel, the role of established companies as incubators of innovation will be explored. Questions regarding the effects of regulation on incentives for innovation and investment in "essential facilities" will also be subjected to greater study.

### Selected Clients

- German Federal Ministry of Education and Research
- European Commission
- Anglo-German Foundation
- German Research Foundation (DFG)
- German Federal Ministry of Economics and Technology

### Selected Cooperation Partners

- University of Mannheim
- KfW Bankengruppe
- LMU Munich
- Catholic University of Leuven
- Maastricht University

## Corporate Taxation and Public Finance



**Head of Department**  
Dr. Friedrich Heinemann  
+049/(0)621/1235-149  
heinemann@zew.de

This research department investigates questions related to corporate taxation and empirical public economics within the context of economic integration. The department's key line of research concerns the consequences of increased international mobility for tax and financial policy as well as the scope, structure, and responsibilities of the public sector. The department is leading in the field of international comparisons of tax burdens in Europe thanks to its tax analysis models, such as the European Tax Analyzer. Special attention is devoted to the analysis of EU tax harmonisation and the EU fiscal constitution.

### Research Areas

- Corporate Taxation and Tax Location Analysis
- Empirical Effects of Corporate Taxation
- Fiscal Competition and Federalism
- Decision Making in Tax and Financial Policy

### Central Projects

- Investigation of effective corporate tax burdens in an expanded European Union (European Commission, Taxation and Customs Union Directorate-General)
- Study on the significance of non-income taxation in Germany (IHK Stuttgart)
- Identification of the determinants of public-service efficiency in the German federalist system (German Research Foundation)

### Outlook

The department plans to expand its leading position in the comparison of tax burdens by further developing its toolbox of microsimulation models. In terms of the development of the department's infrastructure, the planned completion of the Taxation Knowledge Database is of considerable importance. This database will provide centralised access to the tax-system parameters used to run the department's various tax-burden models. New research areas, for example, the analysis of the nonprofit sector or reform processes, will benefit from the department's extensive tax expertise. Within the scope of the University of Mannheim's new Collaborative Research Centre titled the "Political Economy of Reforms", the department will carry out a project that will focus in particular on the cross-border implications of fiscal reform.

### Selected Clients

- European Commission
- German Research Foundation (DFG)
- German Federal Ministry of Finance

### Selected Cooperation Partners

- Prof. Dr. Christoph Spengel, University of Mannheim
- Prof. Dr. Lars Feld, Heidelberg University
- Prof. Dr. Eckhard Janeba, University of Mannheim

## Environmental and Resource Economics, Environmental Management



### Head of Department

PD Dr. Andreas Löschel

+049/(0)621/1235-200

loeschel@zew.de

### Deputy

Dr. Klaus Rennings

This research department performs economic analyses of environmental policies. A guiding topic of research is the cost efficiency of environmental regulation. The department plays a prominent role in environmental economic policy advising in Europe, in part due to its modular system of computable general equilibrium (CGE) models. ZEW is also one of the leading institutions in the economic research of EU emissions trading. In analysing the optimal function of markets with respect to environmental protection and resource scarcity, the department utilises both qualitative and quantitative analytic methods based on modern microeconomic theory. Alongside its modular system of computable general equilibrium models known as PACE, the department employs partial market models in order to conduct a more disaggregated analysis of individual environmentally relevant markets. Survey methods and economic experiments round out the spectrum of methodological techniques employed by the department's researchers.

### Research Areas

- Innovation and Sustainable Development
- Energy Economics
- Transport and Mobility
- International Environmental and Resource Policies
- Macroeconomic Analysis of Environmentally Relevant Policies

### Central Projects

- German Federal Ministry of Economics and Technology: "Energy Market Trends to 2030"
- European Union: "Global Sectoral Approaches as Part of a Post 2012 Framework"
- German Research Foundation (DFG): "International Climate Policies and Fairness Preferences: An Experimental Analysis"
- German Federal Ministry of Education and Research: "The Transition to New Energy Sources in Passenger Car Transport: An Economic Analysis for Germany"

### Outlook

In light of the mounting need for action, energy and climate policy will remain the focus of research in the department for the foreseeable future. In particular, the department has been devoting increased attention to the effects of energy and climate policies on international competitiveness and trade; to the role played by innovation and technological progress in environmental protection; as well as to the importance of decisions by consumers to purchase green products for the achievement of energy and climate policy goals. Furthermore, the department will continue its research on the determinants of voluntary cooperation between sovereign nations and, in turn, on the chances for ratifying international climate agreements.

### Selected Clients

- European Commission
- German Federal Ministry of Education and Research
- German Federal Ministry of Economics and Technology
- German Research Foundation (DFG)

### Selected Cooperation Partners

- Prof. Dr. Christoph Böhringer, University of Oldenburg
- Prof. Dr. Andreas Lange, University of Maryland
- Massachusetts Institute of Technology (MIT)
- Resources for the Future
- Fondazione Eni Enrico Mattei

## Information and Communication Technologies



### Head of Research Group

Dr. Irene Bertschek

+049/(0)621/1235-178

bertschek@zew.de

### Deputy

Dr. Marianne Saam

This research group studies economic aspects of the production and use of information and communication technologies (ICT). The group investigates how human capital, firms, and markets should be optimally organised in order to fully exploit the potentials offered by ICT for growth and employment. The group's research is concerned in particular with how economic processes have changed on a sustained basis due to the adoption and diffusion of ICT. While empirical and microeconomic methods are dominant in the group's work, applied theoretical techniques and simulation models as well as empirical macroeconomics are used on a supplementary basis. The group's cooperation with selected interdisciplinary partners in the fields of business management, business informatics, sociology, and psychology has also proven fruitful. The common feature of the group's broad-based approach to research is its investigation of the multifaceted role played by ICT: as a tool; market platform; medium for the transmission of information and knowledge; infrastructure element; and as an enabling factor for business management and innovation in the knowledge-based economy.

The close integration of the research group with ZEW's other research units, particularly the research departments of Labour Markets, Human Resources and Social Policy and of Industrial Economics and International Management allows the group to realise synergies between its individual research areas.

### Research Areas

- ICT Sector and Diffusion of ICT
- ICT and the Labour Market
- ICT, Firm Strategies and Competition

### Central Projects

- Quarterly business survey "Service Providers of the Information Society"
- FAZIT research project on the use and future of IT and media technologies in the state of Baden-Württemberg
- Firm level analysis of the economic impact of ICT in Germany, with a focus on the role played by intermediate input markets

### Outlook

In the coming months and years, the group's research agenda will include an analysis of the firm-level data collected in ZEW's 5<sup>th</sup> ICT Survey, focusing on the relationships between ICT use and firm performance. The group is also conducting several projects on behalf of the European Commission concerning Web 2.0 technologies and the role of services in the knowledge-based economy. In cooperation with European partners, researchers will examine growth, innovation, and internationalisation in the services sector. Furthermore, the group has entered into a partnership with the Knowledge Media Research Center in Tübingen in order to investigate knowledge generation and network processes, as well as their influence on workplace organisation and firm performance.

### Selected Clients

- Baden-Württemberg Ministry of State
- German Federal Ministry of Economics and Technology
- Fritz Thyssen Foundation
- Anglo-German Foundation

### Selected Cooperation Partners

- Prof. Dr. Martin Peitz, University of Mannheim
- Prof. Dr. Ulrich Kaiser, University of Zurich
- Fraunhofer ISI – Institute for Systems and Innovation Research
- MFG Foundation
- CEBR Copenhagen



## Growth and Business Cycles



### Head of Research Group

Prof. Dr. Dr. h.c. mult.

Wolfgang Franz

+049/(0)621/1235-100

franz@zew.de

### Deputy

Dr. Marcus Kappler

This research group utilises advanced methods in macroeconometrics and theoretical macroeconomics to study economic growth and the business cycle. Cointegration models, structural vector autoregressive models, and the analysis of panel data are particular areas of expertise. The latest estimation procedures are tailor-fit for each application. Dynamic equilibrium models are also used by the group to analyse the economic consequences and general welfare impacts of changes to fundamental factors.

### Research Areas

- Analysis of Long-Term Macroeconomic Relationships
- Analysis of Short-Term Macroeconomic Relationships
- Development of Analytic Tools and Methods

### Central Projects

- Economic integration and the synchronisation of business cycles in the EU
- Analysis and estimation of non-cyclical unemployment in Germany in order to improve the calculation of the structural deficit
- Investigation of the causes of the observed shift in the functional distribution of income

### Outlook

The research group's strategy is to integrate long- and short-term growth concepts in a consistent empirical and theoretical approach, as well as to develop macroeconomic and macro-theoretical analytical tools. The global economic recession which began in 2008 will continue to be an important subject of research. The role of the institutional environment and economic policy reforms will also be studied under the group's research plan. The group additionally intends to develop custom datasets for analysing the effects of structural reforms over time.

### Selected Clients

- European Commission
- German Federal Ministry of Finance

### Selected Cooperation Partners

- Prof. Tom Krebs, PhD, University of Mannheim
- Institute for Advanced Studies (IHS)

# ABOUT US

▶ QUALIFICATION OF STAFF

Encouraging the development of young academics is a core aim of ZEW. The Institute supports the professional growth of its staff at all levels with a broad range of educational measures.

Professional development is firmly anchored in our goal system as well as in our organisational processes. The ZEW qualification programme is based on both internal and external educational offerings.

Essential instruments for qualifying our young scientific staff are:

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

### Doctoral Education

Graduate education is the key area in which young academics are encouraged and supported at ZEW. Two-thirds of ZEW’s scientific employees are working on their doctoral dissertations. We currently employ more than 80 doctoral candidates. In order to accommodate a 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 (see Figure next page):

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

Regardless of the path chosen, clear milestones help to insure that our doctoral candidates make steady and rapid progress. Successful completion of a doctoral degree does not take longer at ZEW than at most German universities. Our doctoral candidates require on average less than five years to obtain a PhD.

The *ZEW’s in-house PhD programme* involves the writing of a doctoral dissertation based on collaborative projects. In tandem with experienced econo-

mists and the heads of the research units, young researchers develop a topic for their doctoral dissertation based on ongoing project work.

Once doctoral students are matched with a research topic, a dissertation mentor is sought out at a German or foreign university. The ongoing development of the dissertation is based on the regulations for doctoral studies at the university in question. The candidate also has the opportunity to enrol in doctoral courses at the university.

In 2006 the Institute launched a second pathway for PhD students: *ZEW DocNet*. This international network links ZEW with graduate programmes that are ambitious in their content and scope. Collaboration with outstanding doctoral programmes also helps the Institute to attract promising academic talents.

Those who choose the ZEW DocNet pathway have to apply first for admission to the graduate school of a participating university. Depending on the structure of the respective doctoral programme, doctoral students are invited to apply as early as possible for a research position in one of ZEW’s research units. In the majority of doctoral programmes the time most fitting seems to be, at the latest, the end of the first or the beginning of the second year. PhD students may then pursue their project work either in part or entirely at ZEW.

ZEW DocNet is still being developed, but already accounts for one in seven of the Institute’s doctoral candidates. Over the next few years, it will take on even greater importance in ZEW’s doctoral education programme.

### Qualification Programme

ZEW helps to advance careers of its staff with a qualification programme. This programme, which is financed through a special qualification fund, supports superior scientific work in a number of ways. The research sabbaticals funded under the programme, for example, free up time for researchers to pursue work independent of their project responsibilities at ZEW.

Activities supported by the qualification fund include:

- Release from project responsibilities at ZEW to complete one’s own research

## PhD-Specific Activities

### ZEW DocNet

Application for admission to the graduate school of a participating university

### ZEW's In-House PhD Programme

Application for admission directly to ZEW

---

#### Phase 1 1<sup>st</sup> – 2<sup>nd</sup> year

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>■ Doctoral courses and mentorship from professors at the respective university</li> <li>■ Development of first paper/dissertation topic</li> <li>■ University regulations</li> </ul> | <ul style="list-style-type: none"> <li>■ Mentorship at ZEW from the heads of research units, senior researchers, and research associates</li> <li>■ Development of first paper/dissertation topic</li> <li>■ Participation in selected courses of a doctoral programme at a university in coordination with the mentor</li> </ul> |
| <ul style="list-style-type: none"> <li>■ Application to ZEW</li> <li>■ Matching of ZEW projects and university topics</li> <li>■ Agreement about workload at ZEW</li> </ul>   |   |

---

#### Phase 2 1<sup>st</sup> – 2<sup>nd</sup> year

- First draft of a discussion paper
- Presentation of draft paper at a ZEW seminar
- Search for a PhD supervisor

---

#### Phase 3 2<sup>nd</sup> – 4<sup>th</sup> year

- Development of further papers
- Active participation in international conferences
- Sabbaticals/periods of paid release

---

#### Phase 4 3<sup>rd</sup> – 5<sup>th</sup> year

- Completion of further papers
  - Sabbaticals/periods of paid release
  - Stays at research institutions
  - Completion of the doctoral dissertation
-



Left to right: Dr. Holger Bonin, head of ZEW research department “Labour Markets, Human Resources and Social Policy”; Christina Felfe, winner of Heinz König Young Scholar Award 2009; Alexander M. Danzer, winner of Heinz König Young Scholar Award 2009; Prof. Dr. Andreas Dulger, president and CEO of Prominent Dosiertechnik GmbH (sponsor of Heinz König Young Scholar Award 2009)

- Longer residencies 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. There are courses in econometrics, computing, foreign languages and communications, as well as leadership skills.

ZEW familiarises students with empirical research methods. It employs a large number of interns and research assistants from nearby universities. The Institute offers assistants and interns a first opportunity to apply theoretical and methodological knowledge acquired in school to actual research practice. Often, bachelor and master thesis projects emerge from such work, which may be supervised by ZEW research staff members.

### Professional Development for Non-Scientific Employees

ZEW takes the professional development of its non-scientific employees just as seriously as the training of its young researchers. We offer numerous opportunities for continuing education, primarily in the form of educational programmes related to an employee’s current area of work.

Popular training programmes involve the fields of law, accounting, bookkeeping, management, and computer skills. There is also an ongoing continuing education programme in English language skills.

As an employer, ZEW always maintains up to five trainee positions in the areas of administration and service. Personal advisors guide trainees during their professional training period.

# ABOUT US

⦿ ECONOMIC POLICY ADVISING

One of ZEW’s guiding objectives is to provide economic policy advising based on rigorous economic research. We advise actors from the worlds of politics and administration at the European level as well as in Germany at federal and state level. We also advise associations and international organisations.

**Channels for Policy Advising**

We are using different channels for economic policy advising:

- Scientific studies and reports on behalf of public authorities
- Participation of our researchers in parliamentary hearings, formal consultations with parliaments, ministries, and the EU Commission, as well as memberships in political advisory boards
- Informal consultations with representatives of the EU Commission, ministers and staff of various administrations, as well as parliamentarians
- Participation in public debates on economic policy issues in the media

**Clients**

Over the past few years, ZEW managed to extend its importance in the field of economic policy advising. The German government and international min-

istries are ZEW’s most important clients for advising services, followed by companies and associations and the European Commission (see Figure).

**Quality Management**

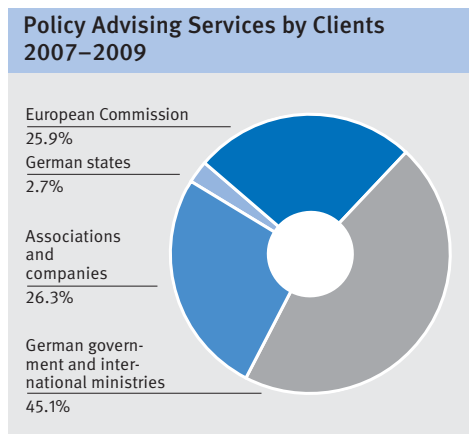
Our integrative personnel policy guarantees the scientific rigor and quality of our advising services. At ZEW, policy advising is not the purview of a specialised team of “advisors”, but is instead the responsibility of every researcher.

The same individuals at the Institute are responsible for the implementation of studies for policy advising and the drafting of papers for publication in refereed scientific journals. The reciprocal ties between policy advising and economic research are guaranteed by our staff organisation. The success of this approach at ZEW is amply demonstrated by the high percentage of researchers who publish in refereed journals. This approach also ensures the high scientific quality of studies and assessments undertaken for economic actors.

Most research projects financed by third-parties are acquired through competitive bidding. From the very beginning, this facilitates the external assessment of the quality of the research questions, methodological approach, and the expected results. In many cases, there is a rigorous acceptance process at the end of a project. Frequently, project findings are presented at scientific workshops.

Experienced and recognised researchers direct and support ZEW’s project teams. ZEW’s senior researchers often take on this role. Those responsible for leading a project are actively involved in practical research work and can thus ensure the quality of research being performed. Young researchers receive competent mentoring while conducting their work.

The research director and research unit heads are directly involved in project work. They are available to researchers and project directors for consultation. Often research associates and other external researchers participate in projects. In this way, our own research work is continuously evaluated and challenged from outside the Institute.



# ABOUT US

© KNOWLEDGE TRANSFER



At ZEW, we view knowledge transfer as a reciprocal process of communication at the national and European level. On the one hand, we contribute to the discussion of economic issues and policy. On the other hand, the research, advising, and educational activities at ZEW are enriched by our engagement in the worlds of academia, business, and politics. In our view, knowledge transfer is not a one-way street.

Excellence in economics has a number of dimensions at ZEW, including: the publication of research findings in leading scientific journals; national and international networking with cutting-edge research establishments; ongoing knowledge exchange through conferences and workshops, as well as the creation and maintenance of unique databases.

The knowledge provided by ZEW is informative, timely, and geared for specific target groups. Our primary target groups are economists and researchers at universities and research institutes worldwide, the media, specialised employees and managers in the private sector, government agencies and associations, as well as citizens with an interest in economics and the social sciences.

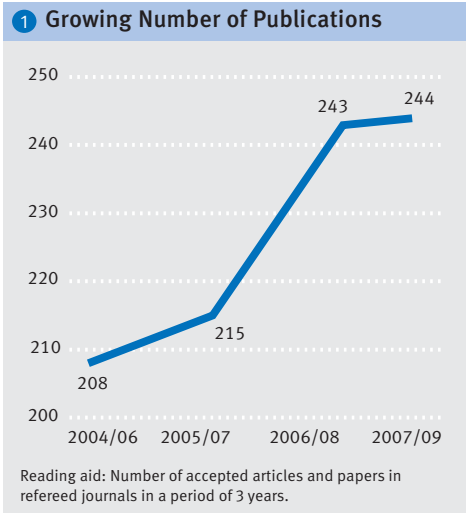
### ZEW Publications

The publication of research findings in recognised international *journals*, which have an external referee process, remains the core indicator of the scientific output of a research institution. For this reason, success in publication is a fixed component of ZEW's goal system. In the future, ZEW researchers whose work is accepted for publication in economics and business management journals of the A and B category will also be rewarded monetarily. For publications of 2009, see pages 71–74.

In terms of publications, ZEW is a leading economic research institute in Germany:

- Between 2007 and 2009, a total of 244 papers written by ZEW researchers were accepted for publication in refereed journals (see Figure 1).
- In recent years, ZEW has secured an average of 0.79 acceptances per full-time researcher per year.

ZEW has significantly increased its publication output in recent years. According to quality-weighted



independent assessments, the number of refereed articles published by ZEW researchers rose by 73 per cent between 1997/1999 and 2003/2005. Since 2000, the Institute has doubled its annual publication output per researcher.

Our publication success is the result of the work of many researchers, not just a few leaders in the field. In 2006, for example, one of every three ZEW researchers published a paper in an SSCI journal. The Institute thereby achieved a second place rank among the economic research institutions affiliated with the Leibniz Association.

Every year ZEW publishes more than 100 *ZEW Discussion Papers*, which represent the central medium for the dissemination of our research findings. Our discussion papers undergo a thorough review process prior to publication. They are published on our homepage and on leading scientific databases. ZEW Discussion Papers attract wide attention in the economics community, as demonstrated by high download numbers at RePEc, a leading international database of economic publications.

To make ZEW Discussion Papers understandable to the general public, non-technical summaries in German and English are a standard part of the publication process. These summaries often serve as the basis for press releases and news items published by ZEW and in external media channels.

ZEW maintains two *book series* for the publication of its research work: ZEW Economic Studies (pub-

lisher: Physica/Springer) appears in the English language, while ZEW Wirtschaftsanalysen – Schriftenreihe des ZEW (publisher: Nomos) is published in German. For publications of 2009, see pages 74–75.

The Institute's *periodic publications and research reports* have a wide readership, including academics and students from many disciplines, specialists, and managers in a variety of economic sectors, as well as citizens with a general interest in economic policy. The publications and research reports contain selected findings from our research and policy advising activities, discuss survey results and our database analyses, and provide information concerning conferences, meetings, and ZEW seminars.

Selected periodic publications and research reports are:

- ZEWnews (English edition)
- ZEW Wachstums- und Konjunkturanalysen
- ZEW Finanzmarktreport
- Financial Market Report Switzerland
- Financial Market Report CEE
- ZEW Branchenreport Dienstleister der Informationsgesellschaft
- ZEW Gründungsreport
- IKT Report
- M&A Report
- ZEW Energiemarktbarometer
- TransportmarktBarometer
- ZEW Branchenreport Innovationen
- Innovationsverhalten der deutschen Wirtschaft

## Databases

In most cases, individual level data form the basis for empirically oriented research work at ZEW. The Institute improves opportunities for empirical research in three ways:

- with data collected in-house;
- with data gathered in conjunction with other research institutions;
- through the exploitation of existing datasets for economics research.

ZEW maintains the necessary infrastructure for the collection, processing, and in-house assessment of data according to recognised scientific stand-

ards. After processing data sets to be user-friendly, we make them available to the professional public whenever possible.

An example of data collection at ZEW is the KfW/ZEW Start-up Panel. This recurrent survey is the basis for a unique database in Germany regarding start-up activities and business dynamics. Initiated in 2008, the panel is configured to continue through 2013.

Another example of data collection is the TransportmarktBarometer. Over 300 selected experts in the freight shipment and transportation industries in Germany participate in this panel survey. It gathers expert opinion on a quarterly basis regarding transportation cost trends as well as specialised topics with relevance for research at the Institute.

ZEW is also participating in the ongoing development of large data sets which are assembled in collaboration with other research institutions. A few examples:

- We are collaborating with the Socio-Economic Panel Study (SOEP) in Berlin in order to measure the development of cognitive and non-cognitive skills over an individual's life.
- We are developing questionnaire items for the National Educational Panel Study (NEPS) for research in the areas of secondary and tertiary education.

Existing microdata sets are also exploited for the Institute's research. In close collaboration with the Research Data Centre (FDZ) at the Institute for Employment Research (IAB) in Nuremberg, ZEW has undertaken pioneering work that investigates linked business and employee data. In the course of research conducted by ZEW to evaluate the effects of recent reforms to Germany's unemployment benefit system (the so-called Hartz reforms), administrative data maintained by the German Federal Employment Agency were systematically utilised for research purposes for the very first time.

ZEW provides researchers at academic and non-academic research institutions with access to some databases maintained by its research units. The data are only provided for research purposes and to ensure the protection of privacy, are encoded and anonymised. A data-sharing fee is charged to cover ZEW's expenses. Access to the following databases is offered:

### Mannheim Innovation Panel (MIP)

The Mannheim Innovation Panel is a database with information on the innovative activities of companies in Germany, collected on the basis of an annual company survey. Contact: Dr. Sandra Gottschalk (gottschalk@zew.de)



### Mannheim Enterprise Panel (MUP)

The Mannheim Enterprise Panel covers firm-level data for analysing business start-ups, growth, and insolvencies including data from some 5.9 million West German and 1.4 million East German enterprises. Contact: Dr. Georg Metzger (metzger@zew.de)

### Business Survey in the ICT-Related Services Sector

The Business Survey in the ICT-Related Services Sector is a quarterly survey of ICT-intensive and knowledge-intensive service providers on their current and expected economic situation. Contact: Miruna Sarbu (sarbu@zew.de)

### ZEW Financial Market Survey

The ZEW Financial Market Survey is a monthly survey of experts on expectations regarding economic as well as international and national financial market trends. The survey is conducted in Germany, Switzerland, Austria, as well as Central and Eastern Europe. Contact: PD Dr. Michael Schröder (schroeder@zew.de)

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

The KfW/ZEW CO<sub>2</sub>-Panel is a survey of companies, experts, and researchers regarding the current situation and expected developments in the EU emissions trading market. The survey is conducted in cooperation with the KfW Banking Group. Contact: PD Dr. Andreas Löschel (loeschel@zew.de)



### Cooperation Partners and Visiting Researchers Programme

Intense cooperation with research institutions in Germany and abroad is a decisive factor in the success of our economic research. Network relations are often a prerequisite for the successful completion of advising projects for international clients.

We cultivate our ties both nationally and internationally with universities, research institutes, and organisations. We place great value upon the interdisciplinary nature of our network as well as its international scope. ZEW has distinguished international collaborative partners, primarily in Western Europe, but increasingly in Eastern Europe as well as overseas (see Figure 2 and 3).

One example is the collaboration between ZEW and the University of Chicago. Economics Nobel Prize winner Prof. James J. Heckman, PhD, provides young researchers at ZEW with the opportunity to work on his research team in the field of educational economics. In Asia, we are in the process of establishing a partnership with the Xiamen University, which houses one of China's leading economics faculties.

ZEW engages in particularly close cooperation with universities in the region. We have a collaborative agreement with the University of Mannheim for the shared use of resources, as well as with the Universities of Heidelberg and Mannheim for the joint appointment of junior professors. Furthermore, we have jointly appointed a research unit head together with the Heidelberg University.

Our collaborative network is decentralised in its organisation. It is guided by the specific needs of our researchers. International collaboration frequently arises in the case of research questions that involve international comparisons. Additional cooperative arrangements serve the purpose of professional development and scholarly exchange. The ZEW Visiting Researchers Programme is especially significant in this regard.

### Participation in Scientific Conferences

Another important means of establishing cooperative ties is scientific exchange through conferences and workshops. In order to effectively communicate its specific expertise, ZEW organises numerous internationally recognised events (see pages 75–77). Our researchers regularly present their work for discussion to the professional public at national and international conferences.

ZEW's high level of prominence at national and international conferences is equalled by hardly any other German economics research institute. Currently, our researchers make more than 400

presentations every year at scientific conferences. Participation in international conferences rose significantly in recent years (see Figure 4). The Institute promotes the success of its staff at conferences by subsidising costs and freeing up time for attendance. In addition, ZEW holds specialised seminars for its staff to teach effective presentation techniques and rules of conduct for participating in international events.

International conferences also present an opportunity for ZEW to make itself better known as an institution. For this reason, we maintain an information booth at important national and international meetings. At the ASSA meetings in the US, for example, we actively recruit young research talents.

### Events at ZEW

ZEW promotes dialogue with research institutions, businesses, government agencies, organisations, and the general public through the organisation of numerous events. ZEW's research units stage 20 to 30 scientific conferences and workshops every year. These events, alongside the participation of ZEW researchers in conferences around the world, are important instruments for promoting exchange and collaboration between ZEW's professional staff and researchers throughout Germany and the world.

Beside scientific events, ZEW is regularly organising events for the interested public. This includes particularly:

- First-Hand Information on the Current Economic Policy (Wirtschaftspolitik aus erster Hand)
  - Mannheim Discussions on Economic and Currency Issues (Mannheimer Wirtschafts- und Währungsgespräche)
  - ZEW Economic Forum (ZEW Wirtschaftsforum)
- Speakers at "First-Hand Information on the Current Economic Policy" 2007–2009:
- Dr. Angela Merkel, German Chancellor
  - Dr. Jürgen Hambrecht, Chairman of the Management Board, BASF SE
  - René Obermann, CEO, Deutsche Telekom AG

#### 4 Participation of ZEW Researchers in Conferences



- Dr. Bernhard Heitzer, President, Federal Cartel Office
- Peer Steinbrück, Minister of Finance
- Hartmut Mehdorn, Chairman of the Management Board, Deutsche Bahn AG
- Prof. Dr. Dr. h.c. Hans-Jürgen Papier, President, Federal Constitutional Court
- Prof. James J. Heckman, PhD, University of Chicago, Nobel Prize winner

## Public Relations

ZEW caters to the media and general public with a comprehensive range of regularly updated online resources. Visitors can read current news items and download a large number of research papers at the Institute's website. Our electronic newsletter is sent to 4,700 subscribers each month. It provides a concise report of new research findings, projects, publications, events, and staff news.

Our special web platforms are a particularly useful service. They are arranged by topic and organise projects, publications, reports, press releases, and contact information concerning current issues in one place. This makes researching information on a specific topic much easier. Separate web platforms exist for ZEW's core research topics, e.g. climate policy, education, innovation, and business taxation.

We respond promptly to the numerous inquiries addressed to the Institute every day. Similarly, we approach a number of actors – particularly in the media – in order to obtain a multiplier effect for the Institute's expertise. In addition, we release some 100 press releases and hold twelve press conferences every year in order to keep the media abreast of the Institute's latest research findings and to participate in the ongoing economic policy debate.

In the area of knowledge transfer, ZEW caters to the interests of particular target groups. Well-maintained contact lists facilitate targeted communications. Professionally designed documents based on ZEW's corporate design promote the recognition value of ZEW's informational media.

A reader-friendly layout, attractive illustrations, and informative graphics strengthen the acceptance of ZEW's media by our target groups.

## High Quality Seminars for External Participants

The Knowledge Transfer and Qualification Programmes service department develops and organises high-quality seminars. It is a unique entity in the German research landscape. Every year our seminars attract over 700 participants. ZEW seminars provide practical and scientifically rigorous professional development. ZEW researchers and experts from organisations and businesses collaborate closely in order to insure that the seminars fulfil the highest quality standards. Our range of seminar events clearly sets itself apart from that of other German providers of continuing education.

The department offers programmes in four different formats:

- Annually, some 35 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. real estate and financial markets), ZEW's methodological expertise (e.g. in econometrics; the application process for the EU's Framework Programme for Research) is also highly sought after.
- Some 15 seminars are directed each year at businesses and public institutions who wish to offer their employees individualised professional development training.
- The symposia for practitioners serve to promote dialogue between economists and professionals in the worlds of business and politics. One example is the annual Mannheim Corporate Tax Day, where tax experts meet with business representatives.
- Seminars for in-house professional development are provided to ZEW researchers. These seminars teach techniques for scientific work, such as how to write for the press and make effective presentations.

# ZEW IN 2009

© ACTIVITIES OF RESEARCH UNITS

## International Finance and Financial Management



### Research Areas

#### International Financial Markets and European Integration

Contact: PD Dr. Michael Schröder

- European financial market integration
- Regulation and supervision
- Globalisation of venture capital and private equity
- International comparison of financial centres

#### Financial Market Analysis

Contact: PD Dr. Michael Schröder

- ZEW Financial Market Test and expectation formation
- Asset pricing
- Analysis of international capital markets
- Socially responsible investments

### Investments and Financial Services

Contact: Dr. Peter Westerheide

- Wealth formation and savings behaviour
- Financing of old-age provisions
- Banks, insurances, mutual funds

### Corporate Finance

Contact: Dr. Tereza Tykvořá

- Financing of SME and family-owned businesses
- Venture capital and private equity
- Credit markets
- Mergers and acquisitions

### Real Estate and Financial Markets

Contact: Dr. Peter Westerheide

- Real estate as an asset class
- Spillover effects
- New types of investors

This research department is devoted to the scientific analysis of international financial markets. It is the largest economic research department of its kind within Germany. The department is a key provider of analysis and policy advising services in the area of financial markets. The optimal performance of international and, in particular, European financial markets is a guiding concern in the department's research.

### Research Area "International Financial Markets and European Integration"

In this focal area, the dominant topics are concerned with capital market integration in Europe and, in particular, with those elements of the banking and insurance sectors in which integration still shows marked deficiencies – namely, the retail market segments for private and business customers. Another focus is the comparative analysis of financial centres in Europe, including research on the ways in which the current financial crisis is affecting the relative importance and future potential of various international financial centres.

Integration in the venture capital (VC) and private equity (PE) sectors is being investigated in the context of a project financed by the EU. A key focus of the study is on fiscal regulations for PE and VC funds and how such regulations have played a significant role in the international integration of the PE and VC sector. Figure 1 displays the participation of foreign and domestic investors in the total volume of VC and PE transactions in selected countries.

Of particular importance for the stronger integration of financial markets is the nature and intensity of cross-border competition between financial service providers. Discrepancies in market oversight and regulation that may lead financial service providers to conduct regulatory arbitrage are an important factor influencing the strength of such competition. Two German Research Foundation (DFG) projects have already been completed in past years on this topic, and the results of these studies can serve as a basis for further research. Future projects will investigate competitive processes for financial services in European markets. Questions regarding the systemic stability of the banking sector and

regulatory practices that can serve to insure stability will also be explored.

### Research Area "Financial Market Analysis"

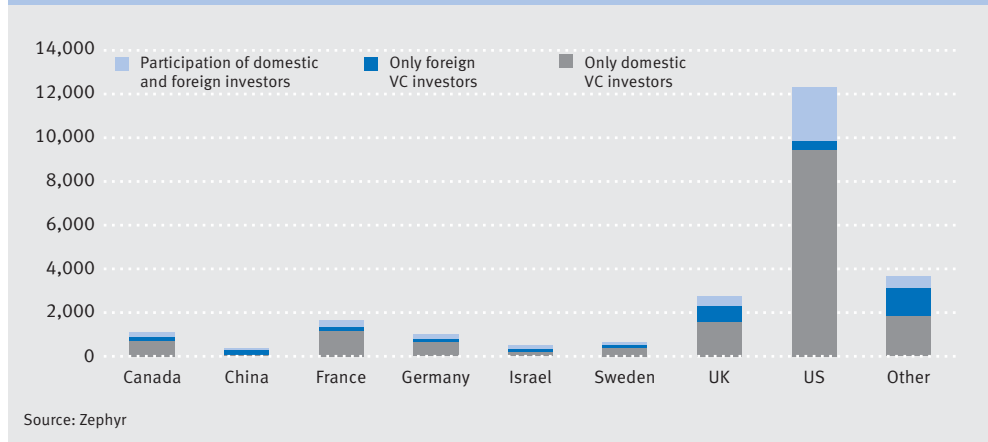
The research area of Financial Market Analysis is concerned with the theoretical and empirical investigation of asset pricing and price expectations. It was created in 2008 through the consolidation of the former research areas of Money and Currency and Capital Market Analysis. Money and currency markets – like equity and bond markets – are now analysed primarily from a microeconomic perspective. Macroeconomic aspects of money and currency markets, by contrast, enter into the analysis of financial markets primarily as framework conditions. This new orientation corresponds with the research strategy of the department, which is primarily concerned with microeconomic topics. Special attention is devoted in this research area to changes in international money markets that have resulted from the financial crisis.

The ZEW Financial Market Test is a monthly survey that provides an important foundation for studies on the topic of expectation formation, as it delivers primary data about expectations regarding international financial market trends as well as expectations on important fundamental factors, such as the business cycle and inflation. This survey also forms the basis for a well-known German economic indicator, the ZEW Indicator of Economic Sentiment. The data gathered in this survey are being used to an increasing extent in the department's research projects as well as by outside researchers. In order to promote cooperation in the research of expectation formation, this research area hosts an annual workshop in which the findings from external and internal projects that employ ZEW expectation data are presented. The first such workshop took place in March of 2009. In June of 2010, the department will host the annual ZEW Summer Workshop on the topic of "Expectations and Expectation Formation on Financial Markets".

Econometric studies concerning the characteristics of returns from securities stand at the foreground of the analysis of asset pricing. The re-



### 1 VC and PE Transactions in Selected Countries, Broken Down by Foreign and Domestic Investors, 2000–2008



search area's projects are primarily concerned with examining the cross-section of expected stock returns, as well as stock index trends and the relationship between stock prices and other financial market factors. Event studies that evaluate the influence of various exogenous events on stock prices play a particularly important role in this area of research. In the future, a greater emphasis will be placed on studying the process of asset price formation. In this regard, researchers will draw in particular on the results of the ZEW Financial Market Test.

The investigation of relationships between corporate social responsibility, corporate success, and capital market valuation has constituted the focus of a longstanding collaboration with the research department of Environment and Resource Economics, Environmental Management. In a project funded by the Swiss National Fund, event studies were used to investigate the effects of special environmental incidents on stock prices. In a project undertaken in cooperation with the Environmental Economics Department, researchers examined the relatively new market for CO<sub>2</sub> emissions certificates. Key topics of study in this project were the microstructure of the emissions trading market, the characteristics of certificate prices, and the effects of new information. The study found that certificate prices reacted to the decision made by the

European Commission concerning National Allocation Plans (NAP) for the 2008–2012 period, and that the price adjustment that was witnessed adhered closely to a basic supply and demand calculus. The pace of adjustment was quite slow, however. On average, it took six hours for CO<sub>2</sub> certificate prices to adjust to the European Commission's decision. Figure 2 shows the magnitude of the price adjustment over the eight hours following the decision.

#### Research Area "Investments and Financial Services"

This research area is primarily concerned with investigating the savings and investment behaviour of households as well as new developments in the market for financial services and retirement planning. Studies are frequently carried out on the basis of micro-datasets, e.g. the German Federal Statistical Office's income and consumption surveys and the German Socio-Economic Panel Study (SOEP). An additional focus lies with the products and behaviour of financial service providers – namely, banks, insurance companies, and investment funds. This year, a project concerning future developments in the market for defined-contribution retirement plans was completed.

In a project commissioned by the German Federal Ministry of Finance, ZEW researchers are examining the transparency of government-sponsored retirement plans (i.e. the “Riester” and “Rürup” retirement plans). The key question is whether existing obligations concerning the disclosure of costs and potential returns must be supplemented or modified in order to meet the needs of less sophisticated investors. This project is being carried out in cooperation with the Institute for Applied Social Sciences (infas) and the Institute for Financial Services (iff). Future projects concerning trends in private investment behaviour will make use of the new micro-dataset of the German Federal Statistical Office that was compiled from the 2008 income and consumer sample survey. This dataset will be released soon. Within the scope of work on the third Poverty and Wealth Report, researchers will also continue their integrated analysis of the distribution of income and wealth in Germany.

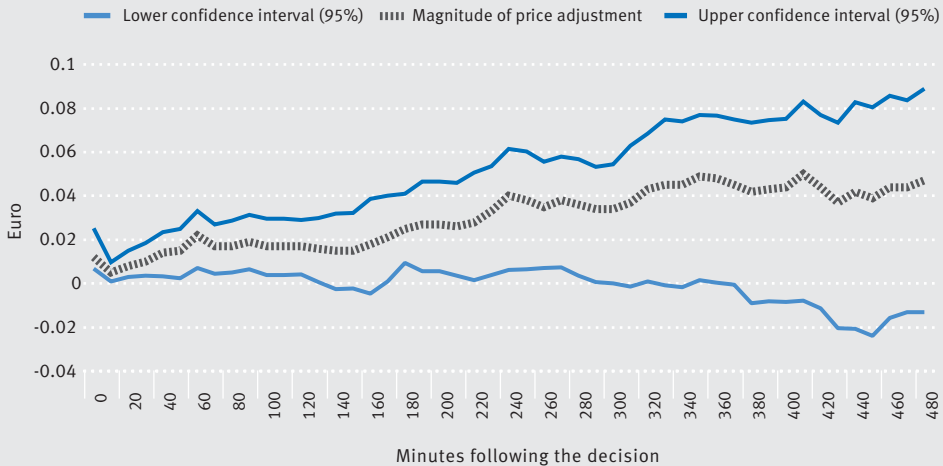
**Research Area “Corporate Finance”**

This area of research is primarily concerned with various aspects of equity and debt financing as well as corporate governance. Projects in the area of

venture capital (VC) and private equity (PE) play a particularly prominent role. Research activities planned for the future can build upon the findings of a wide range of completed studies undertaken for basic research (for example, German Research Foundation projects) or for the purpose of economic policy advising. Building upon recently completed projects regarding the behaviour of VC and PE investors, a new project financed by the EU under its 7<sup>th</sup> Framework Programme will study internationalisation as well as the role of international syndicates within the PE sector in Europe. The study will make use of a comprehensive database created in earlier projects on global private equity deals.

In the VICO project, ZEW researchers are studying the influence that private equity financing has on the performance of young, innovative companies in Europe as measured in terms of growth, innovation, job creation, and competitiveness. Furthermore, the project intends to clarify the possible determinants of private-equity supply and demand in European countries, both on the micro and macro levels. The project is concerned first and foremost with issues of significant importance for the private equity sector in Europe, issues which have been scarcely researched to date, such as the increasing interna-

**2 Magnitude of Price Adjustment in the Emissions Certificate Market**



Reading aid: The figure shows the magnitude of the adjustment in certificate prices (dashed line) following the European Commission’s decision concerning the amount of emissions permissible under the 2008–2012 National Allocation Plans.

tionalisation of equity capital investors and the integration of the European equity capital market.

Additional current projects are concerned with evaluating strategies employed by VC and PE investors. In this connection, the significance of so-called buy-and-build strategies will be the main topic of study over the coming years in a project funded by the German Research Foundation. In addition, ZEW researchers will examine the influence exercised by VC investors over their portfolio firms. Specifically, researchers hope to determine how different types of VC investors impact the performance of portfolio companies.

In all likelihood, the financial crisis will not only have a negative impact on international VC and PE markets. It will also change the financing structures employed by companies on the whole. In particular, a greater emphasis on equity financing is likely to be witnessed, as the financing conditions on capital markets (for corporate bonds and stocks) as well as those offered by banks have deteriorated. The current environment poses a number of wide-ranging questions related to corporate finance, the number of new start-ups, as well as the consequences for the growth potential of the overall economy.

### Research Area “Real Estate and Financial Markets”

This research area is devoted in particular to theoretical and empirical questions dealing with international and national real estate markets, as well as the interrelationships between real estate

and financial markets. Within the scope of the Leibniz Network on Real Estate and Capital Markets (ReCapNet), researchers are examining the interrelationships between real estate and financial markets. Specific areas of study that will define research in coming years include: the consequences of the increasing capital market financing of the real estate sector; the possible causes of over-speculation in real estate; special purpose vehicles (SPV) in real estate investing; and the characteristics which define real estate as an investment class. A workshop and an international conference were hosted by ReCapNet in 2009.

In another project, researchers are examining the European market for mortgage financing and its increasing integration. Studies are also being carried out on how debt levels impact the long-term performance of the housing industry, as well as on the financing strategies pursued by property management companies in light of changes in international financial markets.

In 2009 the research department participated in a study on the macroeconomic significance of the real estate sector that was carried out in cooperation with the University of Mannheim and the Cologne Institute for Economic Research. One focus of the study was on the importance of real estate for retirement planning. In a finding that contradicts the popular conception of stagnant home ownership rates, researchers showed that the percentage of older individuals owning property has increased considerably in past years. Furthermore, it was shown that quite a few renters draw income from rental properties they own – a fact often overlooked in the study of the rental market.

## Labour Markets, Human Resources and Social Policy



### Research Areas

#### Employment and Wages

Contact: PD Dr. Nicole Gürtzgen

- Wage formation and income inequality
- Employment dynamics

#### Social Welfare Institutions

Contact: Dr. Christian Göbel

- Evaluation of labour market policies
- Behavioural microsimulation

#### Personnel Economics

Contact: Dr. Susanne Neckermann

- Insider econometrics
- Firms and demographic change

#### Education Economics

Contact: PD Dr. Friedhelm Pfeiffer

- Formal education
- Informal education

The “Labour Markets, Human Resources and Social Policy” research department investigates how to best organise institutions in the labour market and manage working conditions in firms so as to achieve high levels of employment and a fair distribution of income in Europe’s knowledge-based economy. This department is one of the leading centres of labour market research in Germany. More than 25 researchers are devoted to the study of four principal research areas: “Employment and Wages”, “Social Welfare Institutions”, “Personnel Economics”, and “Education Economics”.

The department approaches labour market issues from a microeconomic perspective. One area of expertise are microeconomic methods, and, in particular, techniques for programme evaluation. Another speciality is the analysis of register-based individual level data. The research department is characterised by a large number of projects devoted to basic research. It hosts a research network of the German Research Foundation (DFG) for the analysis

of income and employment flexibility in heterogeneous labour markets, as well as the multidisciplinary Leibniz Network devoted to the study of “Non-Cognitive Skills”.

Yet alongside its basic research activities, the department also provides scientifically rigorous policy advice. The department has played a central role in evaluating the recent fundamental reforms to the German labour market, and engages in impact assessments of educational and family-related policies. A unifying topic in the department’s work is the effects of demographic change on the functionality of labour markets. Our studies provide economic policy makers with a key source of information for the development of strategies to combat Germany’s skills shortages.

The research department is home to ZEW’s linked micro-macro simulation model. The model is an advanced tool for the ex ante evaluation of the impact of government intervention in the labour market. Noteworthy is the department’s research area “Education Economics”. The use of economic methods to analyse the acquisition of cognitive and non-cognitive skills in early childhood and its long-term economic consequences gives us a research focus unique in Germany.

### Research Area “Employment and Wages”

The “Employment and Wages” research area is concerned with the core themes of labour market research. By analysing imperfections in the labour market caused by institutions, as well as by structural rigidities, it assists in the determination of options for political action that would promote a better functioning labour market. Of particular interest are the specific outcomes for wages and employment in sectoral, regional, occupational, and firm labour markets. The research department coordinates the German Research Foundation Priority Programme titled “Flexibility in Heterogeneous Labour Markets”, which investigates the effects of existing institutional frameworks on the adaptability of labour markets.

The research area primarily deals with the dynamics of individual employment histories and questions of wage formation and income inequality, in particular the transitions between employment, unemployment, and labour market exit. One project in 2009 dealt with the individual risk of seasonal unemployment in the building industry. To determine whether the transition from paying bad weather allowances to a model with additional overtime leads to a decrease in the individual layoff risk, individual level data of employees in the building industry were brought together with regional weather and economic data. This allowed us to separately quantify the impact of regulations, the economic climate, and weather conditions on the risk of unemployment. The analysis reveals that layoffs are often made independently from weather conditions – for instance, in the pre-Christmas season or towards the end of the month. However, unfavourable weather conditions and a bad economic climate tend to promote layoffs. Overtime accounts have proven to be better suited than bad weather allowances for protecting the building industry against bad weather conditions and avoiding seasonal layoffs (see Figure 1).

Another important area of research is wage formation and income inequality. The focus lies primarily on wage setting institutions, their impact on the firm level, and the determinants of wage inequality between groups of workers. One of the projects conducted last year dealt with the impact of wage agreements and works councils on individual wage dynamics. A particular emphasis was placed on the question of how these institutions contribute to insuring employees against firm-specific demand fluctuations. To this end, we estimated the reaction of individual wages to short- and long-term shocks on the basis of linked employer-employee data from the Institute for Employment Research in Nuremberg. The results show that wage agreements play a crucial role in insuring employees against firm level shocks. On the other hand, the results also indicate that the capacity of wage agreements to entirely decouple wages from demand fluctuations significantly decreases with firm size and requires the additional presence of a works council in larger firms.

**Research Area “Social Welfare Institutions”**

The “Social Policy” research area analyses the economic effects of social protection institutions on the labour market. Our understanding of such institutions includes any political, juridical, and societal rules and organisations that serve to support the material and social safety of citizens. The research area is distinguished by a well-developed methodological spectrum for both ex ante and ex post evaluation. For the assessment of ex ante effects, the research department employs a comprehensive behavioural simulation model. The model, which is built upon a microeconomic model of the German tax and transfer system, was further improved during the last year. The link of this microsimulation model to a macroeconomic general equilibrium model is unique in Germany.

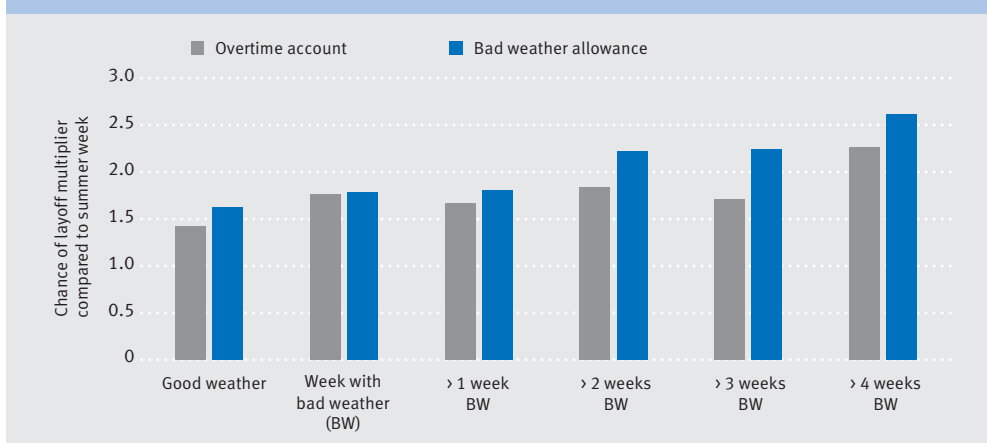
The research area has a strong record of policy advising projects and provides political decision-makers with empirical evidence to design social protection institutions in an effective and efficient manner. We have many years of experience in analysing the administrative records of the German Federal Employment Office. Last year the research area worked on new estimation procedures for ex post evaluation with administrative data, which are more robust against data errors.

Last year also saw the completion of a long-term project that assessed the effects of the Social

Security Code (SGB II) on individuals with an immigrant background. This study, commissioned by the Federal Ministry for Labour and Social Affairs, revealed the effect of various measures of the Social Security Code (SGB II) on the transition from welfare dependence to employment, and analysed if the effect differs for people with or without an immigrant background. The results show that the differences in the success of the measures are related almost exclusively to differing qualification levels and other variables that influence labour market success. When we compared individuals with and without an immigrant background but otherwise identical personal characteristics, the measures practically had the same effect.

ZEW’s microsimulation model was employed to estimate the effects of a planned child care allowance for mothers rearing infants at home. The study revealed that this measure would cause, above all, windfall gains: Most mothers would behave the same with or without child care allowances, since in Germany it is the norm for mothers to do most of the primary caregiving. The study predicts that the introduction of a child care allowance would cost the government between 1.4 and 1.9 billion euros per year. A large amount of the money would be allocated to parents with low qualification. Hence it is precisely those children who would profit most from nurseries and similar institutions who would not attend day care.

**1 Layoff Risk in one Winter Week in the Building Industry Subject to Working Hours and Weather Conditions**



**Research Area “Personnel Economics”**

The “Personnel Economics” research area focuses on companies and their employees. The core subject of research is how strategic human resource management can contribute to facilitating business objectives, particularly with regard to increasing or maintaining productivity and employee loyalty. Our research is based on the one hand on linked employer-employee data, which allows us to examine the effects of personnel measures on representative samples of firms, taking into account their personnel structure. On the other hand, we employ personnel records provided by individual firms as well as field experiments to analyse the impact of personnel policies on the behaviour of an organisation’s employees.

The research area is distinguished by its coupling of economic, business, and managerial expertise with econometric methods. Its research findings provide firms with valuable guidance for designing optimal personnel policy. Last year this research area was particularly focused on researching measures to promote personnel development, work-life balance, and employment for elderly employees.

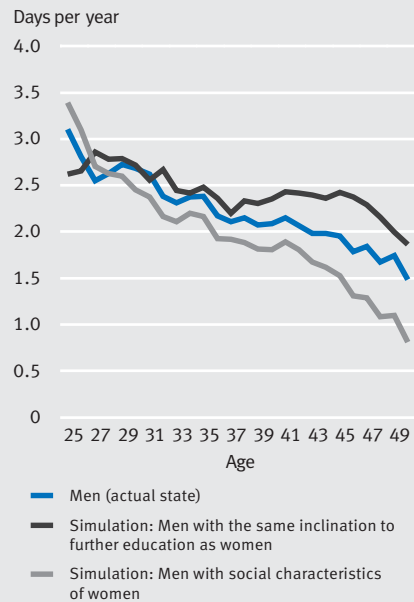
For example, we analysed the behaviour of men and women employed by a large financial services company with regard to further education. The study showed that the probability of participating in further education decreases with age. However, women in their mid-thirties participate in further education far more frequently and for longer periods of time than men of the same age. This finding cannot be traced back to the personal characteristics of the women, which are conducive to further education. If men had the same characteristics as women, apart from the sex, they would show even lower participation rates (see Figure 2, grey line). In fact, the difference can be explained by the high inclination of women to participate in further education from their mid-thirties onward. If men at this age had the same affinity, they would spend considerably more time in further education (see blue line). The propensity for further education shown by women at this age could be explained by a “catch-up effect” after the family phase. Women use further education to refresh, rather than to deepen or expand, their knowledge.

**Research Area “Education Economics”**

The “Education Economics” research area examines the acquisition of cognitive and non-cognitive skills and their returns over the life cycle, particularly the labour market returns through higher salaries and better employment opportunities. A deeper understanding of skills acquisition processes is helpful towards improving the productivity of workers in the knowledge-based economy and the efficiency of government investment in education. The research area investigates the acquisition of skills in various institutions of education, especially in kindergartens, schools, and universities. Yet we also examine educational processes in non-institutional environments, such as the family. Embedded within the research area is the multidisciplinary research network “Non-Cognitive Skills: Acquisition and Economic Consequences”, which is supported by the Leibniz Association.

One of the projects conducted this year within the framework of the Leibniz Association examined the capacity of preschool age children to delay

**2 Impact of Gender Specific Characteristics on the Duration of Individual Training Measures**

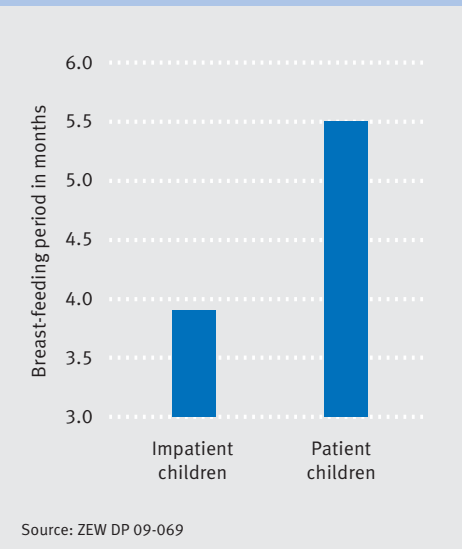




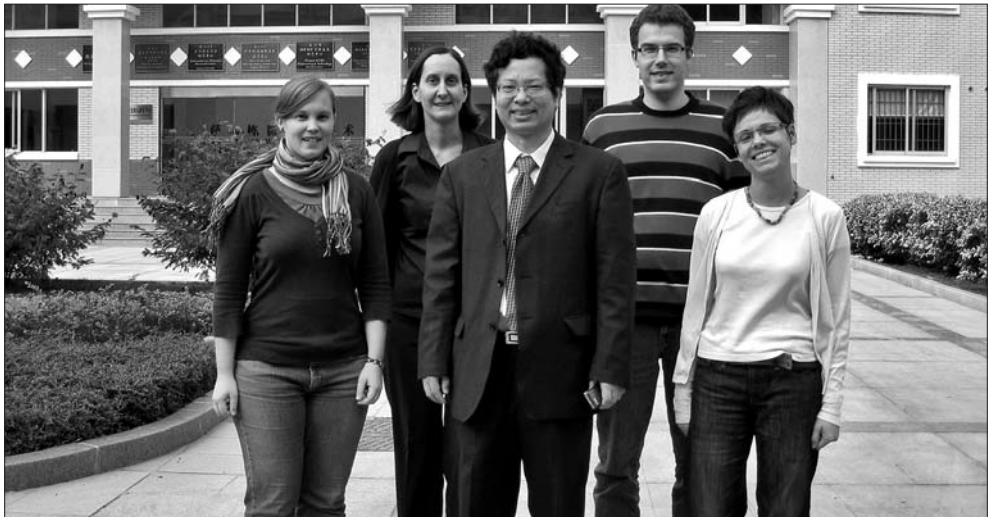
gratification (“patience”). This study used experimental data specifically collected within the German Socio-Economic Panel. The results indicate that younger children display higher levels of patience with increasing age, and that improved verbal capacities and patience are positively correlated with each other. Moreover, the study revealed that a link exists between the mother’s patience and that of her child, and that a prolonged period of breast-feeding as an infant improves the capacity to delay gratification (see Figure 3). This finding shows that patience – which is a basis for success in school and life – is not only a question of inter-generational transmission, but also of parent-child interaction.

Another project examined whether an immigrant background influences the grading of verbal skills in primary school essays and teachers’ recommendations concerning secondary school tracks. In an experiment, fourth grade primary school teachers undertook a performance assessment of essays by pupils unknown to them. The teachers were only given the first names, which provided a clue as to the ethnic heritage of the children. The results showed that the majority of teachers were not influenced by pupils’ names – and, by extension, ethnic background. Nevertheless, essays with a first name that indicated an immigrant background received a

**3 Link Between Breast-feeding Period and Patience for Infants**



worse grade from 10–15 per cent of the teachers, as well as worse recommendations for secondary school. This reveals that a small portion of teachers has lower expectations regarding the potential of pupils with an immigrant background.



Director of WISE-Institute Hong Yongmiao (centre) and researchers of ZEW at the “2009 International Symposium on Contemporary Labour Economics”; jointly organised by the WISE-Institute of the Xiamen-University in China and ZEW.



## Industrial Economics and International Management



### Research Areas

#### Innovation Behaviour and Innovation Strategies

Contact: Dr. Bettina Peters,  
Dr. Christoph Grimpe

- Determinants of innovation activities at the firm level
- Innovation indicators
- Internationalisation of R&D and innovation activities
- Intellectual property rights and innovation incentives

#### Research, Technology and Innovation Policies

Contact: Dr. Christian Rammer, Dr. Georg Licht

- Research infrastructure and technology transfer
- Evaluation of instruments of research, technology and innovation policies
- International trends in research and innovation policy

#### Market Development and Firm Dynamics

Contact: Jürgen Egel, Dr. Helmut Fryges

- Start-ups
- Firm mortality and survival
- Determinants of firm growth
- Evaluation of start-up funding
- Start-up financing and venture capital

#### Competition and Regulation

Contact: Dr. Nina Leheyda,  
Juniorprof. Dr. Kai Hüschelrath

- Analysis of mergers and M&A market trends
- Corporate ownership structures and market performance
- Regulation and competition in network-based industries

### Firm Level Data Bases

Contact: Dr. Sandra Gottschalk, Dr. Georg Licht

- Mannheim Innovation Panel (MIP)
- Mannheim Enterprise Panel (MUP)
- KfW/ZEW Start-up Panel

The research department of Industrial Economics and International Management is devoted to the analysis of firm competition as well as the effects of competitive processes on firm performance, market structures, and market growth. Against the backdrop of ongoing globalisation as well as rapidly changing technologies and market conditions, the study of the technological competitiveness and adaptive capabilities of firms plays a key role. This dynamic perspective is reflected in the four focal areas of the department's research, as well as in the cross-cutting research area of Firm Level Data Bases.

### Research Area "Innovation Behaviour and Innovation Strategies"

Economists in this research area primarily study the innovation processes and strategies employed by firms. Topics of study include: the determinants of innovation behaviour; strategies for internationalising innovation activities; the role of patents in securing innovation returns; and intellectual property rights as a strategic tool in innovation competition.

ZEW has been collecting data on the innovation behaviour of the German economy on an annual basis since 1993. Data are gathered within the scope of the Mannheim Innovation Panel (MIP), an ongoing assessment of the innovation activities of German firms (see Figure 1). The MIP provides important information about innovation expenditures as well as the introduction and success of new products, services, and production methods. It also provides insights into the factors that promote or hinder business investment in innovation. The MIP is the most comprehensive study of innovation in Germany and represents the German contribution to the European Commission's Community Innovation Surveys (CIS). The seventeenth wave of data collection took place in 2009. MIP data have formed the basis for over 100 academic articles

written by ZEW researchers and have been drawn upon for research by over 180 external economists.

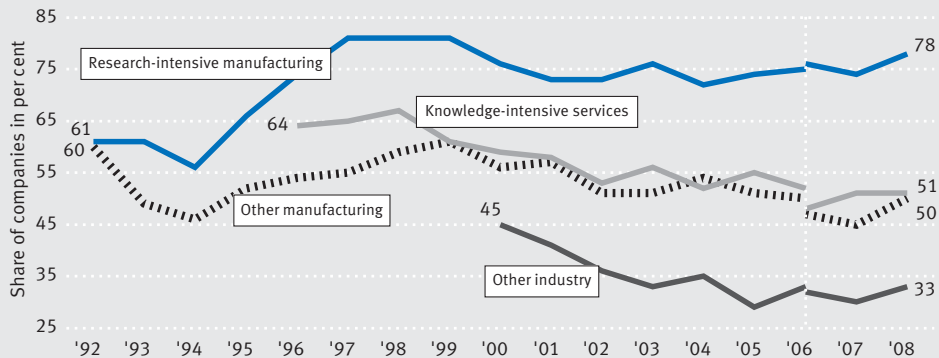
One focus of the 2009 MIP survey was green innovation, particularly with regard to the enabling role played by environmental regulations. In a joint project undertaken with the research department of Environmental and Resource Economics, Environmental Management, researchers have been analysing both the significance of environmentally friendly products and services for the innovation activities of firms as well as the contribution made by green innovation to competitiveness and firm growth.

Data from innovation surveys are regularly linked to patent data in order to illuminate the relationships between innovation strategies, the usage of intellectual property rights, and innovation success. In a project titled "Intellectual Property Rights, the Appropriation of Innovation Returns and Innovation Competition" – which is part of the German Research Foundation's Transregional Collaborative Research Centre SFB/TRR 15 – economists are investigating the function of patents for the protection of intellectual property rights of the firm. Over the last two decades, companies have increasingly used patents for reasons beyond their intended purpose of securing direct returns from innovations. The project seeks to account for why changes have been observed in patent use.

"Competitiveness, Innovation and Intangible Investment in Europe" is a ZEW project funded by the European Commission under the EU's 7<sup>th</sup> Framework Programme for Research. The goal of the project is to analyse how investments in intangible goods (R&D, human capital, marketing) support the innovation activities, competitiveness, growth, and productivity of companies in selected European countries.

The basic economic argument in favour of national policies to foster innovation is that innovation produces social benefits. In this vein, ZEW researchers studied the social and private returns on R&D investment in a project commissioned by the German Federal Ministry of Education and Research and conducted in cooperation with "Wissenschaftsstatistik GmbH", a subsidiary of the German scientific organisation "Stifterverband für die Deutsche Wirtschaft". According to the project's findings, a 10 per cent increase in a firm's R&D capital stocks

### 1 Mannheim Innovation Panel: Innovating Companies in the German Economy, 1995–2009



Reading aid: In 2008, 78 per cent of all research-intensive manufacturing companies with more than 5 employees had introduced new or considerably improved products or production methods over the previous two years. A company is “research-intensive” if it invests more than 3.5 per cent of turnover in R&D.

Note regarding the figure: There are breaks in the time series due to the reclassification of economic sectors and changes in the method of calculation, which is now reliant on the company register. The data for 2006 are thus shown according to the old and new calculatory methods.

is associated with a nearly 0.9 per cent rise in labour productivity two years later. The private rate of return on R&D investment in 1991–2005 was slightly higher than it was in 1977–1989. The social returns on investment were approximately 1.5 times higher than the private returns, meaning that a significant portion of private R&D investment benefits other companies “cost free”.

International cooperation in innovation research has been a hallmark of the research department since its founding. In 2009 the first cooperative project with Chinese researchers got under way. In the project titled “Innovation, Employment and Growth: A Comparative Analysis of Europe and China”, the employment and growth effects of innovation in China and selected European countries (Germany, France, the Netherlands) are being explored. The analysis draws upon comparative firm-level databases from these four countries.

In the time frame covered by this report, ZEW researchers also completed a project titled “Productivity Growth in Europe, the US and Asia”. The project, which was financed by the Anglo-German Foundation, investigated the causes of slowing productivity growth in Europe since the mid-1990s in comparison to the US. The project took various interrelated components of economic growth into account, such as managerial practices, IT usage,

and innovation activities. The results of the project were presented and discussed at a wrap-up symposium held at the German Foreign Office.

The strategies and management methods employed by firms in the field of innovation is another traditional area of study within the research department. In a project titled “Organisational and Marketing Innovations as Drivers of Firm Success”, researchers are exploring how firms can generate competitive advantages through innovative organisational forms and marketing techniques. The project also addresses how these forms of innovation stand in relation to technological innovation, which is the traditional focus of innovation research. Specifically, researchers hope to determine whether organisational and marketing innovations should be viewed as independent forms of innovation, or whether they simply go hand-in-hand with technological advances.

#### Research Area “Research, Technology and Innovation Policies”

How should research, technology, and innovation policies be shaped in response to the challenges of globalisation, the fluctuating research and innovation strategies of firms, as well as rising

new fields of technology? This is the overarching question that informs the work performed in this research area. In the search for answers, researchers perform *ex ante* and *ex post* assessments of R&D and innovation policy measures. In close collaboration with the research area “Competition and Regulation”, economists in this research area also explore the effects of competition and regulation on innovation and investment activities in specific sectors and across production chains.

For many years, the evaluation of government R&D and innovation programmes has been a key activity. In the time frame covered by this report, researchers completed their evaluation of the EXIST III programme, which seeks to encourage the foundation of spin-offs from activities at scientific institutes.

“KMU-innovativ” is an initiative of the German Federal Ministry of Education and Research that seeks to improve SME access to federal subsidy programmes. ZEW was commissioned to assess this initiative within the scope of a formative evaluation that accompanied the initiative’s launch in 2007. Researchers are analysing, among other things, the effects of the programme on the structure of SMEs participating in subsidy programmes as well as subsidy effects on firm R&D activities. Embedded in this evaluation is an *ex post* assessment of the “Bio-Chance” and “Bio-Chance-Plus” green subsidy programmes, which are viewed as precursors to the “KMU-innovativ” initiative.

In another study, ZEW researchers are assessing the effectiveness of a pilot programme launched by the state of Baden-Württemberg under which small businesses can obtain vouchers to help finance innovation. Aside from analysing the effects these “innovation vouchers” have on the innovation activity of firms, researchers are examining options for optimising the future design of the programme with a view to need, convenience, acceptance, and marketing.

In a project funded by the federal government’s Commission of Experts for Research and Innovation, ZEW researchers conducted an international comparative study of national research and innovation systems. Researchers examined patterns of technological and sectoral specialisation, governance structures in research and innovation, policy meas-

ures, and the role that the national scientific system plays in technological competitiveness.

Two projects financed by the European Commission concerned with the design of research and innovation policy were completed in 2009. In the first, titled “Policy Mix”, researchers investigated how research and innovation policy measures can be better coordinated in their interaction with each other and other policy fields in order to increase private and public R&D investment. In the second project, titled “Implore”, researchers sought to identify the design and management traits of subsidy programmes that produce the greatest effective government support for private-sector R&D and innovation.

### Research Area “Market Development and Firm Dynamics”

The work conducted in this research area is concerned broadly with business start-ups and closures as well as young-company growth. While internal change and strategy selection in the development of a company is one topic of study, economists in this research area also examine the market impacts of growth, developments in individual sectors, and the economic conditions under which firms operate.

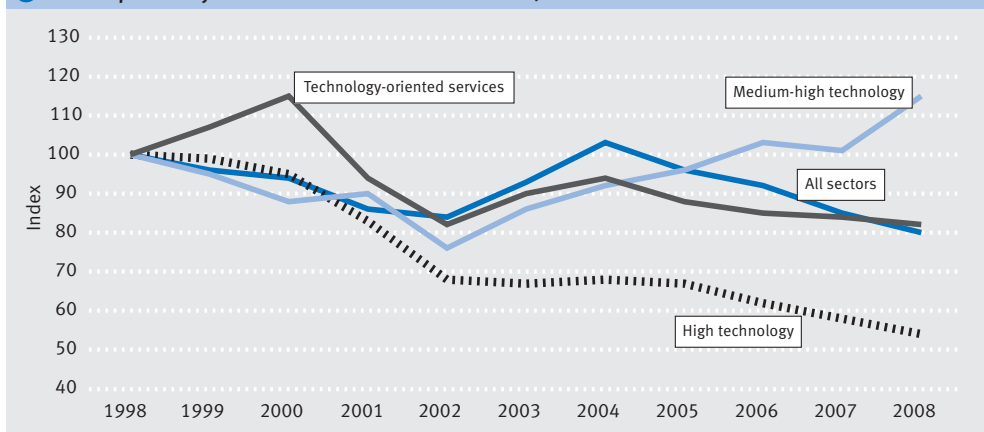
The development path and growth dynamics of a national economy are determined by the growth rates and changes that take place in individual economic sectors and branches. In this connection, there are often large differences between individual economic sectors. Growth in one sector might be attributable to the expansion of existing firms, while growth in another might be caused by rapid start-up activity that outweighs numerous business closures.

A key source of data for many studies on this topic is the Mannheim Enterprise Panel (MUP), a database containing information on over three million active German companies. The MUP, which relies on data provided by Creditreform, is used by ZEW economists to study business start-ups and closures, as well as the determinants of company growth, among other things. MUP company data is a starting point for numerous business surveys, including the Mannheim Innovation Panel and the KfW/ZEW Start-up Panel.

In 2008 ZEW began working with KfW-Bankengruppe and Creditreform to develop a new dataset: the KfW/ZEW Start-up Panel, an assessment of start-up activities in high-technology sectors as well as young companies in other branches of the economy (see Figure 2). This annual survey of young companies aims to significantly improve the resources available to economists for the study of start-up activity. The Panel provides the infrastructure needed for the exploration of a broad spectrum of questions related to the financing, market entry, and innovation strategies of high-tech start-ups, as well as the employment effects generated by young companies, among other issues. In projects closely related to issues examined in the research area of Research, Technology and Innovation Policies, economists also explore start-up activities and the development and commercialisation of new technologies.

Germany, 2009” in cooperation with a start-up sponsorship initiative founded by Microsoft Germany. The project consists of three phases. In the first phase, start-up activities in high-technology sectors were examined over time. The conclusion was reached that, in 2008, the number of new start-ups founded in high-tech sectors reached its lowest point in Germany since 1990, when records of such activity were first kept. In the second phase, case studies were conducted on how high-tech companies have behaved and developed in the face of the economic crisis. The conclusion was reached that while most companies have experienced a considerable decline in orders, they view themselves as well armed for the future thanks to their niche strategies and innovative edge. In the third phase, a realistic picture of a typical high-tech entrepreneur will be developed based on representative data.

## 2 Start-up Activity in Selected Economic Branches, 1998–2008



In the period covered by this report, researchers completed a project that studied the importance of family-run companies in Germany. In the project, which was funded by the foundation “Stiftung Familienunternehmen”, researchers analysed the macro-economic significance and particular traits of family-run companies. The 500 largest family-run companies in Germany were also identified and compared with companies listed on the German stock exchange (DAX) in terms of staff and turnover growth.

Also in 2009, ZEW launched a project titled “Business Start-ups in High-technology Sectors in

In another project, researchers are assessing Germany’s new bankruptcy law. The introduction of the law in 1999 was accompanied by many positive expectations. Yet eleven years later, it is clear that the key element of the reform – the introduction of a planned insolvency procedure for business restructuring – has not been used nearly as often as initially hoped. The Mannheim Enterprise Panel contains information about the course of insolvency proceedings in Germany, and is thus a comprehensive source of information in this area. In the project, researchers plan to document in detail how a

large number of companies which took advantage of the planned insolvency procedure fared over time.

### Research Area “Competition and Regulation”

This research area is devoted to the study of questions related to regulation and competition in telecommunications, energy, and transportation markets. Economists in this research area also analyse the ownership structures of corporate conglomerates and the allocation effects of cross-ownership – a field of study with a high degree of relevance for economic policy in light of the recent increase in corporate mergers and restructuring.

In the period covered by this report, researchers completed a study aimed at improving the analytical expertise of competition regulators in Latvia. Within the scope of this EU twinning project, ZEW researchers helped to expand the theoretical and empirical methods used by Latvian authorities to assess market competition. Specifically, recommendations were made concerning the planned creation of a system of indicators for the long-term evaluation of the macroeconomic effects of competition policy. In addition, guidelines were developed to assist regulators in the application of theoretical and empirical techniques, both in terms of (1) the selection and analysis of industries; and (2) the delimitation of relevant markets. In order to support the practical implementation of these guidelines, a methodology for conducting market studies was also developed. The application of this methodology was demonstrated in a pilot study concerned with the Latvian beer market. In another project, titled “Vertical Integration and Competition in the German Household Electricity Market”, the determinants of the electricity prices paid by households were studied.

New regulations in Germany have liberalised the electricity market, making it easier for customers to switch providers. Households which have not yet switched receive their electricity under so-called “universal service plans”. These plans enable the utility provider to charge a significantly higher price than that paid by customers under competitive plans. In the study, researchers first examined whether this higher price can be used in

conjunction with the fees charged to providers to access the local market as a strategic tool to influence the behaviour of competitors. This initial hypothesis was confirmed by an analysis of the market-entry behaviour of providers and price differentials in local end-consumer markets for electricity. While the higher price charged by the primary provider in a grid area attracts increased competition, the effects of increased competition on these prices are limited not least by the fact that customers have been failing to take full advantage of their right to switch providers.

Results from the work conducted in this research area are presented in the M&A Report, which is produced by ZEW in cooperation with Bureau van Dijk Electronic Publishing (BvDEP). This bi-annual report provides information on current topics and developments related to corporate mergers across the globe on the basis of the ZEPHYR database. In the period under review, economists in this research area also started a project aimed at improving the ZEW-ZEPHYR M&A Index, which is released on a monthly basis. Specifically, researchers are exploring whether the Index can be improved to better capture activities in the M&A market, and whether M&A developments worldwide can be better estimated.

### Cross-Cutting Research Area “Firm Level Data Bases”

Research activities on innovation and business activities would be unthinkable without the firm-level databases compiled by ZEW researchers over the past years. For this reason, the continuous expansion and improvement of existing databases represents an essential task. This work is carried out by the department’s staff within the scope of project activities. Thanks to the Mannheim Enterprise Panel (MUP) and the Mannheim Innovation Panel (MIP), ZEW possesses an inventory of firm-level survey data unique in Germany. The MUP is likely to be the most comprehensive database on business activity in Germany aside from government statistics, which are difficult to obtain for analyses at the firm level.

Thanks to its partnership with Bureau van Dijk Electronic Publishing, ZEW has exclusive access to

the world's largest M&A database. In addition, ZEW has at its disposal the comprehensive database of patents maintained by the European Patent Office, as well as the German government's firm-level data on direct R&D subsidy spending. Data collected by

the department is made available to other research units at ZEW as well as to external researchers both within Germany and abroad – provided, that such sharing is compatible with data protection regulations and confidentiality agreements.



*Participants of the "6. CEPR School on Applied Industrial Organization"*



## Corporate Taxation and Public Finance



### Research Areas

#### Corporate Taxation and Tax Location Analysis

Contact: Prof. Dr. Christoph Spengel, Christof Ernst

- International comparisons of effective tax burdens
- Harmonisation of company taxation in Europe
- Reform of company taxation in Germany
- Tax burden on high-skilled labour
- Tax databases

#### Empirical Effects of Corporate Taxation

Contact: Prof. Dr. Christoph Spengel, Jost Henrich Heckemeyer

- Taxation rules and decision behaviour of multinational enterprises
- Taxation rules and R&D activity
- Taxation rules and locational choice
- Microsimulation

#### Decision Making in Tax and Financial Policy

Contact: Dr. Friedrich Heinemann

- Positive analysis of tax policy
- Determinants of structural ability to undertake reforms
- Determinants of public debt

#### Fiscal Competition and Federalism

Contact: Dr. Friedrich Heinemann

- Fiscal policy in regional competition
- Incentive effects of German fiscal equalisation
- EU fiscal constitution
- Nonprofit sector
- Efficiency of public service production



This research department investigates questions related to corporate taxation and empirical public economics within the context of economic integration. The department's key line of research concerns the consequences of increased international mobility for tax and financial policy as well as the scope, structure, and responsibilities of the public sector. The department is leading in the field of international comparisons of tax burdens in Europe thanks to its tax analysis models, such as the European Tax Analyzer. Special attention is devoted to the analysis of EU tax harmonisation and the EU fiscal constitution.

### Research Area "Corporate Taxation and Tax Location Analysis"

The research area "Corporate Taxation and Tax Location Analysis" focuses on corporate taxation in Europe as well as national and pan-European reform proposals. This analysis is based on a toolbox of models which is used to compare international tax burdens and which is continuously maintained and enhanced. A primary tool of analysis is the European Tax Analyzer, a computer-based model that enables the evaluation of national and international policy proposals in the area of tax reform and harmonisation.

Within the scope of development work on the new Taxation Knowledge Database, all of the information that used to run the European Tax Analyzer has been consolidated in a central database. A version-control function has been added, so that the current status of stored information is always clear. Furthermore, a new web interface allows researchers to easily search and access information, as well as store and link to data sources for the purpose of documentation. With the new database, compiling and calculating time-series data is now considerably more efficient.

In the period covered by this report, economists in this research area investigated asset-taxation trends in Germany between 1990 and 2009 in a project undertaken on behalf of the Stuttgart Chamber of Industry and Commerce. Alongside a qualita-

tive assessment of developments in the German tax system, a quantitative analysis was carried out using the European Tax Analyzer (see Figure 1). The results underscore the asymmetrical effects of the most recent tax reforms: On the one hand, highly profitable companies have benefited from the reduced taxation of profits as well as the much lower direct taxation of assets. On the other hand, non-income elements are now more important within the taxation of profits. Thus, in times of economic downturn, indirect non-income taxes can lead to a rise in effective corporate tax burdens.

In the year under review, researchers also released the new BAK Taxation Index, an international assessment of the effective tax burdens on corporations and highly qualified employees that is conducted every two years. The study is commissioned by the International Benchmarking Programme (IBP) of the Swiss institute BAK Basel Economics AG. The BAK Taxation Index surveys locations and regions in Europe, the US, and Asia. In the 2009 assessment, tax burden variations within selected regions and countries were also analysed for the first time. The effective average tax burdens in the capitals and key economic centres of the surveyed regions ranged from 9.7 per cent in Hong Kong to 41.8 per cent in New York City. The effective tax burdens on highly qualified employees ranged from 11.6 per cent in Singapore to 56.5 per cent in Belgium. Another finding of the study was that the regional rankings can shift dramatically when one takes intraregional tax variations into account.

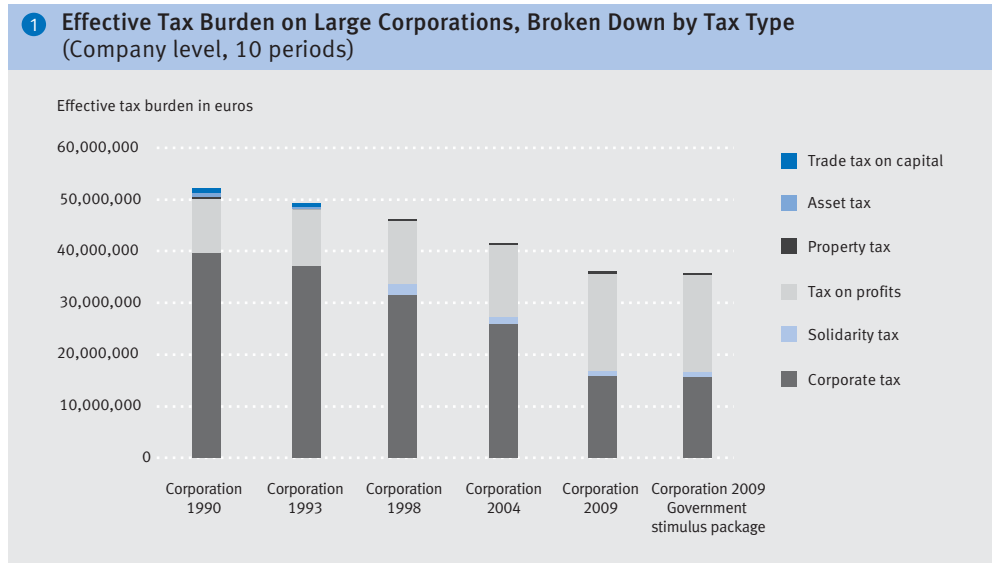
On behalf of the European Commission's Taxation and Customs Union Directorate-General, the department calculated time series of effective tax rates for a wide spectrum of countries (the EU-27, Switzerland, Norway, the US, Canada, Japan, Croatia, Macedonia, and Turkey). To determine effective domestic and cross-border marginal and average tax rates, the department relied on the approach developed by Devereux and Griffith. The analysis additionally took income taxes on the recipients of dividends and interest payments into account. Alongside large corporations, SMEs were also included in the assessment.

**Research Area “Empirical Effects of Corporate Taxation”**

This research area investigates the effects of taxation on the behaviour of taxpayers in general and firms in particular. This research area is related to the research area “Corporate Taxation and Tax Location Analysis” in many ways. On the one hand, the studies undertaken here build upon the tax-burden indicators developed in this research area. On the other hand, the results of these studies are used to integrate empirically grounded behavioural responses in the tax burden modelling performed by the research area “Corporate Taxation and Tax Location Analysis”.

distribution of tax burdens as well as the fiscal revenue effects associated with tax reform. Within the scope of this project, which is sponsored by the Fritz Thyssen Foundation, researchers also plan to integrate behavioural changes on the part of firms due to changed tax law into the design of the microsimulation model.

In the 2009 project “Fiscal Impact of Tax Incentives for Business Research and Development”, ZEW economists explored innovation and fiscal policy goals and then calculated fiscal first-round impacts of tax subsidies for R&D. In order to assess changes in individual tax burdens, and, in turn, revenue effects at the macro level, firm-level data were required. To obtain the required information



The lively tax-reform debate witnessed in Germany and other European countries underscores the significance attached to the distributional and revenue effects of changes to corporate tax law. Existing quantitative taxation assessment methods reveal the incentives that taxation creates. In the recent development of the ZEW TaxCoMM microsimulation model, existing models for the quantification of effective corporate tax burdens were expanded with a technique that takes the heterogeneity of firms into account, thus providing insights into the

on R&D investment, data from numerous sources, including financial accounting records, were compiled using a novel method. The ZEW TaxCoMM microsimulation model was used to calculate corporate tax burdens. The revenue and incentive effects of various tax subsidy proposals were assessed using this model.

In December 2009 a project funded by the German Research Foundation on the tax effects of cross-border business activities was completed. The goal of the project was to empirically investigate

the impacts of taxation on the decision-making of multinational corporations. Data for the project were drawn from a firm-level database of foreign direct investments maintained by the German Bundesbank. Evidence was found for tax impacts on real investment and production-location decisions as well as on cross-border investments that optimally exploit accounting law. Effects on financing were also demonstrated empirically. The research results were published in several internationally respected academic journals.

A study commissioned by the German Federal Ministry of Finance investigated empirical evidence for the tax elasticity of capital, taxable earnings, and highly qualified employees. Prevailing international tax-rate discrepancies create incentives for tax planning aimed at optimising both group-wide and individual tax burdens. For this reason, the study focused precisely on those economic agents who have the greatest ability to adapt their behaviour in response to tax incentives – namely, multinational corporations and highly qualified employees. In terms of methodology, the study was based on a qualitative review of past research as well as a quantitative synthesis of empirical evidence by means of meta-analyses. The results showed that an increase in local taxes on corporate profits has a significant negative effect on the capital stocks and declared profits of multinational corporations. The responsiveness of highly qualified workers to tax changes appears to be comparatively less significant.

### Research Area “Decision Making in Tax and Financial Policy”

This research area seeks to account for why there are often sharp discrepancies between the normative insights of public economics and fiscal policy in practice. In the effort to explain existing taxation, spending, and deficit policies, ZEW researchers test the empirical validity of explanatory models based on phenomena such as a rational resistance to reform, informational deficits among political officials and voters, and limited rationality.

The available options for reforming tax law and social spending are also restricted by social norms,

e.g. the willingness of citizens to pay taxes or to refrain from abusing social services. In a project supported by the ZEW Sponsors’ Association, researchers examined whether past economic crises have had a significant impact on civic perceptions regarding taxation and the welfare state. An econometric analysis of data from the World Values Survey indicates that falling economic growth is associated with a greater willingness to evade taxes and commit welfare fraud. Welfare fraud was particularly evident in countries with comparatively generous welfare systems.

In a study commissioned by the German Federal Ministry of Finance, researchers examined fairness perceptions in relation to proposals for the reform of the German tax and social system, in addition to the effects these perceptions might exercise on the acceptance of reforms. The project was carried out in cooperation with an economist from LMU Munich and psychologists at the Universities of Munich and Salzburg. The psychological investigations that were conducted indicate that the perceived fairness of a reform matters more for the acceptance than its perceived efficiency. Furthermore, econometric analyses of representative survey data showed that support for redistributive policies is not driven solely by selfish motives, financial or otherwise. Rather, it appears that fairness preferences, implicit assumptions about the causes of inequality, and the perceived equitability of existing income disparities are the key determinants of tax policy preferences within the German citizenry.

In a project entitled “Tax Policy Decisions in Fiscal Competition”, the perceptions held by municipal decision-makers with regard to tax policy were examined. ZEW researchers sent a questionnaire to the mayors of all 1,108 cities and municipalities in the German state of Baden-Württemberg. In the questionnaire, the mayors were asked, among other things, to assess how important they thought municipal business tax levels were for both: (1) the location decisions made by firms; as well as (2) the tax competitiveness of the municipality. Over two-thirds of the questionnaires were returned. The responses provided important insights into the perceptions held by decision-makers concerning tax policy and municipal tax competitiveness.

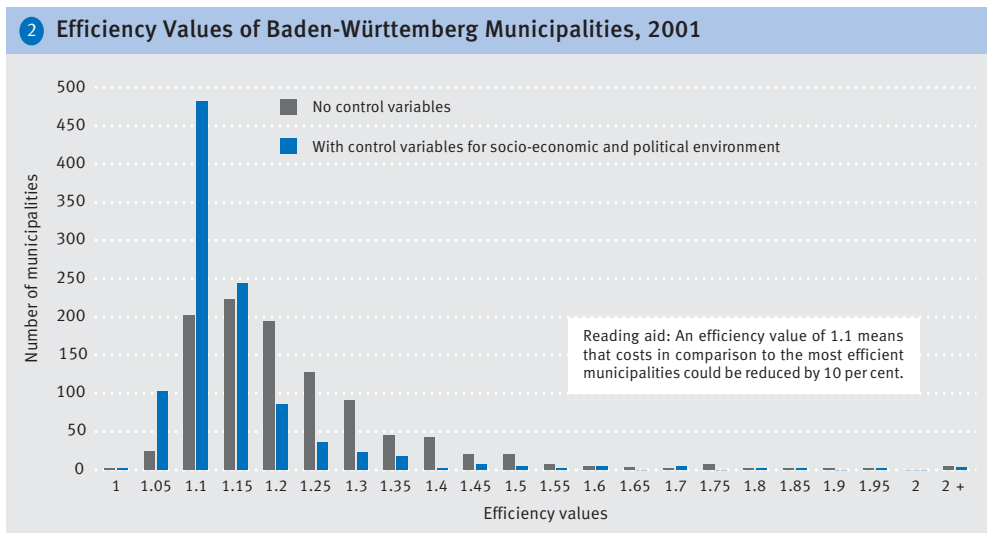
**Research Area “Fiscal Competition and Federalism”**

This area of research is dedicated to investigating government structures – particularly federal systems – under the conditions of rising factor mobility and, as a result, intensifying competition among regions to attract investment. Alongside Germany’s federal system, the division of responsibilities between the EU and its member states is a key focus of research. Questions related to the division of responsibility between the public and nonprofit sectors are also investigated in this research area.

At the end of 2009, researchers completed a project sponsored by the German Research Foundation that explored various aspects of the administrative efficiency of local authorities. Data for the study were provided by municipalities in the state of Baden-Württemberg. In the first stage of the project, researchers calculated efficiency values for the municipalities (see Figure 2). In a subsequent step, the determinants of these efficiency values were ascertained. The study showed, among other things, that higher federal transfers to municipalities are associated with higher levels of inefficiency and that a higher degree of civic participation in political processes (i.e. in the form of higher voter turnout rates) can lead to an increase in the efficiency of the presiding political leaders.

Also in 2009, a study on the future of the EU’s structural policy was undertaken on behalf of the German Federal Ministry of Economics and Technology. This project represented a contribution to the general review of the EU’s financial system that was conducted by European institutions in 2008–9. In this general review, all EU revenues and expenditures – including those for regional harmonisation – were subjected to close scrutiny. On the one hand, ZEW researchers studied the strengths and weaknesses of the present system and which reform options would be advisable. On the other hand, the budgetary consequences of various reform options, including a continuation of the status quo, were illuminated.

In a project carried out on behalf of the Fritz Thyssen Foundation entitled “Nonprofit Organisations as a Means of Reforming the Modern Welfare State”, ZEW economists conducted a comparative macroeconomic assessment of the nonprofit sector (NPS) – both in regard to its current structure and its potential for reform – in seven European countries. This assessment concluded that while various economic theories do a good job of accounting for the size and structure of the NPS, there are still large discrepancies between the NPS in various countries due to path dependencies. Thus, although it is difficult to develop a centralised European strategy for promoting the NPS, supplementary measures as



well as harmonisation efforts are important at the European level in order to encourage NPS growth.

In the period covered by this report, ZEW economists also completed a project sponsored by the Hans Böckler Foundation concerning the distributional effects and distributional efficiency of social transfer systems in the expanded European Union. The goal of the study was to conduct a detailed empirical investigation of the relationships between the design of social insurance systems on paper and

their actual implementation, as well as to assess the effects of the social insurance system on income distribution in the EU. Data for the analysis were drawn from the Luxembourg Income Study. The results indicate that the expansion of the EU has led to greater discrepancies between national transfer systems, a finding that underscores the advantages of preserving national authority in the domain of social insurance amidst the increasing growth of authority at the European level.



*The annual "Mannheim Corporate Tax Day" (Mannheimer Unternehmenssteuertag) focuses on a current topic in international corporate taxation from a practical as well as a scientific point of view. The Centre for European Economic Research (ZEW) and the University of Mannheim organise this event. They are supported by an advisory council consisting of renowned tax experts in the fields of business, consulting, and administration.*

## Environmental and Resource Economics, Environmental Management



### Research Areas

#### Innovation and Sustainable Development

Contact: Dr. Klaus Rennings

- Specification of rules, indicators and strategies for sustainable economic activities
- Determinants and economic impacts of environmental innovations
- Environmental innovation systems

#### Energy Economics

Contact: Dr. Tim Mennel

- National and European regulatory framework for energy markets
- Regulation of grid-bound energy industries
- Renewable energy and external costs of energy

#### Transport and Mobility

Contact: Dr. Claudia Hermeling

- Ecological and socio-economic effects of transport systems
- Concepts for sustainable development in transport sectors
- Traffic volumes and transportation means used in freight traffic

#### International Environmental and Resource Policies

Contact: PD Dr. Andreas Löschel,  
Astrid Dannenberg

- Analysis of institutions for international environmental and resource policies
- Analysis of trade-offs between international trade and environmental policies
- International climate and resource policy

### Macroeconomic Analysis of Environmentally Relevant Policies

Contact: PD Dr. Andreas Löschel,  
Victoria Alexeeva-Talebi

- Analysis of institutional frameworks at the international level for environmental and resource policies
- Analysis of trade-offs between international trade and environmental policies
- International climate and resource policy

This research department performs economic analyses of environmental policy instruments. A guiding topic in the department's research is the cost efficiency of environmental regulation. The department plays a prominent role in environmental economic policy advising in Europe, in part due to its modular system of computable general equilibrium (CGE) models. ZEW is also one of the leading institutions in the economic research of EU emissions trading.

In analysing the optimal function of markets with respect to environmental protection and resource scarcity, the department utilises both qualitative and quantitative analytic methods based on modern microeconomic theory. As a supplement to its modular system of computable general equilibrium models known as PACE, the department employs partial market models in order to conduct a more disaggregated analysis of individual environmentally relevant markets. Survey methods and economic experiments round out the spectrum of methodological techniques employed by the department's researchers.

### Research Area "Innovation and Sustainable Development"

This research area explores the implications of sustainable development for the political arena and, in particular, for firms. In past and ongoing projects, economists in this research area have investigated the determinants and effects of green innovations, developed applied equilibrium models for the representation of innovation behaviour, and have modelled the adaptive behaviour of households.

Using ex ante impact assessments, the European Commission is attempting to take the economic, ecological, and social impacts of new regulations into account in its policy development process. ZEW economists have been actively supporting this effort by developing environmental-economic models for the evaluation of policy impacts (for example, within the newly established LIAISE Network of Excellence).

A topic of increasing interest in the environmental policy debate is the role played by households in climate change. In this regard, domestic heating is an area of key relevance, as it accounts for a significant percentage of total final energy consumption. Economists in this research area have been addressing this topic in various ways. For example, in a current project sponsored by the German Federal Ministry of Research and Education entitled "Social, ecological and economic dimensions of sustainable energy consumption in residential buildings", a national household survey was conducted. This survey contained an innovative stated preference choice experiment that was designed to identify the determinants of middle- and long-term energy consumption decisions. Researchers aim to use the preference data gathered in the survey to formulate effective sustainability strategies and assess them in terms of their economic, ecological, and social impacts.

Computable general equilibrium models rely on input-output data. Within the scope of several projects, researchers have been laying foundations to enable this model type to take the effects of green innovations and sustainable development into account. For example, input-output tables are being adapted to perspectives in environmental economics, and CGE models are being modified to better reflect the impact of innovations. In a project titled "The full costs of climate change", technical change is being endogenised in the department's PACE model in order to more closely investigate the influence of innovations on future mitigation and adaptation policies. Within the scope of the World Input-Output Database (WIOD) project, which is being funded by the European Commission under its 7<sup>th</sup> Framework Programme (FP7), a global input-output database is being created that contains time-series



data as well as information concerning environmental usage and R&D activities at the sectoral level. Economists in the research department have begun to develop a computable general equilibrium model on the basis of these data.

### Research Area “Energy Economics”

Economists in this research area study the goals and instruments of national and European energy policy. The guideline in the assessment of policy instruments is the “Energy policy triangle”, consisting of cost-effectiveness, environmental sustainability, and security of supply. Researchers apply perspectives in welfare economics to the study of environmental regulation, including ecotaxation, European emissions trading, and instruments for the promotion of renewable energy (e.g. quota regulations and feed-in tariffs).

A study commissioned by the German Federal Ministry of Economics and Technology, titled “Energy Forecast 2009: Trends in Energy Markets until 2030”, stood at the centre of the research area’s work last year. The goal of this study was to analyse the current energy supply situation and to create a long-term supply and demand forecast for energy in Germany up to 2030 (with a tentative outlook to 2050). The study paid special attention to economic interactions in markets for energy and goods as well as to the impacts of energy and environmental policy decisions. In the time frame examined by the study, climate policy will have particularly significant impacts on energy market trends. In the near future important decisions to address climate change can be expected at the international level. The study also took the framework conditions of competition policy into account. The model-based analysis focused on trends in household and industrial demand for various types of energy – particularly natural gas and electricity – as well as on the development of Germany’s energy infrastructure. Various economic sectors were examined, including the transportation sector.

In 2009 economists in this research area devoted increasing attention to the competitive situation in retail markets for electricity and gas. In November

ZEW hosted for the second time a joint symposium on this topic in collaboration with GEE, the German chapter of the International Association for Energy Economics. The symposium explored electricity and gas price trends in Germany as well as reciprocal effects between competition and the use of smart meters for the precise measurement of electricity and natural gas consumption. At the event a lively discussion developed between industry representatives, regulatory authorities, and energy economists.

The ZEW Energy Market Barometer, a biannual survey of some 200 energy experts, was continued for the eighth year in 2009. Survey topics of particular interest were the oil price shocks of 2008, the effects of the financial crisis and energy price trends. Looking at past survey results, it is clear that the price expectations tracked by the ZEW Energy Market Barometer were highly predictive of future price trends. The transmission of price changes to retail markets and the expected effects of climate change on Europe’s power plant fleet were additional topics covered by the Energy Market Barometer in 2009.

### Research Area “Transport and Mobility”

Economists in this research area study sustainable consumption in the transport sector. To this end, regulatory instruments with relevance for the environment are assessed, alongside the effects these instruments have on the behaviour of actors and the macroeconomy. A key focus is placed on the identification of regulatory concepts in transportation policy that allow rising demand for mobility and transport to be satisfied with solutions that are economically efficient and environmentally friendly.

In 2009, work in this research area dealt foremost with the decision-making behaviour of households and firms concerning personal and freight transportation as well as with CO<sub>2</sub> emissions trading in various fields of transportation.

ECO-CARS, a study undertaken on behalf of the German Federal Ministry of Education and Research, was completed in 2009. The study examined the vehicle purchasing behaviour of consumers in relation to alternative propulsion technologies and new fuel sources, including electricity,



hydrogen, and biofuel. After gathering empirical data in a broad-based survey, researchers used discrete decision models to describe the decision-making behaviour of potential car buyers. The results were subsequently coupled with microeconomic simulation models in order to assess the impacts of various political strategies. Numerous determinants of the purchase decision were studied in detail, including vehicle CO<sub>2</sub> emissions and the density of the existing service station network for different fuel types.

Another study completed in 2009 – regarding the implications of EU emissions trading for rail transport – aroused a great deal of public attention. The goal of the study was to analyse the impacts resulting from the unequal taxation of rail transport compared to other forms of transport, including air and road, both in terms of energy efficiency and relative competitive advantage. Unequal tax burdens result as a function of the energy sources used by each mode of transport. Thus, while the higher electricity prices induced by EU emissions trading are a form of indirect taxation on rail transport, and both the rail and road transport sectors are subject to mineral oil taxes, air transport, by contrast, receives preferential treatment – no excise tax, for example, is levied on jet fuel. At the beginning of 2008, the European Council, Parliament, and Commission reached an agreement to include air transport in EU-wide emissions trading, but to distribute emissions certificates essentially free of charge. The study elucidated the impacts of this decision on efficiency, competition, and future CO<sub>2</sub> emissions, as well as the extent to which distortions to competition that contravene stated environmental policy intentions might be mitigated.

The ZEW/ProgTrans TransportmarktBarometer (Transport Market Barometer) is also housed in this research area. Since 1998 the Barometer has asked leading experts in the transport and freight industries about their expectations regarding future freight volumes and prices. The Barometer, which is released on a quarterly basis, is an important indicator of economic activity as well as a valuable source of information for the press, professional community, and lay public. Since 2008 the survey has been supplemented each quarter with questions of current relevance.

### Research Area “International Environmental and Resource Policies”

This research area is focused on international environmental problems, particularly international climate policy. Key topics of research include the implementation of the Kyoto Protocol, the development of a potential successor treaty, as well as the use of climate policy instruments.

Economists in this research area conduct basic research aimed at identifying the determinants of voluntary cooperation between sovereign nations and how this cooperation might be promoted. Of special interest are questions surrounding how varying notions of equitability and institutional factors affect the chances of reaching international agreements. For example, in a study carried out on behalf of the German Research Foundation (DFG), entitled “International Climate Policy and Fairness Preferences”, researchers examined how fairness preferences influence the provision of global public goods. In another project in this area, entitled “Empirical Evidence for Stability in International Environmental Agreements”, economists investigated whether the use of coalition structures – i.e. as in the Kyoto Protocol – supports or impedes cooperation between nations on environmental issues. To analyse such questions, game theory models, laboratory experiments, and surveys are used (see Figure 1).

In this research area an important role is also played by the analysis of questions surrounding the concrete design of climate policy instruments, including schemes for European and international emissions trading, as well as the Kyoto Protocol's project-based mechanisms (see also information on the research area of “Macroeconomic Analysis of Environmentally Relevant Policies”). In this regard, the rapidly expanding European market for CO<sub>2</sub> certificates is a central topic of study. In 2008 the research department partnered with the banking group KfW in order to establish the KfW/ZEW CO<sub>2</sub>-Panel. The Panel is a recurring survey of academics and market experts concerning the EU emissions trading system as well as expectations for future certificate prices and volumes (see Figure 2).

The expansion and integration of emissions trading systems is a climate policy option that is

being more closely examined. In a project for the German Federal Ministry of Transport (BMVBS), various options for the design of a maritime emissions trading system (METS) were analysed, particularly with regard to their economic implications for the maritime industry.

Economists in this research area have also been studying the steps that might be taken nationally and internationally to adapt to climate change. Alongside efforts to minimise greenhouse gas emissions, measures to adapt to the damage that is expected to result from climate change are a necessary and rational response. In an EU project titled “The Fiscal Implications of Climate Change Adaptation”, the budgetary consequences of adapting to climate change are being assessed.

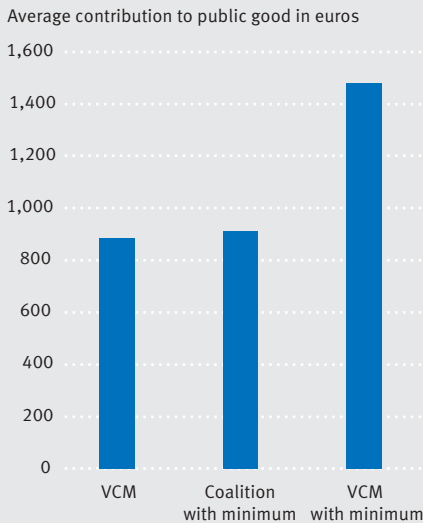
In another project economists are studying the impacts of adaptive measures on the German insurance industry. Furthermore, in 2009 ZEW hosted a high-profile scientific conference on the economic aspects of climate change adaptation. This conference was staged in cooperation with the Wegener Center for Climate and Global Change at the University of Graz.

**Research Area “Macroeconomic Analysis of Environmentally Relevant Policies”**

This research area is distinguished by its unifying function within the department of Environmental and Resource Economics, Environmental Management. Much of the work undertaken in the department has points of overlap with this research area. Researchers employ a modular system of computable general equilibrium models known as PACE in order to assess environmentally relevant policies from a problem-oriented perspective.

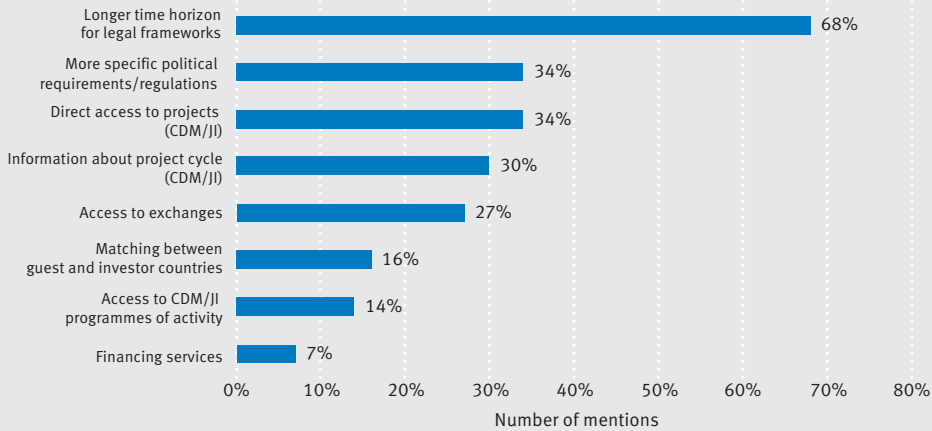
In 2009 this research area conducted a study on behalf of the EC’s Directorate-General for Enterprise and Industry concerning the extent to which energy-intensive industries might relocate production abroad as a consequence of ambitious EU climate policies (resulting in so-called “carbon leakage”). To this end, energy-intensive sectors (e.g. the cement and steel industries) were studied in a more disaggregated fashion using the existing CGE model. In a project aimed at enhancing the analytical tools used to assess the potential migration of energy intensive industries, researchers employed

**1 Impact of Institutional Forms on Cooperation for the Provision of a Public Good**



Reading aid: The figure shows the results of an economic laboratory experiment. In a group of ten, the players participated in a public goods game lasting ten periods. Three different treatments of the game with different institutional setups were played. A Voluntary Contribution Mechanism (VCM), in which each player was allowed to decide freely how much to contribute to the public good, served as a reference scenario. In the “VCM with minimum” treatment, the players negotiated a minimum contribution to the public good; the lowest contribution proposed in the negotiations was then binding on all players. This game design reflected the tendency often observed in international climate negotiations for an agreement to be reached based on the least ambitious targets. In the treatment “Coalition with minimum” the players first had to decide if they should join a coalition. Each of the players joining the coalition then proposed a minimum contribution to the public good; the lowest contribution proposed was binding on all coalition members. The results show that a coalition structure does not increase cooperation in comparison to the reference scenario. By contrast, a direct modification of the VCM leads to a much higher level of cooperation between players.

**2 Where Does the EU Emissions Trading System Need to Be Improved? What the Private Sector Says**



Source: KfW/ZEW CO<sub>2</sub>-Panel (2009)

the model to study the effects on competition caused by possible post-Kyoto agreements.

In 2009 efforts also began to link the disaggregated CGE model with partial models of energy-intensive sectors. To this end, a partnership was initiated with the Finnish Institute for Forest Research (METLA) within the context of a research symposium. A visiting researcher from METLA has been working with ZEW economists to study the effects of the EU energy and climate package on the competitive situation in the paper and pulp industry. The involved researchers aim to combine the partial model of the paper and pulp industry developed by METLA with ZEW’s modular CGE system (PACE).

In projects carried out on behalf of the European Commission and the British Department for Business, Enterprise and Regulatory Reform (BERR), economists in the research area used econometric methods to examine options for the pass-through of energy and emissions costs. Domestic industrial competitiveness is only impacted by emissions and energy price increases that result from unilateral policy measures when the passing through of costs is not possible. The study found that the effects on competition vary considerably between sectors. The broad indicators proposed for the free distribution of emissions certificates to carbon

leakage sectors (energy costs, openness to foreign markets) are thus only suitable to a limited degree. Under the auspices of the Center for Clean Air Policy (CCAP), ZEW economists studied international sector-based approaches to climate protection which could form part of a post-2012 climate protection regime. Here, as well, ZEW’s disaggregated CGE model was put to use. The results of the study were presented prominently at the European Commission’s side event at the 2009 Barcelona Climate Change Talks as well as at the Copenhagen UN Climate Conference at the end of the year. In the future, global sectoral agreements – particularly those that include China – will be of central importance in numerous sectors, such as the electrical power and cement industries.

Last year economists in this research area also played an active role in Stanford University’s Energy Modeling Forum (EMF). The EMF is an international forum for exchange between experts involved in climate and energy modelling. The EMF working group on European climate protection strategies was coordinated by ZEW. The findings of this working group were published in the special issue “International, U.S. and E.U. Climate Change Control Scenarios: Results from EMF 22” of the journal *Energy Economics*.

## Information and Communication Technologies



### Research Areas

#### ICT Sector and Diffusion of ICT

Contact: Jörg Ohnemus

- IT and media sector
- Service providers of the information society
- Diffusion of ICT

#### ICT and the Labour Market

Contact: Dr. Marianne Saam

- Workplace organisation
- Qualification and wage structure
- Age structure of employees
- Training and further education
- Preprofessional education

#### ICT, Firm Strategies and Competition

Contact: Dr. Daniel Cerquera

- Productivity and innovation
- Outsourcing and IT consulting

- Internationalisation
- Competition economic aspects
- Macroeconomic effects of ICT use in firms

This research group studies economic aspects of the production and use of information and communication technologies (ICT). The group investigates how human capital, firms, and markets should be optimally organised in order to fully exploit the potentials offered by ICT for growth and employment. The group's research is concerned in particular with how economic processes are changed on a sustained basis due to the diffusion and adoption of ICT. While empirical and microeconomic methods are dominant in the group's work, applied theoretical techniques and simulation models as well as empirical macroeconomics are used on a supplementary basis. The group's cooperation with selected interdisciplinary partners in the fields of business management, business informatics, sociology, and psychology has also proven fruitful. The common

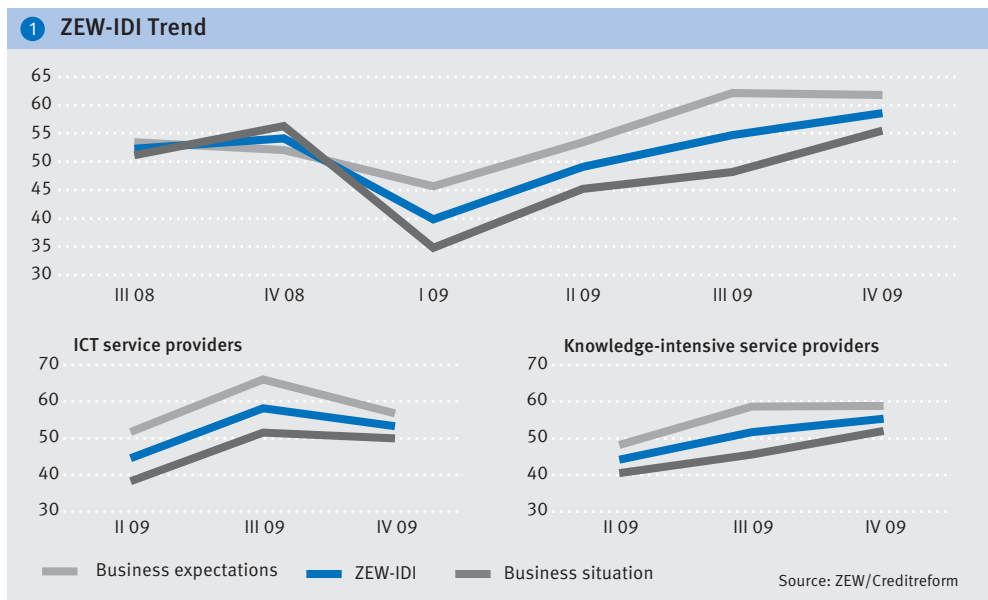
feature of the group’s broad-based approach to research is its investigation of the multifaceted role played by ICT: as a tool; market platform; medium for the transmission of information and knowledge; infrastructure element; and as an enabling factor for business management and innovation in the knowledge-based economy.

The close integration of the research group with ZEW’s other research units, particularly the research departments of Labour Markets, Human Resources and Social Policy and of Industrial Economics and International Management, allows the group to realise synergies between its individual research areas. This cooperation also ensures that the group’s researchers have access to an extensive pool of knowledge in terms of methods and data for the investigation of questions in industrial and labour-market economics. Ongoing cooperation also takes place within the context of project work. The internationally renowned ICT Research Conference, which the group has organised on an annual basis since 2001, addresses topics from all of the group’s research areas. In 2009 the conference focused on web-based markets and networks as well as on comparative analyses of ICT use within European businesses and various branches of the economy.

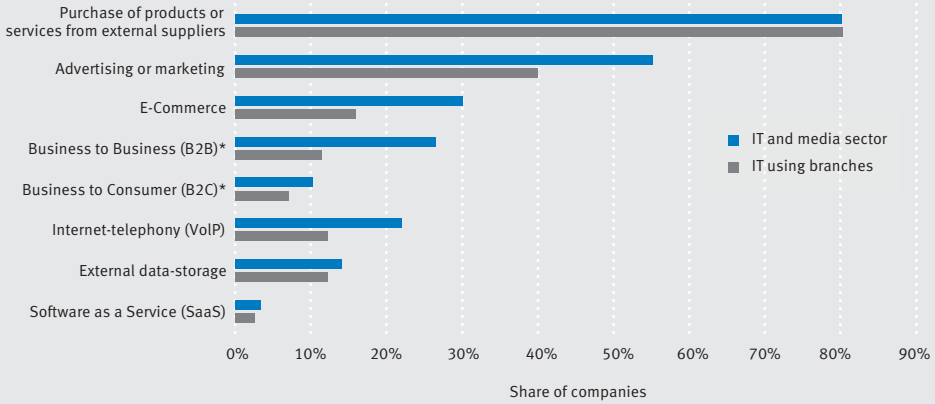
**Research Area “ICT Sector and Diffusion of ICT”**

This research area follows the diffusion of ICT and the performance of firms, both within the ICT sector as well as in ICT-intensive industries and other user branches. Research activities are particularly concerned with identifying how widespread ICT applications are in certain firms, the goals that firms pursue with the use of ICT, as well as the obstacles they perceive. Moreover, companies are surveyed concerning strategies potentially related to the use of ICT, such as outsourcing and internationalisation. With its surveys the research group addresses questions with relevance to the practical use of ICT. The findings of these surveys are communicated in press releases, articles, and presentations that are intelligible also to the lay public. At the same time, such surveys provide a basis for rigorous quantitative research. The diffusion of ICT among private users is studied with external databases.

“Service Providers of the Information Society”, a business survey of IT- and knowledge-intensive service industries in Germany, represents a key aspect of the activities undertaken in this research area. The survey has been conducted on a quarterly basis since 2002, and since 2003 the results have



**2 Internet Applications in Baden-Württemberg Companies**



Reading aid: 80.1 per cent of companies in the IT and media sector with access to the internet use the internet for the order of products and services from external suppliers.  
 Note: Multiple entries possible. \*Subcategories of e-commerce.  
 Source: FAZIT business survey, Fall/Winter 2008, ZEW calculations.

been used to calculate and publish a business sentiment indicator for these industries, the ZEW Indicator “Service Providers of the Information Society” (ZEW-IDI). The ZEW-IDI is composed of four components: turnover situation, demand situation, turnover expectations, and demand expectations (in each case in relation to the previous or upcoming quarter). A value above 50 indicates improving economic sentiment, a value below 50 worsening economic sentiment.

The ZEW-IDI almost dropped below the critical 50 point threshold in Q4 of 2008, marking the first tremors of the crisis in the surveyed industries. In Q1 of 2009 the recession hit the service providers of the information society more strongly than expected. The ZEW-IDI fell to a historic low of 40 points. In the two following quarters, economic sentiment, both with regard to the current situation as well as expectations for the future, improved. Current sentiment indicated that the recession was slowing, and expectations predicted economic recovery. Overall, the IT-intensive service industries have been affected more strongly by the dislocations of the current recession than the knowledge-intensive industries (see Figure 1).

In June of 2009 the research area completed the FAZIT research project, a study on current and future developments in the IT and media sector in the state of Baden-Württemberg as well as on the significance of IT and media technologies for the economy and society. In the study, representative surveys were conducted every six months of IT, media and service-sector companies, as well as ICT-using companies from other manufacturing branches. The questionnaires focused on current IT trends and on the factors which enable or prevent companies from implementing new technologies in their workflows. The final survey, conducted at the end of 2008, offers a broad appraisal of ICT use in the surveyed companies.

More than 80 per cent of the surveyed companies purchase products and services from suppliers via the Internet. 55 per cent of the companies in the IT and media sector and 40 per cent of companies in ICT-using industries take advantage of the Internet for online marketing. The sale of products and services via the Internet is dominated by sales to other firms (B2B), in contrast to sales to end customers (B2C). Software rental (software as a service) is only used by 3 per cent of firms (see Figure 2).

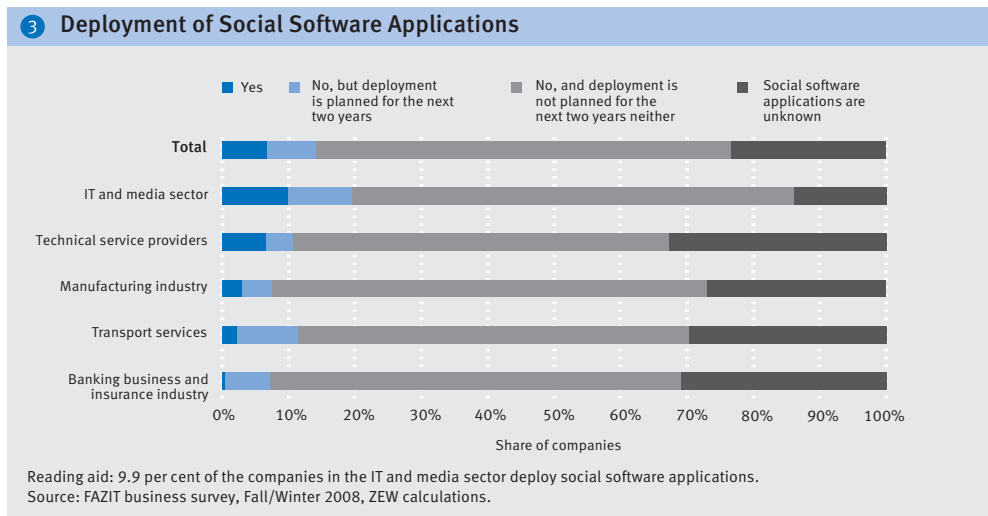
The percentage of firms aware of trends in social software rose from 68 per cent in 2006 to 78 per cent in 2008. Only 7 per cent of firms, however, use social bookmarking or have their own weblogs, wikis, or podcasts. The percentage of firms using these social software tools in the IT and media sector is only slightly higher, at 10 per cent. The survey responses on the planned adoption of online social services indicate that these numbers will double within the coming two years. Research shows firms make use of social software predominantly for internal knowledge transfer and as a means of communicating with external partners (see Figure 3).

**Research Area “ICT and the Labour Market”**

The ongoing development of technologies for information processing and communication requires an adaptation of users’ skills and workflows within firms. The research area of ICT and the Labour Market studies the effects of new technologies on different groups in the workforce according to various criteria, e.g. age, gender, and education. Important research topics include: ICT use in an aging society; ICT use in the pre-professional phase; and changes in the organisation and content of work as a result of ICT use.

In several projects the research group has examined ICT use in an aging society. The knowledge thus acquired can now be applied to research in new topic areas. In cooperation with the research department “Labour Markets, Human Resources and Social Policy”, the research group has been exploring the skill acquisition, qualification, and social integration of children and adolescents from birth to job entry. The causes and effects of ICT and media use during this important period of life are an aspect of the analysis. The research group is also involved in current efforts to develop a National Education Panel Study (NEPS), which will enable more in-depth research beginning in 2011.

In the fall of 2009 the research group hosted a conference on the potential of social software to improve knowledge generation and economic performance. The conference was organised in collaboration with the research department “Labour Markets, Human Resources and Social Policy” as well as the Knowledge Media Research Center (KMRC). Guest speakers and talented junior researchers from the fields of economics and psychology contributed to the interdisciplinary discussion. Research was presented on a variety of topics, including internet security, social identity in online communities, self-presentation in social networks, and the use of social software for education and knowledge generation.



### Research Area “ICT, Firm Strategies and Competition”

In the knowledge-based economy, new ICT applications represent a crucial tool for firms to react to competitive pressures that stem from increasing internationalisation, an instable economic environment or changes in demand. Economists in this research area investigate the motives and consequences of ICT use and complementary firm strategies (e.g. outsourcing or IT consulting). They also examine the effects of ICT diffusion on aggregate economic growth and the characteristics of competition and regulation in the ICT sector and ICT-intensive industries.

In the area of business strategies, one project considered the productivity effects of the three most commonly used software systems: enterprise resource planning (ERP), supply chain management (SCM), and customer relationship management (CRM). An analysis of firm data showed that the positive relation between the use of enterprise

software systems and labour productivity turns out to be particularly strong if all three systems are used. In addition, a robust, significant complementary relationship was found between SCM and CRM that results in particular when the IT infrastructure necessary for both systems is provided by an ERP system. Aside from its effect on productivity, the use of enterprise systems also has a positive effect on innovation activity.

In addition, research on outsourcing was continued. In recent years, the trend toward greater outsourcing of ICT services and computer-intensive business processes to external providers has intensified. Econometric analysis shows that firms that outsource ICT services produce with an overall higher efficiency than firms that perform these services internally. Furthermore, employees working mainly with a computer are more productive in firms which outsource. For the outsourcing of computer-intensive business processes, the research also shows a positive contribution to productivity.



## Growth and Business Cycles



### Research Areas

#### Analysis of Long-Term Macroeconomic Relationships

Contact: Dr. Marcus Kappler, Atılım Seymen

- Determinants of the potential output of industrial countries
- Growth empirics
- Quantitative analysis of long-term unemployment
- Methods for the measurement of the non-cyclical unemployment rate
- Impact of institutional reforms on growth and employment

#### Analysis of Short-Term Macroeconomic Relationships

Contact: Dr. Marcus Kappler

- Synchronisation and convergence of international business cycles
- Total economic effects of EMU enlargement

- Global macroeconomic models
- Business cycle analysis
- Forecast evaluation

#### Development of Analytic Tools and Methods

Contact: Martin Scheffel

- Business cycles and growth in a unified theoretical and empirical framework
- Macro-theoretical DSGE (dynamic stochastic general equilibrium) model
- Macroeconomic multi-country model

This research group, which is still being developed, investigates how political, institutional, and global economic factors impact growth and the business cycle in Germany and Europe. With its focus on medium- and long-term analysis, the research group sets itself apart from the business-cycle departments at other German research institutes.

The macroeconomic expertise of the Centre for European Economic Research is concentrated in

this research group. All cross-departmental research projects with a macroeconomic focus are coordinated by this research group. The core concern of the group's research is the long-term economic development of markets for goods and labour. The group's research methods differ from those employed by other Leibniz Association institutes, which typically take a short-term approach to the macroeconomic analysis of the business cycle.

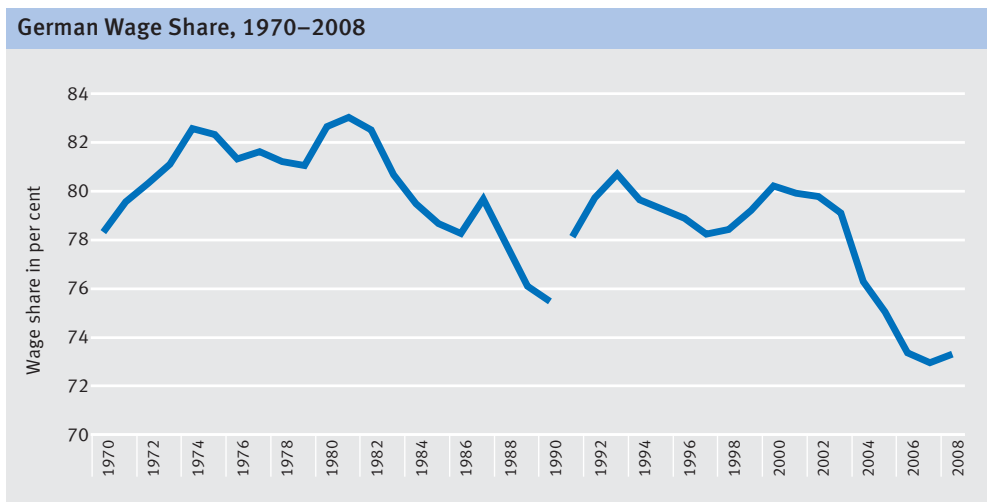
On 7–8 July 2009 ZEW hosted a conference on the latest developments in macroeconomics together with the University of Mannheim. The goal of the conference was to provide a platform for discussion and exchange on the latest advances in macroeconomic research. ZEW welcomed nearly sixty researchers from Europe and the US to the conference. The talks given by the keynote speakers Prof. Harald Uhlig, PhD, of the University of Chicago, Prof. Michael Burda, PhD, of the Humboldt University of Berlin, as well as by Prof. Dr. Helmut Lütkepohl of the European University Institute in Florence were particularly well received. Yet beyond the talks given by these speakers, excellent presentations were made in a variety of macroeconomic fields, including labour market economics, business cycle research, fiscal policy, and monetary policy. In light of their relevance to the current eco-

nomics crisis, the presentations given on monetary policy in particular aroused the interest of the conference's attendees. How central banks should react in the crisis was a much discussed topic.

**Research Area “Analysis of Long-Term Macroeconomic Relationships”**

In analysing long-term macroeconomic relationships, economists in this research area focus in particular on factors impacting growth and structural unemployment. One aim is to conduct comparative macroeconomic studies that illuminate how globalisation and institutional frameworks impact the growth of the German economy. Another aim is to develop empirically based macroeconomic models that enable the quantitative assessment of the effects of reform on economic growth and long-term unemployment in Germany and Europe.

Institutional frameworks as well as market mechanisms for labour and goods are key determinants of growth and employment. In order to design and implement policies that effectively facilitate growth, it is therefore essential to understand the impacts of institutional reform measures, both in relation of their immediate and long-term



effects. In 2009 the research group submitted a tender to the German Research Foundation, which aims at examining labour and product market institutions in Europe's national economies while also taking interactive factors into account.

Within the scope of research on the institutional determinants of economic outcomes, in 2009 ZEW researchers completed a project on behalf of the German Ministry of Finance concerned with identifying the causes of the observed shift in the factor income distribution. In Germany labour cost growth has been rather moderate. This has led to a sharp inflation-adjusted decline in the wage share, i.e. a redistribution in the allocation of national income to the detriment of employee compensation (see Figure). Various factors seem to have contributed to this development. A high degree of wage restraint has certainly played a key role. Yet changes in the employment structure and unemployment are also important factors. The declining wage share – which has led to an attendant rise in business and investment income – has led many to ask whether the workforce is receiving its fair share of the economic pie. The goal of the project was to examine the causes of this shift in the factor income. Many factors were taken into consideration in the study, including wage restraint, globalisation, demographic change, the sectoral employment structure, the power of unions, and various additional issues related to labour market institutions. One important conclusion of the study is that the observed decline in the wage share can be attributed in large part to a structural shift in the relative size of various economic sectors. The manufacturing sector, which has a relatively high wage share, has shrunk in relation to the service sector, which has a lower wage share, leading to an overall wage share decline. Furthermore, international comparisons reveal that a negative pressure on the wage share has been exerted by technological advances as well as by some aspects of globalisation – in particular, by a general openness to world trade. Negative pressures are also exerted by an increase in unemployment benefits and a larger tax wedge as a measure of non-wage labour costs. At least over the short term, higher union membership rates were shown to induce wage share growth.

### Research Area “Analysis of Short-Term Macroeconomic Relationships”

Economists in this research area seek to explain temporary fluctuations in capacity utilisation in markets for goods and labour. A key field activity is the estimation and assessment of economic shocks, particularly under consideration of global and country-specific events.

At the beginning of 2009, ZEW researchers completed a project on behalf of the German Federal Ministry of Economics and Technology (BMWi) concerned with the extent to which the labour market can decouple from the growth of the real economy. Germany's labour market seems to have been in a stronger position at the beginning of the latest economic crisis than in the years prior to 2005 thanks to several years of strong, not purely cyclical employment growth as well as a concomitant decline in the persistent unemployment rate. In addition, policy measures to increase the flexibility of the labour market will probably mitigate the impacts of the crisis when the economic downturn begins to gain greater traction. The unemployment rate at the trough of the current business cycle will likely not be as high or as persistent as that witnessed prior to 2005. Furthermore, thanks to the temporary-employment sector, larger wage spreads and flexible bargaining agreements, the downturn's effects on unemployment appear to have been delayed, as fewer workers have been dismissed as a “preventative” measure than in previous recessions. The goal of the study was to test the hypothesis that the responsiveness of the labour market has increased in recent years, and, as a result, that the relationship between cyclical growth and cyclical and structural unemployment has changed. Researchers studied this hypothesis using current empirical data. The conclusion was reached that the cyclical unemployment rate would have risen much higher in the current crisis if the normal interrelationships between labour market trends and GDP growth had remained in place. The participating researchers had firmly established as early as January of 2009 that the labour market had been behaving differently in the current crisis than in the past. A key factor stabilising the unemployment

rate, the researchers confirmed, was the German government's employment policies.

### Research Area "Development of Analytic Tools and Methods"

Models that are continually refined based on specific research questions are essential for the rigorous study of macroeconomic interrelationships in a national and international context. This research area provides a framework for the ongoing development and fine-tuning of modelling methods.

In 2009 important results for future work were obtained in the project "Development of Macroeconomic Long-Term Models". In the project, a dynamic stochastic general equilibrium model (DSGE) with a particular focus on the labour market was formulated. Furthermore, computer algorithms were written for the numerical computation of the equilibrium and for the simulation of various labour market reforms. The DSGE model explicitly captures basic economic relationships, such as household consumption and savings decisions. This allows analysis to be performed even when parameters change due to preference shocks or institutional reforms. The model's microeconomic foundations are a particular advantage, for this allows the welfare effects of institutional reforms to be quantified and assessed on the basis of individual household preferences. The basic hallmarks of the model can be encapsulated in five key terms: dynamics, growth,

labour market, heterogeneity, and macroeconomy. Households make endogenous decisions concerning investments in capital and education. For this reason, the development of physical and human capital – an integral component of the model – is accounted for endogenously. Educational decisions lead to an accumulation of human capital. In the model, human capital is the driver of growth, and allows the model to yield endogenous growth rates. An important component is the explicit modelling of the labour market and unemployment. Unemployed households select an optimal search intensity. They can therefore determine themselves the likelihood of finding new employment. Consequently, in our model the unemployment rate – a key concern of policymakers – is determined endogenously and political reforms influence the level of employment. Due to the varied employment biographies of households, household assets are heterogeneous. Finally, factor prices are determined endogenously in the general equilibrium, so that the second- and third-round effects of labour market reforms can be analysed. This reflects the macroeconomic perspective of the model.

The model is currently being calibrated based on micro- and macroeconomic evidence from the German economy. Furthermore, the welfare effects of the so-called "Hartz" reforms to Germany's unemployment and welfare benefit system are being simulated. In the future, the simulation results will be used to analyse the optimal combination of labour market reforms.

### Training programme “Strengthening Macroeconomic Policies” at ZEW



*From the middle of September to the end of November 2009, 16 financial experts from China and Vietnam expanded their knowledge in the field of macroeconomics at ZEW. The research group “Growth and Business Cycles” was partly involved organising the seminar. Over the next three years, more financial experts from Asia will receive advanced training at ZEW. The courses at ZEW are part of the training programme “Strengthening Macroeconomic Policies” which is organised by inWEnt, a global corporation for personnel development, advanced training, and dialogue, on behalf of the Federal Ministry for Economic Development and Cooperation.*



# ZEW IN 2009

◉ SCIENTIFIC OUTPUT



Excellence in economics has a number of dimensions at ZEW, including the publication of research findings in leading scientific journals, national and international networking with cutting-edge research establishments, ongoing knowledge exchange through conferences and workshops, as well as the creation and maintenance of unique databases.

### Publications in Refereed Journals

Abramovsky, L., E. Kremp, A. López, T. Schmidt and H. Simpson (2009), Understanding Co-operative R&D Activity: Evidence from Four European Countries, *Economics of Innovation and New Technology* 18 (3), 243–265.

Achtnicht, M., K. Rennings and J. Hertin (2009), Experiences with Integrated Impact Assessment – Empirical Evidence from a Survey in Three European Member States, *Environmental Policy and Governance* 19 (5), 321–335.

Ager, P., M. Kappler and S. Osterloh (2009), The Accuracy and Efficiency of the Consensus Forecasts: A Further Application and Extension of the Pooled Approach, *International Journal of Forecasting* 25 (1), 167–181.

Aldashev, A., J. Gernandt and S. Thomsen (2009), Language Usage, Participation, Employment and Earnings – Evidence for Foreigners in West Germany with Multiple Sources of Selection, *Labour Economics* 16, 330–341.

Ammermüller, A. and J. Pischke (2009), Peer Effects in European Primary Schools: Evidence from PIRLS, *Journal of Labour Economics* 27 (3), 315–348.

Ammermüller, A., A. Kuckulenz and T. Zwick (2009), Aggregate Unemployment Decreases Individual Returns to Education, *Economics of Education Review* 28, 217–226.

Arntz, M. and R. Wilke (2009), Unemployment Duration in Germany: Individual and Regional Determinants of Local Job Finding, Migration and Subsidized Employment, *Regional Studies* 43, 43–61.

Aschhoff, B. and W. Sofka (2009), Innovation on Demand – Can Public Procurement Drive Market Success of Innovations?, *Research Policy* 38, 1235–1247.

Barbie, M. and C. Helmeling (2009), The Geometry of Optimal Taxation: A Primal Approach, *Economic Theory* 39, 129–155.

Bertschek, I. and J. Meyer (2009), Do Older Workers Lower IT-Enabled Productivity? Firm-Level Evidence from Germany, *Jahrbücher für Nationalökonomie und Statistik* 229 (2 und 3), 327–342.

Blind, K., K. Cremers and E. Müller (2009), The Influence of Strategic Patenting on Companies' Patent Portfolios, *Research Policy* 38 (2), 428–436.

Blomeyer, D., K. Coneus, M. Laucht and F. Pfeiffer (2009), Initial Risk Matrix, Home Resources, Ability Development and Children's Achievement, *Journal of the European Economic Association* 7 (2–3), 638–648.

Böhringer, C., A. Löschel, U. Moslener and T. F. Rutherford (2009), EU Climate Policy Up to 2020: An Economic Impact Assessment, *Energy Economics*, 31 (2), 295–305.

Böhringer, C., T. Mennel and T. Rutherford (2009), Technological Change and Uncertainty in Environmental Economics, *Energy Economics* 31, Supplement 1, 1–3.

Bonin, H. (2009), 15 Years of Pension Reform in Germany: Old Successes and New Threats, *Geneva Papers on Risk and Insurance* 34, 548–560.

Bonin, H., A. Constant, K. Tatsiramos and K. Zimmermann (2009), Native-Migrant Differences in Risk Attitudes, *Applied Economic Letters* 16 (15), 1581–1586.

Cantner, U., K. Joel and T. Schmidt (2009), The Use of Knowledge Management by German Innovators, *Journal of Knowledge Management* 13 (4), 187–203.

Cleff, T., C. Grimpe and C. Rammer (2009), Demand-Oriented Innovation Strategy in the European Energy Production Sector, *International Journal of Energy Sector Management* 3, 108–130.

Coneus, K., K. Göggel and G. Mühler (2009), Maternal Employment and Child Care Decision, *Oxford Economic Papers* 61, 172–188.

Cremers, K. (2009), Settlement During Patent Litigation Trials. An Empirical Analysis for Germany, *Journal of Technology Transfer* 34, 182–195.

Czarnitzki, D. and H. Hottenrott (2009), Are Local Milieus the Key to Innovation Performance?, *Journal of Regional Science* 49 (1), 81–112.

- Czarnitzki, D. and K. Kraft (2009), Capital Control, Debt Financing and Innovative Activity, *Journal of Economic Behavior and Organization* 71, 372–383.
- Czarnitzki, D., K. Hussinger and C. Schneider (2009), Why Challenge the Ivory Tower? New Evidence on the Basicness of Academic Patents, *Kyklos* 62 (4), 488–499.
- Czarnitzki, D., K. Kraft and S. Thorwarth (2009), The Knowledge Production of ‘R’ and ‘D’, *Economics Letters* 105, 141–143.
- Czarnitzki, D., W. Glänzel and K. Hussinger (2009), Heterogeneity of Patenting Activity and Its Implications for Scientific Research, *Research Policy* 38, 26–34.
- Dannenberg, A. (2009), The Dispersion and Development of Consumer Preferences for Genetically Modified Food – A Meta-Analysis, *Ecological Economics* 68, 2182–2192.
- Dannenberg, A., S. Scatasta and B. Sturm (2009), Keine Chance für genetisch veränderte Lebensmittel in Deutschland? Eine experimentelle Analyse von Zahlungsbereitschaften, *Perspektiven der Wirtschaftspolitik* 10 (2), 214–234.
- Dlugosz, S. and U. Müller-Funk (2009), The Value of the Last Digit: Statistical Fraud Detection with Digit Analysis, *Advances in Data Analysis and Classification* 3, 281–290.
- Egel, J., H. Fryges, S. Gottschalk and C. Rammer (2009), Performance von akademischen Spinoff-Gründungen in Österreich, *ASTA Wirtschafts- und Sozialstatistisches Archiv* 3 (4), 265–283.
- Elschner, C., C. Ernst, G. Licht and C. Spengel (2009), What the Design of an R&D Tax Incentive Tells About Its Effectiveness: A Simulation of R&D Tax Incentives in the European Union, *Journal of Technology Transfer*, DOI 10.1007/s10961-009-9146-y.
- Farzanegan, M. R. (2009), Illegal Trade in the Iranian Economy: Evidence from Structural Equation Model, *European Journal of Political Economy* 25, 489–507.
- Farzanegan, M. R. and G. Markwardt (2009), The Effects of Oil Price Shocks on the Iranian Economy, *Energy Economics* 31, 134–151.
- Fryges, H. (2009), Internationalisation of Technology-Oriented Firms in Germany and the UK, *Small Business Economics* 33 (2), 165–187.
- Fryges, H. (2009), The Export-Growth Relationship: Estimating a Dose-Response Function, *Applied Economics Letters* 16 (18), 1855–1859.
- Grammig, J. and A. Schrimpf (2009), Asset Pricing with a Reference Level of Consumption: New Evidence from the Cross-Section of Stock Returns, *Review of Financial Economics* 18 (3), 113–123.
- Grammig, J., A. Schrimpf and M. Schuppli (2009), Long-Horizon Consumption Risk and the Cross-Section of Returns: New Tests and International Evidence, *European Journal of Finance* 15, 511–532.
- Grimpe, C. and W. Sofka (2009), Search Patterns and Absorptive Capacity: Low- and High-Technology Sectors in European Countries, *Research Policy* 38 (3), 495–506.
- Gropp, R., J. Vesala and G. Vulpes (2009), Cross Border Bank Contagion in Europe, *International Journal of Central Banking* 662, 97–139.
- Gürtzgen, N. (2009), Firm Heterogeneity and Wages Under Different Bargaining Regimes – Does a Centralised Union Care for Low-Productivity Firms?, *Jahrbücher für Nationalökonomie und Statistik* 229, 239–253.
- Gürtzgen, N. (2009), Rent-Sharing and Collective Bargaining Coverage – Evidence from Linked Employer-Employee Data, *Scandinavian Journal of Economics* 111, 323–349.
- Heger, D. and T. Tykvová (2009), Do Venture Capitalists Give Founders Their Walking Papers?, *Journal of Corporate Finance* 15 (5), 613–625.
- Heinemann, F., I. Bischoff and T. Hennighausen (2009), Choosing from the Reform Menu Card – Individual Determinants of Labour Market Policy Preferences, *Jahrbücher für Nationalökonomie und Statistik* 229 (2 und 3), 180–197.
- Heinemann, F., P. Mohl and S. Osterloh (2009), Who’s Afraid of an EU Tax and Why? – Revenue System Preferences in the European Parliament, *The Review of International Organizations* 4 (1), 73–99.
- Hübler, O. and T. Walter (2009), Beschäftigungsstabilität im Konjunkturzyklus – Eine empirische Analyse mit Individualdaten für Westdeutschland 1984–2005, *Schmollers Jahrbuch (Journal of Applied Social Science Studies)* 129 (1), 1–35.
- Hüschelrath, K. (2009), Critical Loss Analysis in Market Definition and Merger Control, *European Competition Journal* 5 (3), 757–794.
- Hüschelrath, K. (2009), Detection of Anticompetitive Horizontal Mergers, *Journal of Competition Law and Economics* 5 (4), 683–721.



- Jacobebbinghaus, P., J. Mohrenweiser and T. Zwick (2009), Wie kann die durchschnittliche Ausbildungsquote in Deutschland korrekt gemessen werden?, *ASTA Wirtschafts- und Sozialstatistisches Archiv* 3 (4), 225–240.
- Kaiser, U. and M. Song (2009), Do Media Consumers Really Dislike Advertising? An Empirical Assessment of the Role of Advertising in Print Media Markets, *International Journal of Industrial Organization* 27 (2), 292–301.
- Kappler, M. (2009), Do Hours Worked Contain a Unit Root? Evidence from Panel Data, *Empirical Economics* 36 (3), 531–555.
- Köhler, M. (2009), Transparency of Regulation and Cross-Border Bank Mergers, *International Journal of Central Banking* 5 (1), 39–74.
- Licht, G., G. Murray and M. Woywode (2009), Timing of International Market Entry of UK and German High Tech Start Ups, *Zeitschrift für Betriebswirtschaft, ZfB-Special Issue 1/2009*, 83–105.
- Löschel, A. and U. Oberndorfer (2009), Oil and Unemployment in Germany, *Jahrbücher für Nationalökonomie und Statistik* 229 (2 und 3), 146–162.
- Löschel, A. and D. Rübhelke (2009), Impure Public Goods and Technological Interdependencies, *Journal of Economic Studies* 36 (6), 596–615.
- Löschel, A. and V. Otto (2009), Technological Uncertainty and Cost-Effectiveness of CO<sub>2</sub> Emission Reduction, *Energy Economics* 2009, 4–17.
- Melchor del Rio, A. and S. Thorwarth (2009), Tomatoes or Tomato Pickers? Free Trade and Migration Between Mexico and the United States, *Journal of Applied Economics* 12, 109–135.
- Menkhoff, L., R. Rebitzky and M. Schröder (2009), Heterogeneity in Exchange Rate Expectations: Evidence on the Chartist-Fundamentalist Approach, *Journal of Economic Behavior and Organization* 70, 241–252.
- Mennel, T. and B. Sturm (2009), Energieeffizienz – Eine neue Aufgabe staatlicher Regulierung?, *Zeitschrift für Wirtschaftspolitik* 58 (1), 3–35.
- Mennel, T. and S. Jokisch (2009), Hydrogen in Passenger Transport: A Macroeconomic Analysis, *Transport Reviews* 29 (4), 415–438.
- Mertens, A., W. Salverda and T. Zwick (2009), Training and Job Insecurity – Introduction, *Labour* 23, Special Issue, 1–4.
- Mohl, P. and O. Pamp (2009), Income Inequality & Redistributive Spending: An Empirical Investigation of Competing Theories, *Public Finance and Management* 9 (2), 1–56.
- Mohrenweiser, J. and T. Zwick (2009), Why Do Firms Train Apprentices? The Net Cost Puzzle Reconsidered, *Labour Economics* 16 (6), 631–637.
- Müller, E. and V. Zimmermann (2009), The Importance of Equity Finance for R&D Activity – Are There Differences Between Young and Old Companies?, *Small Business Economics* 33 (3), 303–318.
- Müller, K., C. Rammer and J. Trüby (2009), The Role of Creative Industries in Industrial Innovation, *Innovation: Management, Policy & Practice* 11 (2), 148–168.
- Nautz, D. and S. Schmidt (2009), Monetary Policy Implementation and the Federal Funds Rate, *Journal of Banking and Finance* 33 (7), 1274–1284.
- Osterloh, S., F. Heinemann and P. Mohl (2009), EU Budget Reform Options and the Common Pool Problem, *Public Finance and Management* 9 (4).
- Overesch, M. (2009), The Effects of Multinationals' Profit Shifting Activities on Real Investments, *National Tax Journal* 62, 5–23.
- Overesch, M. and J. Rincke (2009), Competition from Low-Wage Countries and the Decline of Corporate Tax Rates – Evidence from European Integration, *World Economy* 32 (9), 1348–1364.
- Peters, B. (2009), Persistence of Innovation: Stylised Facts and Panel Data Evidence, *Journal of Technology Transfer* 34 (2), 226–243.
- Prantl, S., M. Almus, J. Egel and D. Engel (2009), Kreditvergabe durch Genossenschaftsbanken, Kreditbanken und Sparkassen: Eine empirische Analyse von Förderkrediten für junge, kleine Unternehmen, *Schmollers Jahrbuch (Journal of Applied Social Science Studies)* 129 (1), 83–132.
- Rammer, C., D. Czarnitzki and A. Spielkamp (2009), Innovation Success of Non-R&D-Performers: Substituting Technology by Management in SMEs, *Small Business Economics* 33, 35–58.
- Rennings, K. and C. Rammer (2009), Increasing Energy and Resource Efficiency Through Innovation – An Explorative Analysis Using Innovation Survey Data, *Czech Journal of Economics and Finance (CJEF)* 59 (5), 442–459.

Rueda-Cantuche, J., J. Beutel, F. Neuwahl, I. Mongelli and A. Löschel (2009), A Symmetric Input-Output Table for EU 27: Latest Progress, *Economic Systems Research*, 21 (1), 59–79.

Schindler, F. (2009), Correlation Structure of Real Estate Markets over Time, *Journal of Property Investment & Finance* 27 (6), 579–592.

Senik, C., H. Stichnoth and K. Van der Straeten (2009), Immigration and Natives Attitudes Towards the Welfare State: Evidence from the European Social Survey, *Social Indicators Research* 91 (3), 345–370.

Silverstovs, B., R. Ötsch, C. Kemfert, A. Haas, C. Jaeger and J. Kremers (2009), Climate Change and Modelling of Extreme Temperatures in Switzerland, *Stochastic Environmental Research and Risk Assessment*, DOI 10.1007/s00477-009-0321-3.

Sofka, W. and T. Schmidt (2009), Liability of Foreignness as a Barrier to Knowledge Spillovers: Lost in Translation?, *Journal of International Management* 15 (4), 460–474.

Spengel, C., A. Oestreicher and T. Reister (2009), Common Corporate Tax Base (CTB) and Effective Tax Burdens in the EU Member States, *World Tax Journal*, 46–66.

Toole, A. and D. Czarnitzki (2009), Exploring the Relationship Between Scientist Human Capital and Firm Performance: The Case of Biomedical Academic Entrepreneurs in the SBIR Program, *Management Science* 55 (1), 101–114.

Weyerstrass, K., S. van Aarle, M. Kappler and A. Seymen (2009), Business Cycle Synchronisation with(in) the Euro Area: In Search of a “Euro Effect”, *Open Economies Review*, DOI: 10.1007/s11079-009-9131-y.

## ZEW Book Series

### ZEW Wirtschaftsanalysen – Schriftenreihe des ZEW



This book series is published at the

*Nomos Verlagsgesellschaft*

*Postfach 610 · 76484 Baden-Baden*

*Germany*

*Phone +49/(0) 7221/21040*

*Fax +49/(0) 7221/210427*

*Internet [www.nomos.de](http://www.nomos.de)*

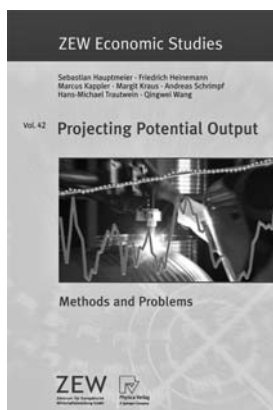
### Publications in 2009:

Heinemann, F., L. P. Feld, B. Geys, C. Gröpl, S. Hauptmeier and A. Kalb, *Der kommunale Kassenkredit zwischen Liquiditätssicherung und Missbrauchsgefahr*, Vol. 93.

Schäfer, H. and M. Schröder (Hrsg.), *Nachhaltige Kapitalanlagen für Stiftungen: Aktuelle Entwicklungen*, Vol. 92.

Rammer, C., C. Köhler and H. Niggemann, *Unternehmen und Innovation im Nordwesten Deutschlands – Die Metropolregion Bremen-Oldenburg im Nordwesten im Vergleich der Verdichtungsräume*, Vol. 91.

## ZEW Economic Studies



This book series is published at the  
*Physica Verlag/Springer Verlag*  
 Tiergartenstraße 17 · 69121 Heidelberg  
 Germany  
 Phone +49/(0) 6221/4870  
 Fax +49/(0) 7221/210427  
 Internet [www.springer.de](http://www.springer.de)

### Publications in 2009:

Hauptmeier, S., F. Heinemann, Q. Wang, A. Schrimpf, H.-M. Trautwein, M. Kappler and M. Kraus, *Projecting Potential Output*, Vol. 42.

Hüschelrath, K., *Competition Policy Analysis – An Integrated Approach*, Vol. 41.

## ZEW Discussion Papers

By publishing discussion papers, researchers at ZEW are participating in scientific debates. The papers are predominantly written in English. In German papers an English abstract is available. The discussion papers can be downloaded as PDF or PostScript files starting from 1.1.1998. The papers are published throughout the year mainly for the scientific community but also the interested public.

Find the discussion paper you are looking for, view the abstract, and download the full text:

<http://www.zew.de/en/publikationen>

## Conferences

Every year ZEW's research units organise some 20 conferences and workshops. These events attract several hundred scientific guests to the Institute. Some ZEW conferences take place regularly at ZEW, particularly those on the topics of innovation, competition, taxation, and programme assessment.

### Scientific events in 2009:

- RNIC Ph.D. Workshop: Issues in Innovation & Competition (16.12.–17.12.2009)
- Labour 2009: International Symposium on Contemporary Labour Economics (12.12.–13.12.2009)
- IN-STREAM ZEW-Modelling Workshop (1.12.–2.12.2009)
- ZEW/IAB Workshop zu räumlichen Dimensionen des Arbeitsmarktes (23.11.–24.11.2009)
- 3. Workshop Praxisbeirat SECO@home – Soziale, ökologische und ökonomische Dimensionen eines nachhaltigen Energiekonsums in Wohngebäuden (20.11.2009)
- GEE/ZEW-Energiesymposium: Liberalisierung der Endkundenmärkte für Strom und Gas – Der richtige Weg zum Wettbewerb? (19.11.2009)
- The Potential of Social Software for Knowledge Creation and Economic Performance (6.11.–7.11.2009)
- ZEW-Seminar: Rekursive Methoden und deren numerische Anwendung in der Makroökonomik (2.11.–4.11.2009)
- 1. ReCapNet Conference: Real Estate Markets and Capital Markets (30.10.–31.10.2009)
- Metla-ZEW Research Workshop (27.10.2009)
- 3. Conference on Noncognitive Skills: Acquisition and Economic Consequences (22.10.–24.10.2009)
- 2. Eberbacher Klostersgespräch zu ökonomischen Grundsatzfragen des Klimawandels: "Klimaschutz in der Wirtschaftskrise" (13.10.2009)
- The Economics of Charitable Giving (8.10.–9.10.2009)
- Workshop: Empirische Forschung in der Betriebswirtschaftlichen Steuerlehre (3.9.–4.9.2009)

- ZEW Summer Workshop: Neue Perspektiven in der empirischen Arbeitsmarktforschung (13.7.–16.7.2009)
- Aktuelle Entwicklungen in der Makroökonomik (7.7.–8.7.2009)
- 7. ZEW Conference on the Economics of Information and Communication Technologies (3.7.–4.7.2009)
- The Economics of Adaptation to Climate Change (16.–17.6.2009)
- Conference “Ex-post-Evaluation von Wettbewerbspolitik” (3.6.–4.6.2009)
- 10. CEPR Conference on Applied Industrial Organization (14.5.–16.5.2009)
- 6. CEPR School on Applied Industrial Organization (13.5.–14.5.2009)
- RNIC Workshop “Structural Models in Industrial Organization” (11.5.–12.5.2009)
- Frühjahrsworkshop zum Thema Immobilien und Kapitalmärkte (7.5.–8.5.2009)
- Inequality and Poverty in the Global Economy (27.3.–28.3.2009)
- Workshop on Agent Based Models in Economic Policy Advice (24.3.–25.3.2009)
- 2. Conference on Noncognitive Skills: Acquisition and Economic Consequences (19.3.–21.3.2009)
- 2. Workshop Praxisbeirat SECO@home – Soziale, ökologische und ökonomische Dimensionen eines nachhaltigen Energiekonsums in Wohngebäuden (16.3.2009)
- Workshop Analyse der Erwartungsbildung mit den Daten des ZEW-Finanzmarkttests (4.3.2009)
- Langfristige Perspektiven für die Werthaltigkeit von Wohnimmobilien (3.3.2009)
- ZEW-Seminar “Simulation Methods in Dynamic Macroeconomics” (12.1.–13.1.2009)



*Participants of the conference “The Potential of Social Software for Knowledge Creation and Economic Performance”*



*Participants of the ZEW Summer Workshops 2009 on empirical labour market research*



*Participants of the Symposia "GEE/ZEW Energy"*

# ZEW IN 2009

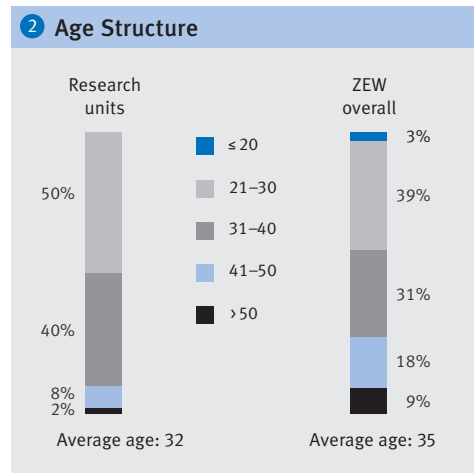
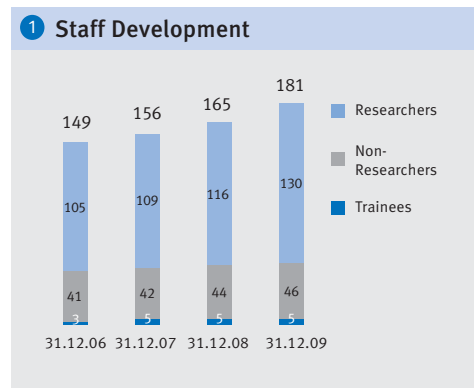
© STAFF REPORT AND  
FINANCIAL STATEMENT

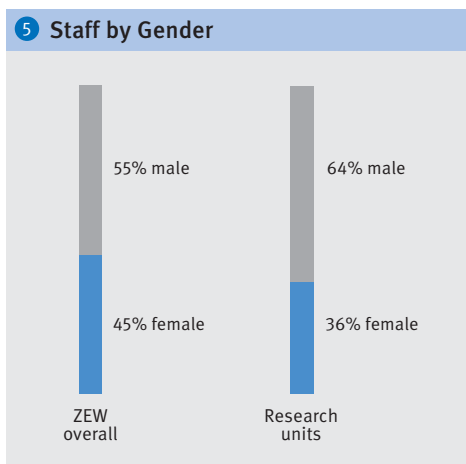
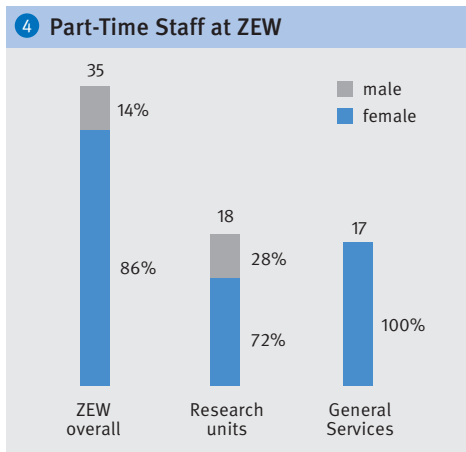
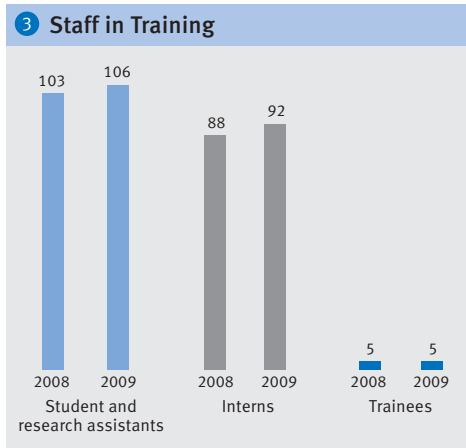


At the end of 2009, ZEW had a staff of 181 employees (up from 165 at the end of 2008). Of this number, 130 were engaged in research (up from 116 in 2008). In the period covered by this report, 16 members of the research staff departed from ZEW after successfully completing their activities and/or degrees. Nearly 70 per cent of these departing staff members went on to work for colleges, research establishments, or public institutions and approximately one quarter for companies or associations. Figure 1 displays ZEW's staff development over time. ZEW's research units have traditionally been dominated by staff members with degrees in economics. The average age of ZEW researchers is 32, reflecting ZEW's wealth of young talent and ambition. Across all units, the average staff age is 35 (see Figure 2). In accordance with ZEW policy, the vast majority (90 per cent) of research staff have fixed-term contracts. A similar situation prevails in the service units. The overall share of fixed-term labour arrangements is around 70 per cent.

At the end of 2009, five service-unit trainees were employed by the Institute; these trainees were pursuing degrees in the following fields: Office Administration; Office Administration with Additional Qualifications in English and Multimedia; Informatics; and Business IT Systems. ZEW makes additional contributions to education through the hiring of interns as well as student and research assistants. Interns receive significant support and mentorship prior to embarking on a career. Over the past year, 92 interns were engaged at ZEW, up from 88 in 2008 (see Figure 3). Student and research assistants primarily come from the Universities of Mannheim and Heidelberg as well as other colleges in the Rhine-Neckar metropolitan region. At ZEW, they have an opportunity to obtain their first professional experience by working in the research or service units. In this way, ZEW also makes early first contact with promising young academics. In December 2009, 106 students were engaged as assistants at ZEW, up from 103 in 2008. Some 14 per cent were of foreign nationality (2008: 17 per cent). Because of past positive experiences, the Institute has intensified the involvement of independent collaborators in project work. A large number of research associates from a wide range of domestic

and foreign universities support ZEW's research with a great deal of commitment. These research associates play a key role in the education and mentorship of research staff; the development and maintenance of ZEW's research areas; the establishment of contact with national and international partners; as well as the procurement of third-party funding. Over the period covered by this report, a number of visiting researchers, both from Germany and abroad, were engaged for varying lengths of time in ZEW research. The goal of these research and work residencies is collaboration on projects, as well as the exchange of knowledge and experience. The ZEW Visiting Researchers Programme was established to strengthen and expand international networking. Similarly, the ZEW Doctoral





Studies Network supports joint activities with university doctoral programmes. It offers young doctoral candidates a chance to obtain rigorous training in applied empirical economics, as well as to collaborate with ZEW's experienced research staff on international projects with national and international partners. For example, three doctoral candidates from the Catholic University of Leuven are currently working with the department of Industrial Economics and International Management. An additional form of international collaboration is the participation of external partners in cooperative activities and research projects. Within the scope of such activities, ZEW has expanded its international ties to include new contacts in China, South Korea, Singapore, India, Australia, and New Zealand, among other places.

In order to ensure that the Institute's scientific work and economic policy advising fulfils the highest international standards, ZEW actively supports the ongoing professional development of its staff by means of its own qualification programme. Under this programme, staff may be temporarily released from their commitments to project work. Staff members use sabbaticals to complete their doctoral or habilitation dissertations, or to take part in research residencies at renowned foreign institutions. In 2009 ten researchers completed their doctoral dissertations, some of them summa cum laude. Two habilitations were also successfully completed. At this time, there are 67 doctoral and 12 habilitation dissertations in progress. An advantage of working at ZEW that especially attracts younger researchers is the flexible scheduling of working hours. A total of 35 staff members at year's end were taking advantage of a personalised part-time schedule, up from 31 in 2008. This represents 19 per cent of the Institute's overall staff (see Figure 4). These flexible working hours help to promote a healthy balance between professional and family life. The working-hours policy has contributed to a rise in the share of female researchers to 36 per cent. Across all of ZEW, 45 per cent of staff are female (see Figure 5).

The balance sheet for ZEW's endowment, finances, and revenues shows an overall positive picture for the fiscal year of 2009. This is par-



ticularly notable, as conditions were much more difficult in 2009 than in years prior due to the economic crisis in conjunction with increased national and international competition for third-party research funding. The share of funding that came from third parties (including other revenues) was 40 per cent in 2009. ZEW's financial charter, which foresees the receipt of general funding for the Institute in fixed amounts, enables the designation of surplus revenues from increases in third-party funding and cost savings as "appropriated reserves". These funds are annually budgeted and expended to develop new fields of study (e.g. the research group of Growth and Business Cycles); to examine current research topics (e.g. competition and energy policy); and to carry out in-house scientific training programmes and international conferences. The net income arises from the surplus in the profit-and-loss statement, corrected by withdrawals from "appropriated reserves" and write-

offs for self-financed assets, which are shown under the entry "withdrawals from other retained earnings". For the fiscal year of 2009, the Institute thus registered an annual deficit of 0.56 million euros and a net income of 0.60 million euros (see Figure 6). The executive management will recommend to the Supervisory Board that this net income be placed into "appropriated reserves" to be predominantly used for internationalisation and the further qualification of staff members. As shown in Figure 7, total capital is currently 11.25 million euros, which is significantly lower than last year's figure of 16.42 million euros. This decrease is primarily attributable to a decline in the number of current and not yet booked projects under "stocks" as a consequence of the conclusion of several multi-year projects with a high share of third-party services that were paid in 2009. The cash and equivalents balance demonstrates good liquidity.

## 6 ZEW Profit-and-Loss Statement

| (In K euros)  | 2006          | 2007          | 2008          | 2009*         |
|---|---------------|---------------|---------------|---------------|
| Institutional funds<br>Joint Initiative for Research and Innovation funding       | 7,060         | 7,120<br>261  | 7,430<br>566  | 7,600<br>848  |
| Third-party funds<br>(turnover, inventory changes, subsidies)                     | 6,191         | 6,366         | 6,422         | 5,819         |
| Other business revenues, financial profit   | 476           | 629           | 761           | 528           |
| Income from the reversal of the special item<br>for contributions to fixed assets | 419           | 347           | 303           | 295           |
| <b>Total revenues</b>   | <b>14,146</b> | <b>14,723</b> | <b>15,482</b> | <b>15,090</b> |
| Staff expenditures  | 7,815         | 8,795         | 8,695         | 9,735         |
| Third-party services  | 1,664         | 1,585         | 1,573         | 1,069         |
| Other operating expenditures  | 3,476         | 4,004         | 4,202         | 4,287         |
| Asset write-offs  | 444           | 351           | 303           | 295           |
| Allocations to special items for<br>contributions to fixed assets                 | 491           | 355           | 198           | 240           |
| Other taxes   |               | 2             | 3             | 5             |
| <b>Total expenses</b>   | <b>13,890</b> | <b>15,092</b> | <b>14,974</b> | <b>15,649</b> |
| <b>Profit/loss for the financial year</b>   | <b>256</b>    | <b>-369</b>   | <b>508</b>    | <b>-559</b>   |
| Withdrawals from appropriated reserves  | 657           | 889           | 806           | 1,161         |
| Withdrawals from other retained earnings  | 25            | 4             | -             | -             |
| <b>Net income</b>   | <b>938</b>    | <b>524</b>    | <b>1,314</b>  | <b>602</b>    |
| * tentative figures   |               |               |               |               |

## 7 ZEW Balance Sheet as of 31.12.2009\*

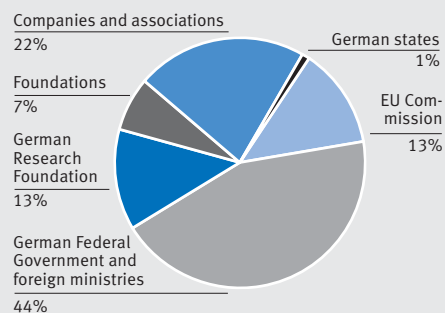
|                               | 31.12.2008    | 31.12.2009    |                               | 31.12.2008    | 31.12.2009    |
|-------------------------------|---------------|---------------|-------------------------------|---------------|---------------|
|                               | In K euros    | In K euros    |                               | In K euros    | In K euros    |
| <b>ASSETS</b>                 |               |               | <b>LIABILITIES AND EQUITY</b> |               |               |
| Intangible assets             | 46            | 43            | Share capital                 | 26            | 26            |
| Real estate                   | 2,230         | 2,240         | Appropriated reserves         | 2,282         | 2,435         |
| Equipment                     | 602           | 539           | Other reserves                | 2,170         | 2,170         |
|                               |               |               | Net income                    | 1,314         | 602           |
| <b>Fixed assets</b>           | <b>2,878</b>  | <b>2,822</b>  | <b>Shareholders' equity</b>   | <b>5,792</b>  | <b>5,233</b>  |
|                               |               |               | Untaxed reserves              | 683           | 627           |
| Stocks                        | 6,943         | 2,193         | Reserves                      | 2,940         | 2,451         |
| Receivables                   | 1,009         | 1,146         | Advances                      | 6,135         | 2,147         |
| Investments/<br>cash at banks | 5,545         | 5,000         | Liabilities                   | 871           | 792           |
| Current assets                | 13,497        | 8,339         |                               |               |               |
| Prepaid expenses              | 46            | 89            | Outside capital               | 9,946         | 5,390         |
| <b>Total</b>                  | <b>16,421</b> | <b>11,250</b> | <b>Total</b>                  | <b>16,421</b> | <b>11,250</b> |

\* tentative figures

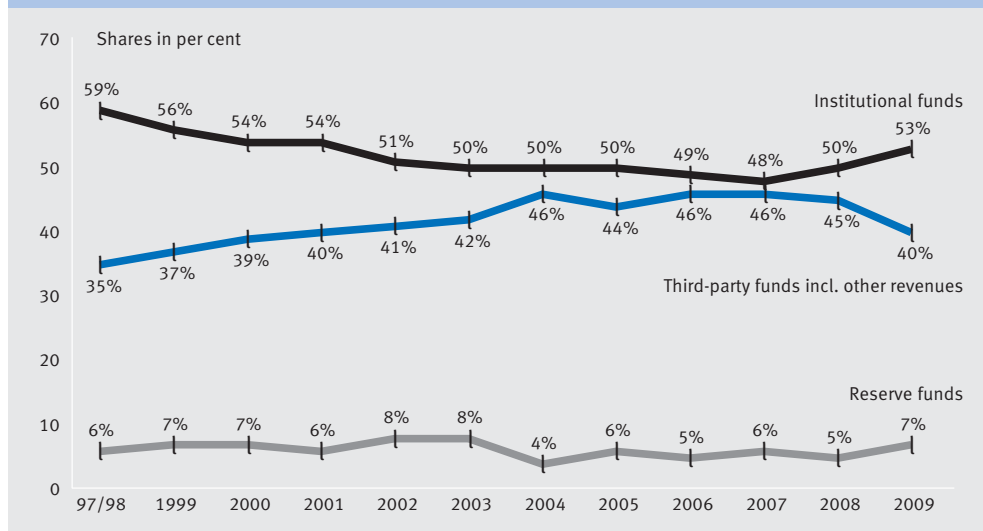
To summarise, the following developments in ZEW's financial position were of significance in the fiscal year of 2009: Total revenues were lower in 2009 (15.09 million euros) than in the year prior (15.48 million euros). This is primarily attributable to lower gross turnover. Net turnover (gross turnover minus third-party services) was 4.73 million euros, only slightly lower than in the previous year (4.90 million euros). Total expenses were 15.65 million euros, higher than last year's figure of 14.97 million euros. This increase is primarily attributable to higher staff expenditures, which rose to 9.75 million euros in 2009, up from 8.70 million euros in the year prior. Figure 8 provides an overview of the distribution of third-party funding obtained in 2009 according to clients and funding institutions. The total value of third-party contracts signed for 2010 and onward is 8.77 million euros, a strong reflection of ZEW's continued success and recognition as a leading research institute. In 2009 the share of third-party funding and "other revenues" represented 40 per

cent of total funding. This, in turn, provided for an outstanding result (see Figure 9). Since the Institute's founding in 1991, ZEW has acquired some 76.66 million euros in third-party funding.

## 8 Third-Party Funding, 2009 Clients and Funding Institutions



9 Sources of ZEW Funding, 1997–2009



# COMMITTEES AND EXTERNAL RELATIONS

◉ SUPERVISORY BOARD

The Supervisory Board of ZEW consists of members from the world of politics, business, and academia.

#### Chairman

- Gerhard Stratthaus MdL, Minister of Finance, State of Baden Württemberg, ret., Financial Market Stabilization Agency (SoFFin)



#### Vice-Chairman

- Dr. h.c. Eggert Voscherau, President of the National Employers Association Chemistry



#### Members

- Prof. Axel Börsch-Supan, PhD, MEA, University of Mannheim
- Ernst Burgbacher, Secretary of State, Federal Ministry of Economics and Technology
- Prof. Dr. Claus Eiselstein, Director, Ministry of the State Baden-Württemberg
- Dr. Hans Freudenberg, Head of Ministry Department, Ministry of Economic Affairs Baden-Württemberg
- Prof. Dietmar Harhoff, PhD, Ludwig Maximilian University Munich
- Prof. em. Dr. Dr. h.c. mult. Otto H. Jacobs, University of Mannheim
- Dr. Gisela Meister-Scheufelen, Head of Ministry Department, Ministry of Finance Baden-Württemberg
- Dr. Theo Spettmann, Company Spokesperson, Südzucker AG Mannheim/Ochsenfurt, ret.
- Klaus Tappeser, Head of Ministry Department, Ministry of Science, Research and the Arts Baden-Württemberg

# COMMITTEES AND EXTERNAL RELATIONS

© SCIENTIFIC ADVISORY COUNCIL

The Scientific Advisory Council, consisting of representatives from the worlds of academia and business, actively follows and evaluates ZEW's work.

#### Chairman

- Prof. Dr. Friedrich Buttler, former Secretary of State, Ministry of Science, Research, and Culture Brandenburg; former Regional Director of Europe and Central Asia, International Labour Organization (ILO)



#### Vice-Chairman

- Prof. Dr. Dres. h.c. Arnold Picot, Head of the Institute for Information, Organization, and Management, Ludwig Maximilian University Munich



#### Members

- Prof. David Bruce Audretsch, PhD, Indiana University
- Prof. Dr. Uschi Backes-Gellner, Institute for Strategy and Business Economics (ISU), University of Zurich
- Dr. Kurt Bock, CFO, Chairman, and Chief Executive Officer, BASF SE
- Prof. Dr. Christoph Engel, Director, Max Planck Institute for Research on Collective Goods
- Prof. Dr. Michael Heise, Head of Allianz Group Economic Research
- Dr. Dieter Hundt, President of the Confederation of German Employers' Associations
- Prof. Dr. Gebhard Kirchgässner, Swiss Institute for International Economics and Applied Economic Research (SIAW), University of St. Gallen
- Prof. Dr. Kai A. Konrad, Director, Max Planck Institute for Intellectual Property, Competition and Tax Law
- Prof. Dr. Franz Luzius, CEO, IHK Rhein-Neckar
- Prof. Pierre A. Mohnen, PhD, Maastricht University
- Prof. Dr. Hermann Remsperger, former Member of the Board, Deutsche Bundesbank
- Prof. Dr. Dr. h.c. Dieter Sadowski, Director, Institute for Labour Law and Industrial Relations in the European Community
- Prof. Dr. Dres. h.c. Bertram Schefold, Johann Wolfgang Goethe University Frankfurt am Main
- Prof. em. Dr. Bernd Schips, former Head of the KOF Swiss Economic Institute, ETU Zurich
- Prof. Dr. Beatrice Weder di Mauro, Johannes Gutenberg University Mainz
- Prof. Dr. Dietmar Wellisch, Head of the International Tax Institute, University of Hamburg
- Prof. Dr. Heinz Welsch, Institute for Economics and Statistics, Carl von Ossietzky University Oldenburg

# COMMITTEES AND EXTERNAL RELATIONS

◉ RESEARCH ASSOCIATES



Research associates are professors at German and international universities, who work in close collaboration with ZEW concerning research activities. Research associates usually function as managers of research projects at ZEW. They also supervise dissertations of ZEW employees and, in addition, get involved in creating or maintaining major ZEW research focuses. This also includes fundraising from third parties.

- Prof. Dr. Christoph Böhringer,  
Carl von Ossietzky University Oldenburg
- Prof. Dr. Claudia Buch,  
Eberhard Karls University Tübingen
- Prof. Dr. Thomas Cleff, University of Applied  
Sciences of Pforzheim
- Prof. Dr. Dirk Czarnitzki,  
Catholic University Leuven, BE
- Prof. Dr. Oliver Fabel, Vienna University, AT
- Prof. Dr. Lars Feld, Heidelberg University
- Prof. Bernd Fitzenberger, PhD,  
Albert Ludwig University Freiburg
- Prof. Dr. Markus Frölich,  
University Mannheim
- Jun.-Prof. Christina Gathmann, PhD,  
University Mannheim
- Prof. Dr. Reint Gropp, European Business  
School, Oestrich-Winkel
- Prof. Dietmar Harhoff, PhD,  
Ludwig Maximilian University Munich
- Prof. Dr. Uwe Hassler, Johann Wolfgang  
Goethe University Frankfurt am Main
- Prof. Dr. Katrin Hussinger,  
Maastricht University, NL
- Prof. em. Dr. Dr. h.c. mult. Otto H. Jacobs,  
University of Mannheim
- Prof. Dr. Eckhard Janeba,  
University of Mannheim
- Prof. Jürgen Kähler, PhD, Friedrich Alexander  
University Erlangen-Nuremberg
- Prof. Dr. Ulrich Kaiser,  
University of Zurich, CH
- Prof. Dr. Kornelius Kraft,  
University of Dortmund
- Prof. Tom Krebs, PhD,  
University of Mannheim
- Prof. Dr. François Laisney,  
University of Strasbourg, FR
- Prof. Dr. Andreas Lange,  
University of Maryland, College Park, US
- Prof. Dr. Michael Lechner,  
University of St. Gallen, CH
- Prof. Ernst Maug, PhD, University of Mannheim
- Prof. Dr. Andreas Oestreicher,  
Georg August University Göttingen
- Prof. Dr. Martin Peitz, University of Mannheim
- Prof. Dr. Winfried Pohlmeier,  
University of Konstanz
- Prof. Thomas Roende, PhD,  
University of Copenhagen, DK
- Prof. Dr. Reinhold Schnabel,  
University of Duisburg-Essen
- Prof. Dr. Ulrich Schreiber,  
University of Mannheim
- Prof. Dr. Robert Schwager,  
Georg August University Göttingen
- Prof. Dr. Christoph Spengel,  
University of Mannheim
- Prof. Yossi Spiegel, PhD,  
Tel Aviv University, IL
- Prof. Dr. Alfred Spielkamp,  
University of Applied Sciences of  
Gelsenkirchen
- Jun.-Prof. Dr. Alexandra Spitz-Oener,  
Humboldt University of Berlin
- Prof. Konrad Stahl, PhD,  
University of Mannheim
- Prof. Dr. Bodo Sturm,  
Leipzig University of Applied Sciences
- Jun.-Prof. Dr. Stephan L. Thomsen,  
Otto von Guericke University Magdeburg
- Prof. Andrew Toole, PhD,  
Rutgers University, US
- Prof. Dr. Uwe Walz, Johann Wolfgang  
Goethe University Frankfurt am Main
- Prof. Dr. Berthold U. Wigger, Friedrich Alexander  
University Erlangen-Nuremberg
- Prof. Dr. Michael Woywode,  
University of Mannheim
- Prof. Dr. Peter Winker,  
Justus Liebig University Gießen
- Prof. Dr. Thomas Zwick,  
Ludwig Maximilian University Munich

# COMMITTEES AND EXTERNAL RELATIONS

◉ VISITING RESEARCHERS

In 2009 ZEW welcomed the following visiting researchers for a research stay. Research fellows are visiting researchers, who are especially close and for a long time cooperating with ZEW.

- Prof. Angrist, J., PhD  
MIT, Cambridge, MA, US
- Baier, M.  
University of Paderborn
- Balsmeier, B.  
Monopolkommission, Bonn
- Bilotkach, V.  
University of California, Irvine, US
- Dr. Boeters, S.  
CPB, The Hague, NL
- Prof. Dr. Cleff, T.  
University of Applied Sciences of Pforzheim
- Dick, J.  
Maastricht University, NL
- Dombrovskis, V.  
BICEPS – Baltic International Centre for  
Economic Policy Studies and Stockholm  
School of Economics, Riga, LV
- Edamura, K.  
Hitotsubashi University, JP
- Dr. Edmark, K.  
IFAU, Uppsala and IIES, Stockholm, SE
- Prof. Dr. Entorf, H.  
Johann Wolfgang Goethe University  
Frankfurt am Main (Research Fellow)
- Gök, B.  
Ege University, Izmir, TR
- Hahn, A.  
University of Mannheim
- Horbach, J.  
University of Applied Sciences of Anhalt,  
Köthen
- Hottenrott, H.  
Catholic University Leuven, BE
- Jensen, P.  
University of Melbourne, AU
- Kähler, J.  
Friedrich Alexander University  
Erlangen-Nuremberg
- Kangas, H.-L.  
Finnish Forest Research Institute, Helsinki, FI
- Keegan, M.  
University of Canberra, AU
- Klingebiel, R.  
Centre for Strategic Studies, Anglia  
Ruskin University Cambridge, UK
- Langinier, C.  
University of Alberta, US
- Lenz, A.  
Zeppelin University Friedrichshafen
- Li, W.  
Shanghai University, CN
- Prof. Dr. Puhani, P.  
Leibniz University Hannover (Research Fellow)
- Reid, G.  
University of St. Andrews, UK
- Santos, C.  
University of Alicante, ES
- Schimke, A.  
TH Karlsruhe
- Schinkel, M. P.  
University of Amsterdam, NL
- Schmidt, T.  
Deutsche Bundesbank, Frankfurt a.M.
- Schneider, C.  
Copenhagen Business School, DK
- Strohmeyer, R.  
University of Mannheim
- Thorwarth, S.  
Catholic University Leuven, BE
- Tonoyan, V.  
University of Mannheim
- Väänänen, L.  
Helsinki School of Economics, FI
- Waldman, M.  
Cornell University, Ithaca, US
- Wastyn, A.  
Catholic University Leuven, BE
- Dr. Wilke, R.  
University of Nottingham, UK (Research Fellow)
- Zibell, L.  
Cranfield University, School of Management, UK
- Ziegler, A.  
Swiss Federal Institute of Technology Zurich, CH
- Zimmermann, J.  
Max Planck Institute of Economics, Jena

# COMMITTEES AND EXTERNAL RELATIONS

► ZEW SPONSORS' ASSOCIATION  
FOR SCIENCE AND PRACTICE

In 1993 representatives of trade and industry of the Rhine Neckar region established the ZEW Sponsors' Association for Science and Practice (Registered Society) (Förderkreis Wissenschaft und Praxis am Zentrum für Europäische Wirtschaftsforschung e.V.) to support ZEW's work. Since its foundation, an impressive number of large and medium-sized enterprises as well as personalities from the region and the federal state of Baden-Württemberg, and the federal government are counted among its members.

The purpose of the association is laid down in its statute. It accompanies ZEW's activities with advice and support. It promotes research projects that are relevant for practice and supports events at the Institute by financial contributions. This involvement is funded by membership fees which are paid annually.

Moreover, the association understands itself as a forum where companies and scientists from various fields can discuss vital economic and political issues. This dialogue proved to be fruitful for both sides. It gives companies scientifically sound answers to diverse topics and provides science with the necessary reference to practice.

The members of the ZEW Sponsors' Association for Science and Practice regularly receive the most important information of ZEW and are invited to all major events of the Institute.

### Contact Persons

- Centre for European Economic Research (ZEW)  
 Andrea Hüneke-Zindl  
 L 7, 1 · 68161 Mannheim  
 Germany  
 Phone +49/(0) 621/1235-101  
 Fax +49/(0) 621/1235-222  
 E-mail hueneke-zindl@zew.de
- Chairman of the ZEW Sponsors' Association  
 Dr. Dr. Peter Bettermann  
 Company Spokesman,  
 Freudenberg & Co. Kommanditgesellschaft  
 69469 Weinheim  
 Germany  
 Phone +49/(0) 6201/80 44 40  
 Fax +49/(0) 6201/88 20 41



*Left to right: ZEW Director of Business and Administration, Thomas Kohl; board member of the ZEW Sponsors Association for Science and Practice, Prof. Dr. Andreas Dulger, Prominent Dosiertechnik GmbH; ZEW Director of Sciences and Research, Prof. Dr. Dr. h.c. mult. Wolfgang Franz; board member of the ZEW Sponsors Association for Science and Practice, Dr. Alexander Selent, Fuchs Petrolub AG*

# COMMITTEES AND EXTERNAL RELATIONS

► ZEW ALUMNI



*ZEW Alumni meeting 2009 on the occasion of the ZEW Economic Forum*

The ZEW alumni network provides former employees and employees leaving ZEW with a forum where they can stay in contact with each other and also with ZEW. On the one hand, former employees regularly receive ZEW publications. This helps them to keep informed about the latest research results and further training courses. On the other hand, former employees can provide ZEW with valuable input for the research work. The ZEW alumni traditionally meet once a year, after the ZEW Economic Forum (ZEW Wirtschaftsforum).

### Contact Persons

- Dr. Volker Marnet-Islinger  
Deka Investment GmbH  
Mainzer Landstraße 16  
60325 Frankfurt am Main  
Phone +49/(0)69/7147-3422  
E-mail [volker.marnet-islinger@deka.de](mailto:volker.marnet-islinger@deka.de)



- Prof. Dr. Christoph Spengel  
University of Mannheim  
Schloss, Ostflügel, Raum O 246  
68131 Mannheim  
Germany  
Phone +49/(0) 621/181-1705  
E-mail [spengel@uni-mannheim.de](mailto:spengel@uni-mannheim.de)



- Centre for European Economic Research (ZEW)  
Ingrid Rahm  
L 7, 1 · 68161 Mannheim  
Germany  
Phone +49/(0) 621/1235-112  
Fax +49/(0) 621/1235-222  
E-mail [rahm@zew.de](mailto:rahm@zew.de)
- <http://www.zew.de/en/daszew/alumni.php3>

# STAFF CONTACT



## Centre for European Economic Research (ZEW)

P.O.B 10 34 43 · 68034 Mannheim · Address: L 7, 1 · 68161 Mannheim · Germany

Phone +49/(0)621/1235-01 · Fax +49/(0)621/1235-224 · Internet [www.zew.eu](http://www.zew.eu)

■ Please dial 1235-(extension number)

**Executive Directors**

|   |              |
|---|--------------|
| Franz, Wolfgang, Prof. Dr. Dr. h.c. mult., President  | 100          |
| Kohl, Thomas, Director of Business and Administration | 111          |
| Secretaries: Hüneke-Zindl, Andrea                     | 101, Fax 222 |
| Rahm, Ingrid  | 112          |

**International Finance and Financial Management**

|  |              |
|--|--------------|
| Schröder, Michael, PD Dr. (Head of Department) | 140          |
| Westerheide, Peter, Dr. (Deputy)               | 146          |
| Secretaries: Schielke, Heidi                   | 142, Fax 223 |
| Treiber, Martina                               | 361          |
| Borell, Mariela                                | 144          |
| Dick, Christian                                | 305          |
| Jaroszek, Lena                                 | 380          |
| Kröncke, Tim-Alexander                         | 370          |
| Köhler, Matthias                               | 148          |
| Lang, Gunnar                                   | 372          |
| Mokinski, Frieder                              | 143          |
| Piaskowski, Wojtek, Dr.                        | 163          |
| Rotfuß, Waldemar                               | 141          |
| Schindler, Felix, Jun.-Prof. Dr.               | 378          |
| Schmidt, Sandra                                | 218          |
| Ťykvová, Tereza, Dr. (Senior Researcher)       | 147          |
| Voronkova, Svitlana, Dr.                       | 379          |

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

|  |              |
|--|--------------|
| Bonin, Holger, Dr. (Head of Department)      | 151          |
| Arntz, Melanie, Jun.-Prof. Dr. (Deputy)      | 159          |
| Pfeiffer, Friedhelm, PD Dr. (Deputy)         | 150          |
| Secretary: Altenrenger, Andrea               | 131, Fax 225 |
| Aretz, Bodo                                  | 367          |
| Beninger, Denis, Dr.                         | 231          |
| Bradler, Christiane                          | 373          |
| Clauss, Markus                               | 364          |
| Dlugosz, Stephan, Dr.                        | 283          |
| Eisenhauer, Philipp                          | 284          |
| Fries, Jan                                   | 376          |
| Gernandt, Johannes, Dr.                      | 288          |
| Gregory, Terry                               | 306          |
| Gürtzgen, Nicole, PD Dr. (Senior Researcher) | 155          |
| Göbel, Christian, Dr.                        | 374          |
| Heinze, Anja, Dr.                            | 153          |
| Horstschräer, Julia                          | 196          |
| Lang, Benedikt                               | 286          |
| Maier, Michael F.                            | 307          |
| Mühlenweg, Andrea, Dr. (Senior Researcher)   | 280          |
| Mühler, Grit                                 | 152          |
| Neckermann, Susanne, Dr.                     | 309          |
| Niepel, Verena                               | 289          |
| Pinger, Pia                                  | 156          |
| Reuß, Karsten                                | 287          |
| Steffes, Susanne                             | 281          |
| Stichnoth, Holger, Dr.                       | 362          |
| Walter, Thomas                               | 363          |

**Industrial Economics and International Management**

|  |              |
|--|--------------|
| Licht, Georg, Dr. (Authorised Signatory, Head of Department) | 177          |
| Egel, Jürgen (Deputy)  | 176          |
| Rammer, Christian, Dr. (Deputy)                              | 184          |
| Secretaries: Förster, Heidrun                                | 197, Fax 170 |
| Halder, Heidi  | 194          |
| Aschhoff, Birgit   | 182          |
| Crass, Dirk  | 387          |
| Cremers, Katrin, Dr.   | 297          |
| Doherr, Thorsten   | 291          |
| Eckert, Thomas   | 298          |
| Fryges, Helmut, Dr. (Senior Researcher)                      | 189          |
| Gottschalk, Sandra, Dr.                                      | 267          |
| Grimpe, Christoph, Dr. (Senior Researcher)                   | 381          |
| Heger, Diana, Dr.  | 382          |
| Hunold, Matthias   | 181          |
| Hüschelrath, Kai, Juniorprof. Dr.                            | 384          |
| Höwer, Daniel  | 187          |
| Köhler, Christian  | 235          |
| Leheyda, Nina, Dr.   | 172          |
| Metzger, Georg, Dr.  | 185          |
| Moka, Jürgen   | 173          |
| Müller, Elisabeth, Dr. (Senior Researcher)                   | 383          |
| Müller, Kathrin  | 385          |
| Niefert, Michaela, Dr.                                       | 171          |
| Nikogosian, Vigen  | 386          |
| Peters, Bettina, Dr. (Senior Researcher)                     | 174          |
| Schmiele, Anja   | 188          |
| Schwiebacher, Franz  | 234          |
| Sellenthin, Mark O., Dr.                                     | 183          |
| Ullrich, Hannes  | 180          |
| Veith, Tobias  | 296          |

**Corporate Taxation and Public Finance**

|  |              |
|--|--------------|
| Heinemann, Friedrich, Dr. (Head of Department) | 149          |
| Secretaries: Schielke, Heidi                   | 142, Fax 223 |
| Treiber, Martina                               | 361          |
| Borgloh, Sarah                                 | 395          |
| Dreßler, Daniel                                | 377          |
| Ernst, Christof                                | 191          |
| Evers, Lisa                                    | 168          |
| Finke, Katharina                               | 397          |
| Grünwald, Michael                              | 161          |
| Heckemeyer, Jost Henrich                       | 398          |
| Hennighausen, Tanja                            | 169          |
| Kalb, Alexander                                | 282          |
| Misch, Florian                                 | 394          |
| Österloh, Steffen                              | 165          |
| Zinn, Benedikt                                 | 162          |

**Environmental and Resource Economics, Environmental Management**

|   |              |
|---|--------------|
| Löschel, Andreas, PD Dr. (Head of Department) | 200          |
| Rennings, Klaus, Dr. (Deputy)                 | 207          |
| Secretary: Peter, Kornelia                    | 210, Fax 226 |
| Achtnicht, Martin                             | 208          |
| Alexeeva-Talebi, Victoria                     | 214          |

|                                      |     |
|--------------------------------------|-----|
| Dannenberg, Astrid                   | 332 |
| Farzanegan, Mohammad Reza, Dr.       | 337 |
| Heindl, Peter                        | 206 |
| Koesler, Simon                       | 203 |
| Koschel, Henrike, Dr.                | 204 |
| Kremers, Johannes, Dr.               | 340 |
| Mennel, Tim, Dr. (Senior Researcher) | 201 |
| Osberghaus, Daniel                   | 205 |
| Pothen, Frank                        | 368 |
| Reif, Christiane                     | 209 |
| Rexhäuser, Sascha                    | 213 |
| Schymura, Michael                    | 202 |
| Tavoni, Alessandro                   | 230 |
| Voigt, Sebastian                     | 219 |
| Wölfing, Nikolas                     | 217 |

#### Information and Communication Technologies

|   |              |
|---|--------------|
| Bertschek, Irene, Dr. (Head of Group)     | 178          |
| Saam, Marianne, Dr. (Deputy)              | 285          |
| Secretary: Merkel, Ulrike                 | 360, Fax 333 |
| Cerquera, Daniel, Dr. (Senior Researcher) | 359          |
| Coneus, Katja, Dr.                        | 293          |
| Engelstätter, Benjamin                    | 134          |
| Klein, Gordon Jochem                      | 356          |
| Kummer, Michael                           | 357          |
| Meyer, Jenny, Dr.                         | 166          |
| Müller, Bettina, Dr.                      | 352          |
| Niebel, Thomas                            | 228          |
| Ohnemus, Jörg                             | 354          |
| Sarbu, Miruna                             | 334          |
| Vanberg, Margit, Dr.                      | 351          |

#### Growth and Business Cycles

|   |              |
|---|--------------|
| Franz, Wolfgang, Prof. Dr. Dr. h.c. mult. (Head of Group) | 100          |
| Kappler, Marcus, Dr. (Deputy)                             | 157          |
| Secretaries: Schielke, Heidi                              | 142, Fax 223 |
| Treiber, Martina  | 361          |
| Busl, Claudia   | 336          |
| Hogrefe, Jan  | 348          |
| Sachs, Andreas  | 145          |
| Scheffel, Martin  | 338          |
| Seymen, Atilim, Dr.                                       | 349          |

#### Information and Communication

|  |              |
|--|--------------|
| Grittmann, Gunter (Head of Department) | 132          |
| Secretary: Keszy, Jasmin               | 102, Fax 222 |
| Bräutigam, Yvonne                      | 322          |
| Böhmer, Kathrin                        | 103          |
| Hagens, Bettina von                    | 109          |
| Heres, Kerstin                         | 130          |
| Immig, Beatrix                         | 135          |
| Reichert, Stephan                      | 104          |
| Retzlaff, Eric                         | 137          |

#### Knowledge Transfer and Qualification Programmes

|                                   |              |
|-----------------------------------|--------------|
| Kohl, Thomas (Head of Department) | 111          |
| Hey, Barbara (Coordinator)        | 244          |
| Secretary: Pauli, Vera            | 240, Fax 224 |
| Braun, Axel                       | 241          |
| Cerquera, Katrin                  | 245          |
| Flammann, Jens                    | 243          |
| Pretsch, Claudia                  | 247          |
| Schackmann, Valentin, Prof. Dr.   | 242          |

#### General Services

|                                   |              |
|-----------------------------------|--------------|
| Kohl, Thomas (Head of Department) | 111          |
| Secretary: Mintner, Stefani       | 259, Fax 254 |
| Bröder, Ottilia (Reception)       | 258          |

#### Personnel

|                 |              |
|-----------------|--------------|
| Brettar, Doris  | 250, Fax 254 |
| Hanke, Ilona    | 256          |
| Spiegel, Steffi | 251          |

#### Finance, Accounting and Controlling

|                |              |
|----------------|--------------|
| Arent, Erika   | 266, Fax 269 |
| Efe, Hilal     | 264          |
| Finger, Jürgen | 265          |
| Schulz, Anke   | 263          |
| Thelen, Thomas | 113          |
| Ufland, Renata | 268          |

#### IT

|                     |              |
|---------------------|--------------|
| Bräutigam, Robert   | 272, Fax 224 |
| Ludwig, Helmut      | 260          |
| Michelfeit, Andreas | 270          |
| Reißig, Flemming    | 326          |
| Soos, Frank         | 321          |

#### Organisation, Purchase

|                 |              |
|-----------------|--------------|
| Bohrmann, Jens  | 262, Fax 254 |
| Flörsch, Priska | 261          |

#### Media Design and Distribution

|                  |              |
|------------------|--------------|
| Dichiser, Erich  | 120, Fax 125 |
| Karle, Nicole    | 122          |
| Lupp, Yvonne     | 127          |
| Schlamp, Simone  | 121          |
| Weiland, Michael | 124          |

#### Apprentices

|                 |     |
|-----------------|-----|
| Bürkle, Samira  | 258 |
| Gauglitz, Julia | 258 |
| Halter, Manuel  | 258 |
| Platz, Eric     | 258 |
| Wesch, Eva      | 276 |

#### Absence

|                         |  |
|-------------------------|--|
| Fier, Heide             |  |
| Goodman, Claudia        |  |
| Hermeling, Claudia, Dr. |  |
| Sprietsma, Maresa, Dr.  |  |

#### Selected Contacts

|  |     |
|--|-----|
| Public Relations                                   |     |
| Grittmann, Gunter                                  | 132 |
| Seminars   |     |
| Pauli, Vera  | 240 |
| ZEW Sponsors' Association for Science and Practice |     |
| Hüneke-Zindl, Andrea                               | 101 |
| Special Library                                    |     |
| Retzlaff, Eric                                     | 137 |

Fax +49/(0)621/1235-125

## Kostenloses Abonnement von ZEW-Publikationen

Bitte Karte einkleben oder Adresse in Druckbuchstaben eintragen

## Subscription of ZEW Publications Free of Charge

Please attach business card or fill in address (in capital letters please)

# ZEW

Zentrum für Europäische  
Wirtschaftsforschung GmbH

Centre for European  
Economic Research

Name, First Name \_\_\_\_\_

Firm or Institution \_\_\_\_\_

Address \_\_\_\_\_

Postal Code and City \_\_\_\_\_

E-mail \_\_\_\_\_

Phone and Fax \_\_\_\_\_

### DEUTSCH

Bitte nehmen Sie mich in Ihren E-Mail-Verteiler „ZEW Newsletter“ auf:

- ZEW Newsletter** monatlich  
Der ZEW Newsletter informiert Sie per E-Mail über die laufende Forschungsarbeit am ZEW und neue Publikationen, Veranstaltungen, Stellenangebote, etc. (mit Links zum Download)

Bitte senden Sie mir regelmäßig per Post folgende Publikationen:

- ZEWnews** 10 x jährlich inklusive  
**ZEW Wachstums- und Konjunkturanalysen** 4 x jährlich  
**ZEW Gründungsreport** 2 x jährlich
- ZEW Branchenreport Dienstleister der Informationsgesellschaft**  
4 x jährlich
- ZEW Jahresbericht** jährlich

Bitte nehmen Sie mich in Ihren E-Mail-Verteiler für **ZEW Discussion Papers** auf und mailen Sie mir monatlich das Verzeichnis neuer Discussion Papers mit Links zum Download:

- Reihe Internationale Finanzmärkte und Finanzmanagement
- Reihe Arbeitsmärkte, Personalmanagement und Soziale Sicherung
- Reihe Industrieökonomik und Internationale Unternehmensführung
- Reihe Unternehmensbesteuerung und Öffentliche Finanzwirtschaft
- Reihe Umwelt- und Ressourcenökonomik, Umweltmanagement
- Reihe Informations- und Kommunikationstechnologien
- Reihe Wachstums- und Konjunkturanalysen

Bitte nehmen Sie mich in Ihren Verteiler für **ZEW-Seminare** auf:

- Seminareinladungen** (unregelmäßig) und  
**Seminarkatalog** (jährlich)

### ENGLISH

I would like to receive the following publications free of charge on a regular basis:

- ZEWnews English edition** (quarterly by e-mail)
- ZEWnews English edition** (quarterly by mail)
- ZEW Annual Report** (once a year)

I would like to receive a monthly e-mail containing a list of **ZEW Discussion Papers** (and links to download papers):

- Series International Finance and Financial Management
- Series Labour Markets, Human Resources and Social Policy
- Series Industrial Economics and International Management
- Series Corporate Taxation and Public Finance
- Series Environmental and Resource Economics, Environmental Management
- Series Information and Communication Technologies
- Series Growth and Business Cycles

Ich bin damit einverstanden, vom ZEW Informationen per E-Mail bzw. per Post zu erhalten. Das ZEW garantiert die Einhaltung der gesetzlichen Datenschutzbestimmungen und die Verwendung der Daten ausschließlich im ZEW.

I agree with ZEW sending me information via e-mail or mail. ZEW guarantees to adhere to the legal data protection regulation and will use the address data only within ZEW.

Date, Signature \_\_\_\_\_



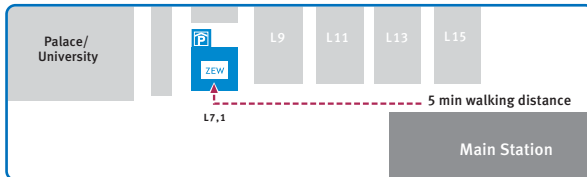


#### Travelling by plane via Frankfurt Airport

Mannheim is conveniently close to Frankfurt's international airport. Travel time by German ICE high-speed train from Frankfurt Airport to Mannheim main station is about 30 minutes.

Travel time (non stop) by plane:

New York – Frankfurt approx. 8 hrs / Beijing – Frankfurt approx. 10 hrs



#### Walking to ZEW from Mannheim main station

It is a five-minute walk from Mannheim main station to ZEW.

**ZEW**  
 Zentrum für Europäische  
 Wirtschaftsforschung GmbH  
 Centre for European  
 Economic Research

L 7, 1 · 68161 Mannheim · Germany  
 P.O. Box 10 34 43 · 68034 Mannheim · Germany  
 Phone +49/(0) 621/1235-01  
 Fax +49/(0) 621/1235-224  
 E-mail [info@zew.de](mailto:info@zew.de) · Internet [www.zew.eu](http://www.zew.eu)

 Leibniz  
 Gemeinschaft

# ZEW

Zentrum für Europäische  
Wirtschaftsforschung GmbH



L 7, 1 · 68161 Mannheim  
P.O.Box 103443 · 68034 Mannheim  
Germany  
Phone +49/(0)621/1235-01  
Fax +49/(0)621/1235-224  
E-mail [info@zew.de](mailto:info@zew.de)  
Internet [www.zew.de/en](http://www.zew.de/en) · [www.zew.eu/en](http://www.zew.eu/en)