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ZEWnews

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Research Results · Conferences · Publications

Tax Incentives have Positive Impact on Research and Development and Patent Applications

Targeted tax incentives would strengthen Germany's position as a centre for research. They would improve business competitiveness while also creating and securing jobs. This is the finding of a recent study conducted by the Centre for European Economic Research (ZEW).

Photo: BASF

Tax incentives for R&D would particularly motivate small firms to engage in research.

Tax incentives are especially effective in motivating smaller firms that have not previously undertaken research to invest in R&D. Furthermore, incentives tend to discourage the transfer of R&D activities abroad by making Germany a more attractive location for research.

Opportunities for Increased Innovation

In a new paper (ZEW Discussion Paper No 11-024), ZEW researchers show that a tax credit of just ten per cent of a company's R&D expenditures leads to an eleven per cent increase in the likelihood that the company will invest in R&D and file a patent application. This finding is of particular significance for the investment behavior of smaller companies (as measured in terms of balance sheet total and employee count). Smaller companies constitute the majority of German firms, yet they are often not involved in R&D activities. If tax credits in the amounts cited above were to motivate smaller firms that have not previously engaged in R&D activities to become involved in research and development, then this would be of great value to the German economy. Tax credits would create opportunities for increased innovation, and, as a result of the new or improved products and services that emerge from R&D activities, would strengthen productivity and growth. Thus, there can be little doubt that tax incentives for R&D are an effective means of promoting Germany's position as a centre for research.

The introduction of tax credits for R&D expenditures is not the only tax policy that would have a positive effect on Germany's position as a centre for research. Lower corporate income taxes would also have a positive impact by helping to retain intangible property – especially patents – in Germany. This effect was studied with regard to the following countries: Austria, Belgium, the Czech Republic, Germany, Denmark, Spain, Finland, France, the United Kingdom, Greece, Ireland, Portugal, Hungary, Italy, Luxembourg, the Netherlands, Norway, Poland, Sweden, and Slovakia. In six of these countries – Germany, Denmark, Finland, Sweden, Slovakia, and Norway – there is no R&D tax incentive provision that is available to all companies.

IN THIS ISSUE

RESEARCH FINDINGS

An analysis of all twenty countries shows that reducing the combined corporate income tax rate by ten percentage points increases the average number of patent applications filed by a firm in these countries by 0.09. This means that for every 1,000 patent applications, 90 additional applications would be filed. If we only consider the effect on companies in countries where tax incentives already exist for R&D, then the increase is even larger, amounting to 0.14 (i.e. an additional 140 patent applications per 1,000). For transnational research partnerships, the increase in patent applications is around 0.11 (110 additional patents). In this connection, the patent application is likeliest to be filed in the country with the most favourable tax conditions, thus increasing the positive effect. The greatest income tax effect – 0.17 (170 additional patent applications) – applies to firms with more than 5,000 employees. Because large firms maintain offices in various countries, they are in the best position to optimally divide their R&D activities and patent earnings to take advantage of tax benefits. The calculation of the effects of tax incentives on R&D investments and patent applications by companies is based upon data from 1998 to 2007 published by the European Patent Office, as well as information from the corporate database AMADEUS

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Private-sector Funding Associated with Stricter Research Conditions Across all Disciplines

A new ZEW survey reveals that research tends to be encumbered by greater constraints and restrictions when funding is obtained from private actors rather than from government sources.

For some time now, universities and other public research institutions have received a decreasing percentage of their funding from government sources, whereas the percentage of third-party funds acquired through national and international funding competitions has been steadily increasing. In Germany, the share of research funded by the private sector rose from 12 per cent to 25 per cent between 1995 and 2007. Other OECD countries experienced a similar development. This change in the composition of scientific funding can be problematic. Different studies have taken the view that private-sector funding does not simply replace shrinking public support, but that private sector monies are typically associated with some restrictions imposed upon researchers. Private-sector financiers often restrict the dissemination of research findings, methods, and materials, either through a delay or ban on publication.

More than 1,000 Scientists Surveyed

A new ZEW study (Discussion Paper No 11-009) examines the connection between private sector research funding in Germany and the restrictions placed upon the dissemination of research findings. The study is based upon a survey of more than 1,000 researchers at German universities and other public research institutions.


Photo: digitalstock

Research findings, methods and materials need to be accessible for the research community and the public.

The paper demonstrates that there is a strong positive relationship between publication restrictions and the percentage of funding that comes from the private sector. Thus, the percentage of researchers who report that they are constrained by an increased number of restrictions is significantly greater (at 41 per cent) among researchers funded by the private sector than among researchers with other sources of funding (seven per cent). For example, a ten per cent increase in the share of private sector funding has the effect of increasing the probability of restrictions by 4.4 per cent. Our results shed light on an important challenge facing policymakers. Research and innovation policymakers need to address this issue if they wish to assure the continued existence of an open science system in the future.

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RESEARCH FINDINGS

Germany: Winners and Losers of the European Emissions Trading Scheme After 2013

By entering the third phase of the European Union Emissions Trading Scheme (EU ETS) (2013-2020), some German federal states and some cities or councils will have to pay dearly. These are the findings of a study conducted by ZEW Mannheim in cooperation with LMU Munich.

Due to modifications in the emission trading scheme cities and councils are at risk to lose tax revenues.

As of 2013 a considerable share of emission certificates will no longer be distributed free of charge, but will be auctioned off instead. Thus, companies that are legally bound to participate in emissions trading will have to spend considerably more money in the future for emitting carbon dioxide. It is expected that the firms' pricing for their products will remain unaffected. A reason for this is that emission certificates can already be sold on the market during the phase when certificates are allocated for free. Thus, they represent a value that is already priced in the goods by firms participating in emissions trading and that reflects the opportunity costs of the production decisions. At the auctioning of certificates, in particular the firms' operating costs increase due to the pricing in. This leads to a decline in profits and a decrease in governmental fiscal revenue from commercial and corporate taxes on federal and state level. But whereas the federal government more than compensates for its income losses by its profits from selling national emissions rights (currently this privilege is only granted to the federal government), the state governments and local councils are left with the deficits in fiscal revenues.

Revenues up to 92.9 Billion Euros

Currently in Germany, companies in five industry branches as well as thermal power plants are bound to participate in the EU ETS. Depending on the price for emissions per ton of carbon dioxide, the federal government can expect revenues between 34.8 billion euros and 92.9 billion euros for a certificate price of 15 or 40 euros per ton of CO_2 within the third phase (2013-2020), respectively. The tax losses for the federal government are expected not to exceed 2.6 billion euros or 6.9 billion euros for a price of 15 or 40 euros per ton of CO_2, respectively. For prices for emissions per ton of carbon dioxide, the tax losses for the individual states and local councils amount to some 7 billion or 18.6 billion euros, respectively. This is twice as much as for the federal government, which only bears for 27 per cent of tax losses. Since the locations of firms participating in the EU ETS are unequally distributed, the individual state governments are affected by the expected tax losses to different degrees. For instance, North Rhine-Westphalia has to bear some 49 per cent of tax losses in 2013, whereas Thuringia only has to bear a share of 0.5 per cent.

Measures for Avoiding Emissions and Increasing Energy Efficiency

The current legal situation mainly defines the possible uses of revenues received from auctioning off CO_2 certificates. According to legislation, all revenues go to for the federal government. Revenues exceeding 900 million euros per year go to the special federal assets of the Energy and Climate Fund. The fund is primarily aimed at measures for mitigation as well as increasing energy efficiency. The local councils and state governments are not directly involved in the fund's means. The EU sets objectives for the member states to finance adaptation as well as climate protection measures partly by profits from auctions. Both federal and state tasks are affected by such an application of funds for a special purpose. Until now, however, the Energy and Climate Fund does not include fostering national adaptation measures. The federal government holds the main responsibility for climate protection measures in terms of reducing emissions, e.g. measures to improve the energy efficiency. The coordination of climate protection measures on the federal level makes good economic sense, since an efficient climate policy is to be costefficient and abatement costs differ between regions. Due to the local impact of climate change adaptation measures like investments in flood protection of rivers are primarily the responsibility of state governments and local councils.

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RESEARCH FINDINGS

Market Foreclosure as a Result of Antitrust Immunity for Alliances in the Airline Business

Airline alliances often enjoy immunity from antitrust laws. As a result, competitors outside of the respective alliance lose traffic on routes between international hub airports due to market foreclosure. This is the finding of a study in which ZEW examined transatlantic air traffic between Europe and the United States.

Developments in the market for international air transport have led to domination by three large, international airline alliances – Star Alliance, SkyTeam, and oneworld. The theoretical literature discusses the possibility that the members of such an alliance have an incentive to prevent airlines that are not alliance members from accessing feeder flight markets. This is said to be particularly the case if members of the alliance enjoy immunity from antitrust laws, and are thus able to set prices for transatlantic connections and divide the revenues generated amongst themselves.

Feeder routes are flight legs that typically connect smaller airports to large international hubs. These hubs are often the home airports of large airlines that are typically participating in one of the three global alliances. Long distance flights to destinations around the world depart from such hubs. The members of an alliance are able to shut out feeder routes either by not transporting passengers who arrive at the hub on an airline that is not a member of the alliance, or by charging excessive fees for transporting such customers.

Effects of Market Foreclosure

In a new paper (ZEW Discussion Paper No 10-083), researchers test the hypothesis whether the granting of antitrust immunity to alliances leads to market foreclosure in the sense that carriers outside of the alliance cannot feed their customers into the connecting flight and therefore experience a reduction in the traffic on the transatlantic segment. The study uses data on scheduled direct flights for passengers in the transatlantic market between Europe and the United States from 1992 to 2008. These passenger data are combined with data about the structure of airline route networks and the development of airline alliances over time.

Antitrust immunity for members of airline alliances has led to a significant reduction in the volume of transatlantic passengers flying with an airline outside the respective alliance.

More time on the ground: non-members of alliances

The study finds evidence that the granting of antitrust immunity indeed leads to a passenger loss for airlines outside of the respective alliance. For example, ZEW estimations show that airlines not affiliated with a specific alliance offer up to ten per cent fewer flights to large hubs than they did prior to the granting of antitrust immunity. The effect upon passenger volume for the non-members of an alliance is even more striking. Depending on the estimation model that is used, the reduction in passenger volume is found to be between 3 and 8.5 per cent. The findings suggest that the excluded airlines switch to smaller airplanes or are forced to accept reduced passenger volumes on their flights to "immunised" hubs. Moreover, the study shows that the granting of antitrust immunity leads to a reduction in passenger volume on routes between competing hubs as well. However, the data does not allow to analyse the price effects of market foreclosure, and antitrust immunity may bring about cost synergies which might be passed along to travelers in the form of lower airfares.

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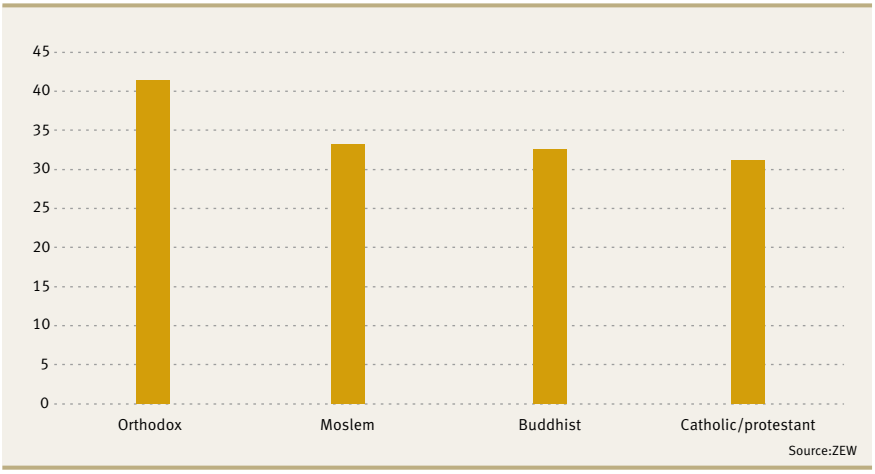
RESEARCH FINDINGS

Religion and the Shadow Economy

Religion can affect economic phenomena. A recent study by the Centre for European Economic Research (ZEW) indicates that a close connection between state and religion limits the size of the informal sector in developing nations.

There is growing interest among economists in the relationship between the cultural attributes of states and their economic performance. For example, religion is recognized as an important element of a country's cultural character. One possible effect of religion in the financial area relates to informal transactions. It can be expected that the ethical principles of world religions that favour honesty and altruism represent a counterweight to the inclination to circumvent regulations and taxation for personal financial benefit. If this is true, one would anticipate that in the presence of otherwise similar environmental conditions, countries with a strong religious imprint would have smaller shadow economies than countries with a less religious population.

Size of the Shadow Economy as a Percentage of GDP (1999-2007 Average): National Comparison by Majority Religion



Drawing on a comprehensive panel of country data, Friedrich Heinemann (ZEW) and Friedrich Schneider (University of Linz) explored this question in a recent study (ZEW Discussion Paper No 11-038). The study included 150 states for which estimates for the size of the shadow economy are available. In a theoretical discussion, a number of potential factors regarding the link between religion and the shadow economy were first elucidated. Besides the overall importance of general religiosity, the specific religious denomination could matter. The nature of the relationship between the state and the religious community could also have an impact. If this relationship is especially close – as might exist, for example, in a system with a privileged state religion – we might anticipate that the dominant religious community could assert its influence upon ethical norms so as to extend its impact upon the secular elements of national life.

Determinants for the Extent of the Shadow Economy

The point of departure for econometric analysis in the study was a baseline model in which the size of the shadow economy is a function of important economic determinants, such as per capita income and the effectiveness of state institutions. The shadow economy tends to be larger (in relation to a country's GDP) as the nation is poorer and as state institutions function less effectively. This standard model was then extended to include religious indicators, which helped to test the developed hypotheses.

Overall, the results show that religion does have an impact upon the scale of informal transactions. However, the level of overall religiosity has only a small effect. Thus, it cannot be demonstrated that countries with high levels of attendance at religious services have an especially small shadow economy. There is, however, a significant divergence among the largest world religions. Countries that are dominated by Islam or Eastern religions tend to have smaller shadow economies than Christian nations when economic development and the quality of state institutions are otherwise comparable.

Shadow Economy Hampers Progress of Non-industrialised Nations

Moreover, the following finding is of importance: The closeness of the connection between religion and the state has a significant impact. A close connection between religion and the state is typical in nations with a small proportion of economic activities in the informal sector. Apparently, religious communities use their normative influence upon believers as a kind of "supernatural police" in order to protect state interests when state and religion are in a tight reciprocal relationship. However, these significant connections are limited to those nations with moderate to low incomes. In industrialized nations, intimacy between secular and religious authority has no demonstrable influence upon the shadow economy. Mobilizing sufficient resources for public infrastructure is one of the key challenge for developing countries. The findings suggest that religions can be a partner for the secular government to achieve the normative backing for and acceptance of taxation. In this respect, the normative influence of religion is clearly not a disadvantage for economic development.

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INTERVIEW

Questions & Answers: Is the Reduction of Germany's National Debt Feasible?

In Times of Growth, Keynes is Often Forgotten

Germany's economy is strong: exports are at record-breaking levels, unemployment is down and billions of euros in additional tax revenues are pouring into state coffers. Given these developments, how realistic is a reduction of the national debt? Friedrich Heinemann, head of the department Corporate Taxation and Public Finance at ZEW gives some answers.

During the economic crisis the German government generated growth with a multi-billion-euro stimulus packages. Now that times are good again, why should the government reverse course and save money?

The German national economy is currently experiencing the second straight year of extraordinarily high levels of growth. The resulting jump in tax revenues is good news but cannot be simply extrapolated. Besides, many economic risks continue to loom elsewhere in Europe and throughout the world. And because of the safety net mechanism in place for the euro zone, Germany plays an indispensable role in providing stability within the European economic union. The German federal government and the German states must therefore continue to reduce deficits, both as a bulwark against crisis in Europe and as a precaution in case of a renewed domestic slump. Interestingly, Keynesian economists rarely call for comprehensive cost-cutting measures when the economy is strong. Rather it appears economists listen to Keynes's advice only in times of downturn ("Run deficits!") and forget his advice for booms ("Pay off debt!").

How should the additional tax revenues be spent?

Sadly, debt reduction remains a distant prospect. What Germany has to do now is to continue to reduce deficits at the federal and state levels. Noble goals such as boosting education spending or energy security do not justify the creation of new debt during periods of economic upswing. Just as with environmental and education policy, financial policy must take into account the interests of our children and future generations.

The debt crisis persists in some euro zone countries. What burdens can German taxpayers expect to bear should the debt of one or more of these countries need restructuring?

It depends on when it were to happen. The longer an – ultimately unavoidable – debt restructuring is delayed, the higher the cost to all euro zone taxpayers. Every month, Greece, Ireland, and Portugal refinance pre-existing debt with money from the Greece loan package and the euro zone safety net, whose funds are guaranteed by euro member states and their taxpayers. Every month, in other words, risk is shifted from the private sector to the public sector. Consider a scenario in which the euro zone repeatedly purchases new bond issues (as they have with Greece) such that the euro zone becomes the sole guarantor for a state's national debt. If a so-called haircut were then to become necessary, German taxpayers might face a tab in the upper tens of billions.

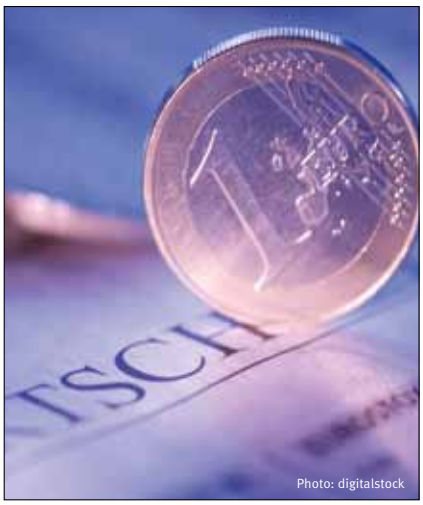

Photo: digitalstock

Germany must continue to reduce deficits.

How can the Eurozone debt crisis be prevented from jeopardising Germany's growth and the reduction of the country's national debt?

At least for Greece, the euro zone must arrange an orderly debt restructuring plan while private creditors still hold significant claims against the country. Banks that become endangered in the process need to be bailed out by the state, as it is significantly cheaper to save some credit institutions than to face a debt remission financed by the taxpayers. The restructuring of Greece's national debt in order to deal with that country's over-indebtedness is a precondition for people to regain trust in Europe's problem-solving abilities. In that sense, the recent decisions by the European Council on the new rescue package are a big step forward even though the implied debt haircut may in the end still be too small.

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Photo: ZEW

PD Dr. Friedrich Heinemann is the Director of the research department of Corporate Taxation and Public Finance at ZEW. His research focuses on empirical public economics, federalism in Europe, and tax competition. In 2010 he received his venia legendi for economics from the University of Heidelberg. Along with work in several research groups, Heinemann is a board member of the Arbeitskreis Europäische Integration e.V. and a member of the Scientific Board of the Institute for European Politics, in Berlin.

POLITICO-ECONOMIC ANALYSIS

German Energy Policy: Miraculous Drops in Electricity Consumption Unlikely

The German government's energy plan aims to cut electricity use by ten per cent by the year 2020. But there is good reason to be sceptical of the likelihood of reaching this goal. The government's energy policy should be based on realistic considerations – and not on wishful thinking.

One of the dominant themes in German politics today is the transition to a non-carbon energy economy. Following the recommendations of the government's Ethics Commission, Germany's ruling centre-right coalition has passed legislation to shut down all nuclear power plants by 2022. At the same time, however, the government hopes to maintain its ambitious climate protections goals. The "Energiekonzept" (energy concept) set forth by the government in autumn 2010 sets clear targets: By 2020, Germany will seek to increase the share of renewables in gross energy consumption from nine per cent to 18 per cent and in gross electricity consumption from 18 per cent to 35 per cent. Of course, these ambitious energy policy goals – including a 40 per cent reduction in greenhouse gas emissions by 2020 – can only be achieved if total energy consumption drops.

Ten per cent less Electricity over the next nine Years

The energy concept calls for a highly ambitious 20 per cent reduction in gross energy consumption by 2020 and a 50 per cent reduction by 2050. With regard to gross electricity consumption, the plan envisions a ten per cent reduction by 2020 and a 25 per cent reduction by 2050. Moreover, the Ethics Commission expects additional efficiency measures to reduce the capacity of Germany's power network by four gigawatts. Though the overall reduction of gross energy consumption stands in stark contrast to international trends, most studies predict that Germany will reach this target. Nevertheless, there is good reason to doubt that Germany will meet its goals for electricity consumption.

Those who have been following Germany's debate on electric vehicles may have already asked themselves: But doesn't the federal government plan to put one million electric vehicles on the road by 2020? Interestingly, the most recent report by the National Platform for Electric Mobility (NPE) says nothing about the aggregate effect of this initiative on electricity consumption. According to ZEW estimates, one million electric vehicles will consume between three and six terawatt hours per year – about 0.5 per cent to one per cent of Germany's total electricity consumption today. The NPE projects another six million electric vehicles on Germany's streets by 2030.


Photo: digitalstock

Many experts predict that electricity consumption in Germany will remain at current levels. Compared with their estimates, the targets set by Germany's energy concept seem unrealistic.

Even if their energy efficiency improves, it is easy to see that this transition will require considerable quantities of additional electricity.

Yet electric vehicles are not the only source of additional electricity demand that will result from Germany's move to alternative forms of energy. Heat pumps, to replace oil and gas heating, will also raise electricity consumption (while reducing greenhouse gases at the same time). The same applies to the increased use of computing in improving energy efficiency at industrial facilities. While so-called "green IT" may lower Germany's gross energy consumption, it will not necessarily reduce its electricity consumption. Ultimately, even climate change itself may create new demands for electricity. When temperatures rise in Germany, the number of indoor air-conditioning units is likely to multiply considerably, particularly in office buildings.

Electricity Demand at Current Levels

Given the growing demand for electricity services, how realistic is the government's implicit assumption that industry, commerce, and private individuals will compensate with saving measures and improved efficiency elsewhere, so that overall electricity consumption falls? Many experts predict that electricity demands will remain more or less at current levels. This is the finding, for example, of the 2009 energy forecast commissioned

RESEARCH FINDINGS


Photo: digitalstock

More electric vehicles mean an additional demand for electricity in Germany.

by Germany's Federal Ministry of Economics and Technology, which was co-authored by ZEW economists. (The forecast concludes, by contrast, that gross energy consumption and greenhouse gas emissions will drop considerably). What is more, the energy efficiency legislation passed by the German Bundestag in July 2010 is a half-hearted version of efficiency measures stipulated by an EU directive. Essentially, the legislation improves the metering of energy consumption and the framework for energy efficiency consulting. Energy conservation goals, however, remain indicative. The German Bundestag's decision to forgo binding energy management regulations for the private sector may make regulatory sense, but it leads one to doubt Germany's commitment to reaching its highly ambitious energy-saving goals. Indeed, electricity price increases associated with the transition to renewables are more likely to prompt industry and consumers to save electricity. In view of the rising integration of the European electricity markets, however, dramatic price developments are not to be expected, provided that Germany factors more electricity imports into its planning.

Prudent Precautions Instead of Wishful Thinking

Steady levels of electricity consumption need not be bad news for climate protection, as long as emissions can be reduced elsewhere. But naïve energy planning is bad news when it comes to the security of electricity supply. The expansion of both the power grid and power generation capacity should be based on a realistic understanding of Germany's electricity demands.

The German government would therefore be well advised to think again about the country's future requirements when drafting energy bills. Ensuring security of supply requires prudent precaution, not wishful thinking.

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INSIDE ZEW

SEEK Research Programme: Awarding of Projects 2011:

In May 2011 the second round of competition of the SEEK research programme was successfully concluded with the selection of eight research projects. Now the research teams of the projects, which will be funded within the programme, are going to begin their work. Altogether, 25 project proposals were developed by ZEW employees in cooperation with internationally renowned researchers. The proposals were externally evaluated by the Scientific Board of the SEEK research programme.
Members of the Scientific Board, amongst others, are Daron Acemoglu (MIT), Bronwyn Hall (University of California at Berkeley & Maastricht University), Kai Konrad (Max Planck Institute for Intellectual Property, Competition and Tax Law, Munich), Josh Lerner (Harvard Business School), Steve Machin (University College London), Pierre Mohnen (UNU-MERIT & Maastricht University), Fabrizio Zilibotti (University of Zurich), Georg Licht (ZEW), and Wolfgang Franz (ZEW).
In the second funding period 2011, the following eight projects will be funded within the SEEK research programme:

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

Additional information on SEEK and the funded projects 2010 as well as 2011 can be found on the research programm's website www.seek.zew.eu

INSIDE ZEW

Economists from Argentina Visit ZEW

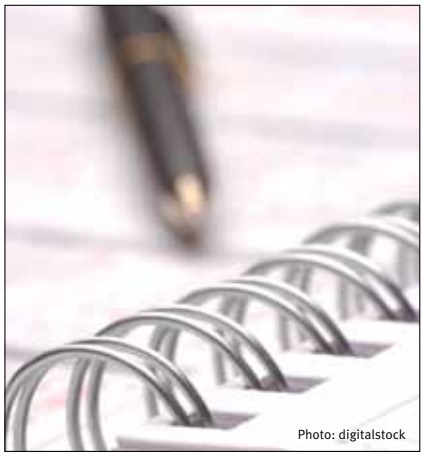
On 7 June 2011, a delegation from Argentina visited ZEW. The professors of the National University of Misiones and the National University of Cuyo exchanged views with ZEW employees on the institute's key research interests and discussed a possible future cooperation in joint research projects. The delegation was accompanied by an employee of Baden-Württemberg International, the Agency for International Economic and Scientific Cooperation of the federal state of Baden-Württemberg.

From the left: PD Dr. Friedhelm Pfeiffer (ZEW), Dr. Daniel Cerquera (ZEW), Prof. Juan Antonia Dip, Prof. Carlos Enrique Abihaggle, Prof. Virginia Martinez, Prof. Horacio Simes, Kathrin Böhmer (ZEW), Tatjana Dosch (Baden-Württemberg International).

PROFESSIONAL TRAINING

19.9. to 21.9.2011 Dynamic Programming: Theory, Numeric Implementation and Applications, ZEW Mannheim.

Recursive methods and their numerical application, in particular dynamic programming, have become the most important solution methods in modern macroeconomics. Today the areas of their application encompass almost all areas of macroeconomics, e.g. growth theory, monetary economics, social insurance, and fiscal policy. Despite their widespread use in research, they have not yet become part of the standard curriculum at European economic faculties. The course aims at closing this gap. It introduces dynamic programming from a theoretical perspective and discusses numerical solution methods. Subsequently, these methods are applied to solve the real business cycle model, which is the workhorse model of modern quantitative macroeconomics and constitutes the starting point to analyse, e.g. fiscal policy and social insurance in a dynamic economic environment.



For further information contact Claudia Pretsch, pretsch@zew.de

DISCUSSION PAPERS

No 11-052, Kai Hüschelrath, Kathrin Müller, Volodymyr Bilotkach: The Construction of a Low Cost Airline Network.

No. 11-051, Kai Hüschelrath, Kathrin Müller: Low Cost Carriers and the Evolution of the U.S. Airline Industry.

No. 11-050, Carsten Vogt, Bodo Sturm: Implications of Inequality Aversion for International Climate Policy.

No. 11-049, Brant Morefield, Andrea Mühlenweg, Franz Westermaier: Impacts of Parental Health on Children's Development of Personality Traits and Problem Behavior: Evidence from Parental Health Shocks.

No. 11-048, Katrin Hussinger, Annelies Wastyn: In Search for the Not-Invented-Here Syndrome: The Role of Knowledge Sources and Firm Success.

No. 11-047, Katharina Frosch, Christian Göbel, Thomas Zwick: Separating Wheat and Chaff: Age-specific Staffing Strategies and Innovative Performance at Firm Level.

No. 11-046, Thomas Zwick: Why Training Older Employees is Less Effective.

No.11-045, Friedrich Heinemann, Tanja Hennighausen, Marc-Daniel Moessinger: Intrinsic Work Motivation and Pension Reform Acceptance.

No. 11-044, Dirk Czarnitzki, Katrin Hussinger, Cédric Schneider: "Wacky" Patents Meet Economic Indicators.

No. 11-043, Peter Heindl, Sebastian Voigt: A Practical Approach to Offset Permits in Post Kyoto Climate Policy.

No. 11-042, Benjamin Engelstätter, A. Scott Cunningham, Michael R. Ward: Understanding the Effects of Violent Video Games on Violent Crime.

No. 11-041, Florian Misch, Norman Gemmell, Richard Kneller: Growth and Welfare Maximization in Models of Public Finance and Endogenous Growth.

No. 11-040, Peter Heindl: The Impact of Informational Costs in Quantity Regulation of Pollutants: The Case of the European Emissions Trading Scheme.

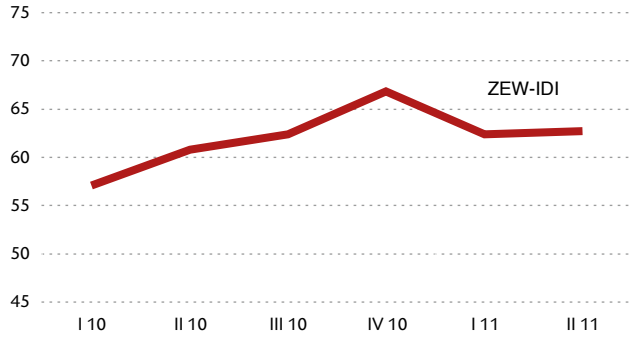
No. 11-039, Tim Paul Thomes: An Economic Analysis of Online Streaming: How the Music Industry Can Generate Revenues from Cloud Computing.

No. 11-038, Friedrich Heinemann, Friedrich Schneider: Religion and the Shadow Economy.

No. 11-037, Thorsten Drautzburg, Harald Uhlig: Fiscal Stimulus and Distortionary Taxation.

FACTS AND FIGURES

Positive Outlook Among Service Providers of the Information Society in Germany



Source: ZEW

The economic outlook in the economic sector service providers of the information society remains positive. The ZEW-IDI which measures the economic sentiment in this branch increased by 0.3 points to 62.7 points in the second quarter of 2011. The service providers of the information society include the branches software, IT services, ICT trade, telecommunication services, tax consulting and accounting, management consulting, architectural services, technical consulting and planning, research and development as well as advertising.

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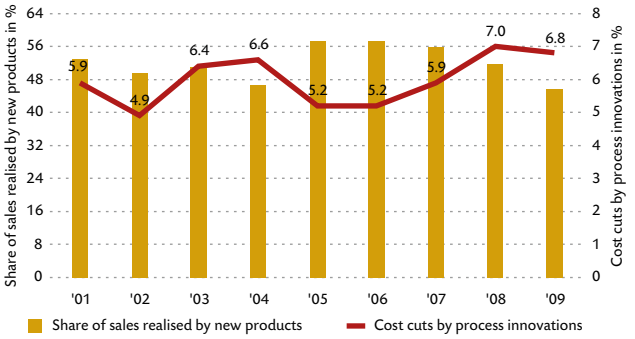
High Cost Reductions Through Process Innovations in Vehicle Manufacturing



Source: ZEW, Mannheim Innovation Panel

During the economic crisis in 2008/2009 the German vehicle manufacturing sector concentrated its efforts to reduce costs. In 2008 and 2009 the average cost reduction through process innovations reached its highest values within the last decade with 7.0 per cent and 6.8 per cent respectively. In contrast, the share of sales realised by new products declined from 56 to 57 per cent in 2005 to 2007 to 46 per cent in 2009. This decline was mostly caused by automotive construction. Sales remained stable in shipbuilding, train and airplane construction in 2009.

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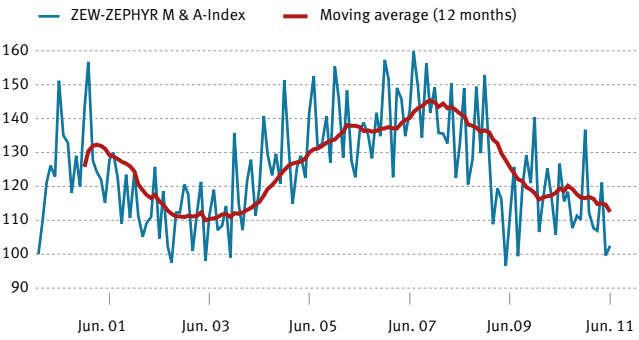
No Great Impetus for Worldwide M&A Activities



Source: ZEW

In the first six months of 2011, the upturn of M&A activities as seen in 2010 has slowed down again. The ZEW-ZEPHYR M&A-Index tracking mergers and acquisitions completed worldwide reflects this development. In May 2011, the ZEW-ZEPHYR M&A-Index dropped below its starting level of 100 points in January 2000. This was last seen in the crisis year of 2009. The index's decline was smaller than expected at the end of last year. This is primarily due to the overall good business environment. In June 2011, the index recovered and reached a level of 102 points.

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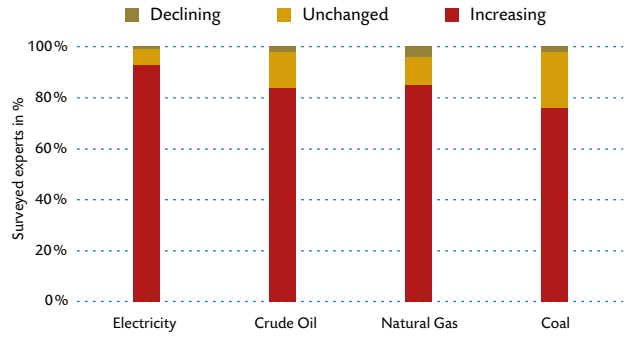
Rising Energy Prices over the Medium Term Anticipated



Source: ZEW

According to the experts surveyed for the ZEW Energy Market Barometer, wholesale energy prices will increase on a broad front over the medium term, e.g. over the next five years. 93 per cent of the surveyed experts indicated that electricity prices will rise. With regard to natural gas and crude oil about 85 per cent and 84 per cent respectively expect price hikes. 76 per cent of the questioned experts believe that coal prices will augment until 2016. The ZEW Energy Market Barometer is a biannual survey of some 200 energy market experts.

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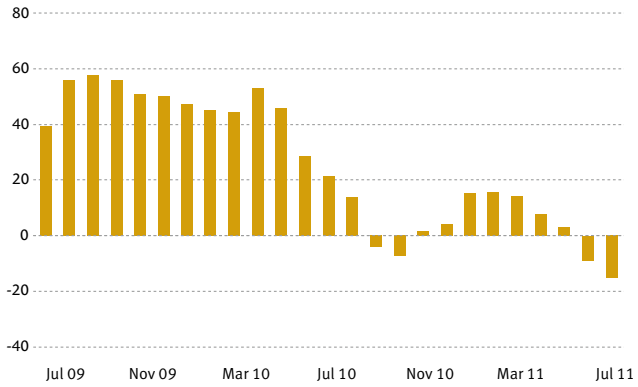
FACTS AND FIGURES

Financial Market Test July 2011



Balance of positive and negative assessments concerning economic development in Germany.
Source: ZEW

Germany: Expectations Declined

The ZEW Indicator of Economic Sentiment for Germany has dropped by 6.1 points in July 2011. The indicator now stands at minus 15.1 points. This value is below the indicator's historical average of 26.2 points. Compared to the previous month economic expectations have declined moderately in July. Despite the robust economic situation, the public debt problems of some countries in the eurozone have dampened economic sentiment. Furthermore, the economic and fiscal situation in the United States is watched with increasing concern. In the light of the unstable global economic surroundings, the question arises how long the German economy will continue to grow at the present pace. Nevertheless, the assessment of the current economic situation in Germany has improved to 90.6 points.

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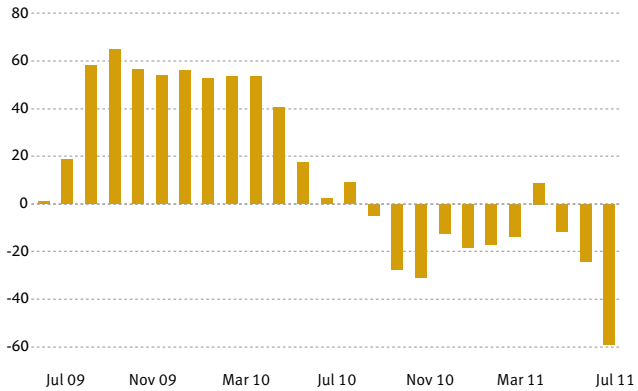

Balance of positive and negative assessments concerning economic development in Switzerland.
Source: ZEW, Credit Suisse

Switzerland: Expectations Drop Significantly

Economic expectations for Switzerland dropped by 34.6 points to the minus 58.9-point mark in July 2011. This is the lowest level since the beginning of 2009. The ZEW-CS Indicator is calculated monthly by the Centre for European Economic Research (ZEW) in cooperation with Credit Suisse (CS). The indicator reflects the expectations of the surveyed financial market experts regarding the economic development in Switzerland on a six-month time horizon. Merely a tiny minority of 2.9 per cent of the surveyed financial market experts anticipate that economic momentum will improve in the coming six months. In contrast, 61.8 per cent now foresee a deterioration of the economic situation. A share of 35.3 per cent of the analysts expect the economy to exhibit a stable trend at the present levels.

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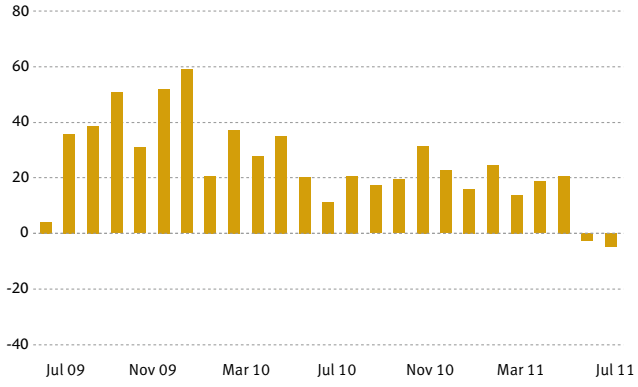

Balance of positive and negative assessments concerning economic development in the CEE region.
Source: ZEW

CEE Region: Expectations Rather Stabilise

The ZEW-Erste Group Bank Economic Sentiment Indicator for Central and Eastern Europe including Turkey (CEE) has declined slightly by 2.5 points to the minus 5.0-points mark in July 2011. In comparison to last month's major decrease the current development rather displays a stabilisation of the surveyed experts' expectations. Furthermore, 53.8 per cent of the experts do not expect any changes in the economic development in the CEE region on a six-month basis. The economic sentiment indicator for the CEE region is carried out monthly by the Centre for European Economic Research (ZEW) with support of Erste Group Bank AG, Vienna. The CEE region consists of Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Serbia, Slovakia, Slovenia and since October 2010 of Turkey.

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OPINION

Electric Vehicles and Government Subsidies

Whenever the question arises of how best to deal with government deficits, businesses and their professional associations often identity subsidies as the place to start. Yet instead of calling for subsidies to be phased out, they deliberately speak of the need "to put subsidies under greater scrutiny" or "separate the wheat from the chaff." The reason for this is clear. Demanding the elimination of valuable subsidies for one's own industry is taboo. And it would be hypocritical for one industry to speak out against government subsidies while still supporting them for itself.

The most recent example of industry coveting government largess can be found in the second report of Germany's National Platform for Electric Mobility (NPE), published in May 2011. After presenting the steps for implementing the organisation's development plan, the report stresses the necessity of state support. Without government incentives for consumers, the report argues, just under 500,000 electric vehicles will be sold by 2020, roughly half of Germany's target figure of one million. To increase demand, the NPE recommends tax write-offs for commercial purchases, low-interest loans from KfW Bankengruppe, and yearly tax breaks based on vehicle storage capacity. Furthermore, the NPE recommends that the government cover investment costs for building a system of public charging stations.

In the report's appendix, the authors go to great lengths to provide an estimate of the overall economic effects of electric vehicles on jobs and revenues from taxes and social insurance. In one scenario – which they believe is realistic – the early subsidy strategy is projected to pay mostly for itself by 2015 and to yield a budget surplus by 2018. The estimates say nothing about potential alternative uses of public funds and the resulting effects on economic vitality.

Yet the NPE is not the only one making demands on the state. Greed for public monies in other branches is legion, and the arguments are always the same: the proponents of subsidies begin by citing market failure; then they point out distorted competition due to state funding in other industries; next they talk about job creation; and finally they claim that the subsidies are mere incentives and they will pay for themselves in the end. Market failure can indeed justify state intervention. But the government is only obligated to intervene when the private sector is unable to take the necessary measures or when the private sector is likely do a far worse job than the state would. The criteria for market failure are inefficiency, lack of equitability (with regard to distribution), and private sector instability. In the case of the electric vehicle industry, the only criterion that might apply is inefficiency. Market inefficiency can be established in the case of a public good (i.e. non-excludability of use), a natural monopoly (high fixed costs and low marginal costs for manufacture), incomplete information, or externalities. An example of the last criterion is when one company's production adversely affects the profits of others. If the use of electric vehicles reduces environmental pollution, there'll be no denying welfare effects.

But even if we accept that the private sector is inefficient, the second criterion for state intervention – i.e. that the government can do it better than the private sector – has yet to be met. Even among the experts, the question of electric vehicles is still somewhat controversial. If companies were convinced of this technology's viability, they would make the necessary investments on their own accord, particularly since profitability in the automobile industry has never seemed to be much of a problem. Moreover, the state can't be blamed for any failures on the part of German companies to keep pace with foreign industry when it comes to the development of battery technology.

For these reasons, I would advise against the use of direct state subsidies for electric vehicles but would welcome general tax incentives for private sector expenditures on research and development.

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