

Government R&D Funding Should Seek High Additional Social Benefits

New or improved products and services, as well as cost savings due to improvements in production processes, strengthen a company's competitive position. Many companies in Germany therefore invest a great deal of money in research and development (R&D), year after year. The individual company is not, however, the sole beneficiary of this R&D activity.



As knowledge generated by R&D is akin to a public good, other companies can often benefit from this knowledge free of charge, imitating it or using it for further development of their own products or processes. These so-called "additional social returns" are desirable from the perspective of the economy as a whole, as they benefit the competitiveness of many companies, rather than only one. The view of the company conducting the R&D, however, tends to be less positive. Its aspiration is to appropriate, where possible, the complete returns of its R&D activities. It therefore makes too little investment in areas in which it is difficult to provide protection.

In terms of government research funding, this raises the question of how great the additional social benefits of

R&D in Germany really are and whether it is appropriate to concentrate research funding increasingly on areas that promise to generate maximum additional social returns.

The additional social benefits from R&D can be measured in the same way as direct benefits using the companies' gains in productivity. A study currently being conducted by the Centre for European Economic Research (ZEW) in collaboration with SV Gemeinnützige Gesellschaft für Wirtschaftsstatistik mbH shows that R&D gives rise to both high direct benefits and high additional social benefits. If, say, a company increases its internal knowledge capital by one euro by means of its own R&D activity, the result will be an increase in production of, on average, 41 percent of the in-

vested euro within two years. Direct returns from the funds invested in R&D in the form of sales increases or cost reductions are therefore very high.

Additional Social Benefits Exceed Direct Benefits

The knowledge generated by R&D also makes an important contribution to increasing productivity in other companies. Compared with the direct benefits, the additional social benefits that result for a single, other company are much lower. If, with a view to estimating the additional social benefits at the level of the economy as a whole, the productivity effects that arise in all other researching companies due to an additional euro invested in R&D by one company are, however, totalled, the picture changes significantly. From the perspective of the economy as a whole, the additional social benefits surpass the direct benefits from R&D. They represent

IN THIS ISSUE

Government R&D Funding Should Seek High Additional Social Benefits	1
Configuration of the Labour Market Affects Economic Synchronisation	2
New KfW/ZEW CO2 Barometer	3
Central Banks Obtain Good Marks for Their Current Crisis Management	4
European Parliament Split over the Harmonisation of Corporate Taxation	5
Second Conference of the Leibniz Network "Non-Cognitive Skills"	6
ZEW Financial Market Data	7
Inside ZEW, ZEW Discussion Papers	8

RESEARCH FINDINGS

between 130 and 150 percent of direct benefits. A differentiation according to various groups of companies reveals that additional social benefits are much higher in the manufacturing sector than in service sector companies. One of the reasons for this may be that service companies conducting R&D are, on average, smaller in size, and smaller companies tend to have more difficulty in absorbing and exploiting external knowledge.

Companies long established in the market and young companies also differ in their ability to benefit from the knowledge of others. Young companies have considerably more difficulty in using external knowledge for their own purposes. One reason for this

may be that young companies still frequently lack the absorptive capabilities required to appropriate external knowledge. Another reason is to be seen in the negative impact that their less frequent integration into research collaborations or research networks is likely to have on young companies. This means that an important channel of access to external knowledge is often unavailable to them.

Implications for Governments

The results of the ZEW study allow conclusions to be drawn in terms of the innovation policy. The existence of additional social benefits provides an important justification for government R&D

funding. As the highest possible additional social benefits are desirable from the perspective of the economy as a whole, the state must provide incentives for companies to conduct R&D in those areas in which such benefits accrue. This is necessary, because companies automatically conduct R&D in those areas in which they alone can appropriate the complete returns of such activities. The government should therefore concentrate its funding on those areas in which companies, if left to their own devices, would not invest or only invest very little, because the transfer of knowledge to third parties is too great.

See the complete study in German: www.zew.de/sozialeertraege

Dr. Bettina Peters, b.peters@zew.de

Configuration of the Labour Market Affects Economic Synchronisation

Business cycle synchronisation has recently become an issue for economists, mainly due to the enlargement process of the European Union. Strong congruence in the economic development of national economies is regarded as an important prerequisite for the operational capability of a common currency area, as it increases the effectiveness of economic policy measures.

The economic co-movement of national economies is usually accounted for by high trade intensity. However, as a current study by the Centre for European Economic Research (ZEW) (Discus-

sion Paper No. 09-008) shows, the overall framework of labour market institutions also influences the business cycle synchronisation of national economies.

Wage Negotiation and Taxation

The ZEW study provides a macroeconomic analysis of 20 OECD countries between 1979 and 2003. The analysis reveals a clear correlation between the similarity of labour market structures in the countries investigated and the synchronisation of their business cycles.

In particular, the greater the similarity in wage negotiation systems and taxation is, the more the business cycle in the national economies converges.

In concrete terms, this means, for example, that countries in which wage negotiations are conducted at industry level converge more strongly in economic terms compared with countries that negotiate wages, say, at company level. Which wage negotiation variant is chosen is of no consequence in terms of business cycle synchronisation, as long as it prevails in both national economies.

Similarly, tax systems in which the employment tax burden has a comparable structure contribute to analogous business cycle development.

In addition, the study shows that labour market policy reforms aiming at (de-)regulating the institutional framework increase economic co-movement.

This applies particularly to reforms of the wage negotiation system, unemployment benefit and taxation of earned income.

Andreas Sachs, sachs@zew.de



RESEARCH FINDINGS

New KfW/ZEW CO₂ Barometer

German Companies Participate Actively in the EU's Emissions Trading System

The KfW/ZEW CO₂ Barometer, published for the first time at the beginning of June 2009, shows that a dynamically growing market has developed for CO₂ certificates in Europe. It is based on the EU's emissions trading system (EU ETS), the world's first large-scale, cross-national trading programme for greenhouse gases. 75 percent of companies subject to emissions trading in Germany are currently already participating, or are planning to participate, in the trade in CO₂ certificates. However, only minimal trading activity is observable in individual market segments due to uncertainties and high transaction costs. This relates, for example, to post-2012 trading, thus after the completion of the current trading period.



In view of the uncertainties regarding a future Kyoto follow-on agreement, the trading activities of companies in Germany are currently focusing on the spot and forward markets of the 2008-2012 trading period. By contrast, less than 17 percent of companies are planning to participate actively in the post-2012 markets or are already active here.

Higher Certificate Prices

Extending the regulation periods is extremely important to the vast majority of market participants, with a view to obtaining longer-term planning security. Early definition of the legal foundations for post-2012 emissions trading is therefore centrally important to further market development.

The majority of German companies and international experts in the current survey do not expect the price of an EU emissions certificate to exceed the threshold of 18 euro per ton CO₂ in December 2009 and 30 euro per ton CO₂ in the years between 2013 and 2020. The price of emissions reduction credits from developing and emerging countries is estimated to be slightly lower: 16 euro per ton CO₂ in December 2009 and 26 euro per ton CO₂ in the years between 2013 and 2020.

CO₂ price expectations will be updated and published on a quarterly basis in the future in the context of the CO₂ indicator. Although there was a tighter cap on emissions certificates issued in the current second trading period of the EU ETS, the results of the 2009 KfW/ZEW

CO₂ Barometer indicate that the monetary incentives for CO₂ reduction measures are still having no significant impact on companies' investment strategies. Even if more than 55 percent of all companies have already implemented avoidance measures, CO₂ reduction was only of secondary importance to 88 percent.

CO₂ Reduction as Side Effect

Only six percent of companies prioritised emissions reduction in their investment strategy. Due to the fall in emissions upper limits and an increase in the proportion of certificates that need to be purchased by companies, higher certificate prices can be assumed in future. Their influence on investment decisions will increase as a result.

*PD Dr. Andreas Löschel, loeschel@zew.de
Peter Heindl, heindl@zew.de*

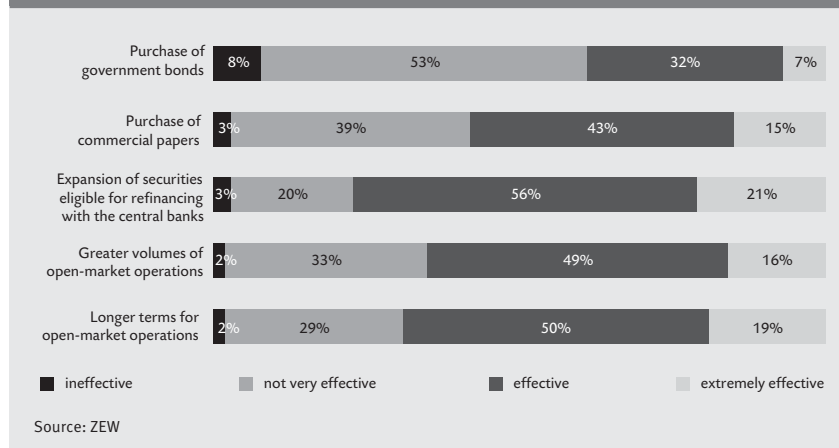
The KfW/ZEW CO₂ Barometer: The KfW/ZEW CO₂ Barometer is a regular survey of German companies subject to emissions trading, and international CO₂ trade experts, in respect of developments in supply and demand as well as prices of emissions certificates and emissions credits. The results will be published on an annual basis. The KfW/ZEW CO₂ Barometer is a joint project between the KfW Bank Group and the ZEW. The aim of the new panel is to identify market developments and company strategies and to use this empirical basis to develop funding strategies. As an offshoot from the new panel, CO₂ price expectations will be updated and published on a quarterly basis in future as a KfW/ZEW CO₂ indicator.

RESEARCH FINDINGS

Central Banks Obtain Good Marks for Their Current Crisis Management

The outbreak of the financial market crisis in August 2007 prompted central banks throughout the world to tread new paths in monetary policy. This contribution provides an overview of the main measures that the Federal Reserve and the European Central Bank took during the crisis. In addition, it will reveal how financial market experts assess the various measures in terms of their effectiveness and their risks.

Assessment of the Effectiveness of the Following Monetary Policy Options



During the financial market crisis, trade on the interbank market virtually came to a standstill throughout the world. Since then, commercial banks have been increasingly reliant on refinancing from the central banks. The latter put their faith in a combination of measures. The major components of the bundle of measures initiated by the central banks consisted in lowering key interest rates and extending the framework for implementing monetary policy, with a view to enabling banks to have better access to liquidity. There were, however, differences in the detail of the measures taken by the central banks.

Additional Access to Liquidity

The US-American Federal Reserve (Fed) very quickly lowered key interest rates from 5.25 percent before the crisis to a range between 0 and 0.25 percent. At the same time, it created various types of facilities aimed at providing

banks with easier, additional access to liquidity. Furthermore, in January 2009, it began its strategy of “credit easing”, the purchase of a particular type of money market paper, so-called commercial papers. Since March 2009, it has also been purchasing government bonds (“quantitative easing”). This also enables the Fed to gain influence on longer-term interest rates.

The European Central Bank (ECB), by contrast, reduced interest rates at a moderate pace from four percent before the crisis to the current rate of one percent. To enable banks to have access to central bank money, it has been restricting its focus to the money market so far. One of its main measures was to expand the securities eligible for refinancing with the central banks. This means that commercial banks now have a wider selection in terms of the securities which they can deposit for refinancing transactions with the central bank. Furthermore,

the ECB injected more money into the system and carried out additional longer-term refinancing operations. In addition, it announced in May that it would extend the terms of longer-term refinancing transactions from the three or six months to twelve months. By purchasing collateralised corporate bonds in a planned amount of 60 billion euro, it is also adopting a measure whose focus is not on the money market, but on longer-term perspective.

High Inflation Risk

As part of the ZEW financial market test, around 300 financial market experts were asked how they assess the effectiveness of various monetary policy options in terms of stimulating lending in the economy as a whole. The results show that the experts most clearly advocate the expansion of securities eligible for refinancing with the central banks, the expansion of the volumes of open-market operations and the extension of their terms. The purchase of government bonds, by contrast, met with the least approval (see figure).

The experts regard the approach adopted by the central banks, in principle, as appropriate. More than two thirds of respondents assume that the monetary policy measures taken will prove to be beneficial to extremely beneficial to the economy. The Fed’s measures were assessed as being rather more effective than those of the ECB. 72 percent of the financial market experts think that the Fed’s measures will stimulate the economy, 66 percent consider the ECB’s measures to be effective. However, almost 80 percent of the experts surveyed think that, in the long term, the United States has much higher risks of inflation from the expansive monetary policy than in the Eurozone (59 percent).

Sandra Schmidt, s.schmidt@zew.de

RESEARCH FINDINGS

European Parliament Split over the Harmonisation of Corporate Taxation

Some EU member states try to attract investors with reduced corporate tax rates, which might lead to a harmful tax competition in the European Union (EU). For this reason, the introduction of a Europe-wide minimum tax for businesses is up for discussion. However, the Members of the European Parliament (MEPs) fail to agree on whether this measure would be reasonable. This is the result of a survey conducted by the Centre for European Economic Research (ZEW) among Members of the European Parliament. The survey also shows that the opinions on a minimum tax rate highly depend on political party affiliation, nationality and the educational background of the MEPs.



The survey (Discussion Paper No. 08-108) which was held among 158 EU representatives – 20 percent of the MEPs – shows that the European Parliament is clearly divided about the issue of a harmonised corporate tax rate. A majority of around 35 percent of the EU parliamentarians considers this measure to be reasonable. On the other hand, 31 percent regard the harmonisation of corporate taxes in the EU as either negative or very negative.

Opinions Differ across Parties

The econometric analysis of the attitudes stated in the survey reveals that the party affiliation is a crucial factor to influence the attitude of the MEPs concerning this issue. EU politicians who belong to euro sceptic political groups

particularly reject minimum tax rates. In contrast, the vast majority of left-wing politicians strongly support the tax measure. Among the conservatives, the politicians who reject the harmonisation of taxes only slightly outweigh those who support such a measure. However, overall there is no strong cohesion within the political groups for or against the harmonisation of taxes under discussion. The preferences for minimum tax rates differ with high significance across all political groups. In addition to party affiliation, further explanatory variables such as the national context of the MEPs are crucial. The survey shows that above all EU politicians from member states with high corporate taxes support a Europe-wide harmonisation of taxes. Apparently, they consider this measure as a possibility of avoiding a negative

“tax race to the bottom”. In addition, politicians representing countries in which the citizens are traditionally supportive of social justice, also decisively recommend to harmonise taxation. In contrast, it is noticeable that new EU member states politicians clearly oppose the minimum taxation. This might be due to the fact that the new member states today have a low level of corporate taxation, but also due to different preferences towards social equality.

Another factor, which influences the attitude of the MEPs, is their educational background. MEPs who graduated in business administration or economics tend to reject the harmonisation of corporate taxation. Apparently, this reflects their positive basic attitude towards free competition. In contrast, however, a long membership in the European Parliament boosts a supportive attitude towards a minimum business tax rate on a European level. This might suggest that the loyalty towards the EU increases over the years, which leads to the minimisation of other attitudes.

Similar Responding Pattern

In the scope of the survey, members of the German Government were also questioned about the same topic. Their responding pattern does not show significant differences to that of the Members of the European Parliament. Again, the left parties offer much support for tax coordination. Parliamentarians with a final degree in business administration or economics again offer less support for minimum tax rates. The results indicate that the German representatives in Bundestag and European Parliament show a similar attitude towards minimum taxation.

Steffen Osterloh, osterloh@zew.de

*Dr. Friedrich Heinemann,
heinemann@zew.de*

ZEW CONFERENCE

Second Conference of the Leibniz Network “Non-Cognitive Skills”

At the second conference of the Leibniz Network “Non-Cognitive Skills: Acquisition and Economic Consequences”, more than 40 participants discussed new studies in experimental research on intentionality, that is deliberate, conscious action, and on the determinants of preferences and optimal economic actions. The conference was held at Kloster Hegne on Lake Constance at the end of March 2009.

Thomas Dohmen, Director of the Research Centre for Education and the Labour Market (ROA) at the University of Maastricht, gave the opening lecture. He addressed individuals' willingness to take risks. His research, which is based on data from the Socioeconomic Panel (SOEP), indicates that willingness to take risks reduces in proportion to intelligence and increases in proportion to impatience.

The working group headed by Peter Gollwitzer at the University of Konstanz determined, in several experimental studies, that goal setting and goal realisation obey different psychological principles. Of particular interest to educational policy is the fact that acquirable action control strategies in the form of simple “if-then plans” significantly improve the chances of actually achieving a goal that has been set.

Anja Achtziger, from the Centre for Research into Intentions and Intentionality at the University of Konstanz, used special investigations into brain activity



Among the workshop's topics: mother-child interaction

to show that impression formation processes can be controlled by action plans. Impression formation processes take place within a fraction of a second in the brain to identify people and things. Impression formation processes often involve stereotypes regarding other people in terms of gender, age and skin colour etc. As Achtziger's studies show, action control strategies tend to make it possible to eliminate negative stereotypical attributions.

Keeping Performance Constant

Ute Bayer, likewise from the Centre for Research into Intentions and Intentionality, presented, together with Anja Achtziger, a study which showed that people produce worse performances if they have previously been exposed to a more stressful situation, for example, if they had to make many decisions or solve complex tasks. If specific “if-then” plans are made in advance for these critical situations, which occur on a daily basis in school and working life, the performance surprisingly remains constant. The scientists' explanation for this was that the “if-then plans” can be retrieved automatically in the critical situation. This initiates actions that are immediately goal-conductive without requiring additional resources.

The study by Pia Pinger, ZEW, and Rémi Piatek, University of Konstanz, confirmed that higher efficacy beliefs in adolescents contribute to more education and, via this channel, encourage success on the labour market. Winfried

Pohlmeier and Selver Derya Uysal, both at the University of Konstanz, were able to show that personality traits like conscientiousness improve search behaviour on labour markets.

Criminality, Health and Cognitive Performance

Sabine Sonnentag, from the University of Konstanz, gave a presentation on the importance of informal learning processes at the workplace. Bart Golsteyn, from ROA in Maastricht, presented a study that he had conducted together with Economics Nobel Prize Laureate James Heckman, University of Chicago. It demonstrates that cognitive performance tests depend on the test person's non-cognitive skills. Claire Crawford und Emma Tominey from the Centre for the Economics of Education, London, used longitudinal data from Great Britain to show that non-cognitive skills at the age of seven predict lower criminality rates and better health in adulthood. Philipp Eisenhauer, ZEW, discussed statistical assumptions and properties of factor analysis.

C. Katharina Spieß and Eva Berger, DIW – German Institute for Economic Research, were able to use SOEP mother-child data to provide a quantitative assessment of a lore of educational science: “A happy mother is more beneficial to children than a hundred textbooks on education” (Johann Heinrich Pestalozzi). Other studies examined the role that the mother-child interaction plays in the further success of the child.

For more detailed information on the second network conference, see <http://www.uni-konstanz.de/ZEW/> Planning for the third conference of the Leibniz Network is already under way. It will take place at the DIW in Berlin at the end of October 2009.

PD Dr. Friedrich Pfeiffer, pfeiffer@zew.de

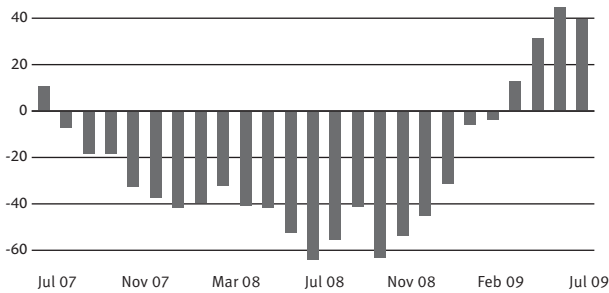
ZEW FINANCIAL MARKET DATA

ZEW Financial Market Surveys July 2009

The ZEW conducts three monthly surveys questioning financial market experts for their expectations within six months time for essential financial market data in several European countries and the Eurozone. The questions regard the current business situation, the business outlook, interest rates, stock markets, exchange rates, and inflation. Additionally, a "special question" on an interesting economic topic is asked. Up to 350 financial market experts are questioned in the Financial Market Survey for Germany. About 70 analysts participate

in the Financial Market Survey for Switzerland that is conducted in cooperation with the Swiss bank Credit Suisse. About 80 analysts contribute to the Financial Market Test for the Central and Eastern European Region (CEE) and Austria, carried out in cooperation with Erste Group Bank der Österreichischen Sparkassen. The CEE Region consists of Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Serbia, Slovakia and Slovenia. The survey collects economic data for each of these countries, but also looks at the CEE Region as a whole.

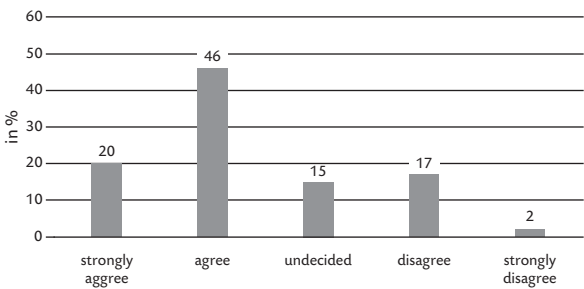
The complete results of the surveys are published every month in Financial Market Reports. The "ZEW Finanzmarkt-report" (www.zew.de/FMR) contains the survey's outcome for Germany. The survey results for Switzerland are published in the Financial Market Report Switzerland (www.zew.de/FMR_CH). The survey results for the CEE Region and Austria are published in the Financial Market Report CEE (www.zew.de/FMR_CEE). Below, some selected outcomes of the July 2009 surveys are featured briefly.



Balance of positive and negative assessment of the expected economic development in six months' time. Source: ZEW

Germany: Economic Expectations

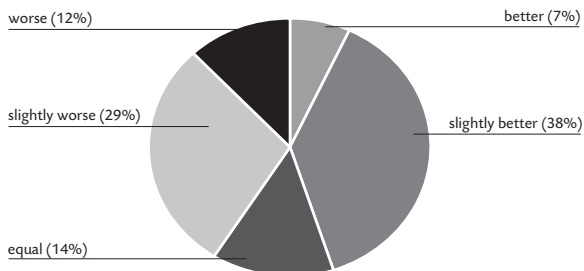
In July 2009 the ZEW Indicator of Economic Sentiment for Germany dropped by 5.3 points and now stands at 39.5 points. This value is above the indicator's historical average of 26.3 points. Economic expectations for Germany slightly declined in July for the first time after an increasingly optimistic outlook in the previous months. A risk for the future development of the German economy is whether lending to firms and households works out. In contrast, the positive figures for incoming orders and industrial production have positively affected business expectations. *Sandra Schmidt, s.schmidt@zew.de*



Will companies reduce contributions for occupational pensions due to the economic crisis? Source: ZEW

Switzerland: Crisis Impact on Pension Funds

In the July Financial Market Test the experts were asked whether companies would reduce voluntary contributions to occupational pension plans due to the crisis. The lion's share of the survey participants (66 percent) hold the view, that this is the most probable scenario. Only 19 percent regarded such a scenario as unlikely. 15 percent are undecided. On the other hand, 54 percent of the analysts expect employees to reduce their contributions to occupational or private pension schemes, 35 percent disagree and 12 percent are undecided. *Gunnar Lang, lang@zew.de*



Assessment of the prospects of the CEE tourism industry compared to Western European countries. Source: ZEW

CEE Region: Prospects of the Tourism Industry

In the July Financial Market Test the experts were asked about the prospects of the CEE tourism industry in the upcoming summer season compared to the prospects for the holiday destinations in Western Europe (e.g. Spain, Italy, France). 45 percent attribute better perspectives to holiday destinations in Central and Eastern Europe than to locations in Western Europe. By contrast, 41 percent of the respondents take a more critical stance towards the CEE tourism industry. 14 percent see equal prospects for both, the Western and the CEE tourism sector. *Mariela Borell, borell@zew.de*

INSIDE ZEW

■ Twentieth Anniversary of the Fall of the Berlin Wall – Photo Exhibition by Piet Joehnk at the ZEW



The back of the Berlin Wall was colourful! You can see this for yourself at the Centre of Economic Research (ZEW) in Mannheim until the 22nd of December

2009. The institute is featuring a photo exhibition by Piet Joehnk who captured colourful graffiti, comical slogans and surrealistic scenes from the western side of the Berlin Wall with his camera in 1986. The exhibition is open to the public Mondays to Thursdays from 10 a.m. to 4 p.m. Admission is free.

Since the Berlin Wall came down Joehnk's photographs have become a unique document of history. The photographs prevented the colourful paintings from disappearance with the wall. In a bold, unvarnished and naive way,

the graffiti, scenes and slogans deal especially with the Cold War and the division of Berlin and Germany.

As a highlight of the exhibition, there will be a special appearance by Piet Joehnk at the ZEW on the 9th of November 2009 – the day the Berlin Wall came down 20 years ago. This will offer the opportunity to talk to the photographer and discuss the pictures and their historical meaning. By exhibiting the photographs of the wall paintings the ZEW intends to address those who are usually not in touch with economic research.

■ Students Experience Research Firsthand at the ZEW



A core task of the Centre for European Economic Research (ZEW) is to support young talents and to prepare them for the work in economics. On the 9th of May 2009, the ZEW invited very special talents under the motto “experiencing research”. Around 180 teenagers of a migratory background were given the possibility to take a very close look at the work of an economic research institute. The teenagers are scholarship holders

in the programme “Talents in the Federal State of Baden-Württemberg”. With this programme, the Robert Bosch Foundation and the Federal State Foundation of Baden-Württemberg support talented students aged thirteen to twenty, who live in Baden-Württemberg but whose families come from abroad. In addition to the scholarship, the programme provides a wide range of events and activities, such as the visit at the ZEW.

ZEW DISCUSSION PAPERS

No. 09-038, Katja Coneus, Maresa Sprietsma: Intergenerational Transmission of Human Capital in Early Childhood.
No. 09-037, Holger Stichnoth: The Optimal Choice of a Reference Standard for Income Comparisons: Indirect Evidence from Immigrants' Return Visits.

No. 09-036, Holger Stichnoth, Karine Van der Straeten: Ethnic Diversity and Attitudes Towards Redistribution: A Review of the Literature.

No. 09-035, Holger Bonin: 15 Years of Pension Reform in Germany: Old Successes and New Threats.

No. 09-033, Christoph Grimpe, Heide Fier: Informal University Technology Transfer: A Comparison Between the United States and Germany.

No. 09-032, Birgit Aschhoff: The Effect of Subsidies on R&D Investment and Success – Do Subsidy History and Size Matter?

No. 09-031, Andrea Mühlenweg: International Evidence on Age Effects Within Grades on School Victimization in Elementary School.

ZEW

Zentrum für Europäische
Wirtschaftsforschung GmbH

I M P R I N T

ZEW news English edition – published quarterly

Publisher: Centre for European Economic Research (ZEW) Mannheim,
L 7, 1 · D-68161 Mannheim · P. O. Box 10 34 43 · D-68034 Mannheim · Internet: www.zew.de · www.zew.eu
President: Prof. Dr. Dr. h.c. mult. Wolfgang Franz · **Business and Administration Director:** Thomas Kohl

Editors: Kathrin Böhmer, Phone +49/621/1235-103, Telefax +49/621/1235-222, E-Mail: boehmer@zew.de
Gunter Grittmann, Phone +49/621/1235-132, Telefax +49/621/1235-222, E-Mail: grittmann@zew.de

Reprint and further distribution: only with mention of reference and sending of a voucher copy

© Zentrum für Europäische Wirtschaftsforschung GmbH (ZEW), Mannheim, 2009