

Forecast Quality of ZEW Indicator Best Over Six Month Period

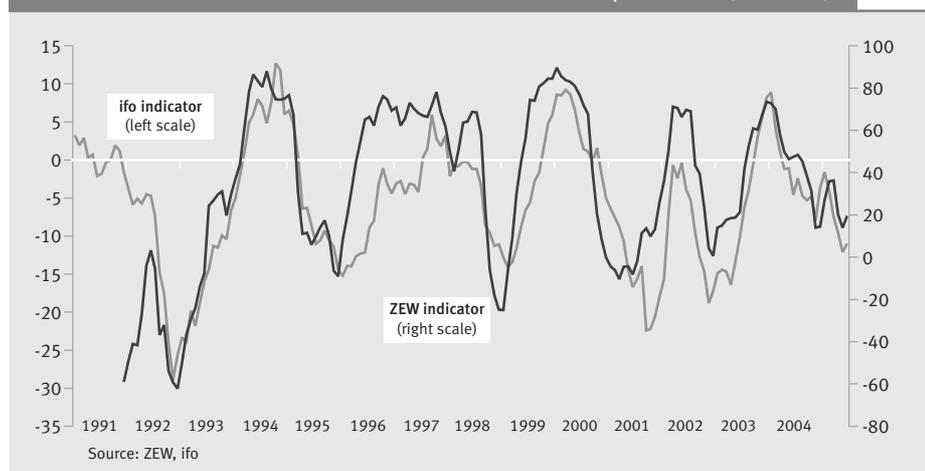
A ZEW study draws on econometric analyses to show that both the ZEW's Indicator of Economic Sentiment (produced in the framework of the ZEW Financial Market Survey) and the Munich-based ifo Institute's Business Expectations provide reliable signals regarding the future development of annual growth rates of German industrial output. Forecasts based on either of the two indicators are significantly more accurate than non-indicator based projections. The significant one-month lead time of the ZEW indicator ahead of the ifo Business Expectations is confirmed.

these qualitative forecasts consequently confirm the accuracy of indicator-based forecasts.

This ZEW study continues a 2002 ZEW study by Felix Hüfner and Michael Schröder for the period up to 2004 and uses Granger causality tests to determine which lead time characteristics both leading indicators have had in the past. In fact the study shows that, in terms of Granger causality, the ZEW Indicator of Economic Sentiment has a one-month lead time over the ifo Business Expectations. Forecast models are also produced which show how accurately both leading indicators are able to project future annual rates of growth in industrial output. In order to determine and compare the quality of these forecasts, a naïve forecast is also made which is not based on indicators but solely on the previous values for the relevant rates of growth.

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ZEW Indicator of Economic Sentiment and ifo Business Expectations (balances)



In the study period from January 1997 to September 2004, the ifo Business Expectations provided more accurate one to three month forecasts than the ZEW indicator. The latter, in contrast, is more suitable for six to twelve month forecast periods. The quality of the ZEW's Indicator of Economic Sentiment is best over a forecast horizon of six months – which is precisely the period on which the survey of financial market experts is based.

One possible explanation for the different lead time characteristics of both indicators is that the financial market

experts surveyed by the ZEW focus on different information than do the companies surveyed by the ifo Institute. In summary, the two indicators complement each other, both in terms of their forecast horizon and in their combined ability to present the expectations of varying groups of survey participants.

The study revealed that the accuracy of forecasts based on the two indicators has increased over time. Directional forecasts also confirm that the forecast change of direction mostly tallies with actual changes of direction. The results of

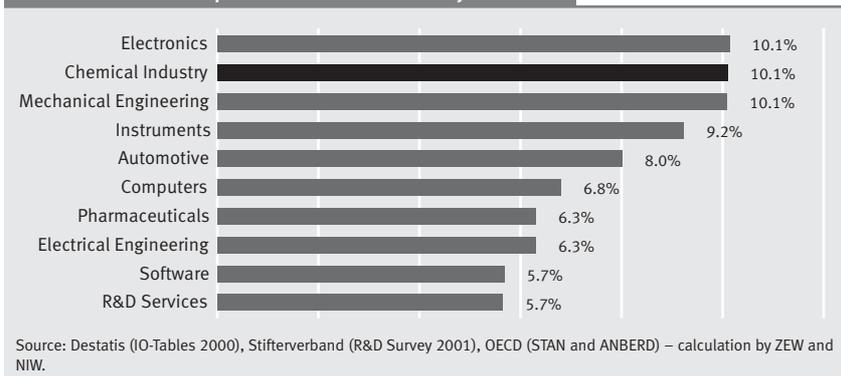
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RESEARCH FINDINGS

German Chemical Industry: Cornerstone of Innovation

Share in total incorporated R&D in Germany 2001



The German chemical industry is a main driving force behind innovations in other branches of business and industry. As a supplier of new materials, the chemical industry facilitates the launch of new products and process improvements in other industries. The innovation performance of the German chemical industry has diminished in recent years, however, and in the long term – as the results of a ZEW study show – this could jeopardise the industry's role as an innovative force.

Input-output analyses show that the chemical industry is one of the three most important sectors which – on the basis of their deliveries of capital goods, input materials and services – supply other branches of business and industry with research results. In 2001 “research and development (R&D) transfers” valued at a total of around 16 billion euros were made within the German economy, comprising the average R&D expenses incorporated in deliveries of goods. 10.3 percent of this “incorporated” R&D originates from the chemical industry, which thus ranks alongside the electronics and mechanical engineering industries as a leading supplier of technology. The highly innovative content of supplies from the chemical industry becomes clear when compared with its share of all cross-sector procurements of 3.2 percent.

Analyses of the industrial sectors generating innovative momentum in other branches produce similar results. In 2002 German business and industry recorded sales from new products which depended on the use of new materials or technologies sourced from suppliers of around 20 billion euros. Of the innovations ascribable to such suppliers, the chemical industry delivers 15 percent and occupies the third place after electronics and software. The picture is very similar when it comes to process innovations. Measured in terms of the cost savings achieved as a result of process innovations triggered by supplier input, the share of innovations ascribable to the chemical industry is 14 percent – third position behind mechanical engineering and electronics.

Chemicals as innovative force tailing off

However, there are signs that chemicals have become less important as a driving force for innovations in other industries since the mid-1990s. The share of chemicals in overall “incorporated” R&D fell from 13.8 percent in 1995 to 10.3 percent in 2001. One reason for this development was that the dynamism of R&D expenditure in the chemical industry was lower in the second half

of the 1990s than in most other sectors of industry. Secondly, an increasing share of the chemical goods used in Germany are imported. As the R&D intensity of chemicals production in other countries – excluding Japan – is lower than in Germany, the average R&D content of chemical goods in demand in Germany has fallen as a result. Finally, demand in Germany is shifting in favour of the service sectors, and this in turn has enabled industries producing input R&D for services (such as software and pharmaceuticals) to improve their position in terms of R&D transfers.

Challenges confronting the chemical industry

The German chemical industry is currently facing a number of major challenges. Worldwide demand for chemical goods, and thus also of production, is increasingly shifting to the growth markets of south and east Asia. While this opens up new sales doors, it also increases import competition. Internationalisation is contributing to fierce price competition which is leading to stagnating – and in some production markets even falling – prices. Competition is also getting tougher as more and more oil companies move into the basic and special chemicals industries.

The German chemical industry has mainly responded by boosting physical labour productivity (production volume per employee) by 5 percent per annum in the period from 1995 to 2003 (industry average: 3 percent). “Future investments” in R&D and innovation projects, in contrast, only rose marginally. The R&D intensity of the German chemical industry fell between 1995 and 2001 in line with worldwide trends in the chemical industry to increase again only in 2003.

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RESEARCH FINDINGS

Conditions for the Private Equity Business in Germany

Concerning the general conditions for private equity in Germany, subsequent improvement as compared to the major competing markets is required. Several changes have, however, already taken place. In the past months, particularly as regards taxation, important decisions were made that raise Germany's attractiveness for private equity investments. This is the result of a report provided by the ZEW on behalf of the German Federal Ministry of Finance.

Private equity funds, originally mostly from the US and Great Britain, have been increasingly active in Germany since the mid-1990s as well. They acquire holdings in firms which they build up or restructure and finally sell. The private equity business promises high returns in the case of success. These profits are needed to compensate for the high probability of losses in the very risky private equity business. General conditions that improve the return-risk-profile of private equity investments therefore contribute in particular to a location's attractiveness for this kind of financial investors.

The strengths...

The changes to the taxation of private equity funds and their investors in Germany (particularly as in the Ministry's issuances from December 16 and 23, 2003 as well as in the law for the propagation of risk capital (Gesetz zur Förderung von Wagniskapital) from July 30, 2004) are to be welcomed from this perspective. They mean greater legal security for private equity funds and their investors and at the same time quite significantly improve the fiscal conditions for private equity investments in international comparison. This concerns the taxation of the carried interest (the increased share for private equity mana-

gers in the returns yielded) and the management fee (reimbursement of the fund's administrative costs) as well as the conditions for fiscal transparency of the funds. Also, the effective taxation of capital gains as acquired by the investors in private equity funds in Germany is to be rated favourably.

...and the weaknesses

There is, however, further need for action. Especially the question whether the single private equity fund is to be classi-

Additional obstacles for a strengthened propagation of private equity financing in Germany are posed through the by international comparison much lower liquidity of German capital markets and the lack of a segment for IPOs of start-up firms, which severely hampers the sale of shares on the stock market. The pay-as-you-go financing of old-age provision prevalent in Germany also does not provide good soil for pension funds, which private equity firms depend on as financially strong investors. Moreover, the labour market's inflexibilities,

Annual gross investment of private equity funds in Germany



fied with respect to taxation as private asset management is to date only decided from hindsight. The participation of private equity funds in lending consortia (syndication) should not prevent the tax classification as private asset management. Moreover, the supply of consulting services and intense management assistance (hands-on management) are a genuine part of the private equity business and should not induce a change in the legal tax status. It is thus left unclear to the investor how high their profits will be taxed in the future. Furthermore, in the fiscal general conditions in Germany the loss compensation and the regulations on shareholder debt are in international comparison to be viewed disadvantageously.

the regulations on potential investors (especially as regards quantitative investment limits for insurance companies) as well as the remaining bureaucratic obstacles for firms have adversarial effects on the activity of private equity funds.

However, more recently improvements were brought underway regarding these issues as well. Among these improvements are for example the strengthening of the second and third pillars of the old-age provision as well as deregulation efforts as regards the labour market and the bureaucratic obstacles for firms.

The study may be ordered on the Internet at www.zew.de/PE

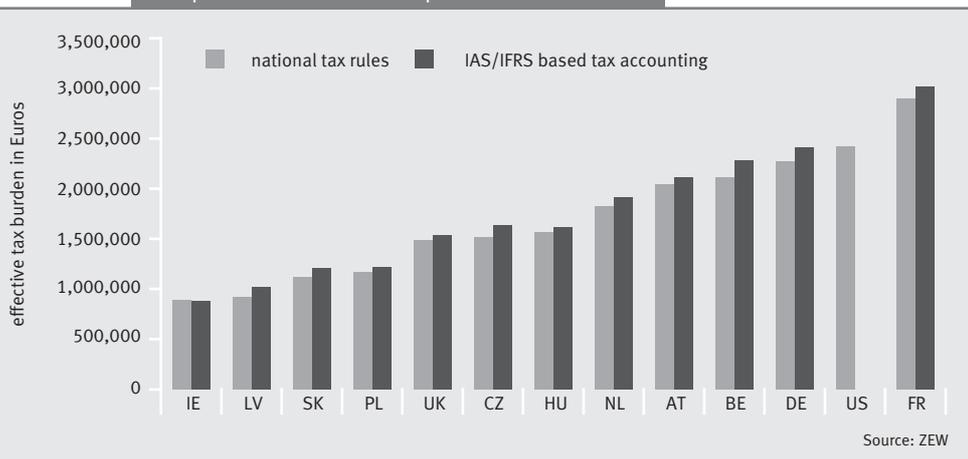
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RESEARCH FINDINGS

Common Tax Base and the Corporate Tax Burden in Europe

Effective corporate tax burdens vary widely from one European country to the next. An EU-wide common corporate tax base geared to International Accounting Standards/International Financial Reporting Standards (IAS/IFRS) would not significantly reduce the discrepancies in effective corporate tax burdens from one European country to the next. In most of the EU countries studied, an isolated harmonisation along these lines would result in a broader corporate tax base and a modest increase in the effective tax burden as a result. This is demonstrated by calculations performed by the ZEW using the European Tax Analyzer.

Comparison of effective corporate tax burdens



In its study of 2001, the European Commission concluded that Europe's uncoordinated national tax regimes impede the cross-border business activities of companies operating in the European single market. The solution envisaged by the Commission is to provide companies a consolidated corporate tax base for their EU-wide activities. In this context, discussion is focusing on whether the IAS/IFRS, which will be mandatory in the consolidated financial statements of listed EU parent companies as of this year, could serve as a starting point for a common EU tax base. Since dependency of financial and tax accounting – albeit to differing degrees – prevails in all EU member states, a linkage between IAS/IFRS and tax accounting seems to be possible.

How would a common corporate tax base geared to IAS/IFRS impact effective

corporate tax burdens and taxation discrepancies between member states? This issue has been investigated by the ZEW in the context of a comparison of the tax burden in twelve EU member states (Belgium, Germany, France, United Kingdom, Ireland, Latvia, the Netherlands, Austria, Poland, Slovakia, Czech Republic and Hungary) and the USA. The calculations were performed using the European Tax Analyzer which was enhanced for this purpose.

Major differences in the effective tax burden

A comparison of the effective tax burdens borne by a typical company in the manufacturing sector under each of the national tax regimes initially produced the following, familiar results: The effective corporate tax burdens in the coun-

tries studied differ considerably. Companies in France, the USA and Germany bear the highest tax burden. The countries offering the most attractive tax framework are Ireland and Latvia.

The study went on to quantify the impact of a common corporate tax base using IAS/IFRS as a starting point on the effective tax burden in the EU members states studied. However, only those IAS/IFRS rules were adopted which conform with tax principles, such as rules on depreciation and amortization, valuation of inventories and the calculation of manufacturing costs. Fair value accounting, on the other hand, was not taken into account as it is seen to conflict with the realisation principle.

The results show that an isolated harmonisation of the corporate tax base would not produce a significant reduction in the corporate tax burden discrepancies from one member state to the next. Therefore, different national nominal tax rates on profits are more important in explaining the differences in effective tax burdens of companies between countries than differences in the tax base. With the exception of Ireland, an adoption of IAS/IFRS as a starting point for a common tax base would broaden the tax bases and, consequently, slightly increase the effective tax burdens of companies in all member states studied. Thus, ideally, member states would have the opportunity to reduce their nominal tax rates at the same time without affecting the effective company tax burdens. Reforms aimed at broadening the tax base, combined with a reduction in tax rates, would enhance – from a tax perspective – the attractiveness of EU member states as a place of location for companies and would reduce distortions caused by tax accounting rules.

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ZEW CONFERENCE

Research Network of German Research Foundation (DFG): First Results

The second workshop of the DFG Research Network, "Flexibility in Heterogeneous Labour Markets", held at the ZEW from 17 to 19 March 2005, was attended by over 60 researchers from a large number of different



countries. Part of the workshop was dedicated to a high-profile international conference on the topic of "Education and Training: Markets and Institutions". The DFG Research Network, set up by the German Research Foundation in the summer of 2004, promotes a total of 18 individual projects, including four projects in which the ZEW is involved. First findings from seven of the projects were discussed at the workshop. The conference programme was put together by Christian Dustmann and Steve Machin (both from University College London) and Bernd Fitzenberger (University of Frankfurt am Main and ZEW).

Factors determining educational success

The international conference focused on empirical studies of the factors determining the success of school-based and professional/vocational training. David Card (University of California, Berkeley) addressed the conference on

the influence of the racial segregation of black and white students on school outcomes in the USA. His extensive, empirical work, which was based on US census data, reveals that the less successful school performance of black students is not the result of the racial composition of school classes. While a certain role is played by geographical segregation in different urban neighbourhoods, the decisive factor appears to be the lack of contact with economically more successful neighbours. Erik Hanushek (Stanford University) examined the factors influencing the success of school careers drawing on extensive administrative data from Texas and investigated the influence of the huge quality differences in teaching performance, in particular, as well as the type of school which parents choose for their children. Teacher quality is mainly shown to vary within schools and only to a limited extent between schools – in other words, very little quality-induced mobility takes place. Parents respond, however, by selecting schools on the basis of quality differences between schools and school types, and this is the source of quality-inducing competition.

The influence of trade unions on company-based training

Other conference lectures dealt with the relationship between the influence of trade unions and the training behaviour of companies. Christian Dustmann and Uta Schönberg (Rochester University) argued that industry-wide collective agreements in Germany result in self-imposed corporate commitments which induce employees to engage in continuing professional development to the benefit of the companies for which they work. Thomas Lemieux (University of British Columbia) demonstrated that, in Canada, mem-

bership in a trade union is linked with more advanced continuing professional development in companies. At the same time, however, this is not result of the direct influence of the union. In fact, union members tend to demonstrate personality characteristics which are compatible with a stronger commitment to ongoing professional training.

Promotion of continuing professional development

The conference also addressed the impact of support for ongoing professional development in the context of active labour market policy in Germany on the future job prospects of the unemployed. Bernd Fitzenberger drew on administrative data to show that the prospects for people who became unemployed in 1993 for getting a job in the following one to one-and-a-half year period improved by around ten percent if they took part in training courses designed to provide them with limited professional know-how and skills. The positive effect was sustained up to the end of the observation period and it is somewhat more pronounced in western Germany than in eastern Germany.

One project in the network obtained first results on the impact of stronger work incentives for the long-term unemployed and recipients of social assistance. The conference furthermore included lectures on the relationship between trade unions and wage structures, and on the consequences of inflexible wages on the job and regional mobility of the unemployed.

Information about the research network and the March 2005 conference can be found on the ZEW homepage at www.zew.de/dfgflex

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ZEW SUMMER WORKSHOP

ZEW Summer Workshop: Enlargement of European Monetary Union

This year's ZEW Summer Workshop focused on economic issues relating to the enlargement of European Monetary Union to include the new eastern European EU members. The event, which was financially supported by the "Stiftung Geld und Wahrung" Foundation, provided 16 young researchers from eastern and western Europe the opportunity to present and discuss their work and to receive feedback and suggestions from experienced researchers.

Alongside the presentations by up-and-coming researchers, a further important element of the event were survey lectures on similarly related issues. Professor Paul de Grauwe from the University of Leuven shed light on recent developments relating to the theory of optimum currency areas. De Grauwe emphasized that many of the criteria for determining an optimum currency area are endogenous because the transition to monetary union itself generates a significant shift towards integration. Professor Sylvester Eijffinger from the University of Tilburg took a detailed look at issues relating to central bank policy and exchange rate policies to support the transition to monetary union in the eastern European countries. Finally, Professor Claudia Buch from the University of Tubingen provided an in-depth survey of recent literature on the theory and empirical findings relating to international capital mobility.

Theory of optimum currency areas

A special highlight of the lecture programme was the contribution by Ronald McKinnon from Stanford University, who undertook seminal work on the development of the theory of optimum currency areas in the 1960s. His analysis focused on the extent to which any float of the Chinese currency, or at least move in controlled steps upwards against the

dollar, would be an appropriate tool for reducing the US current account deficit. McKinnon takes a sceptical view: owing to China's enormous dollar reserves, any devaluation of the US dollar would rob the Chinese economy of substantial assets, and a consequent reduction in Chinese imports would have a negative impact on the US trade deficit.

The ZEW Summer Workshop closed with a visit to the Deutsche Bundesbank in Frankfurt, where Dr. Andreas Worms from the Deutsche Bundesbank Research Centre provided participants in the conference with an in-depth review of current issues relating to European monetary policy.

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Second Heinz Konig Young Scholar Award goes to Uwe Bower

At the end of the 2005 ZEW Summer Workshop, the Heinz Konig Young Scholar Award was presented for the best paper given at the event. This year's award went to Uwe Bower, doctoral candidate at the University of Munich. The award



Uwe Bower (University of Munich, left) and Hubertus Stark (Fuchs Petrolub AG) at the award ceremony.

which consists of prize money of 5,000 euros and a research stay at the ZEW, commemorates Heinz Konig, the founding director of the ZEW. The sponsor of this year's prize was the Mannheim-based company Fuchs Petrolub AG. In his award-winning paper, "An Empirical Analysis of Stochastic Trends and Cycles in Central and Eastern Europe and the Euro Area", Uwe Bower examines the extent to which growth in the new EU states (as well as Croatia and Turkey) is already linked to growth in western Europe and investigated converging growth and synchronous businesses cycles in

western and eastern Europe. The analytical instruments used in his study, which go well beyond the standard procedures used in time-series econometrics, enabled him to discover subtle links between growth patterns which have been neglected in the past. One example is his improvement of standard co-integration analyses to take explicit account of seasonal patterns in the observed time series. Rather than limiting himself to the identification of contemporaneous relationships between business cycles, he also integrated the option of staggered patterns in his econometric analysis. Based on the experiences of the last ten years he finds evidence which suggests only modestly synchronized growth during this period. His conclusions for economic policy are that enlargement of the eurozone should be approached with caution and that in reality the enlargement process is still far from complete. In his laudatory speech, Hubertus Stark, press officer of Fuchs Petrolub AG, praised the methodological sophistication and policy relevance of Uwe Bower's work. "The results are helpful in connection with the impending decision on the introduction of the euro to eastern Europe. The work is an outstanding example of a soundly scientific analysis of one of the important issues relating to European integration."

ZEW FINANCIAL MARKET SURVEY

Results of the Survey in July 2005

The Financial Market Test conducted by the ZEW is a monthly business survey of German financial market experts which started in December 1991. The survey asks for the predominant expectations about the development in six international financial markets.

As a whole around 350 experts take part in the survey. 280 of them work in banks, 50 in insurance companies and

investment companies and 20 in other industries. Participants in the survey are financial experts of the finance departments, the research departments and the economic departments as well as the investment and securities departments of the firms. The experts are questioned on their medium term expectations about the development of important international financial markets with respect

to the business cycle, the inflation rate, short term and long term interest rates, the exchange rate and share prices.

Information on the applied procedure is available as an abridged version published by the ZEW. The present survey was conducted between July 4, 2005 and July 18, 2005. All calculations are termed to July 22, 2005.

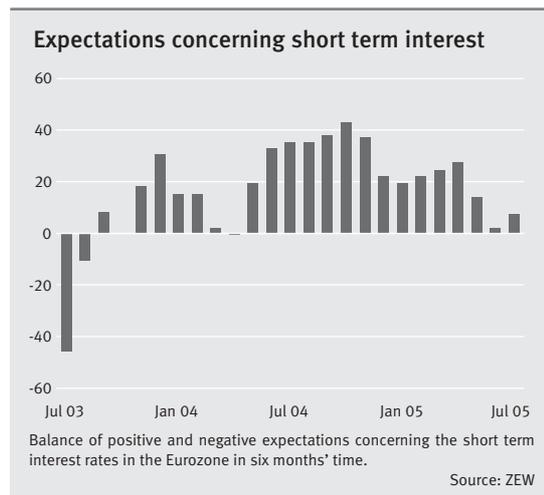
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Eurozone: High Oil Price Feeds Inflation Worries

Considering the recent oil price development, it seems ever more improbable to the analysts that the European Central Bank (ECB) will lower the interest rates in the six months ahead. Since a significant cut in oil prices may neither be expected even for future periods, the high oil price is likely to fuel inflation in the eurozone and therefore increase pressure on the ECB over the mid term to raise interest rates. Accordingly, one out of four financial market experts expects inflation to accelerate over the mid term.

The minority opinion of a soon to be expected cut in interest rates is therefore only represented by a mere six percent of the experts. Yet the great majority of 82 percent assesses that the ECB will leave the interest rate unchanged at 2.0 percent over the course of the next six months. Due to the poor business development in the eurozone, it would seem advisable in terms of economic recovery if the interest rates were not to be raised in the near future.

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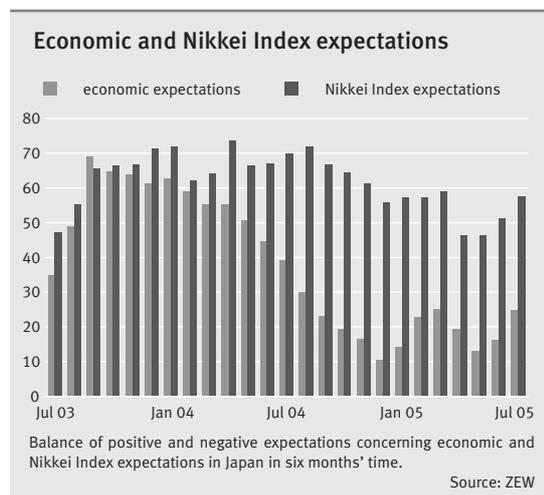


Japan: Robust Labour Market

The most significant change among the indicators for Japan in this month concerns the financial market experts' economic expectations. The clear increase by 8.5 to 24.8 points may for the most part be attributed to the continuingly positive development on the Japanese labour market. This development is characterised both by rising wages and salaries as well as the consistently growing number of permanently employed. This combination lays the groundwork for stable private consumption, which today already accounts for more than half of the gross domestic product. In the past year growth was still for the most part sustained by export.

The expectations component for the Nikkei Index is developing positively – the respective indicator continues its growth from the previous months and now reaches 57.6 points. This means the analysts share a moderately optimistic outlook as regards the upcoming announcement of quarterly results by Japanese firms.

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PUBLICATIONS

■ ZEW Economic Studies

Christoph Böhringer and Andreas Lange (Eds.)

Applied Research in Environmental Economics

Sustainable development, climate policy, and biodiversity conservation are examples of issues on the current political agenda in many countries. These themes are also subject to economic research, and economic insights are increasingly finding their way into the design of environmental policy. Still, the reception of academic findings by policy makers as well as the timely identification of policy-relevant questions by economic researchers often seem to be problematic. This volume attempts to vitalise the exchange between policy makers and academics. It offers a snapshot of environmental economic research on a range of policy-relevant problems. Academic contributions are complemented by views of policy makers on priority fields in environmental policy, the usefulness of academic research for decision making, and requirements to applied research in the future.

Vol. 31, Physica Verlag, Heidelberg/New York, 2005, ISBN 3-7908-1587-X

Oliver Heneric, Georg Licht, Wolfgang Sofka (Eds.)

Europe's Automotive Industry on the Move – Competitiveness in a Changing World

The automotive industry is a major pillar of the modern global economy and one of Europe's key industries. There can hardly be any doubt about the important role of this sector as an engine for employment, growth and innovation in Europe, and there are crucial challenges and opportunities ahead. The authors shed light on a broad range of issues – globalisation and restructuring, trade and foreign direct investment, innovation, regulation, and industry policy – and put a special focus on the new member states. While change may be inevitable, progress is not. This book shall serve as a map to all stakeholders: business executives and policy makers, investors and scholars.

Vol. 32, Physica Verlag, Heidelberg/New York, 2005, ISBN 3-7908-1590-X

■ ZEW Discussion Papers

No. 05-32, Vincent M. Otto, Andreas Löschel, Rob Dellink: Energy Biased Technical Change. A CGE Analysis.

No. 05-34, Melanie Arntz: The Geographical Mobility of Unemployed Workers. Evidence from West Germany.

No. 05-35, Dirk Czarnitzki, Kornelius Kraft: License Expenditures of Incumbents and Potential Entrants: An Empirical Analysis of Firm Behavior.

No. 05-37, Otto H. Jacobs, Christoph Spengel, Thorsten Stetter, Carsten Wendt: EU Company Taxation in Case of a Common Tax Base. A Computer-based Calculation and Comparison Using the Enhanced Model of the European Tax Analyzer.

No. 05-38, Jacqueline Haverals: IAS/IFRS in Belgium: Quantitative Analysis of the Impact on the Tax Burden of Companies.

No. 05-39, Dan Stegarescu: Costs, Preferences, and Institutions: An Empirical Analysis of the Determinants of Government Decentralization.

No. 05-40, Alexandra Spitz: The Effects of Changes in the Unemployment Compensation System on the Adoption of IT by Older Workers.

No. 05-41, Katrin Hussinger: Did Concentration on Core Competencies Drive Merger and Acquisition Activities in the 1990s?

No. 05-42, Klaus Conrad, Henrike Koschel, Andreas Löschel: Not Employed 37 Hours or Employed 41? – A CGE Analysis for Germany.

No. 05-43, Reinhard Hujer, Dubravko Radic, Evaluating the Impacts of Subsidies on Innovation Activities in Germany.

No. 05-44, Andreas Ammermüller: Educational Opportunities and the Role of Institutions.

No. 05-45, Giorgio Brunello, Charlotte Lauer: Are Wages in Southern Europe more Flexible? The Effects of a Cohort Size on European Earnings.

No. 05-46, Dan Stegarescu: Centralizing Tendencies in the Public Sector in Germany.

No. 05-47, Andrew A. Toole, Dirk Czarnitzki: Biomedical Academic Entrepreneurship Through the SBIR Program.

No. 05-49, Ulrich Kaiser, Hans Christian Kongsted: Do Magazines' "Companion Websites" Cannibalize the Demand for the Print Version?

No. 05-50, Michael Schröder: Is there a Difference? The Performance Characteristics of SRI Equity Indexes.

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I M P R I N T

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