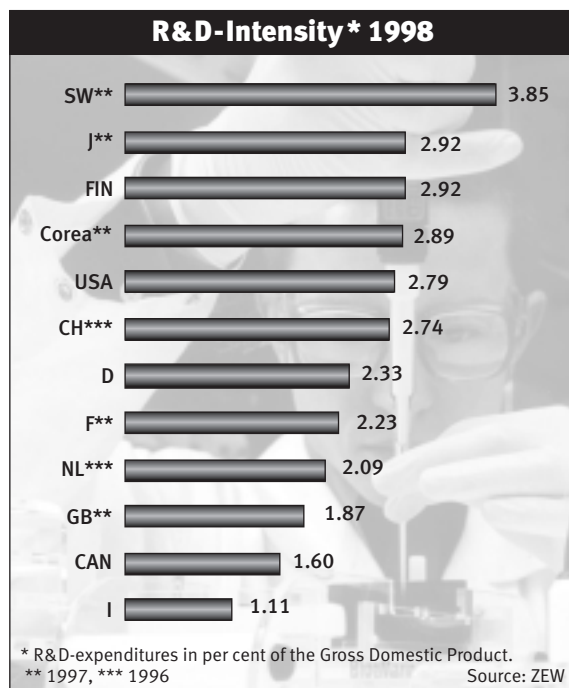


Technological Competitiveness: Investing More in the Future

The basis of Germany's technological competitiveness continues to be a good one. In the nineties, however, the investments to maintain this position have left much to be desired. The most recent efforts in investments, in research and development and patenting activities are found to be relatively wanting when international comparisons are made. Germany has fallen behind in the ranking order of nations with the highest level of investment in the future. These are the findings of the report „Germany's Technological Competitiveness“ commissioned by Germany's Federal Ministry of Education and Research with the participation of the ZEW.



Traditional strengths of the German economy have been the application and dissemination of new technology. However, ever-decreasing innovation cycles have cast doubts on these strengths. In addition to this, new competitors from the emerging economies now pose a threat, particularly to branches of industry which share a middle-to-high level of concentration on research and deve-

lopment and which represent the traditional focus of German industry. These competitors have, in the meanwhile, become well able to keep pace and are presenting a serious challenge on traditional German markets. Germany's economy with its high labour costs will not be able to overcome this challenge. It must seek out its opportunities in the technological contest.

The root of Germany's economic strength lies above all in developed and established technologies such as the motor and mechanical engineering industries. In contrast, Germany has so far appeared to have been struggling in its efforts to establish fundamentally new currents of technological development such as information and communication technology and biotechnology early enough. It is here that change must take place. In the future, Germany will not only have to keep up with other economies, but to further develop any partial advantage it may enjoy and take over the role of technology lea-

der in at least some of the latest fields of technology.

Given the increasing significance of education and knowledge for the technological competitiveness of a national economy it follows that investment in these becomes of the utmost importance. A long-term comparison shows that most industrialised countries have considerably increased investment in this area – indeed outpacing their respective domestic products in the process. In western Germany, in contrast, this „education budget“ has fallen in relation to the domestic product. The relative importance of education for public

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Research Findings

spending in Germany is, at just ten per cent, well below the OECD average of 12.5 per cent. However, the German economy, to a comparatively large extent, itself takes on this burden given the framework of its dual system of vocational training.

Conditions for research and development within companies must also be improved. An investment level of 2.3 per cent places Germany seventh among OECD countries. At the beginning of the eighties Germany still led. In order to achieve a higher level of concentration on research and development, it is ab-

solutely essential to pay attention to market indicators because the greatest incentives for research and development will be brought about by market challenges. Competitive policy thus becomes a policy of innovation: The more open and liberalised a market becomes, the easier it becomes to discover and exploit potential advantages and opportunities.

In many cases it is the new firms which represent the vanguard of the new technology. This is especially true for the young and thriving technology firms. Unfortunately, mobility tends to

be lacking among experienced managers. Here, perhaps, success-oriented incentive schemes could contribute to overcoming this deficit among qualified personnel and make changing ones job more attractive for qualified managers. Such schemes would, however, require the support of tax legislation on the part of the state.

Under www.zew.de/tl99, you can find the report „Zur technologischen Leistungsfähigkeit Deutschlands“ on the internet. ◀

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Retirement at 60: Hardly Any New Jobs

“Retirement at 60” is IG Metall’s tried and tested means in the struggle against continuing high unemployment. A current ZEW-study shows, however, that such early retirement measures would generate costs of around 60 billion deutschmarks resulting in only a relatively slight employment effect, creating 10,000 to 50,000 new positions to be filled over a time period of ten years.

■ In Germany, early retirement is nowadays accompanied by a reduction in the retirement benefit. According to the model “Retirement at 60”, those suffering a reduction in retirement benefit are to be compensated by means of a wage scale fund. This was suggested by German trade unions.

Since the “Retirement at 60” rule is proposed for a five-year period, employees aged bet-

ween 56 and 63 are affected. These are around 2.5 million employees. According to estimates of the ZEW a total of 750,000 would actually lay claim to the fund. The remaining employees either do not meet the requirements of an insurance scheme taking place over many years, meaning they have been contributing for fewer than 35 years, or are not expected to be interested in early retirement.

Total cost of earlier retirement

On average, every member of the employed who enters retirement early creates costs of around 80,000 deutschmarks. With 750,000 affected a total of 60 billion deutschmarks is necessary. This corresponds to 0.8 per cent of the total gross earnings of the dependently employed. The employment effect depends on quota filled of vacancies made available through early retirement. According to ZEW estimates this would be around ten to twenty per cent. The ap-

proximately 140,000 jobs which would become available by employees retiring at least three years earlier would result in only an expected 14,000 to 28,000 new positions to be filled. (Positions becoming available by employees retiring one or two years earlier were not included in the figure.)

Moreover, it must be taken into consideration that not only the employees but also the enterprises themselves will be additionally burdened with costs as a result of the suggested proportionate sharing of financing the fund. Rising wage costs lead, as a rule, to greater unemployment. Thus, there are two opposing forces. On the one hand, additional vacant positions are made available by the “Retirement at 60” scheme. On the other hand, the additional costs required to finance the wage scale funds would result in job cuts. On balance over a period of ten years only 10,000 to 50,000 vacancies would once more be filled. ◀

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Research Findings

Goals of Tax Reform Under Threat

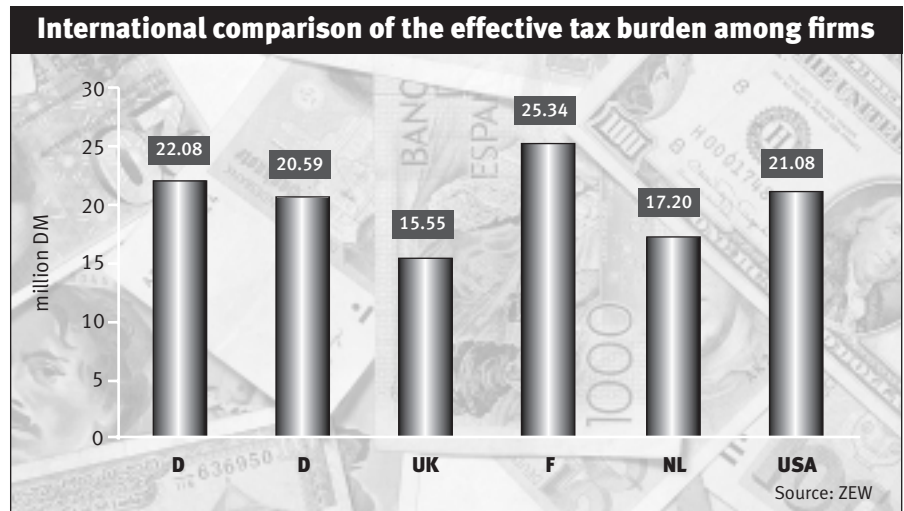
The tax reform planned by the German Federal Government is intended to strengthen German firms and make Germany a more attractive location for domestic and foreign investors. However, estimates of the ZEW and the University of Mannheim show that, the tax relief among firms due to the tax reform may improve competitiveness. However, the tax relief is not high enough. Above all, firms which are investment intensive and those which to a high degree distribute their profits, gain only little advantage from tax relief.

■ With the drafting of the Tax Relief Reform Law of 9th February 2000, the German Federal Government presented a programme of comprehensive tax reform in Germany. It is planned, among other things, to lower the tax rate and in one countermove, to spread the tax base through a deterioration of the conditions for depreciation. Beyond this, the corporate full tax imputation system is to be replaced by the half income system under which individual shareholders would have to include only 50 per cent of their dividends in their taxable income. According to the Federal Government the full imputation system is no longer tenable from the point of view of European law, as it leads to a discrimination against foreign investments. Under the new half income system such doubts no longer emerge, as the planned relief mechanism is valid for both domestic and foreign dividends equally.

European Tax Analyzer

Questionable, however, is whether the central aims of an improvement in the competitiveness of German firms, the strengthening of Germany as a location for investments and the creation of additional incentives for investment will be achieved. In order to assess this, the effects of these measures upon a representative manufacturing corporation of medium size were determined by applying the European Tax Analyzer, a computer simulation programme developed by the ZEW and the University of Mannheim, by use of which the tax burden including social security contributions of firms located in different countries can be calculated and compared.

Over a period of ten years calculations made for the firm under observation



showed a reduction of the tax burden by 6.7 per cent, or 1.49 million deutschmarks (DM). In this way Germany can improve its position compared to other nations. The USA, which currently shows a higher burden (+ 2.3 per cent or 0.49 million DM), changes places with Germany in the order of ranking, whilst Germany's advantage over France (+ 23.0 per cent) continues to grow. The Netherlands (- 16.5 per cent) and Great Britain (-24.5 per cent) continue to exert a significantly lower burden on such firms than does Germany. By and large, the proposals of the tax reform are therefore, in principle, able to improve the competitiveness of German firms.

If, however, one considers the overall tax burden, consisting of the shareholder's plus the firm's tax burdens, then the competitive situation of Germany is clearly deteriorating. As a result of the change of the corporate tax system, the overall tax burden almost doubles. This was found to be the case with calculations performed on large firms with numerous shareholders who individually came under a lower tax rate. When inter-

national comparisons are then made, Germany forfeits its favourable position.

Competitiveness improves

It remains unclear whether the planned tax changes stimulate among enterprises a strengthening of resolve to invest. The lowering of the tax rate benefits all investments and therefore also those financial investments which are insignificant in real economic terms. Investments in tangible fixed assets, however, profit less, because the lowering of the tax rate simultaneously decreases the advantages to be gained through setting off depreciation. In addition to this, the explicit deterioration of depreciation can clearly only be of a disadvantage to engineering and building investments. One is, therefore, unable to acknowledge any improvement in the competitiveness of Germany's firms which may be described as thorough or complete. ◀

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Research Findings

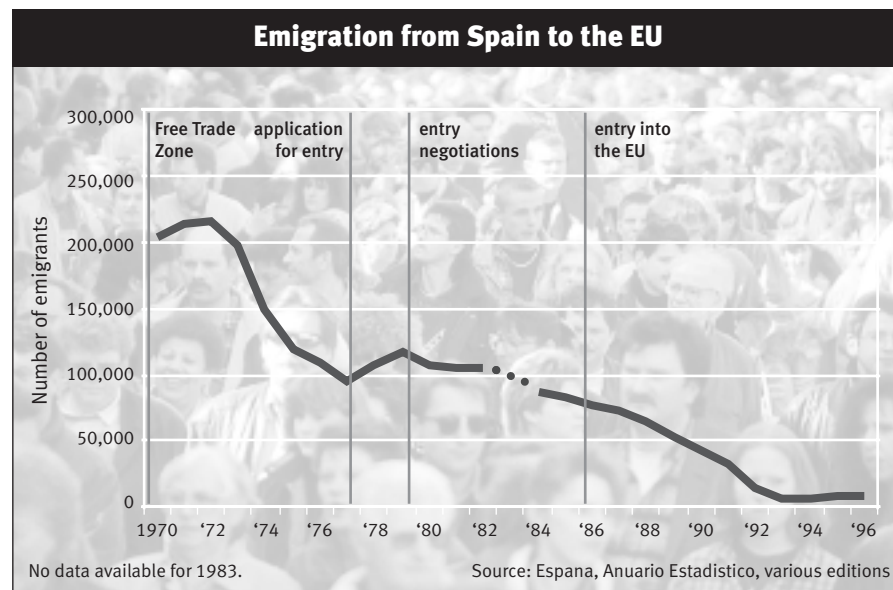
EU East Enlargement and Immigration

The applications for EU membership of some Eastern European countries have created fears regarding a flood of emigration from East to West, rising unemployment and an erosion of the Western European welfare systems. The findings of a current ZEW study, however, reveal that, when considering the economic and political determinants of migration as a whole, such mass immigration is not to be expected.

■ The prognosis of uncontrollable mass immigration is supported by traditional migration theory, according to which the decision to emigrate is chiefly determined by the expected rise in net income minus the costs involved in emigrating. In addition to the current differences in wage levels and social benefits between Eastern and Western Europe a lowering of the costs involved in emigration would follow any entry into the EU. As a consequence, immigration in Western European countries would increase. The only relevant effect of entry into the EU taken into consideration here is the lowering of emigration costs. Actual migration behaviour can only be explained in part by this, since the expected development of the economic situation of the country of origin as a whole, as well as Western European immigration policies, are also significant. In this respect different developments are to be expected depending upon whether the entry into EU membership is guaranteed approval or not.

EU membership approval decisive

In the case of a negative decision concerning an application for EU membership a slower process of catching up with the West or even, under unfavourable conditions, a further increase in the differences in per capita income are to be expected. The continuing differences in income present considerable gains to those emigrating to the West. Dissatisfaction with the economic situation, inadequate social security systems, and increasing numbers of emigrants may destabilise the political and social situation in Eastern Europe and cause a further increase in immigration. The danger exists that the Western European countries may make their immigration policies more stringent because



of fear of mass immigration. This could cause further waves of immigration, sparked by fears that future immigration may no longer be possible. A stricter immigration policy in Western Europe can thus lead paradoxically to a still greater increase in the number of immigrants.

If, on the other hand, application for entry were to be approved, liberal guarantees stipulated in the EU contract would mean that no tightening of immigration policy need be feared, so that emigration is also possible in future. Beyond this, it is to be expected that in the long term Eastern European per capita income and social security systems will come into line with Western European levels. Thus, membership of the EU would contribute to reducing incentives to emigrate to the West.

The experience gained from the EU Southern enlargement

These arguments are supported by experience gained from the EU's southern enlargement in the eighties. At that

time, fears were expressed concerning an uncontrollable stream of migrants to the core EU states. Actually, however, there was no such drastic increase in the numbers of immigrants as a result of the entry of the southern countries to the EU. In Spain, the number of emigrants to the EU has steadily decreased since the establishment of the Free Trade Zone in 1969 from over 200,000 per annum (1970) to between around 2,000 to 3,000 emigrants per annum since the beginning of the nineties. With respect to total net migration both Spain as well as Portugal have actually become immigration countries. Even clearer is the fall in the net migration figures for Greece which had become an immigration country by the time it applied for entry in 1975.

These observations suggest that an EU Eastern enlargement would not necessarily result in uncontrollable East-West migration, but, on the contrary, could bring with it a decrease in immigration. ◀

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Research Findings

Can Reform Tailbacks be Explained by Psychological Factors?

In economics, the assumption that human beings act rationally plays an important role. But psychological studies show that in terms of the way human beings think and behave there are manifold deviations from the assumptions of rationality made in economic models. A current ZEW study took up this issue. The study reveals that, among other things, irrationality can help explain why beneficial reforms are often not carried through in economic policy.

■ In some branches of economics new insights have resulted from the inclusion of irrational behaviour. In the field of financial market analysis a case in point is the so-called Behavioural Finance – an approach which explains market activity and the setting of prices in financial markets on the basis of psychologically-based irrational behaviour. Against this background it is amazing that analyses of economic policy done by economists still largely ignore these psychological factors. A ZEW study shows that economic policy decisions are easier to understand if these behavioural anomalies are taken into account.

Is rationality imperative?

The reservations traditional economics have about modifying or even abandoning the assumption of rationality have to be taken seriously. If one dissociates oneself from this assumption, one risks opening the way to arbitrariness in modelling. Moreover – and this is an important argument of the critics of limited rationality –, rational behaviour ultimately survives in markets and irrational behaviour is punished.

Especially the last argument points out that the existence of markets is a basic prerequisite for the plausibility of the assumption of rationality. However, markets where people are punished for irrational behaviour often do not exist in economic policy. For instance, there is hardly any incentive for a voter to assess economic policy programmes rationally, since his or her individual electoral choice has virtually no influence on the quality of economic policies. No voter is going to be personally punished, if he or

she bases the assessment of economic policy options on natural instincts and not on a rational calculation.

Against this background the study applies deviations of human behaviour from common rationality assumptions to the phenomenon of the “reform tailback”. This term refers to a situation in which it is impossible to carry through institutional reforms, say, of the labour markets and the tax system in a democratic system, although they would benefit the vast majority of the population. True, there are some explanations in this regard that are compatible with the postulate of rationality and take up uncertainty or the power of interest groups. Yet, the more evident the harm that voters inflict on themselves as a result of their opposition to reforms, the greater the doubts as to whether these explanations are sufficient. The ZEW study specifically deals with the status quo bias, the endowment effect, and loss aversion.

Status quo dominates

The status quo bias describes the phenomenon that out of many alternatives there is one which is particularly valued merely because it bears the label of the status quo. The endowment effect points out an incomplete knowledge of one’s own preferences: Irrespective of

their objective characteristics, goods one possesses are deemed to be worth more than goods one does not possess. Loss aversion, which differs from risk aversion, describes a bend in the utility function in the reference point (for instance, the status quo). From the per-



Irrational behaviour also partly determines activities on the stock exchange.

spective of this reference point losses are felt more intensively than equally large gains.

All these anomalies explain typical characteristics of the reform tailback. For instance, the status quo bias explains why reforms that were rejected ex ante are often well accepted ex post, even if there was no uncertainty about the reform consequences. Beyond this ability to provide explanations, the interdisciplinary widening of perspective also points out ways of overcoming the reform tailback: trial periods, for example, may help to overcome opposition to reform. ◀

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ZEW Financial Market Test

Results of the Survey in April 2000

■ 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 400 enterprises participate in the survey, among which are 270 banks, 50 insurance companies, 40 investment companies and 40 others. Participants in the survey are: Fi-

financial experts of the finance departments, the research departments and the economic departments as well as the investment and securities departments of the firms. In detail, the financial 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.

To construct forecasted figures, the qualitative response categories (increasing, unchanged, declining) are transformed into quantitative figures by the Carlson/Parkin procedure. Additional information to the applied procedure is available as an abridged version published by the ZEW. The present survey was conducted between April 3, 2000 and April 18, 2000 and all calculations are termed to April 20, 2000. ◀

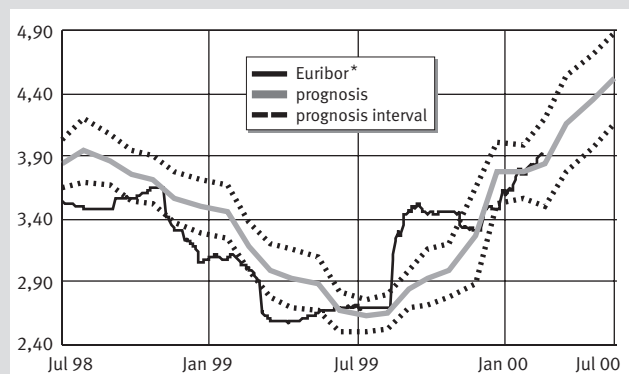
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Euroland: Inflation on the wane

■ More and more financial observers anticipate that the rise in inflation in the Eurozone may soon be over. In April, 55 percent of them were expecting that inflation would continue to increase compared to 71 percent in February. The proportion of those predicting a fall, 19 percent, is presently growing. This blossoming optimism regarding inflation does not, however, go so far as to predict that a continuing rise in interest rates may be avoided in the future. Nine out of ten experts expect further interest measures from the Central European Bank during the coming months. According to these expectations, by the summer key interest rates will be 60 basis points above today's level. Should, however, the present favourable constellation of low oil prices and a moderate wage policy continue, then the interest rate may have already reached its zenith. ◀

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Euribor: Development and prognosis



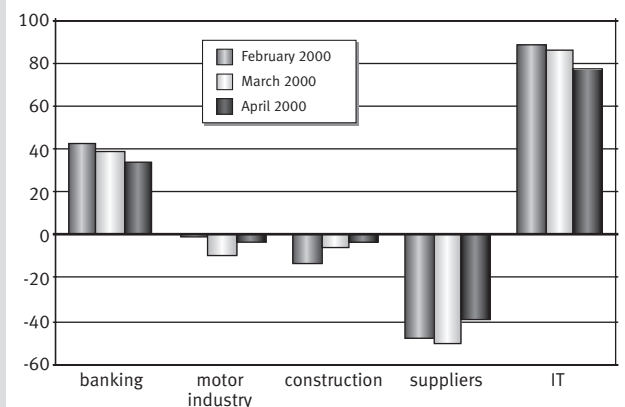
Source: Datastream, until January 4, 1999 FIBOR (3M)

Germany: IT continues to be most favoured sector

■ Experts agree that the situation is further improving, although there is less dynamism than earlier. Above all, those questioned believed that suppliers will be able to increase earnings. Despite falling prices resulting from trade liberalization, they are apparently anticipating cost advantages due to mergers. The chart shows however, that since suppliers are assessed to be the worst off, the situation is not yet an entirely satisfactory one. Quite in contrast to this is the mood of the experts regarding the IT sector. Although the prospects for earnings are still regarded as being very positive, actual euphoria has somewhat ebbed. Around 80 per cent of financial experts believe increased earnings are on the way. In this respect, the banking sector is also regarded with mild scepticism: 40 percent of those questioned anticipate improved earnings. It remains a matter of speculation whether the failed merger between Deutsche Bank and Dresdner Bank are the reasons behind this. ◀

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Expected earnings within the various sectors



Example: In April 2000 on balance 39.9 per cent of the financial experts questioned expected a worsening in the earnings situation among the suppliers.

Research Findings

Growth Opportunities of E-Commerce

The multiplicity of new opportunities presented by the telecommunications network and by the internet in particular should provide the economy with impulses for growth. A current ZEW survey among 400 German financial market experts shows that through business on the net, for particular branches such as the media economy and financial services, considerable opportunities for the economy are arising. There are still, however, obstacles which are slowing down the dynamics of this development.

■ In order to find out how far particular sectors are profiting from e-commerce and which obstacles perhaps still stand in the way of a dynamic development of business on the net in Germany, the ZEW asked around 400 financial experts.

Media and financial services profit from E-Commerce

The experts estimate that the growth impulses from business on the net for financial services (for example, on-line banking or electronic share trading) and other services not related to the financial sector as well as the media are thoroughly encouraging. Above all the media economy and financial services are going to profit according to the estimates of the market observers. 86 and 78 percent respectively of those questioned expect increased turnover of for both branches due to business on the net. Just about three quarters of those asked also count others in the service sector as profiting from trade via the net. Prospects for the retail sector are being regarded, however, somewhat more controversially. In this area, only around a third of the experts expect that further expansion of business on the net will lead to increased turnover in the future. Around half of those surveyed assume that the turnover volume of the retail trade will not be reduced by this. Around just 16 percent of the experts expect losses in the turnover of the retail business.

The experts were likewise asked how far shortcomings in security, inadequate net capacity and lack of know-how from suppliers and customers stood in the way of the further expansion of e-commerce. The answers show that problems of security continue to be regarded as

the most serious obstacles to an expansion of relations in electronic business. More than sixty percent of those questioned were able to see a strong obstacle to expansion here.

Neither were those surveyed satisfied with the infrastructure of the net. This opinion was most clearly expressed by those questioned in the banking sector. Here more than half held the view that the existing net capacities were insufficient. In contrast, the insurance industry judged the obstacle as somewhat less serious. The various offers made by banks via their electronic platforms to customers here come into play. In general banks have on offer via their electronic platforms a comprehensive range of the most up-to-date daily information available, and with regard to stock market transactions immediate

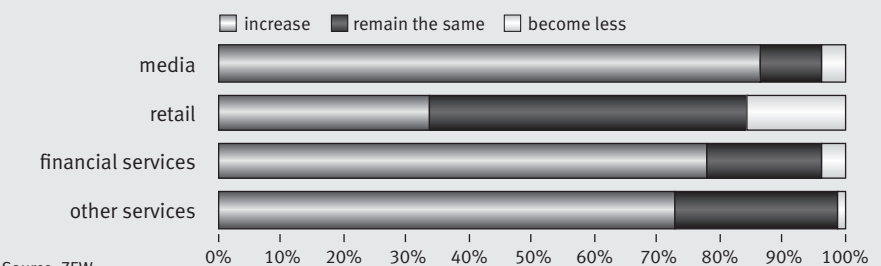
execution needs to be guaranteed. The frequency of transactions and the corresponding demands on net capacities may be less in the insurance business, however.

More than forty percent, a considerable proportion of the experts questioned, regarded lack of know-how as a clear obstacle to growth. Representatives from the banking sector assessed this as being more of a problem of the supplier than did those from insurance companies and higher still in turn than those from industry. These differences suggest the differing experience of the various branches of industry with electronic business. The considerable experience of the banks in e-commerce have possibly led to underlining the high demands on the supplier here. ◀

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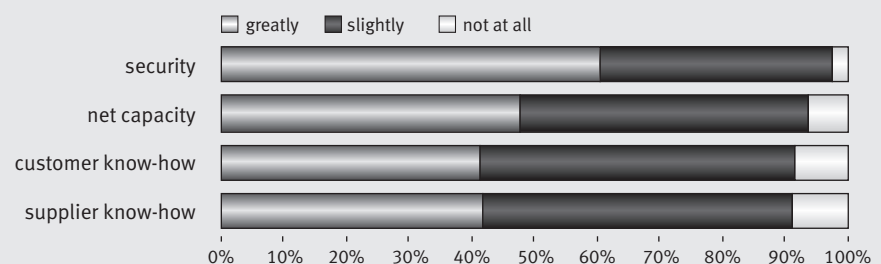
E-Commerce: Turnover development

Because of e-commerce, turnover will ...



E-Commerce: Obstacles

The following obstacles slow e-commerce down ...



Publications

ZEW Economic Studies

Puhani, Patrick A.:

Evaluating Active Labour Market Policies. Empirical Evidence for Poland During Transition

Most governments in today's market economies spend significant sums of money on labour market programmes. The declared aims of these programmes are to increase the re-employment chances of the unemployed. The book investigates which active labour market programmes in Poland are value for money and which are not. To this end, modern statistical methods are applied to both macro- and microeconomic data. It is shown that training programmes increase, whereas job subsidies and public works decrease the re-employment opportunities of the unemployed. In general, all active labour market policy effects are larger in absolute size for men than for women. By surveying previous studies in the field and outlining the major statistical approaches that are employed in the evaluation literature, the book can be of help to any student interested in programme evaluation irrespective of the particular programme or country concerned.

Springer-Verlag Heidelberg, 1999, ISBN 3-7908-1234-X.

Fitzenberger, Bernd:

Wages and Employment Across Skill Groups. An Analysis for West Germany

The book explores empirically for West Germany whether a decline in the relative demand for less skilled workers resulted in an increased unemployment. Using up-to-date econometric techniques, a balanced mixture between descriptive evidence and structural estimation is provided, and there are various findings in the book which require a modification of the conventional wisdom about labour market trends in West Germany. Overall, wage dispersion has been increasing, and wage growth has been higher for low-skilled and high-skilled workers compared to the medium skill group. A skill bias in labour demand trends is found and higher wage flexibility could have alleviated this dispersion in unemployment rates across skill groups. The main driving force appears to be technological progress, however, the evidence is also consistent with international trade causing a deterioration in the labour market position of low-skilled workers. With regard to wage bargaining, evidence for a short run, but not for a long run, moderation of wage demands is found in the presence of a negative labour demand shock.

Springer-Verlag Heidelberg, 1999, ISBN 3-7908-1235-8.

■ Discussion Papers

Lechner, Michael; Pfeiffer, Friedhelm; Spengler, Hannes; Almus, Matthias: *The Impact of Non-profit Temping Agencies on Individual Labour Market Success in the West German State Rhineland-Palatinate*, No. 00-02.

Wolf, Elke: *Lower Wages for Less Hours? A Simultaneous Wage-Hours Model for Germany*, No. 00-03.

Lauer, Charlotte; Steiner, Viktor: *Returns to Education in West Germany – An Empirical Assessment*, No. 00-04.

Boockmann, Bernhard; Steiner, Viktor:

Cohort Effects and the Returns to Education in West Germany, No. 00-05.

Lauer, Charlotte: *Gender Wage Gap in West Germany: How Far Do Gender Differences in Human Capital Matter?*, No. 00-07.

Kaiser, Ulrich: *A Note on the Calculation of Firm-specific and Skill-specific Labor Costs from Firm-level Data*, No. 00-08.

Kraus, Margit; Schwager, Robert: *EU Enlargement and Immigration*, No. 00-09.

Czarnitzki, Dirk; Kraft, Kornelius: *An Empirical Test of the Asymmetric Models on Innovative Activity: Who Invests More into*

R&D – the Incumbent or the Challenger?, No. 00-10.

Böhringer, Christoph; Rutherford, Thomas F.: *Decomposing the Cost of Kyoto. A Global CGE Analysis of Multilateral Policy Impacts*, No. 00-11.

Boockmann, Bernhard: *The Ratification of ILO Conventions: A Failure Time Analysis*, No. 00-14.

■ ZEW Dokumentationen

Boockmann, Bernhard: *Decision-Making on ILO Conventions and Recommendations: Legal Framework and Application*, Nr. 00-03.

ZEW

Zentrum für Europäische
Wirtschaftsforschung GmbH

IMPRINT

ZEW news English edition – published quarterly

Publisher: Zentrum für Europäische Wirtschaftsforschung GmbH (ZEW) Mannheim

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

Print: Offset-Friedrich, Ubstadt-Weiher, Germany