

with M&A Report

Patent Thickets Often Thwart Innovation

Today hundreds of patents protect many innovative products such as smartphones. Thereby, thickets of interrelated patents are an unpredictable risk for firms as they can impede a country's overall technological progress, too. A new study by ZEW sheds light on the impact patent thickets have on innovation activities.



A thicket of overlapping patent rights protects many innovative products while increasingly hindering the innovation process. Sometimes patents can even be a brake on a country's innovation system.

Today there are thickets of overlapping patent rights protecting new products based on information and communication technologies. Each individual patent grants patent holders the right to block the launch of innovative products since the holders must first approve the commercial use of their invention.

If new product developments are protected by a large number of patents, introducing them onto the market necessitates that all patent holders involved coordinate and agree with one another. Negotiations of this kind become increasingly difficult depending on the number of parties involved and degree of difference between their interests. Often, individual parties who participate in such licensing negotiations possess entire clusters of relevant patent rights. Companies with broad patent portfolios have an advantage in cross-licensing negotiations. Broad patent portfolios can serve

Recent patent disputes involving large technology companies, such as Apple, Google, and Motorola, have called attention to the problem of ever-more wildly growing patent thickets. Dense networks of patents now regularly slow the introduction of innovative products. Research presented in ZEW Discussion Paper No. 12-015 shows that large as well as small firms refrain from investing in innovative products and processes.

High Costs for Small Firms

For small firms, patent thickets make it difficult and expensive to secure the rights needed to launch innovative products. Yet large firms are also deterred by the uncertainty resulting from patent

thickets. The ZEW study focuses on the mixed influence that patents have on innovation, showing that patent thickets impair the innovation activity of both small and large companies – albeit for different reasons. The fact that patents can have a negative effect may seem surprising at first glance, considering patent rights to be granted in the first place to provide incentives for investment in new technology. Inventors are granted patent rights so they can protect their inventions – and they reserve the right to exclude others from using their inventions in commercial products. But while patent disputes are nothing new in the world of emerging new technologies, the extremely high number of patents now necessary to launch innovative products certainly is.

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as bargaining chip in licensing negotiations. The negotiating power of small companies with fewer patents is, thus, relatively weak. And if a small company wants to use a new technology in its products, its negotiating power weakens as the number of parties with whom licensing agreements must be reached increases.

Legal Uncertainty

Patent thickets can, however, even become problematic for companies with broad patent portfolios. It is even difficult for legal experts and engineers to gauge the scope of patent rights. This legal un-

certainty increases the risk connected with launching innovative products, especially if, after the market launch of a new product, the company ends up in a bad negotiating position with potential patent holders. Launching innovative products usually involves substantial investment, so a legally enforced injunction on selling a new product can quickly escalate into a financial fiasco. The potential threat of patent holders unexpectedly coming out of the woodwork may favour them in subsequent licensing negotiations. Their bargaining position becomes more favourable with diminishing dependence on alleged infringer, i. e. when

patent holder's sunk investments are low compared to the alleged infringer. The study finds that large firms actually invest less in innovation when small firms possess more of the relevant patents.

Empirical Approach

The study was based on enterprise data from the Mannheim Innovation Panel on 1,016 manufacturing companies in Germany. The enterprise data were linked to information on patent applications filed with the European Patent Office. The study analysed the period 1993 to 2006.

Franz Schwiebacher, schwiebacher@zew.de

E-Recruitment is One of the Most Popular Methods Among Firms Seeking New Personnel

Firms in Germany's information economy rely on a mix of different tools for recruiting new employees. E-recruitment – that is, finding new employees through digital channels – is right at the top of the list, and is now being used by nearly 71 per cent of companies in this sector.



Success is assured by personal recommendations.

The favourite e-recruitment tools for filling vacant positions are employment websites and firms' own websites, which are used by 51 and 50 per cent of companies in the information economy, respectively. Nearly 16 per cent of firms make use of social media platforms, such as XING or LinkedIn. These are the findings of a representative survey among firms in

the information economy. This economic branch is composed of companies from the information and communications technology sector (hardware and service providers), the media industry, and knowledge-intensive service companies (legal consulting firms, tax consultants, corporate consultancies, architectural and engineering bureaus, as well as R&D, advertising, and market research firms).

Personal Recommendations

In addition to digital recruitment channels, personal recommendations are of particular importance for securing new employees. The survey shows that around 70 per cent of firms in the information economy make use of personal recommendations from colleagues or management staff. Moreover, firms regard this method of employee recruitment as the most successful. More than half of the companies that use personal recommendations consider them to be the most suc-

cessful tool in current use for finding new employees. By comparison, only around 38 per cent of the firms that rely on e-recruitment regard it as the most successful method. At about 42 per cent, significantly fewer companies are still making use of the traditional recruiting method of placing ads in traditional print media. Nearly 21 per cent of the companies make use of temporary work agencies.

Flexible Work Hours

To better recruit and retain employees, more than 56 per cent of firms in the information economy offer flexible work hours. The second most popular recruitment incentive used by firms is to offer continuing education opportunities (nearly 45 per cent of firms). Providing employees with IT hardware for work and additional private use, such as notebook and tablets (22 per cent) or smartphones (17 per cent), is still much less prevalent. Only 19 per cent of the firms in the information economy make use of home office or telecommuting arrangements. Providing above-average salaries is cited by nearly ten per cent of the firms as a way of recruiting and retaining their employees.

Dr. Jörg Ohnemus, ohnemus@zew.de

RESEARCH FINDINGS

Debt Brakes in Germany's Federal States by Comparison – Ambition is Often Lacking

In 2009 Germany enacted a constitutional provision that limits the creation of new debt. Yet despite this “debt brake”, the rules for taking on new debt vary significantly between Germany's sixteen states.

Germany's states, or *Länder*, have considerable leeway in the implementation of the new constitutional rules. Germany's constitution requires the states to achieve cyclically adjusted deficit levels of zero by 2020. Yet they are free to select their own method for the cyclical adjustment of their structural budgetary balances. Furthermore, the states are not required to implement debt brake provisions in their state constitutions. Instead, it is considered sufficient if each state incorporates rules for a debt ceiling in its budgetary regulations. Moreover, there are no unified federal guidelines for implementing escape clauses or for the inclusion of the balance sheets of public owned companies and municipalities.

Robustness and Credibility of Debt Rules

In a new study (Discussion Paper No. 12-067), ZEW researchers have distilled the different state rules into a quantitative indicator. The indicator was constructed using procedures that were developed for the international comparison of national debt rules. The indicator provides information about the robustness and credibility of a particular set of rules. Ideal debt brake provisions at the state level should fulfil five different requirements: First, they should be embedded in the state constitution in order to place them beyond the reach of the current ruling majority in the state parliament.

Second, they should be safeguarded through automatic sanctions. Third, they should include as many areas of public finance in a state as possible. Fourth, they should make use of precise terminology. And fifth, while providing adequate leeway for the business cycle, they should at the same time include corrective mechanisms for missed targets.

The findings show that not a single German state has developed a debt ceiling that meets all of these criteria. Meanwhile, there are large differences between the individual states.

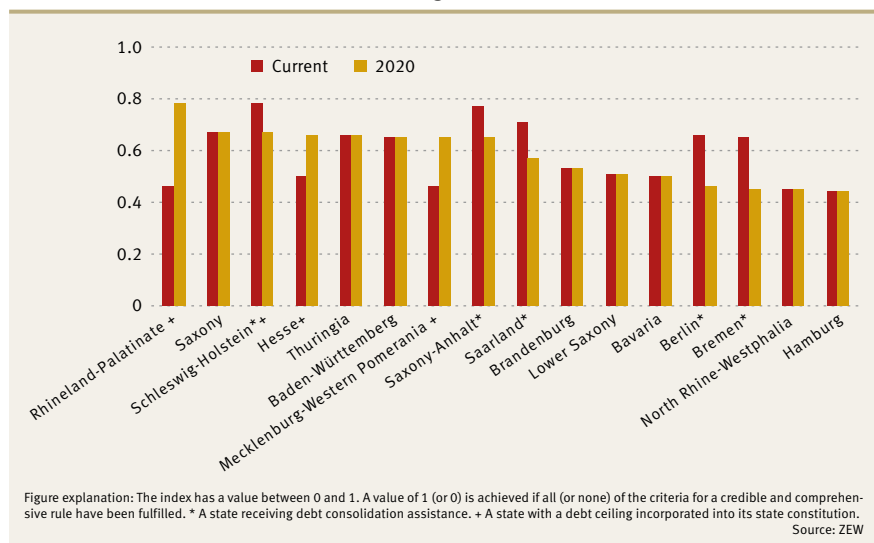
During the interim period before the constitutional debt brake comes into full force in 2020, the index values for the poorer states benefit from an effective threat of sanctions. These include the risk of losing debt consolidation assistance payments if the state takes on excessive

considerably. At the tail end of the list are the states with the least ambitious debt regulations; these are, from the bottom, Hamburg, North-Rhine Westphalia, Bremen, and Berlin.

The study thus demonstrates that several of the most indebted states have shown little ambition in putting their fiscal house in more credible order through their own legislation.

This observation is consistent with the all too familiar distorted incentives created by Germany's federal system. Together, Germany's federal jurisdictions constitute a single community of shared liability. Therefore, in terms of competi-

Index of the Robustness of State Debt Regulations



debt. Beginning in 2020 this threat of sanctions will disappear. Accordingly, the index values for these states will drop. Starting in 2020, according to the current state of the law, Rhineland-Palatinate will have the strictest rules, followed by Saxony, Schleswig-Holstein, and Hesse.

Rhineland-Palatinate and Hesse have embedded their debt rules in their state constitutions. The regulations in Rhineland-Palatinate stand out in that they also cover special funds and public companies. This raises the state's index value

on the capital markets, it does not pay for any single federal state to enact particularly rigorous regulations – since all of the 16 states face virtually identical financing conditions as a result of their collective liability.

Seen in this context, Germany's experience with unambitious fiscal regulations in a few federal states provides further evidence of the distorted incentives in a federal system that are engendered by sweeping bailout promises.

PD Dr. Friedrich Heinemann, heinemann@zew.de

RESEARCH FINDINGS

Economic Slowdown Due to the Euro Crisis – Stability Risks Remain High in 2013

In autumn 2012, the global economy is in a phase of weak growth. The economy has lost its momentum nearly everywhere and the sentiment of firms as well as households has further deteriorated. This is revealed by the Joint Economic Report Autumn 2012.

While the debt and confidence crisis within the Eurozone has been a central burdening factor since 2011, the burst of

2013. The economic growth of emerging countries is expected to accelerate slightly next year.

next year; global production is expected to increase by 2.3 per cent in 2012 and even by 2.5 per cent in 2013. Meanwhile world trade is only slightly stimulated. After an increase by only 2.1 per cent throughout this year, it will increase at a rate of 3.8 per cent next year, which is a rather moderate speed in a longer-term context.

The Joint Diagnosis is an analysis of the economic situation in Germany, the Eurozone, and worldwide. The Joint Economic Forecast Group consists of: the Leibniz Institute for Economic Research (ifo) at the University of Munich in co-operation with the Konjunkturforschungsstelle (KOF) at ETH Zurich (Business Cycle Research) and the Kiel Institute for the World Economy, for the medium-term forecast in co-operation with the Centre for European Economic Research (ZEW) Mannheim and the Institute for Economic Research Halle in co-operation with Kiel Economics as well as RWI Essen in co-operation with the Institute for Advanced Studies, Vienna.

the housing bubble in the United States in 2007 has triggered adjustment processes which are also taking place in other advanced economies and have not yet come to an end.

Structural errors prior to the beginning of the crisis still weaken the economy today. The longer the general recovery takes, the more firms, private households, and governments reach the conclusion that the long-term prospects on growth and incomes are worse than they had believed until now.

Eurozone: Stagnating GDP

After this year's decrease by 0.5 per cent, GDP in the Eurozone will largely stagnate in the coming year – on condition that the uncertainty that is currently paralysing the economic activities resolves. A highly restrictive financial policy will dampen market demand in the United States in 2013.

The overall economic output of the advanced economies is likely to increase at a rate of only 1.2 per cent in 2012 and

Especially China's government will probably stick to its policy of growth incentives until the economy starts picking up substantially. All in all, the global economy will grow slowly until the end of

Germany: Rising Unemployed

The euro crisis is putting a strain on the German economy. The institutes forecast an increase of GDP by 0.8 per cent in 2012 and by 1.0 per cent in 2013. The situation on the labour market will worsen; the number of unemployed persons will increase slightly in 2013 to 2.9 million. The national budget will be nearly balanced in 2012 as well as in 2013. The institutes take a critical stance to the European Central Bank's (ECB) initiative to purchase sovereign bonds of struggling countries. According to the institutes, the ECB programme fuels the risks of inflation in the Eurozone in the middle run.

Dr. Marcus Kappler, kappler@zew.de

Key Data of the Forecast for Germany

	2008	2009	2010	2011	2012	2013
Real GDP						
(Annual percentage change)	1.1	-5.1	4.2	3.0	0.8	1.0
Employed ^{a)} (1,000 persons)	40,348	40,370	40,603	41,164	41,627	41,775
Unemployed (1,000 persons)	3,258	3,415	3,238	2,976	2,892	2,903
Unemployment rate BA ^{b)} (in %)	7.8	8.1	7.7	7.1	6.8	6.8
Consumer prices ^{c)}						
(Annual percentage change)	2.6	0.3	1.1	2.3	2.0	2.1
Unit labour costs ^{d)}						
(Annual percentage change)	2.3	6.2	-1.5	1.2	2.8	1.8
Government fiscal balance ^{e)}						
In billion euros	-1.8	-73.0	-103.6	-19.7	2.0	-0.2
In % of nominal GDP	-0.1	-3.1	-4.1	-0.8	0.1	0.0
Current account balance						
In billion euros	153.6	140.6	150.7	146.6	166.7	166.5
In % of nominal GDP	6.2	5.9	6.0	5.7	6.3	6.1

a) Domestic – b) Unemployed persons in % of the civilian labour force (definition according to the Bundesagentur für Arbeit). – c) Consumer price index (2005=100) – d) Domestically generated compensations of employees per employee hour in relation to the real GDP per employee hour – e) Definition according to the European System of Accounts (ESA 95)

Sources: Statistisches Bundesamt; Bundesagentur für Arbeit; Deutsche Bundesbank; 2012 and 2013: forecast of the institutes

Q&A: Is Excessive Patent Protection a Problem for the Economy?

Patents Should Only Be Granted When They Protect Real Technological Novelities

In many areas of technology, the road to new products leads through a dense thicket of existing patents that threatens to hinder innovation. A new ZEW study has found that patent rights are often distributed among many companies, creating the risk of blockades to innovation. Dr. Georg Licht explains the long-term consequences.

The number of patents has increased significantly in the last decade. It is estimated that devices such as semiconductors or mobile phones are protected by hundreds or even thousands of patents. Why is that?

New products often employ a variety of different technologies and manufacturers rarely possess the technological expertise for all of them, which is why they are forced to rely on inventions of others. Moreover, technological advances today are more interdependent than they were several years ago, and the speed of development for new products and the demand for product differentiation has rapidly increased. Hence, specialisation also in technology development is called for. Companies now see the licensing of patented inventions to third parties and also to competitors in the product market as an important source of revenue alongside product sales.

An empirical study carried out by ZEW shows that companies tend to invest less in research and development when the technology in question involves many overlapping patents. What does this mean for the economy's long-term innovation?

The widely held view that patents serve as incentives for companies to invest more in research and development is not always true. A technological landscape populated by a huge amount of patents can increase the risk for companies to unwittingly use a small piece of property owned by another company. Hence, the risk to fully enjoy the profit from the innovation increases. Companies thus hesitate to invest into those

technological areas. More research does not automatically equal greater prosperity. What is clear is that the patent "thicket" causes enormous transaction costs which slow innovation.

Dr. Georg Licht has headed the Research Department of Industrial Economics and International Management at the Centre for European Economic Research (ZEW) since 1992. His research interests lie in the economics of innovation and high-tech start-ups. Licht is member of numerous advisory boards both national and international, including the OECD, the European Commission, and the Federal Statistical Office of Germany. Licht has published various articles and books on fields like high-tech start-ups, industrie studies, innovation and patents.



Photo: ZEW

Are there ways to neutralize the negative effects of patent thickets – whether through market-based means or through government legislation?

On the one hand, care must be taken to grant patents only for inventions which are significant technological advances. For instance, many have criticized the US patent and trademark office for being too lax about what counts as a significant invention. It is trivial inventions what perverts the patent system in the long run. On the other hand, it must be easier to establish fair, reasonable and non-discriminatory standards in licence agreements (known as FRAND), though, of course, it is difficult to define what these are in individual cases.

In a globalized economy it is difficult for any single country to implement regulation successfully. What is the Euro-

pean Union doing to make the patent situation more transparent?

Much would be gained if patent rights in Europe were easier to fight in court. The European Commission has submitted various recommendations for establishing unified judicial proceedings for defending and contesting them. Up to now, EU member states have different rules regarding patent infringement and invalidity proceedings. In addition, a patent granted by the European Patent Office decomposes

into a bundle of natural rights governed by the national legal provisions. In June 2012 the European Council once again submitted a proposal for a uniform patent system. It is still uncertain whether this attempt to harmonize patent jurisdiction in the EU will succeed or whether it will make legal proceedings more complex.

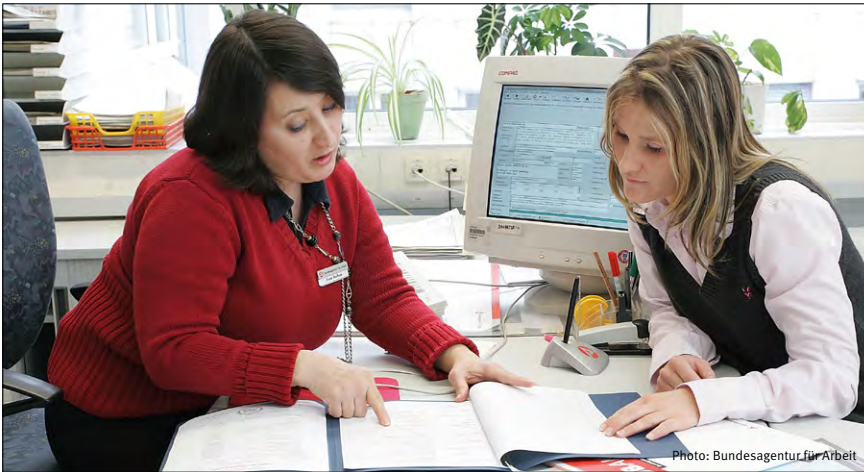
Big companies love to take over firms with many patents in a specific area. What do you think when a company's value is measured more strongly by its intellectual property than by its real products?

According to previous ZEW studies, companies with patents that have the potential of blocking other companies are likely to be candidates for takeover. The threat of takeover can thus act as a counterweight to blocking attempts or against excessive licence fees.

Dr. Georg Licht, licht@zew.de

Ten Years of Successes and Failures in the Reorganisation of the German Labour Market

Ten years ago, a wide-ranging reorganisation of the German labour market was initiated. The Hartz IV reform played a key role in this process. It was designed to increase the efficiency of support services for welfare recipients and to facilitate their attainment of jobs. A ZEW study of the Hartz IV Reform revealed both successes and failures.



Scene in a job centre: Centralised welfare agencies are more successful in helping individuals attain jobs than decentralised welfare agencies.

The study, which used a microeconomic approach, drew on existing databases such as the German Socio-Economic Panel (SOEP) and administrative data from the Federal Employment Agency (BA). New data were also collected for the purpose of the study, including a survey of nearly 25,000 welfare recipients, as well as extensive surveys of job centres. The study analysed the period from 2006 to 2008, devoting special attention to the integration of individuals with an immigrant background into the labour market.

Two Different Types of Job Centres

A key element in the Hartz IV reform was the reorganisation of support services and programmes for activating welfare recipients. This approach included the parallel introduction of two new organisational models using two different types of job centres in an effort to determine their relative success under conditions of

mutual competition. One model involved the use of centralised welfare agencies and the other focused on decentralised welfare agencies.

The centralised welfare agencies are a joint undertaking between municipalities and the Federal Employment Agency, in which both actors share responsibility for the activation of welfare recipients. The decentralised welfare agencies place full responsibility on the municipality for all activation tasks, and do not include any direct involvement on the part of the Federal Employment Agency.

The findings of the study show that the use of a decentralised organisation had a significant negative impact on the chances for male welfare recipients to secure a job that met their financial needs. For this group of individuals, decentralised welfare agencies achieved an integration rate that was as much as 24 per cent lower than the rate achieved by centralised welfare agencies. For women as

well, the study demonstrated a tendency toward a negative effect, although this finding was not statistically significant. The gender differences found in the study applied to both groups of persons with and without an immigrant background.

The study went on to examine the efficacy of sanctions. Under the carrot-and-stick principle of “Fördern und Fordern” (“Supporting and Demanding”), sanctions play an important role in the activation process of welfare recipients. If welfare recipients fail to comply with their duties during the activation process – say, by dropping out of a labour-market training programme or rejecting a suitable job offer – they face a three-month curtailment of their welfare benefits.

In practice, the study found a considerable degree of divergence in the application of such sanctions at the job centre level. Some job centres used sanctions quite freely while others scarcely made use of them at all.

Impact of Sanctions on Individual Employment Probability

These differences in the application of sanctions were used to estimate the impact of sanctions on the individual employment probability. Specifically, the study estimated the effect of a sanction on those individuals who are not sanctioned by an agency with a moderate sanction policy but who would be sanctioned if the agency decided to impose sanctions more frequently. In this way, the study sought to identify the potential impact of more intensive sanction activity. The findings show that intensifying the use of sanctions had a major positive effect on employment. This finding was valid independent of whether or not the individuals under consideration had an immigrant background.

Finally, the study examined the impact of the active labour market programmes used most frequently since 2005 for welfare recipients.

POLITICO-ECONOMIC ANALYSIS

The interventions examined included so-called temporary extra jobs (also referred to as “one-euro jobs”) along with four short-term training interventions: aptitude tests for specific occupations, job search training, skill provision, and combined training programmes. What was of particular interest was to determine whether there were differences in the efficacy of interventions for persons with and without an immigrant background.

Temporary Extra Jobs Are Counterproductive

The results of the estimates indicate that temporary extra jobs fail to produce their intended effects. Regardless of immigrant background status, they diminished the chances that participants would find employment that met their financial needs. The findings about the effectiveness of training measures were more heterogeneous. Interventions based on assessing the suitability of the individuals for specific occupations had positive employment effects for all of the groups under consideration in the study. Job search training had no significant impact on men regardless of their immigrant status. Women without an immigrant background benefited from this form of training, whereas it had a negative effect on employment chances for women with immigrant backgrounds. In contrast to job search training, the results for skill provision (for example, computer courses) showed that women of immigrant background derived particular benefit from this programme. For men, there did not appear to be a significant difference in the effectiveness of skill provision between persons with and without an immigrant background. As a whole, combined training programmes were ineffective.

Aptitude Testing Pays Off

Finally, the efficacy of active labour market programmes was further examined using a cost-benefit analysis as a way of estimating the efficiency of such programmes from the fiscal perspective of the government.

All expenditures required for conducting a programme were considered as part

of the costs. The benefits included all income resulting from the successful participation in a programme that resulted in successfully finding a job. This included, among others, taxes and social security contributions generated from employment as well as savings in welfare benefits and administrative costs.

Because of its positive effects on employment and relatively low cost, aptitude tests yield a good return on investment, even in the short term. Generally speaking, one year after the start of the programme, the fiscal benefits of aptitude tests significantly outweighed the costs. By contrast, no significant excess benefit could be shown for job search training. For

tra jobs result in major fiscal losses. However, the legislature has already responded to the negative effects and high costs of temporary extra jobs, cutting back on their use in 2011.

With regard to the implementation of sanctions as well, there has been a tendency to adjust the frequency of their use in the last few years. The curtailment of benefits is being imposed significantly more often now.

More Decentralised Job Centres

However, with respect to the organisational structure of support services for welfare recipients, the legislature has act-



Training programmes at job centres show quite variable efficacy. Both German women and women with an immigrant background derived particular benefits from aptitude tests.

women with an immigrant background, the study actually found a negative fiscal benefit from this intervention, resulting from the counter-productive employment effects. From the point of view of efficiency, skill provision should be viewed as a preferable intervention for women with an immigrant background. For the other groups examined by the study, the benefits of skill provision similarly tended to exceed the costs.

For combined training programmes, the costs and benefits one year after the start of the programme were virtually identical. For temporary extra jobs the findings revealed a major negative benefit due to the reduced chances of securing employment. Since this intervention is also very cost-intensive, temporary ex-

ed contrary to the recommendations of empirical findings. Thus, in the beginning of 2012 the number of decentralised welfare agencies was significantly increased even though this type of job centre has been less successful since the start of the reform. The future will show if decentralised agencies have narrowed the gap to centralized agencies in the meantime or if the step towards stronger decentralization turns out to be counterproductive to the activation of welfare recipients.

Dr. Thomas Walter, walter@zew.de

The analysis was undertaken in a dissertation titled “Germany’s 2005 Welfare Reform – Evaluating Key Characteristics with a Focus on Immigrants”. It was published by Physica-Verlag as volume 46 of the ZEW Economic Studies series.

CONFERENCES

International Conference on the Dynamics of Entrepreneurship (CoDE) Held at ZEW

ZEW and the Mannheim Centre for Competition and Innovation (MACCI) held the International Conference on the Dynamics of Entrepreneurship (CoDE) in early October 2012. The conference discussed recent scientific contributions and was sponsored by the Fritz Thyssen Stiftung.



Photo: ZEW
Maryann Feldman discussed high tech clusters.

80 participants discussed recent scientific contributions on entrepreneurship research in parallel sessions that were based on 39 scientific papers selected from about 100 applications. A very im-

portant issue were the success factors of start-ups. Several talks were about the impact of the founders' human capital (education, business experience, composition of the founding team) on the growth and survival of firms. Other lectures dealt with the link between the financing of young companies by, for example, business angels or venture capitalists and their innovation activities.

Moreover, the importance of institutional factors such as the development of the banking sector or the public funding of research and development for the start-up and innovation activity was discussed.

In addition, five keynote speeches covered a broad range of challenges of entrepreneurship research and policy.

Maryann Feldman (University of North Carolina at Greensboro) reported on successful practices for high-tech clusters.

Franco Malerba (Bocconi University) worked out the specific characteristics of knowledge-intensive enterprises.

Massimo Colombo (Politecnico di Milano) gave an overview of venture capital markets for young companies in Europe. Lars Persson (IFN Stockholm) developed a basic model to study the impact of profit tax and capital gains tax on the quality of startups.

Roy Thurik (Erasmus University Rotterdam) presented the current state of research on the search for genes predisposing individuals to entrepreneurial activity.

The program was rounded off with a panel discussion on the government's role in financing high-growth firms. Reinhilde Veugelers (Catholic University Leuven) moderated the discussion of Alexander von Frankenberg (Managing director of High-Tech Gründerfonds), Peter Hofelich (Government Representative for the State of Baden-Württemberg for SMEs and Craft-based Industries), Christian Tidona (Managing director of the BioRN cluster) und Karen Wilson (OECD).

Michaela Niefert, niefert@zew.de

Kick-Off Meeting of Major European Climate Project ENTRACTE Launched at ZEW

ZEW hosted the kick-off meeting of the research project ENTRACTE (Economic iNsTRuments to Achieve Climate Targets in Europe) on 24 and 25 September, 2012. Researchers of renowned research institutions from six European countries participated in the event in Mannheim.

On behalf of the EU Commission, ENTRACTE is supposed to work on recommendations for making the European climate policy more effective and more efficient. The project focuses on the interactions between different policy instruments employed in Europe. Within the framework of the project, ZEW cooperates

with institutions such as the Potsdam Institute for Climate Impact Research, the London School of Economics, and with further partners from Germany, Italy, Great Britain, Ireland, Norway and the Netherlands. Professor Andreas Löschel, head of the research department "Environmental and Resource Economics, Environmental

Management" at ZEW, coordinates the project. ENTRACTE is financed under the EU's Seventh Framework Programme for Research and Technological Development which provides a research budget of three million euros over a period of 36 months.

ENTRACTE examines the effects of the European Trading Scheme as well as the interplay of complementary policy instruments such as standards of energy efficiency, the promotion of renewable energies, CO₂ emissions taxation, innovation policy and trade policy measures.

Dr. Oliver Schenker, schenker@zew.de

INSIDE ZEW

Macroeconomic Qualification Programme MPS+ Successfully Concluded at ZEW

The participants of the MPS+ programme with ZEW President Wolfgang Franz (middle) and ZEW staff.

Experts and executives from government institutions from China, Burma, and Vietnam successfully concluded the qualification programme “Strengthening Macroeconomic Policies” (MPS+) at ZEW. After ten weeks of intensive training, the participants were handed out their certificates by ZEW President Wolfgang Franz on November 15, 2012. The macroeconomic training courses included lectures, discussion panels, group work, and working on case studies. Visits to the European Central Bank were part of the programme. The MPS+ programme has already been organised for the fourth time on behalf of the Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Marcel Fratzscher Discusses at ZEW Research Seminar the Global Impact of Fed’s Monetary Policy

Dr. Marcel Fratzscher addressed a controversial issue that is currently fuelling worldwide political debate at the ZEW Research Seminar: he discussed the results of a study on the global impact of the monetary policy measures by the American Central Bank Federal Reserve (Fed). He examined the impact of the American Central Bank’s monetary policy on other countries in the period from 2008 to mid-2011. As Fratzscher puts it, this long pe-

riod of time was moreover marked by two phases of quantitative easing – the so called QE1 and QE2 phases – which were particularly characterised by the purchase of government bonds.

Furthermore, Fratzscher distinguished the impact of the Fed’s monetary policy announcements from the impact of its actual operations. “Fed operations, such as the purchase of government bonds or of mortgage-backed securities, had signifi-

cantly stronger effects on portfolio allocation and on asset prices than the mere announcements”, says Fratzscher.

Dr. Marcel Fratzscher is the current head of the International Policy Analysis Division of the European Central Bank (ECB). In September 2012, he was elected Chief Executive Officer by the board of trustees at the German Institute of Economic Research (DIW). He is expected to take up his position at DIW in February 2013.

Economist from Rutgers University Receives ZEW’s Heinz König Young Scholar Award

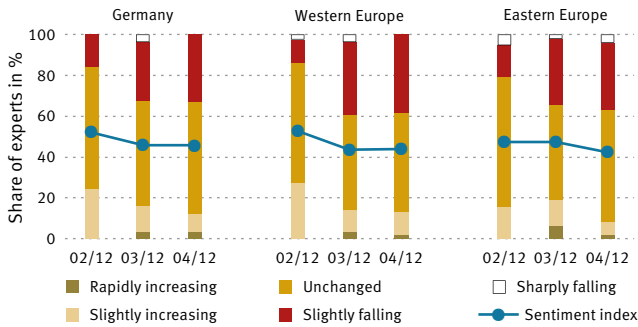
This year’s Heinz König Young Scholar Award goes to Jitao Tang, Teaching Assistant at Rutgers University. Jitao Tang is already the eighth laureate of the award endowed by ZEW. This time, the award is sponsored by the Günter J. and Christa Grochla Stiftung. It includes an endowment of 5,000 euros and a three-month research visit to ZEW. ZEW honours Jitao Tang’s theoretical and empirical paper analysing the impact of environmental regulation in different countries on foreign direct investments. During the award ceremony, ZEW President Prof. Dr. Dr. h.c. mult. Wolfgang Franz emphasised that Jitao Tang’s development of a theoretical model which he brought to an empirical test is entirely in Heinz König’s spirit.



Jitao Tang from Rutgers University (on the right) and ZEW President Wolfgang Franz.

FACTS AND FIGURES

Cargo Volumes of Inland Waterway Transport Continue to Decline

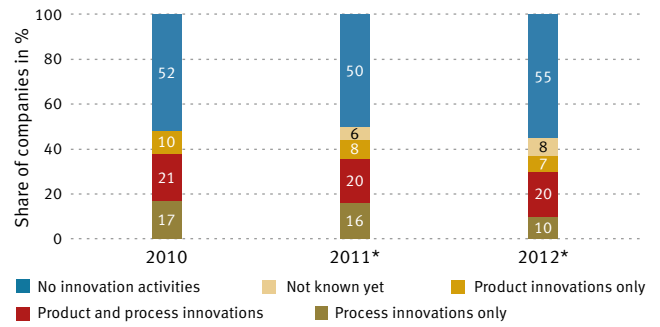


Source: ZEW

The recent development of cargo volumes in inland waterway transport confirmed the negative trend of the past years: in the first seven months of 2012, volumes decreased compared to the same period in 2011 by another 0.6 per cent. The majority of experts of the ProgTrans /ZEW Transport Market Barometer expect a stable development in the next six months, but a third – regarding transport in Western Europe almost 40 per cent – expects that the slight decline will continue. The “sentiment index” is currently at its lowest level since the spring of 2009.

Dr. Claudia Hermeling, hermeling@zew.de

Less Process Innovations in Financial Intermediation



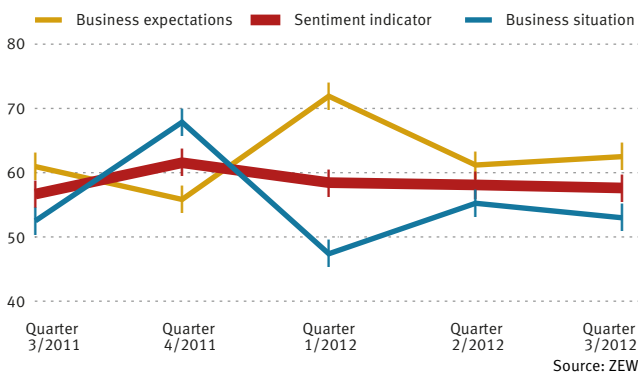
* Forecast figures from spring/summer 2011

Source: ZEW, Mannheim Innovation Panel

For 2012 companies in the German financial intermediation planned less process innovation activities than in the previous years. Thus, the phase of high strategic priority for process improvements is likely to come to an end. Starting in the recent financial crisis bank and insurance companies had driven forward rationalization innovations during the last years saving costs of five to six per cent per year. For 2012 only 30 percent of the companies planned to introduce process innovations, compared to 38 per cent in 2010.

Dr. Christian Rammer, rammer@zew.de

Growing Optimism in all Sub-Sectors of the Information Economy

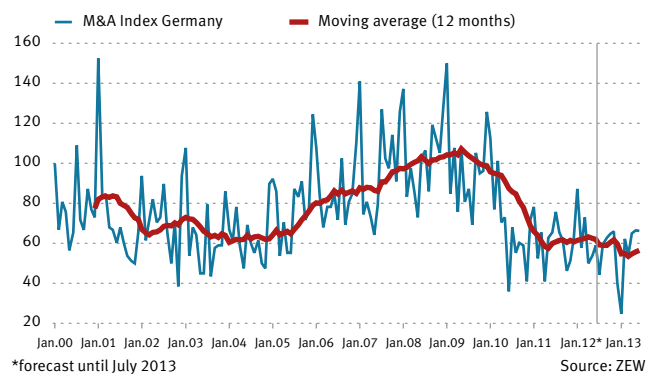


Source: ZEW

In spite of a slight decrease by 0.5 points to a level of 57.6 points, the ZEW Sentiment Indicator Information Economy again lies above the crucial 50-points mark in the third quarter of 2012. The economic development of the sector is positive at the moment. The economic sentiment in the information economy has already been remaining relatively stable since the third quarter of 2011. Even in the sub-sector of media service providers optimism gradually spreads. Expectations for the coming months have brightened up noticeably.

Miruna Sarbu, sarbu@zew.de

Recovery of the German M&A Market Still Not in Sight



*forecast until July 2013

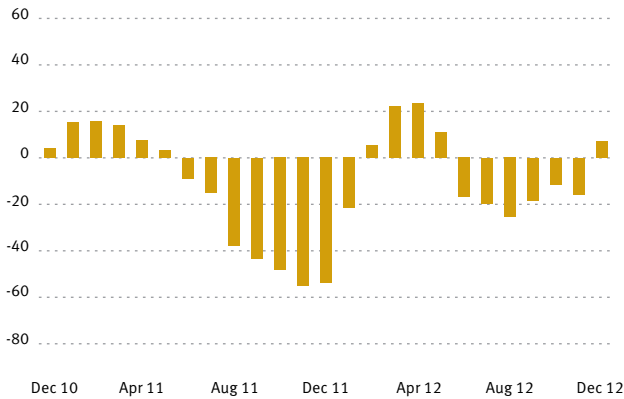
Source: ZEW

A recovery of the German M&A market is still not in sight. The ZEW-ZEPHYR Index for Germany has been maneuvering at the 60-points mark since the beginning of 2011. Until mid-2013, M&A activities will stagnate at this level. This is the result of a forecast conducted by ZEW on the basis of the Zephyr database of Bureau van Dijk (BvD). The current level of the M&A Index Germany is considerably below its initial value of 100 points in 2000. The weak dynamics on the M&A market is a result of the global economic insecurity due to the still unsolved debt crisis.

Florian Smuda, smuda@zew.de

FACTS AND FIGURES

ZEW Financial Market Test December 2012

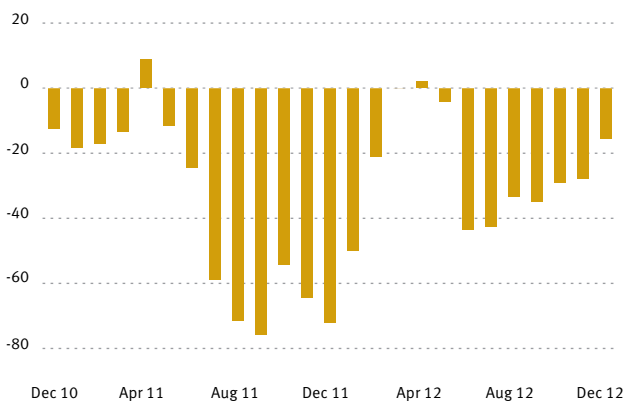


Balance of positive and negative assessments concerning economic development in Germany on a six-month-time-horizon. Source: ZEW

Germany: Cautious Optimism

The ZEW Indicator of Economic Sentiment for Germany has increased by 22.6 points to 6.9 points in December 2012. It is on positive territory for the first time since May 2012. The experts expect the economic activity to stabilize until early summer 2013. As the Indicator of Economic Sentiment hovers only marginally above the zero points-line, the German economy is rather likely to bottom out than experiencing a pronounced upswing within the next six months. The assessment of the current economic situation has increased by 0.3 points. The respective indicator now stands at the 5.7 points-mark. Economic expectations for the Eurozone have risen by 10.2 points to 7.6 points mark. The indicator for the current economic situation in the Eurozone now stands at the minus 79.9 points-mark.

Christian D. Dick, dick@zew.de

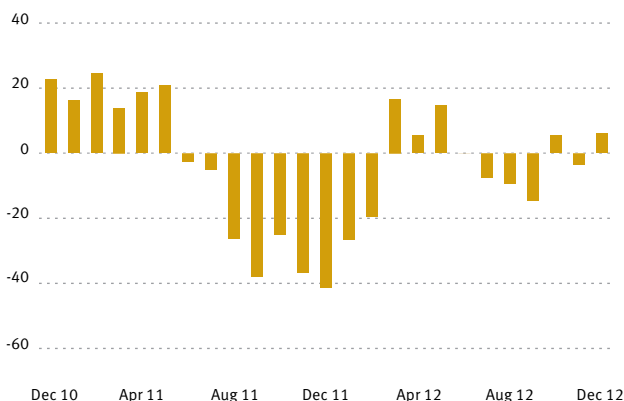


Balance of positive and negative assessments concerning economic development in Switzerland on a six-month-time-horizon. Source: ZEW, Credit Suisse

Switzerland: Economic Outlook Brightened Up

Economic expectations for Switzerland have improved by 12.4 points in December 2012, raising the ZEW-CS Indicator to minus 15.5 points. Nevertheless the number of experts anticipating an improvement of the economic situation has not increased. The majority of participants (71.1 per cent) rather expect the Swiss economic situation to remain unchanged over the next six months. Financial analysts' assessments of the current economic environment in Switzerland reach positive ground at 6.6 points. The current value is slightly above the yearly average of 2.7 points. The ZEW-CS Indicator is calculated monthly by ZEW in cooperation with Credit Suisse (CS). It reflects the expectations of the surveyed financial market experts regarding the economic development in Switzerland on a six-month time horizon.

Lena Jaroszek, jaroszek@zew.de



Balance of positive and negative assessments concerning economic development in the CEE region on a six-month-time-horizon. Source: ZEW

CEE Region: Expectations Increase Slightly

Economic expectations for Central and Eastern Europe including Turkey (CEE Region) on a six month time frame have increased by 9.5 points in December 2012. The ZEW-ERSTE Group Bank Economic Sentiment Indicator for the CEE region now displays a value of 6.1 points. Economic expectations for the Eurozone continue to improve for the third consecutive month. The respective indicator has risen by 5.3 points to a level of 18.2 points. The economic sentiment indicator for the CEE region and further financial market data have been surveyed monthly by ZEW, Mannheim, with the support of Erste Group Bank, Vienna, since 2007. The CEE region consists of the following countries: Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Serbia, Slovakia, Slovenia, and since October 2010 Turkey.

Zwetelina Iliewa, iliewa@zew.de



Sustainability

As the European debt crisis grinds on, some countries, especially Italy and Spain, have complained that despite having initiated reforms they must pay “unreasonably” high interest rates to finance their national debt.

They have asked the European Central Bank (ECB) to buy up their bonds in order to assure a maximum interest rate that is “reasonable”. The ECB intends to follow through by purchasing government bonds but without setting an explicit interest rate target as long as the countries in question promise to satisfy certain reform conditions under the European Stability Mechanism (ESM).

The decision of the ECB to finance state debt is economically dangerous and legally questionable. But I would like to address another question here: when, indeed, are interest rates “reasonable” for countries hit hard by a debt crisis? One often hears the argument that the interest rates Italy paid before the introduction of the euro were just as high as now, which is one way of saying that Italy’s complaints lack substance. But the matter is not that simple, as anyone who has taken Economics 101 knows.

First of all, a country’s budgetary deficit and debt must be placed in relation to GDP. The larger the GDP, the higher the tax revenues – and the easier it is to service debt. It is also necessary to distinguish between interest expenditures and primary expenditures. Primary expenditures go to finance a state’s core functions. When the primary budget has a positive balance, revenues exceed primary expenditures, which means they suffice to finance not only primary expenditures but also part of interest expenditures. The primary budget surplus needed to cover all interest expense obviously depends on the interest rate and the amount of government debt. But it also depends on GDP growth.

The formula that governs the relationship between the primary balance and debt levels can be illustrated with the following example. If a country wants to keep its debt-to-GDP ratio constant,

then the ratio of its primary balance to GDP must equal the debt-to-GDP ratio multiplied by the difference between nominal interest rate and nominal economic growth. The debt-to-GDP ratio for Italy is around 120 per cent. If the financial market for Italian bonds demands an interest rate of, say, six per cent and Italy’s economic growth amounts nominally to three per cent, a primary surplus of 3.6 per cent of GDP is necessary for stabilizing the debt-to-GDP ratio. With an interest rate of seven per cent, the primary surplus must total 4.8 per cent of GDP.

But keeping the debt level constant is not enough to satisfy the terms of the Maastricht Treaty. The reformed stability and growth agreement demands that national debt be reduced by one-twentieth every year until the debt-to-GDP ratio falls below 60 per cent. Let’s return to the example of Italy. Given an interest rate of seven per cent and a nominal economic growth rate of three per cent, the German Council of Economic Experts estimates that Italy in the next few years will have to achieve a primary surplus amounting to eight per cent of GDP. With an interest rate of five per cent, the necessary primary surplus would be just under six per cent of Italy’s GDP. Historically, few industrial countries have managed to maintain a primary surplus of more than four per cent of GDP for any extended period.

These estimates show that without lower interest rates in the euro zone, reducing countries’ debt-to-GDP ratios to Maastricht levels will be difficult. Given this fact, if one protests ECB intervention, then one is obliged to highlight alternatives. One possible solution is the European Redemption Pact proposed by the German Council of Economic Experts.

Wolfgang Franz

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President: Prof. Dr. Dr. h.c. mult. Wolfgang Franz · Business and Administration Director: Thomas Kohl

Editors: Elisa Jendrusch, Phone +49/621/1235-133, Telefax +49/621/1235-255, E-mail jendrusch@zew.de
Gunter Grittmann, Phone +49/621/1235-132, Telefax +49/621/1235-255, E-Mail grittmann@zew.de

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