

ZEW NEWS

Research Results · Conferences & Workshops · Publications

March/April 2014



Research Findings

**German ICT Sector
Continues to Grow**

Research Findings

**Direct Democracy
and Taxation**

Politico-Economic Analysis

**US-Tax Policy Widened
Prosperity Gap**

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China's Power on Rare Earth Market in Decline

New suppliers of rare earth metals weaken China's monopoly. For some elements, however, the People's Republic will retain its market dominance until the end of the decade. This is one of the findings a recent ZEW study obtained using the newly developed Metal Resources Model (METRO).

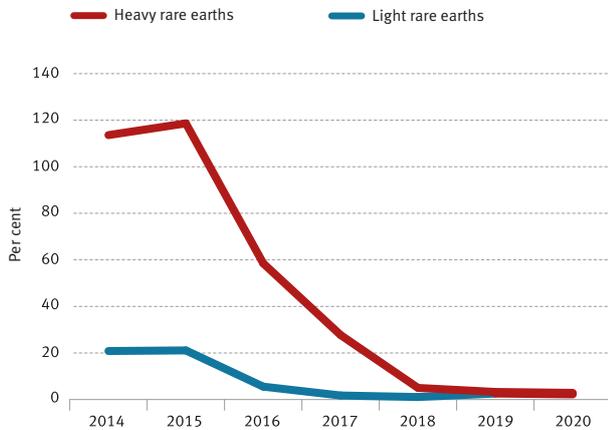
Rare Earth metals are a group of 17 elements whose chemical and physical properties make them indispensable for many high-tech products. Some of their applications include permanent magnets used in wind turbine generators and phosphors for computer- and TV-screens. Despite their name, rare earth elements are fairly abundant in the earth's crust. Cerium, the most plentiful element of the group, is present in larger concentrations than copper. However, almost all rare earth metals are currently produced in China. Of the 125,000 tonnes mined annually, more than 90 per cent of the rare earth elements come from the Middle Kingdom.

The attention surrounding these metals today arises from China's strict export restrictions in the face of increasing global demand. The People's Republic uses quotas and duties to limit the export of rare earth elements. These trade restrictions have led to multiple price explosions, with the cost of light rare earth elements increasing tenfold from mid-2010 to mid-2011. China's policies, and their effects, have not gone ignored. In particular, mining companies have begun mineral explorations in other countries and the technology industry is on the lookout for suitable replacement materials.

New Suppliers to Challenge China

A recent ZEW study has found that China's position on the rare-earth market will decline significantly in coming years, mostly due to the emergence of new suppliers outside the People's Republic. The speed of the decline will vary depending on

CHINA'S POWER ON THE RARE EARTH MARKET



Note: China's export limits for rare earth elements have led to price explosions outside of China. The chart shows world market prices for rare earths in per cent compared to a situation without export limits (zero level). China's market power with regard to heavy rare earth elements decreases not until the end of the decade. 2019 price differences fall to below ten per cent compared to scenario without export limits (zero level). Source: ZEW

the metal. While suppliers in the U.S. and Australia have already started to corrode China's monopoly on plentiful, light rare earth metals, its dominance in heavy earths will continue for most of the decade (see chart above). The ZEW study forecasts that if export restrictions stay at their current levels, prices outside China for heavy rare earths will double by 2015 relative to domestic prices. Not until 2019 will the difference drop below ten per cent. At least for the next few years, this price advantage will give China a competitive advantage for industries that rely on heavy rare earth metals. The study expects that production outside China to reach up to 140,000 tonnes by 2020, or around half of global output. Some countries with new mine projects in advanced stages of development are the United States, Australia, and Canada. But putting a new mine for rare earths into operation can take ten to 15 years, and all the mines far along in planning contain only small amounts of light rare earths. For the short term, China need not worry about foreign competition.

A New Metal Resources Model Designed

The ZEW study was based on the new metal resources model METRO. It simulates the physical lifecycle of metals, from ore deposits to disposal and recycling. Unlike other models for metals, it expressly factors in capacity expansions. It breaks down demand for rare earths into seven industries. Data were gathered from feasibility studies in the mining sector and from industry expert forecasts. METRO simulations show that over the short run China can influence global prices mainly through export quotas. Companies that use rare earths in their products have few alternative materials available for the time being, and new suppliers face long lead times before they can begin production. Thus, even minor restrictions to export quotas can precipitate hefty price jumps. The effects of increasing export duties, by contrast, are less noticeable, but also more sustained.

Rare earths have yet to be recycled on an industrial scale. But many have placed their hopes in recycling as a way to reduce their dependence on Chinese exports. Model simulations using different cost scenarios project that additional supply of recycled rare earths can curb China's market power. This assumes that recycling technology can be made economically feasible while the number of new mines is still limited. In the long term, rare earth recycling must be able to compete with the mining sector, as increased production capacities will lower prices.

The study also describes the uncertainties of the rare earth market that need to be considered. For instance, delays in building new mines could strengthen China's position. An especially critical parameter is demand, which in the case of raw materials such as rare earth metals is heavily driven by technology, making it hard to predict. The study's sensitivity calculations show that the results greatly depend on how demand progresses.

Policy Conclusions to be Drawn

Two policy conclusions can be drawn from the results of the ZEW study. Firstly, market forces will plausibly erode Chinese power on rare earth markets until the end of the decade. All attempts to introduce recycling, to increase resource efficiency, or to foster substitution need to take this into account. Short-sighted measures relying on high prices levels are likely to be fruitless. Secondly, power on raw material markets is not permanent, but sluggish investment in mining capacities opens up windows of opportunity for nations to influence prices. This calls for a long-term approach in raw material policies. Affected firms, for example, should diversify their inputs to avoid being dependent on a small number of suppliers.

The complete study (ZEW Discussion Paper No. 14-005) can be found at: www.zew.de/publikation7309

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There are 17 **rare earth elements**. They include the 15 elements of the lanthanide series, from lanthanum (atomic number 57) to lutetium (71), as well as scandium (21) and yttrium (39). They are far more plentiful in the earth's crust than their name suggests. Cerium, the most abundant rare earth element, is more prevalent than copper. But few of the world's deposits of these highly reactive metals have concentrations high enough to permit low-cost extraction.

Rare earth elements are frequently grouped into light and heavy earths. The **light rare earth metals** are on the left side of the periodic chart, the **heavy rare earths** on the right. An exception is yttrium, which is counted among the heavy rare earths due to the similarity of its chemical properties.

Rare earth metals are found in many key technologies. Europium is used as a phosphor in plasma television screens and energy-saving light bulbs. Lanthanum is employed in oil refinery catalysers. Neodymium is needed for the high-power permanent magnets used in electric motors and wind turbine generators.



Direct Democracy and Taxation

Civic participation in political decisions has increased noticeably in Germany. A new study conducted by ZEW investigates how direct democracy affects tax policy.

Germany does not have a long tradition of citizens' initiatives and referendums – unlike, for example, Switzerland. It wasn't until 1990 that forms of direct democracy began to spread among the federal states and municipalities. The general expectation is that direct democracy increases voters' influence relative to that of representative politicians. Without elements of direct democracy, voters can punish their parliamentary representatives only by voting them out of office after their term is over. If a referendum option exists, voters can constantly exert pressure in between election dates.

It can be expected that the introduction of referendums would affect budget policy as well. If direct democracy influences the political balance, then it should also impact on budgetary decisions, related to expenditures, taxation, or government debt. While the link between direct democracy and expenditure levels has received a lot of attention, the tax dimension has so far been neglected. Few existing studies deal with the relationship between direct democracy and taxation for the United States and Switzerland, but not for Germany.

A recent ZEW study addressed this gap by investigating the effects of citizens' initiatives and referendums on municipal tax

policy in Bavaria. The authors selected Bavaria because many referendums have been held there since they were introduced at the municipal level in 1995. By 2011, over 2,400 citizens' initiatives were launched, leading to 1,300 referendums.

Tax Mix Adjustments Expected

How can greater civic influence be expected to affect communal tax policy? In Germany, municipalities are given a relatively high level of autonomy and are responsible for setting the tax multipliers ("Hebesatz") that determine municipal property taxes ("Grundsteuer B") as well as local trade taxes ("Gewerbesteuer", a local business tax). These taxes are perceived by voters in different ways. The so-called "Grundsteuer B", the tax on developed or developable properties, is directly perceived by wide parts of the population. Property owners pay this tax directly and tenants pay for them through rent surcharges. By contrast, the local trade tax (Gewerbesteuer) is paid only by the relatively few companies whose earnings exceed the tax exempt amount. Though the true economic incidence of the local trade tax might affect large groups of voters through lower wages for employees or the relocation of businesses, such effects are less visible and less politically relevant. For this reason, stronger direct democracy can be expected to adjust the tax mix towards the Gewerbesteuer as a source of revenue for the municipality.

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The median voter is satisfied with a concentration of the (perceivable) financial burdens on a small minority. What speaks against this expectation is the fact that citizens in Bavaria are not permitted to launch initiatives to change property and local trade taxes in a direct way. Nevertheless, voters can influence taxes indirectly: they can punish the municipal council for unpopular tax policies by blocking other decisions. For instance, politicians might be forced to adjust the tax multipliers to raise support for something else, such as large infrastructure projects.

Greater Civic Participation, Higher Local Taxes

A methodological challenge is that researchers cannot derive a causal impact from an observed correlation between the number of initiatives or referenda and taxation. Even if municipalities with many referendums also had higher local trade tax levels, this wouldn't suffice to establish causality. The ZEW researchers applied the following strategy to identify the causal

links: They noticed that the number of signatures for a successful initiative in Bavaria depends on the population of the municipality. In large municipalities, lower signature shares are required for initiatives than in smaller communities, making them easier to bring to a vote. With this difference in mind, the researchers observed that in municipalities with an easier use of direct democracy (on account of the fewer signatures required by initiatives), the tax mix changes towards higher trade taxes. This confirms the expectation that voters seem to believe that local business taxes affect their prosperity less adversely than do property taxes although this perception does not necessarily correspond to the true economic burden of these taxes. Given the result that direct democracy leads to higher taxation on businesses, one task for future work is to analyze whether these effects have undesirable economic consequences.

The study (ZEW Discussion Paper No. 14-003) can be found at: www.zew.de/publikation7307

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Failed Entrepreneurs Fail Again

Business owners who were forced to close a previous company due to actual or looming insolvency, a non-sustainable business idea, or better opportunities of income generation are more likely to file for insolvency with their current company. This is the result of a new ZEW study.



The role of prior entrepreneurial experience for the performance of the current business is an increasingly discussed topic of in the start-up literature. The basic assumption is that prior entrepreneurial experience has a positive effect on the performance of the current business. The main argument given is that people who have already had a business know what is important for success, such as which business ideas are most promising and what type of problems can arise in everyday business. In addition, it is mentioned that entrepreneurs with prior entre-

preneurial experience had the chance to test a variety of solutions and to build up a network of suppliers and customers which can be expected to be valuable for the current business. Furthermore, those with previous businesses are supposed to have an easier time getting financing since their business experience signals to money lenders that they know what they are getting into and that they have a well thought out and viable idea. Even those whose prior business failed, the argument goes, are at least likely to have learned what does not work.

Little Knowledge About the Value of Start-up Experience

Existing evidence on the role of prior entrepreneurial experience for the success of a current business is mixed. One U.S. study finds that current business owners who have been successful with a prior business are more successful than newcomers. But the authors of the study only look at start-ups that received venture capital, which represent only a small fraction of all start-ups. Evidence about those with a prior failed business is less clear. The authors of some qualitative studies conclude that even people whose prior company folded are more successful than those without entrepreneurial experience. Nevertheless, these results could not be confirmed by studies using large datasets. This is where the new ZEW study steps in. The ZEW analysis relies on the KfW/ZEW Start-up Panel, a representative dataset for newly founded firms in Germany. With this dataset it is possible to identify business owners with previous entrepreneurial experience and also to differentiate between successful and non-successful prior entrepreneurial experience.

The researchers distinguish between four types of so-called restarters (people with previous entrepreneurial experience): 1) portfolio entrepreneurs (entrepreneurs, who are concurrently running at least one venture besides the focal venture); 2) serial entrepreneurs (entrepreneurs who prior to the focal venture ran a venture and either sold their business or passed it on to a successor); 3) failed restarters (entrepreneurs who prior to the focal venture ran a venture that went bankrupt or was voluntarily dissolved); and 4) mixed restarters, who in the past owned at least one successful and one failed business.

Using duration models, the ZEW researchers examine how these four types of entrepreneurial experience affect the surviv-

al chances of the current business relative to no entrepreneurial experience. The findings indicate that the likelihood of survival of companies of successful restarters (portfolio business owners and serial business owners) and mixed restarters does not differ from that of companies whose founders have no entrepreneurial experience. Failed restarters, however, are almost twice as likely as first time business owners to close their current business. The most probable way for failed restarters to leave the market is through bankruptcy.

The study (ZEW Discussion Paper No. 14-009) is available for download at: www.zew.de/publikation7324

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Germany's ICT Sector Continues to Grow

The ICT sector is the secret star performer of the German economy. When it comes to added value, the ICT sector tops the list, even ranking ahead of the traditional mechanical engineering and automobile manufacturing industries.

According to calculations based on the latest available figures from the Federal Statistical Office, the ICT sector contributed 4.7 per cent to the total value added in the German economy in 2011, generating almost 85 billion euros. Compared to the previous year, the performance of the ICT sector has once again improved. These are the findings of the study "Monitoring the German Information and Communication Economy" carried out by the ZEW in collaboration with TNS Infratest on behalf of the Federal Ministry for Economic Affairs and Energy (BMWi).

The ICT sector also leads in terms of investment, which amounted to 18.2 billion euros in 2011, i.e. 4.5 per cent of total gross fixed capital investment. Despite an increase in sales of approximately six billion euros, the ICT sector's share in total

sales of the German economy declined to 4.2 per cent. However, it still ranks ahead of the chemical/pharmaceutical and mechanical engineering sectors.

In 2011, about 842,000 employees worked in the ICT sector. Mechanical engineering is the only sector with a larger number of employees. Employment growth was particularly strong in the ICT services sector between 2010 and 2011. On average, each employee in the ICT sector contributes 100,864 euros to the gross value added in Germany.

The ICT sector is also one of the most innovative sectors in Germany: 7.4 per cent of turnover is spent on innovation projects. The share of innovative businesses, which is known as the innovation rate, is almost 80 per cent.

ICT Responsible for More than One Fifth of Productivity Growth

Due to their diversity and the wide field of possible applications, information and communication technologies (ICT) enable innovation across the ICT-using sectors and businesses, thereby contributing to the performance of the entire economy. In the period between 1995 and 2010, investment in ICT was responsible for 23 per cent of the annual growth in overall labour productivity. In the period between 1995 and 2010, labour productivity (real value added per hour worked) in the German economy increased on average by 1.54 per cent per year. Germany thus outperformed France, which recorded a moderate average annual increase in labour productivity of merely 1.30 per cent in the same period of time. These two countries are well ahead of Italy and Spain, which have had rather low average annual growth rates of 0.36 per cent and 0.72 per cent respectively, not least because of the economic crisis that emerged in 2009. Investment in ICT accounted for 0.36 percentage points, i.e. 23 per cent of the overall growth in German labour productivity of 1.54 per cent per year.

TOTAL VALUE ADDED OF THE GERMAN ECONOMY IN 2011
(IN PER CENT AND ABSOLUTE TERMS)

	Per cent	Million euros
ICT sector	4.7 (4.6)	84,970 (77,730)
Mechanical engineering	4.4 (4.1)	78,791 (70,031)
Automobile manufacturing	4.3 (3.9)	76,700 (66,839)
Chemical/ pharmaceutical sector	3.0 (3.1)	53,342 (52,087)
Electrical engineering	2.1 (2.1)	38,097 (36,632)
Technical service providers	1.8 (1.8)	33,086 (30,559)
Consulting/ Creative industries	1.7 (1.6)	29,811 (26,812)
Media	1.4 (1.3)	24,993 (22,822)
Instrumentation technology	0.8 (0.8)	14,782 (12,806)

Source: Eurostat, Destatis, ZEW calculations, 2013, values in per cent represent the shares in the German economy; previous year's figures in brackets.

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Tax Policy Responsible for Widening Prosperity Gap in the United States

Since the end of the 1970s, the prosperity gap in the United States has grown ever greater. A recent ZEW study investigates how U.S. tax policy affects income redistribution and examines if it makes a difference whether a Democrat or a Republican resides in the White House.

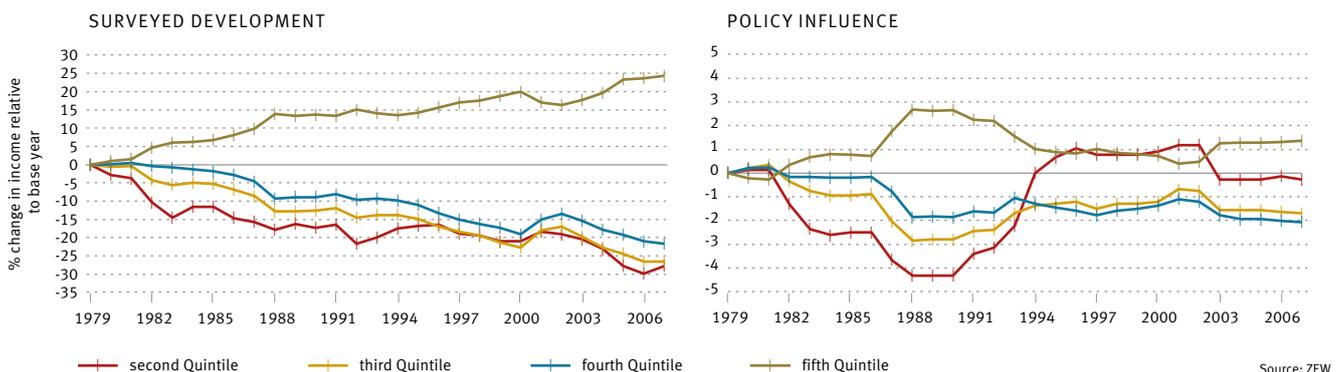
In the past 30 years prosperity in industrial countries has grown considerably. Nevertheless, over the past decades incomes have become more unequally distributed in most OECD countries. Yet in the United States, the benefits have mostly accrued to the top 20 per cent of income earners; the remaining

the other. In this way, the study's authors were able to calculate the extent to which U.S. tax policy in the past 30 years has promoted unequal income distribution.

This distinction is especially important given that pre-tax inequality in the United States has risen strongly in past decades. Various factors have contributed to this trend. For example, with greater globalisation, the wages of low-skill workers have come under considerable pressure, while the income of the top one per cent of income earners has increased markedly.

In light of the situation, it is an important and controversial question whether American politicians have taken steps to coun-

TAXPAYER INCOME CHANGE IN THE SECOND TO FIFTH QUINTILES, 1979 – 2007



80 per cent have seen fairly meagre gains. To what extent is this development attributable to sky-high salaries for managers, to the millions in bonuses received by successful hedge-fund managers, and to clever investments by wealthy households, and to what extent is it the result of taxation policy? To answer this question, a ZEW study analysed the direct effects of U.S. income tax reforms between 1979 and 2007 on income inequality.

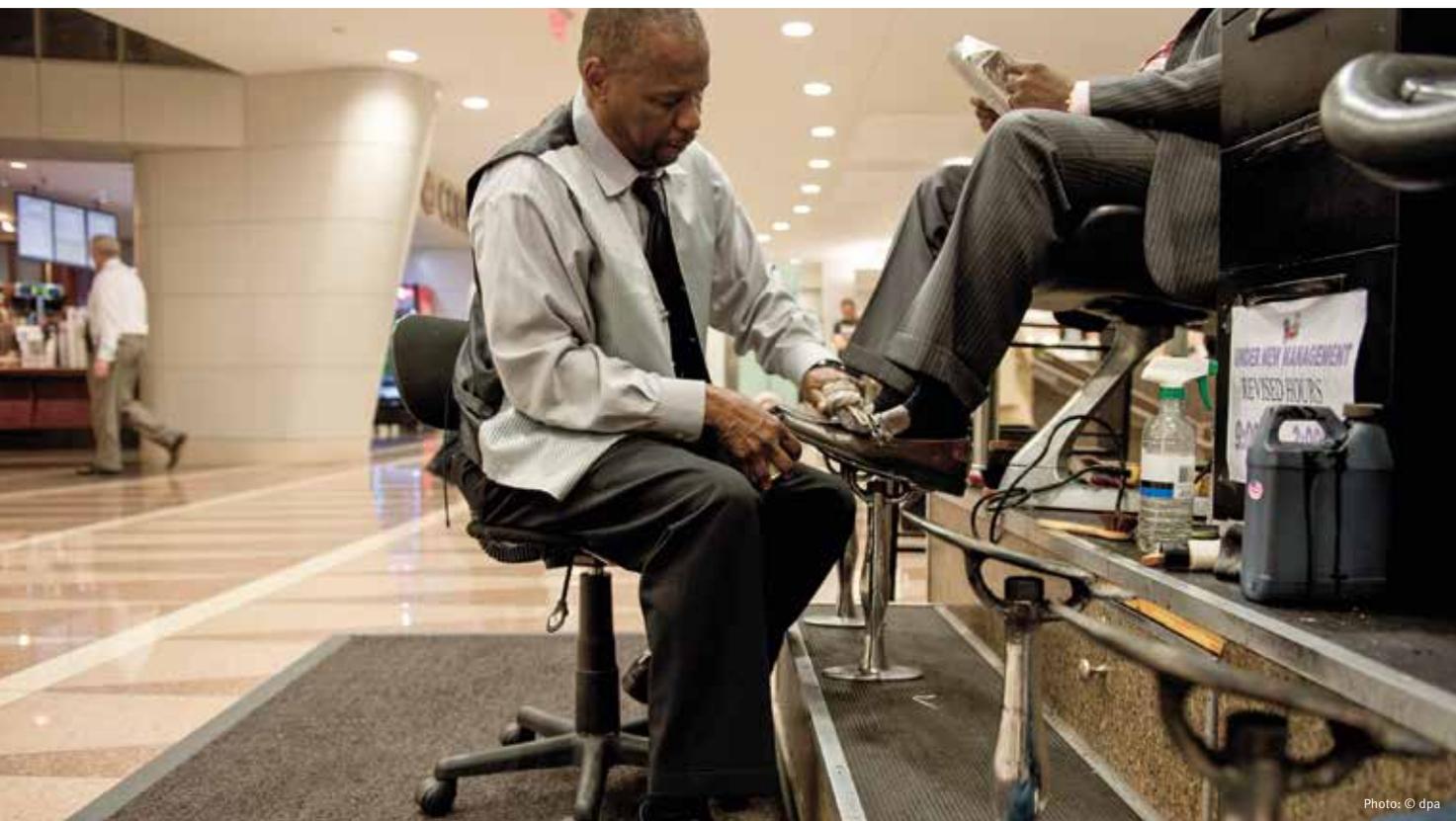
The challenge of finding an answer, methodologically speaking, lies in the fact that both taxation and pre-tax income distribution influence income redistribution. For instance, a progressive tax system – one in which the tax rate increases with the taxable base – has a greater effect on income redistribution the more unequally a society's gross income is distributed. In the extreme case that all taxpayers earn the same income, even a robust progressive system cannot redistribute income among taxpayers.

To distinguish between effects that result from taxation and those that result from changes in pre-tax income distribution, the ZEW study conducted detailed year-based counterfactual calculations, some holding one variable constant, some holding

teract increasing income equality. One effective means of reducing the income spread is some form of progressive taxation, which ensures that the inequality of post-tax income is less than pre-tax income.

Tax Reforms Passed by Republicans and Democrats

The study's authors conclude that American tax policy has done little to curb inequality in the period under investigation. The tax reforms under Ronald Reagan in the 1980s went particularly far in promoting the rich. Between 1981 and 1988 the top income tax bracket fell from 70 per cent to 28 per cent, significantly increasing income inequality, especially among the top half of the income earners. Reforms in 1990 and 1993 under George Bush and Bill Clinton, respectively, created important tax incentives for low-income families and helped slow the rapidly growing income inequality that characterised those years. The tax cuts in the years 2001 and 2003 during the administration of George W. Bush reversed the trend, and incomes began to spread apart again.



From shoeshine boy to millionaire? Tax policy intensified to some extent income inequality in the U.S.

The chart (see page 7) illustrates the described developments. The left graph shows the percentage of change experienced by taxpayers in the second to fifth quintiles of income earners between 1979 and 2007. While the income share of those in the fifth quintile increased by almost 25 per cent during this period, the income share of all other income groups fell. The right graph shows the effect that tax policy alone has had on income shares; it assumes, counterfactually, that pre-tax incomes have remained constant since 1979. For the period under observation, tax reforms contributed to an increasing income share of taxpayers in the fifth quintile and to decreasing income

shares of those in the third quintile and the fourth quintile. The graph shows noticeable party differences when it comes to taxation. In the years that a Democrat was in the White House, tax policy reduced inequality for the most part; when a Republican was in charge, taxes on the high-income taxpayers fell, promoting growing inequality in American society.

The study “Tax Policy and Income Inequality in the U.S., 1979–2007” is also available as a ZEW Discussion Paper. It can be found at: www.zew.de/publikation7305

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ZEW Discussion Papers

No 14-007, Gunnar Lang, Yu Shen, Xian Xu: Chinese Pension Fund Investment Efficiency – Evidence from CNCSSF Stock Holdings.

No 14-006, Claudia M. Buch, Katja Neugebauer, Christoph Schröder: Changing Forces of Gravity: How the Crisis Affected International Banking.

No 14-005, Frank Pothén: Dynamic Market Power in an Exhaustible Resource Industry. The Case of Rare Earth Elements.

No 14-004, Zareh Asatryan: The Indirect Effects of Direct Democ-

racy: Local Government Size and Non-Budgetary Voter Initiatives. No 14-003, Zareh Asatryan, Thushyanthan Baskaran, Friedrich Heinemann: The Effect of Direct Democracy on the Level and Structure of Local Taxes.

No 14-002, Erwin Ooghe, Andreas Peichl: Fair and Efficient Taxation Under Partial Control.

No 14-001, Olivier Bargain, Mathias Dolls, Herwig Immervoll, Dirk Neumann, Andreas Peichl, Nico Pestel, Sebastian Sieglöch: Tax Policy and Income Inequality in the U.S., 1979 – 2007.



Photo: © fotolia

Dissertations at ZEW in 2013

The qualification of its staff is of prime importance to ZEW. This is illustrated by the number of dissertations completed at ZEW in 2013. We would like to thank all supervisors, especially the first supervisors.

Dissertations since January 2013:

Martin Achtnicht, “Consumer Choices Relevant to Climate Change: Stated Preference Evidence from Germany”, Prof. Reinhard Madlener, RWTH Aachen University.

Bodo Aretz, “Empirical Essays on Wage Dynamics and Donation Options”, Prof. Wolfgang Franz, University of Mannheim.

Katharina Finke, “Alternative Konzepte der Unternehmensbesteuerung vor dem Hintergrund aktueller Herausforderungen der deutschen Steuerpolitik – Eine Quantifizierung der Aufkommens- und Belastungswirkungen mittels Mikrosimulation und Propensity-Score-Matching”, Prof. Christoph Spengel, University of Mannheim.

Jan Hogrefe, “Income and Employment Effects of Trade and Offshoring in Modern Labor Markets”, Prof. Wilhelm Kohler, Eberhard Karls University of Tübingen.

Daniel Hoewer, “Firms and their Main Banks – Effects of Main Bank Characteristics on Firms’ Bank Choice, R&D Investment, and Survival”, Prof. Konrad Stahl, University of Mannheim.

Matthias Hunold, “Essays in Competition Economics”, Prof. Konrad Stahl, University of Mannheim.

Tim-Alexander Kroencke, “Understanding and Harvesting Expected Returns of Asset Classes, Investment Styles, and Risk Factors”, Prof. Erik Theissen, University of Mannheim.

Pia Pinger, “Essays on Skills, Health, and Human Inequality”, Prof. Gerard van den Berg, University of Mannheim.

Franz Schwiebacher, “On the Use of Intellectual Property Rights by Innovative Firms”, Prof. Dirk Czarnitzki, KU Leuven.

Sebastian Voigt, “The Impact of Environmental Policy on Economic Indicators: Moving from Global to Sectoral and Regional Perspectives”, Prof. Andreas Löschel, Heidelberg University.

Nikolas Woelfing, “Interacting Markets in Electricity Wholesale: Forward and Spot, and the Impact of Emissions Trading”, Prof. Katheline Schubert, Université Paris I (Panthéon-Sorbonne).

ZEW Launches New Series of Events in Brussels



Photo: ZEW

From the left: Johannes Jung (Head of the State Representation in Brussels) and ZEW President Prof. Clemens Fuest with EU Commissioner Günther H. Oettinger, Prof. Vittorio Prodi MEP, Jaroslaw Pietras (General Secretariat of the Council, General Director Environment, Education, Transport and Energy), Sir Graham Watson MEP and Thomas Kohl (ZEW Director of Business and Administration)

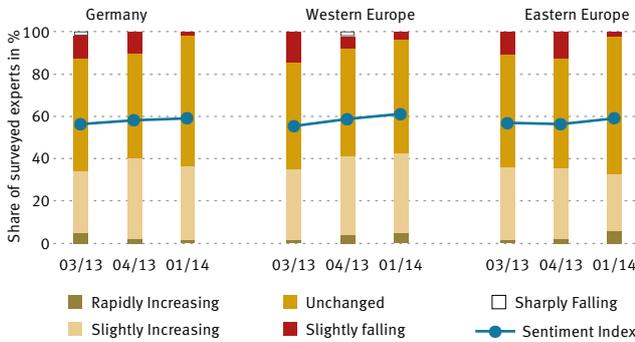
ZEW President Prof. Clemens Fuest welcomed about 120 participants from the European Commission and the European Parliament as well as industry associations, companies, research institutions and non-governmental organisations to the first ZEW Lunch Debate in Brussels on 18 March 2014. The opening speech by EU Commissioner Günther H. Oettinger as well as the

following panel discussion with distinguished speakers addressed the topic “Post 2020 Energy and Climate Protection Targets”.

Prof. Fuest opened with a brief introduction into the idea behind the ZEW Lunch Debates: “The objective of our new lunchtime events is to create a platform for open and committed discussion on topics of European significance. This setting allows us to contribute ZEW’s scientific expertise and to address decision-makers in politics and society.” Then EU Commissioner Oettinger presented the European Commission’s “2030 Climate and Energy Framework”. Following the Commissioner’s speech, Prof. Andreas Löschel, Head of the ZEW Research Department “Environmental and Resource Economics, Environmental Management”, as well as Members of the European Parliament Sir Graham Watson and Prof. Vittorio Prodi delivered their statements. They addressed the empirical analysis of climate policy measures and future projects such as the development of a European “smart” power grid or the implementation of an international climate agreement. Moreover, they touched on the broader political implications of environmental, climate and energy issues, e.g. Europe’s dependency on energy imports.

The next ZEW Lunch Debate is scheduled for 12 May 2014. For more information: www.zew.de/en/veranstaltung/1944

Positive Development of Fright Volumes in the CEP Services Sector Expected

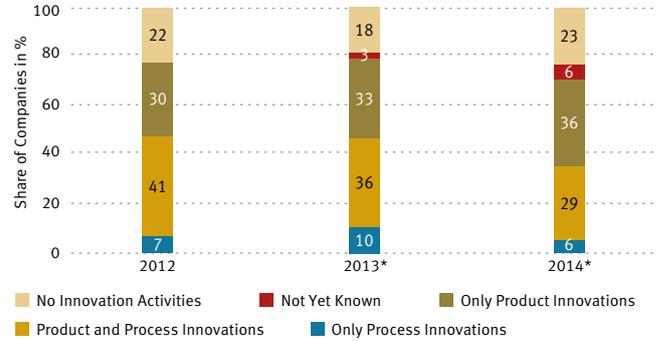


Source: ZEW

Freight volumes in the sector of courier, express and parcel (CEP) services are likely to remain stable over the next six months. About 50 per cent of experts surveyed by ProgTrans and ZEW for the Transport Market Barometer expect freight volumes to remain unchanged; about 40 per cent of the questioned experts even expect freight volumes to rise within the upcoming half year – only Eastern European traffic is assessed a little weaker. Thus, the Sentiment Index for Germany and Western Europe currently stands at its highest level since spring 2012.

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Fewer Process Innovations in the German Chemical and Pharmaceutical Industry



* Target figures from spring/summer 2013

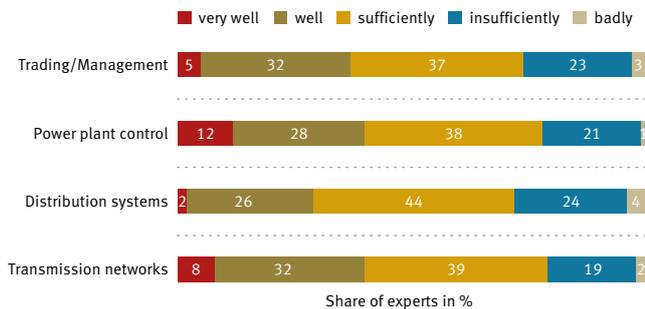
Source: ZEW, Mannheim Innovation Panel

Innovation planning of Germany's chemical and pharmaceutical companies gives reason to expect fewer process innovation activities in 2014. In 2012 and 2013 almost half of the companies invested in process innovations. In 2014 slightly more than one third plans to introduce new procedures. In contrast, however, the share of companies launching product innovations will remain high in 2014. Altogether, the share of innovative companies in the German chemical and pharmaceutical industry has increased to 80 per cent in 2013.

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Germany's Energy Economy Sufficiently Protected From Cyber Attacks

How well-protected are different facilities of the German energy system from attacks against control software?

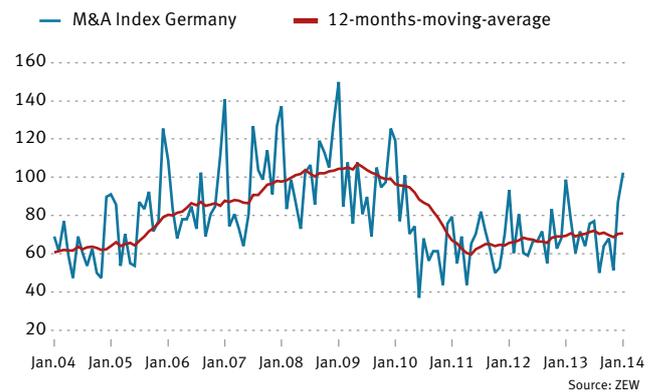


Source: ZEW

Many processes in the energy economy are automated and connected using control software. Germany's major power supply facilities, however, seem to be well or at least sufficiently protected from IT errors and cyber attacks. This view is maintained by the majority of the 170 energy market experts surveyed by ZEW for the semi-annual Energy Market Barometer. Three quarters of the experts assume that the power grid infrastructure, the distribution network, power plant control, as well as energy trading and management are protected very well or at least sufficiently.

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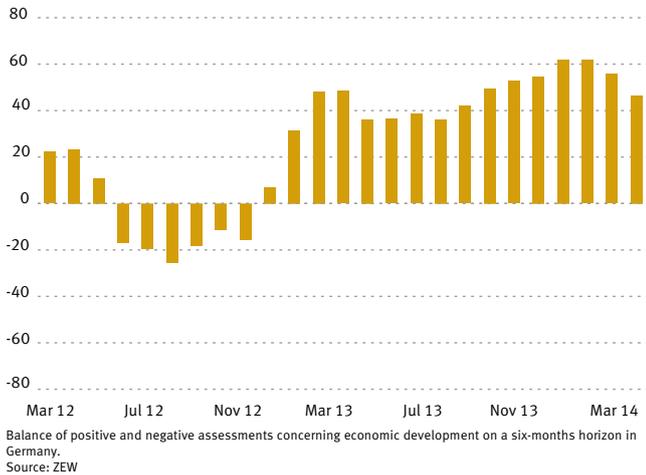
Slightly Positive Signals for the German M&A Market



The German M&A market registered a slight upward trend over the past six months. Standing in August 2010 at a level of 50 points the M&A Index for Germany exceeded the 100 points-mark in January 2014. This was seen for the last time in January 2010. Yet, the index' 12-months-moving-average does not show this positive development. In 2013 the moving average fluctuated between 69 and 72 points and currently stands at the 71 points-mark (January 2014). ZEW calculates the M&A Index for Germany on the basis of Bureau van Dijk's Zephyr-database.

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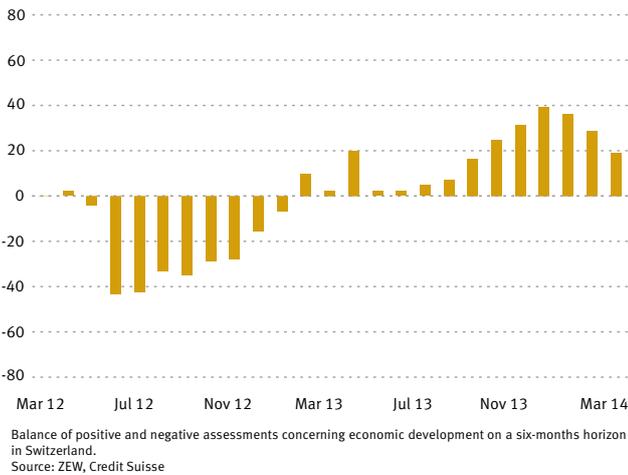
ZEW Financial Market Test March 2014



Germany: Expectations Burdened by Crimea Crisis

Economic Expectations for Germany have worsened in March 2014. The ZEW Indicator of Economic Sentiment has decreased by 9.1 points and now stands at a level of 46.6 points. In this month's survey the Crimea Crisis is weighing on experts' economic expectations for Germany. Nevertheless, the indicator's level suggests that the economic upswing is currently not at risk. The indicator reflecting the expert's assessment of the current economic situation for Germany has improved by 1.3 points in March, reaching a level of 51.3 points. Economic expectations for the eurozone have also lost ground. The respective indicator has declined by 7.0 points and now stands the 61.5 threshold. The indicator for the current economic situation in the Eurozone has gained 3.5 points, reaching a level of minus 36.7 points.

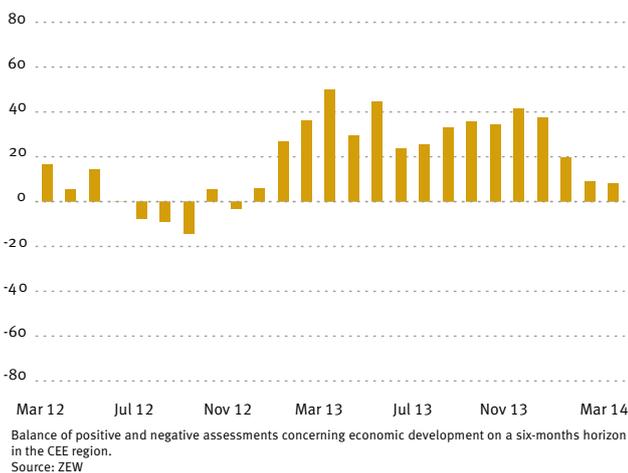
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Switzerland: Expectations Decrease Again

In March 2014 economic expectations for Switzerland have decreased by 9.7 points reaching a level of 19.0 points. This is the third decline of the ZEW-CS Indicator in a row. Thereby, economic expectations for Switzerland have lost more than 17 points in the first quarter of 2014. The ZEW-CS Indicator reflects the expectations of the surveyed financial market experts regarding the economic development in Switzerland on a six-month time horizon. It is calculated monthly by ZEW in cooperation with Credit Suisse (CS). The Crimean Conflict and the current tensions with Russia potentially influence analysts' stock market expectations: The performance of the Swiss Market Index (SMI) is assessed significantly more pessimistic compared to last month's survey. The respective indicator fell by 11.2 points to 32.5 points.

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CEE Region: Expectations Move Sideways

In March 2014 the economic expectations for Central and Eastern Europe including Turkey (CEE region) have remained roughly unchanged. The ZEW-Erste Group Bank Economic Sentiment Indicator for the CEE region has declined marginally by 0.9 points to a level of 8.1 points. Economic expectations for the individual countries, in contrast, are nowhere near stable. Double-digit positive revisions are registered by the indicators for Croatia and Turkey – two indicators which have displayed a significant downswing over the past quarter. Economic expectations for all the other CEE-countries have lost ground, displaying double-digit losses. The ZEW-Erste Group Bank Economic Sentiment Indicator for Central and Eastern Europe reflects the financial market experts' expectations for the CEE region on a six-month horizon.

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The Consequences of German Constitutional Court Ruling on OMT

Confusion – that was the first effect of the decision by the German Constitutional Court on the OMT programme of the ECB. “Victory for the ECB” read the first headlines in the Financial Times. Initially it looked as though the

court had delegated the decision on the OMT’s future to an amenable European Court of Justice (ECJ). Yet this is wrong. The German judges accuse the ECB of overstepping its mandate, and they dismiss the argument that the OMT is legitimate because it ensures that monetary policy works well. They also reject the idea that it is the job of monetary policy to avert euro exit. The ruling considers the OMT bond-buying scheme to be tantamount to ESM aid without parliamentary legitimation and control.

It is true that the court asked the ECJ to assess whether, according to European law, the ECB acts within its mandate. But this does not mean that the German court will follow the ECJ. Rather, the German judges made it very clear that they expect the ECJ to curb the OMT programme in three ways: limit the bond-buying volume, avoid changing risk premia for bonds whenever possible and block ECB participation in debt restructurings. In effect, this would strip the OMT programme of its impact.

What happens if the ECJ ignores the wishes of the German Constitutional Court and rubberstamps OMT? It is unlikely that the Constitutional Court would back down. If they had intended to let the ECJ have the final word they would not have criticised the programme so heavily. How can they intervene if push comes to shove? Simply forbidding the Bundesbank from participating

in the OMT scheme would be ineffective, as other central banks can step into the breach. The court would have to disallow the Bundestag from approving additional ESM aid programmes. But this would not only block the OMT programme. Paralysing the ESM would undermine the legitimate part of EU rescue policy as well, resulting in a European constitutional crisis.

Neither the ECJ nor the German Constitutional Court are interested in such an outcome. What they will likely do instead is seek a compromise by preserving the OMT scheme but restricting its scope and effectiveness. For instance, the ECB could be asked to reclaim its preferential creditor status. And this is just as well: keeping states above water via loans does not lie in the purview of monetary policy. The ECB shares this view in principle, and the German Constitutional Court will ultimately relieve the central bank, despite scolding it for exceeding its mandate. The political task now is to reform fiscal policy institutions in the eurozone so that they can handle the next crisis without saddling the ECB with the task of stabilising highly indebted member states.

ZEW

Zentrum für Europäische
Wirtschaftsforschung GmbH

Centre for European
Economic Research

ZEWnews English edition – published bimonthly

Publisher: Centre for European Economic Research (ZEW) Mannheim,
L 7, 1 · 68161 Mannheim · P.O.Box 10 34 43, 68034 Mannheim · Germany · Internet: www.zew.de, www.zew.eu
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