

Focus

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Special

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A NEW FLOOD OF PETRO-DOLLARS?

THE BEST MARKETS FOR BUSINESS FINANCE

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GERMANY: FIFTEEN YEARS AFTER UNIFICATION

FIFTEEN YEARS AFTER: EAST GERMANY REVISITED

JOACHIM RAGNITZ*

Assessing the German economy fifteen years after unification, we can hardly say that it has been a success story. This is especially true for east Germany that is still suffering from slow growth and high unemployment. But the west German economy, too, is still depressed by unsolved problems following a number of wrong decisions in the process of unification.

Persisting weak performance of the East German economy

After extraordinary growth rates in the early 1990s, reflecting primarily the process of rebuilding the infrastructure and a resurgence of production in privatised or newly established firms, economic growth in east Germany slowed down after 1995. From 1995 to 2004, real GDP growth averaged only 1.24 percent, nearly the same as in West Germany (1.26 percent). Today, it is only the manufacturing sector that is expanding in a satisfactory way, but with a share in aggregate output of only 17.5 percent (west Germany: 22 percent), manufacturing is too small to move the whole economy onto a higher growth path. Another reason for low aggregate growth is the continuing contraction of the construction sector whose size has halved since 1995. Nevertheless, this sector is still nearly double the size of west German construction (42 compared to 24 employees per 1,000 inhabitants), indicating further contraction in this sector in the years to come. Because of slow growth, the labour market has not improved at all in recent years. In 2005, the unemployment rate (including hidden unemployment) was still as high as 22 percent, reflecting the lack of more than two million jobs in the east German states. Bad labor market conditions are one reason for the persistently high

migration from east Germany, as especially younger and better qualified people try to find jobs in west Germany. Though individually rational, this further reduces the chances for a higher growth path, as human capital is becoming a scarce production factor in east Germany.

The weak performance of the east Germany economy is best shown by looking at per capita figures in comparison with west Germany. At present, GDP per capita reaches only 64 percent of the west German level, labour productivity hovers at only 72 percent, and tax revenues generated at the state and communal levels are only about 40 percent of west German levels. On the other hand, household incomes (in west German prices) have risen to 86 percent, and investment per capita to even 95 percent of west German levels. Moreover, government expenditures of the east German states and their municipalities exceed those of the poorer west German states by 20 percent, the major reason being high government consumption and an excessive stock of personnel in the public sector. Thus, there is a significant gap between self-generated economic strength and realized living standards of the population. This is only made possible by enormous transfer payments from west to east Germany, amounting to about 83 billion euros per annum (4 percent of west German GDP, but around 30 percent of east German GDP). Without these transfers, demand in East Germany would be 25 percent lower, and estimates suggest that the real economic performance (GDP per capita) would not be 64 percent, but only 55 percent of west German levels.¹

The problem is, however, that financing these transfers weakens the growth prospects of the west German economy. Since unification, public debt as a share of GDP has increased from 41.8 percent (1989, west Germany only) to 66.4 percent (2004), implying high interest payments and a reduced scope for action in the public budgets. And secondly, because unification issues dominated policies in the 1990s, structural reforms of goods and factor



Slow growth,
high unemployment
and transfers from the
west

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¹ Lehmann, H./Ludwig, U./Ragnitz, J., "Originäre Wirtschaftskraft der neuen Länder noch schwächer als bislang angenommen," *Wirtschaft im Wandel*, No. 5/2005, pp. 134-145.

markets were postponed, diminishing the competitiveness of Germany as a location for investment and production. As a consequence, growth rates in Germany have been the lowest in the European Union for several years. This again hampers the development of the east German economy, as west Germany has become an important market for manufactured products from the eastern states and as more than half of private investment in the east is done by west German firms.

The reasons for the weak performance of the east German economy are manifold. Most important in this respect seem to be structural deficits in the business sector, like the small size of most firms causing difficulties with R&D, finance and exports. Furthermore, as economies of scale cannot be sufficiently exploited, productivity is depressed further. Estimates suggest that about 75 percent of the productivity gap in the manufacturing sector is due to the specific size structure of the east German economy. This structure is the result of the fact that most firms were founded only after 1990, but it has also been brought about by the reluctance of west German firms to invest in east Germany: only 9 percent of all firms in east Germany are subsidiaries of west German companies, and only 30 of the 757 firms with more than 1,000 employees are located in the eastern part of the country. Of course, no one could expect west German firms to move from west to east; nevertheless, these path dependencies were not recognised early enough, causing privatisation decisions of the Treuhand Agency that did not prove to be wise in every single case.

The size structure is accompanied by a lack of human-capital intensive managerial functions such as marketing, research or other business services, resulting in a high share of less productive activities in east German firms. This again results in lower productivity and – as wages are roughly in line with productivity now – in lower disposable income. This special human capital structure therefore merely reflects the size structure of the East German economy, as smaller firms often do not need these entrepreneurial skills (or cannot afford them). Additionally, in most cases west German subsidiaries are located in east Germany only for production purposes while the more productive parts of the value-added chain stayed at headquarters in west Germany. As structural characteristics of an economy normally change in the long run only, it is difficult (or even impossible) to reach

West German levels of productivity and thus of income in a few years only.

Turned another way: low aggregate productivity is not caused by bad location conditions in east Germany, such as infrastructure deficits or poorly qualified workers – external firms investing in east Germany can therefore reach productivity levels that are not substantially different from those in other industrialised countries. Nevertheless, as internal demand as well as individual migration decisions depend on aggregate productivity levels, location disadvantages persist, leading to an ongoing reluctance of firms to invest in the eastern states.

Large regional differences

In the past fifteen years, a considerable regional differentiation has emerged in east Germany. Some regions have developed rather well, and they can be considered growth poles for the surrounding areas. These (effective or potential) growth centres are mainly the big agglomerations like Berlin, Dresden, Chemnitz, Leipzig, Halle, Jena and Erfurt, maybe also Rostock. The positive factors in these regions have been high population density (leading to agglomeration advantages), the existence of universities or other research institutions, favourable infrastructure conditions or simply historical coincidences (like the existence of big firms). Although even these cities still exhibit a number of transformation-induced problems (like high unemployment or an underdeveloped service sector), convergence to comparable West German agglomerations is proceeding. Unfortunately, the number of these agglomerations is rather low, and they are concentrated in the southern part of east Germany, limiting potential spillover effects on the east German economy as a whole.

Besides these potential growth poles, there are plenty of regions where economic progress has come to a halt in recent years. These are mainly rural areas, often located on the periphery of the east German states, but also locations of industrial complexes which might have been competitive under socialist conditions but not under market conditions and integrated world markets. The real problem is the large number of these regions. In some of them, a vicious circle has evolved: low economic activity results in high unemployment and in the emigration of younger people, leading to an even lower attrac-

Small company size
in the east

tiveness for investment, promoting further emigration and so on. It is hard to see how these developments could be reversed. They are causing severe distortions in regional policy that tries to level out regional differences.

Unfavourable prospects

While the present problems of east Germany are difficult enough, there is even less cause for optimism with respect to the future. In particular, foreseeable demographic changes and fiscal consolidation needs will dampen economic growth.

With reference to the latter, east German states and municipalities will see a “normalisation” of their budgets: While presently taxes and transfers by the federal government result in per capita revenues of 120 percent of west German low-income states, in 2020 the figures will be nearly the same in east and west Germany. This is made possible by the so called “Solidarity Pact II” that will decline from 10.5 billion euros a year in 2005 to zero transfers in 2020. Together with a reduction of transfers in the so-called “Laenderfinanzausgleich” (fiscal equalization among the states that guarantees minimum public per capita incomes in all German states) because of lower population figures, most east German states will experience a reduction of their revenues by about 30 to 40 percent by 2020. Obviously, this will lead to severe demand pressures as expenditures will have to be reduced in a similar extent.

Even more dramatic are the foreseeable demographic developments. Already today, east Germany is characterised by a rapidly shrinking population. Since 1989 the population size has fallen by around 1.7 million persons, and by 2020 the number of people living in the former GDR (without Berlin) will further decline from 13.5 million in 2004 to only 12.2 million, that is by more than 10 percent. The major reason for this is a lack of births. Since following German unification, birth rates temporarily fell to 0.8 children² per woman, there will be a substantial lack of potential parents in coming years. A second reason is, of course, net migration from east to west Germany, which is still as high as 50,000 persons a year. Though this does not seem very much compared to the whole population, the growth implica-

tions might be enormous, as mainly younger and well qualified persons are leaving east Germany to find better jobs elsewhere.

Demographics will not only result in a lower population but also – and even more so – in a declining potential workforce (persons aged 15 to 64). This age group will shrink by about 20 percent in the next 15 years – and this will bring about severe economic consequences, especially a lowering of potential growth rates due to a smaller supply of labour. At given productivity levels and given participation rates, potential output will decrease by the same factor as the available workforce. Further, as the labour force is declining faster than the population as a whole, there will be a dampening effect on per capita GDP. Pure arithmetic suggests that per capita GDP will remain constant only if productivity grows by at least 0.6 percent per annum.

Of course, it seems quite realistic that productivity growth of this magnitude can be achieved. In the past 15 years, the trend growth rate of labour productivity was around 1.5 percent p.a., and in east Germany productivity growth has been substantially higher (1.94 percent) even after 1995 because of the ongoing adjustment processes. Nevertheless, productivity growth itself is negatively influenced by future demographic developments, as aging could lead to a worsening of the human-capital base and to lower innovation rates. Therefore, it is not very likely that future productivity growth will be very much higher than in the past. Simulations under perhaps too optimistic assumptions regarding productivity growth (2.25 percent p.a.) and labour participation rates (+ 0.3 percentage points p.a.) result in a GDP growth rate of only 1 percent p.a. from 2004 to 2020. This in turn allows a growth rate of per capita GDP of 1.5 percent, resulting in a level of GDP per capita of 70 percent of west German levels in 2020. In this scenario, unemployment might be reduced to a rate of about 8 percent. However, while highly qualified labour will become scarce in the years to come, unemployment of low-skilled labour will still be high then.

Again, these figures hold only on average; especially in some rural regions on the periphery of the eastern states, population and the workforce will decline even more, leading to even lower growth rates. On the other hand, east German agglomeration centres might expect a nearly stable population, due to migration from the periphery to the centres. It does

Shrinking population due to low birth rates and migration

² This merely reflects an adaptation of west German attitudes, as the total fertility rate in east Germany and west Germany is nearly the same (1.3 children per woman) today, though too low to guarantee a stable population.

not seem likely therefore that the goal of “equal living standards” all over Germany, which has determined German policies since unification, can be achieved in the years to come, and a new interpretation of the corresponding principle will become necessary: In the regions with a progressively declining population, public policy will only be able to guarantee limited standards with respect to infrastructure, school systems or even health care. These public services will have to be concentrated in the agglomeration centres, deepening the (economic and social) differences between centre and periphery. While other countries (like the United States or Canada, but also France and Spain) have already had experiences like this, in Germany the image of depopulating desolated areas is quite unknown and therefore neither policy nor the public is prepared for this. Nevertheless, it is hard to see how this development can be avoided. It is therefore necessary to find policy instruments to deal with it.

The main task will be to develop a new division of labour between the public and the private sectors. In Germany, many tasks have been transferred to public institutions, tasks that can be equally well or even better managed by private actors – for example education, health care, infrastructure services. Publicly provided services of this kind will no longer be affordable, however, due to financial constraints on the government accompanying the demographic change. Of course, privatisation will result in different prices for these services according to supply and demand conditions, but there is no reason why prices for publicly supplied goods should be identical as long as the level and structure of costs differ across regions.

Secondly, economic policy (which in east Germany consists mainly of support for firms) must be concentrated according to regional strengths. At present, this is not the case, as many instruments of firm support in east Germany do not differentiate between weak and strong regions or sectors. This, in turn, leads to inefficient policies, i.e. subsidisation of pure prestige projects (like computer technologies in regions without an adequate technological base or competing biotechnology centres in neighbouring regions). As long as the states retain responsibility for economic policies, stricter controls by the federal government seems to be in order.

Thirdly, more pronounced growth policies have to be pursued in Germany as a whole, as the east is still

dependent on growth dynamics in the west: As long as demand is supported by transfer payments in the present extent, as long as more than half of industrial investment is financed by west German firms and as long as more than 40 percent of manufacturing production is sold in west Germany, east Germany cannot achieve higher growth than west Germany. It is only reasonable, therefore, that the newly elected federal government put pan-German economic policies at the centre of its agenda.

Concluding remarks

As described above, the economic situation in east Germany fifteen years after unification is far worse than is indicated by most official judgements. Unemployment is unacceptably high, slow growth does not seem to be just a temporary phenomenon, and continuing regional differentiation might lead to severe social and economic problems. The prospects for the next fifteen years are not very favorable as demographic developments and fiscal consolidation needs will dampen economic dynamics.

It appears that pessimistic forecasts³ of the duration of the east German convergence process from the beginning of the unification process were not wrong. Although the adjustment mechanisms are not those of the classical convergence model, the final result – a convergence speed of about 2 percent a year – seems to be the best that can be achieved. Unfortunately, there seem to be no policy options left to speed up this process. But looking at indicators of individual happiness (which are not very much different in east and west Germany), one may doubt that confining the assessment to purely economically defined indicators of individual prosperity is appropriate. This however, is a question that cannot be discussed here.

³ Cf. Barro, R./X. Sala-i-Martin, “Convergence across States and Regions,” *Brookings Papers on Economic Activity* 1/1992, pp. 107–182; Hughes Hallet, A./ Y. Ma, “East Germany, West Germany and their Mezzogiorno Problem, A Parable for European Economic Integration,” *Economic Journal*, 103, p. 416–428.

Needed: Privatization of services, more focussed support, and growth policies

SMALL AND MEDIUM-SIZED ENTERPRISES IN EASTERN GERMANY: STATUS AND OUTLOOK

NORBERT IRSCH*

After 15 years of German unity, it is time to take stock. As a development bank of the German federal government and states, the KfW Banking Group saw the anniversary as a suitable occasion to take a closer look at the state of east German small and medium-sized enterprises. What has been done since reunification and what still needs to be done?

In the second section we shall first look briefly at the role business start-ups have played in the east German economy's efforts to catch up with the old federal states. Section 3 examines the innovation activities of SMEs, because an efficient innovation system is key to east German recovery. Finally in section 4, we analyze the capital structure in the east German SME sector. Here we pose the question of whether the funding of east German businesses differs from that of their western counterparts.

The role of start-ups for economic recovery in the new federal states

Before reunification, small and medium-sized enterprises were virtually non-existent in the east German economy. Start-ups therefore played a key role in the rapid establishment of a competitive small and medium-sized sector modelled on advanced industrialized countries. Up to the mid-1990s, the new federal states witnessed a veritable start-up boom, as shown in Figure 1, which traces the intensity of start-ups from 1990 to 2003.¹ After a relatively brief but very intensive phase, start-ups in east Germany already began to converge on west Germany.

The "normalization" of start-up intensity in the new federal states since the mid-1990s should not, however, be confused with an identical pattern of start-up activities in west and east Germany. In the light of high underemployment in the new federal states, start-ups out of unemployment and industry patterns in start-ups, especially their technology intensity, are of special interest, for there are pronounced structural differences between east and west Germany.

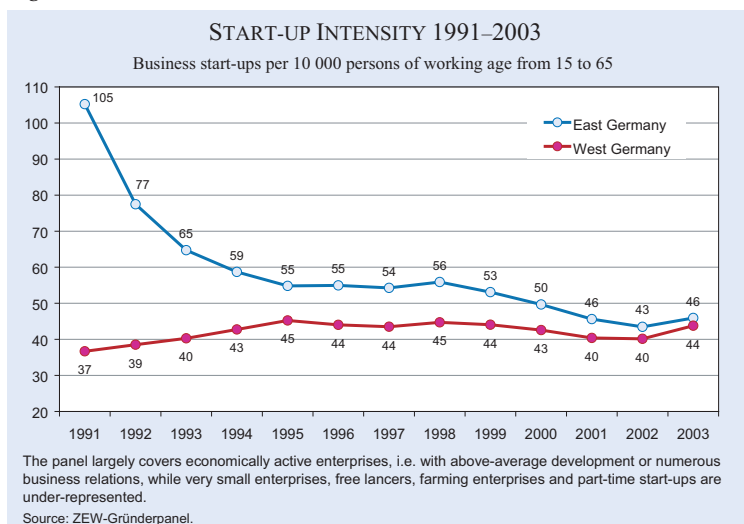
The KfW start-up monitor² ascertained in 2004 that 72 percent of full-time businesses in east Germany were started out of unemployment while

the share in west Germany amounted to about 42 percent. In businesses started by the unemployed, the main concern is often employment of the founder, less so growth or innovation, which could have more far-reaching effects on the national economy.



Despite a convergence of start-up activity there are big structural differences between eastern and western start-ups

Figure 1



* Chief economist, KfW Banking Group.

¹ These figures collected by ZEW Mannheim (Centre for European Economic Research) only pertain to entries in the company register and active start-ups. Nevertheless, due to the long time series, this data is suitable as an indicator for analyzing start-up trends.

² The KfW Start-up Monitor is a demographically representative dataset on start-up activities in Germany. The 2004 sample comprised 40,000 persons.

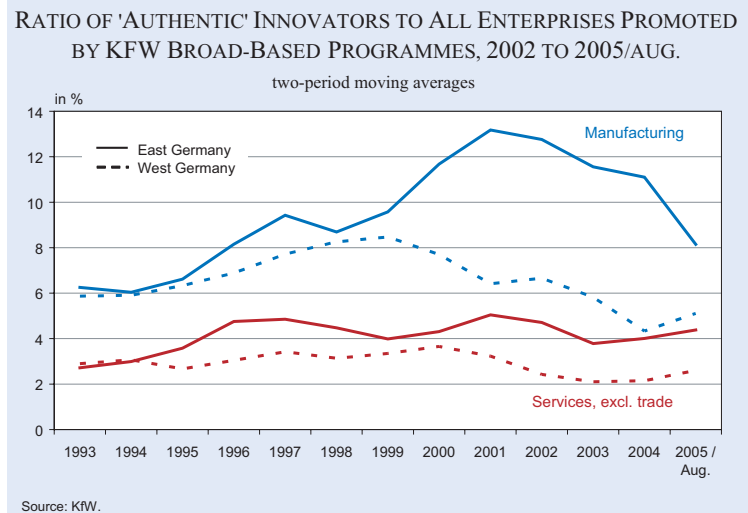
This hypothesis is underpinned by another observation: If we distinguish start-ups by technology-intensive and non-technology-intensive sectors, there has been a slight downtrend in the intensity of both leading-edge/high-tech and technology-intensive service start-ups³ in east Germany in recent years. Start-up intensity, however, has risen again slightly in west Germany in these sectors since 2003. Start-ups in technology-intensive sectors are usually based on innovative projects that help develop new markets, commercialize new technologies and create new jobs. The danger therefore in the current trend is of the east German economy falling behind in this important sector.

On balance, the intensive start-up activities have contributed to developing a broad small and medium-sized sector in east Germany. At the end of the sample period, however, we can see that in comparison with the old federal states a considerably larger percentage of businesses in the new states are started by the unemployed. At the same time, the innovative start-ups in technology-intensive sectors have declined somewhat. More attention must therefore be paid to harnessing resources for innovation both in start-ups and in existing enterprises. Only by developing viable, high-growth firms with innovative products and processes will east Germany be able to consolidate and enhance its economic performance.

Specifics of the innovation system in the new federal states

Innovations are the driving force of the economy. They open up new markets and earnings opportunities for enterprises. At the macroeconomic level, innovations speed up structural adjustment to engender new viable sectors. So innovations lay the foundation for economic growth and contribute a lot to job creation.⁴ In the following, we shall therefore look in more detail at innovation activities in the

Figure 2



new federal states, examining the special situation of small and medium-sized enterprises in particular.⁵

Distinct rise in innovation activities by east German SMEs in manufacturing

For further analysis we shall draw first on data on promotional loans from KfW available as a time series, which thanks to the high market penetration depicts the innovation behaviour of small and medium-sized enterprises in general very well.⁶ An enterprise is rated an “authentic” innovator if the KfW-financed project entails exerting own development efforts to introduce a product or production method and this product or process has not yet been offered by any competitor. This indicator therefore reflects the frequency of innovation projects implemented in small and medium-sized enterprises. Also relevant for the interpretation is that as a rule the projects promoted by the KfW Broad-based programmes are about simpler, less sophisticated innovations in product range or manufacturing processes.

Figure 2 shows the ratios of “authentic” innovators in the new and old federal states from 1993 to August 2005 for manufacturing and services (excluding trade). The share of innovators among small and medium-sized enterprises in east and west Germany hardly differs at all in the industries under

³ Source: ZEW Gründerpanel.

⁴ Cf. for example Rammer, C. et al. (2005), “Innovationen in Deutschland”, ZEW Wirtschaftsanalysen 78 or Schäfer, C., (2004), “Einflussfaktoren auf das Beschäftigungswachstum”, KfW-Research, *Mittelstands- und Strukturpolitik* 31.

⁵ Cf. for example Zimmermann, V. (2003) “Zur Entwicklung der Innovationstätigkeit von kleinen und mittleren Unternehmen – Empirische Ergebnisse für die alten und neuen Bundesländer 1991–2001”, F. Pleschak (Ed.) *Wachstum durch Innovation*.

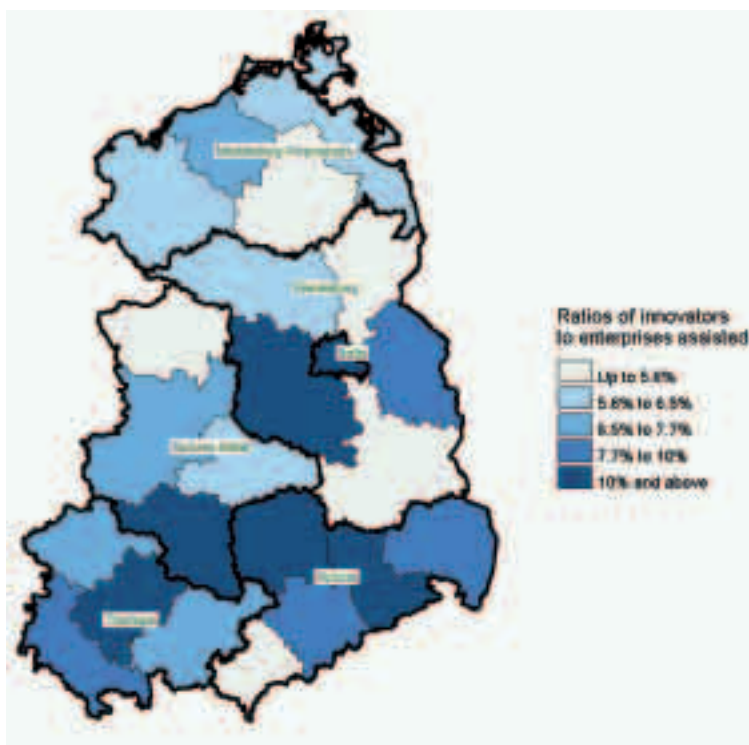
⁶ Small and medium-sized enterprises (SMEs) comprise all enterprises with a turnover of less than EUR 500 million. The KfW Broad-based programmes cited aim at promoting general investment projects in small and medium-sized enterprises. Some of the promoted enterprises are innovative.

review at the beginning of the period. In manufacturing, the innovator ratio started to rise in the old and new federal states alike as of 1994, with the development in the new federal states slightly stronger. Towards the end of the 1990s, the percentage of “authentic” innovators in the old federal states begins to drop while that in the new ones keeps on a distinct upward path up until 2001. After 2001, the innovator ratios in manufacturing also take a downturn in the new federal states. The decline in innovation activities can be seen as a “normalization process” or as an adjustment to the innovation activities of west German SMEs. The trend depicted in Figure 2 confirms other studies that have also ascertained a higher rate of innovation activities in east German enterprises at the end of the 1990s and after the turn of the millennium.⁷

In services, in contrast, the difference in innovator ratios was much smaller between the eastern and western states and the trends a lot less volatile. While there were hardly any changes in the old federal states during the second half of the 1990s, the share of authentic innovators in the new states increased slightly in the middle of the 1990s and has stuck to this level since.

Figure 3

SHARES OF INNOVATIVE FIRMS OF ALL SMEs PROMOTED BY KfW,
BY ADMINISTRATIVE REGION, 2000 TO 2005/AUG.



Source: Database is made up of KfW Broad-based programmes and special programmes for innovation promotion

Clear differences are also evident in innovation activities by region. Figure 3 shows the regional distribution of innovative SMEs in the new federal states as indicated by KfW loan data. It shows the ratios of “authentic” innovators plus the enterprises promoted by special KfW programmes for innovation finance to all enterprises financed under general investment promotion.⁸ The Berlin conurbation and its southern hinterland (Havelland-Fläming), the regions around Leipzig (West Sachsen) and Halle as well as Mittelthüringen (Erfurt) stand out in particular as regions with a high share of innovators. The region around Dresden (Oberes Elbtal/Osterzgebirge) is also notable for its high share of innovators (ranking 7 in this evaluation). Altogether, the innovation activities of small and medium-sized enterprises are higher in the southern part of the new federal states than in the north.

Government assistance boosts innovation efforts

The innovation performance of enterprises is largely determined by two input factors. Key is the extent of their own regular R+D efforts and the ability to make use of external knowledge for their own innovation process, principally through cooperation partnerships.⁹ As Figure 4 shows, in the KfW Broad-based programmes, the ratio of enterprises engaged in regular R+D in the new federal states is considerably higher, at almost 12 percent, than in the old federal states, which amounts to 6.4 percent. The greatest differences are less evident in those industries where particularly intensive use is made of R+D know-how than across the economy in general.

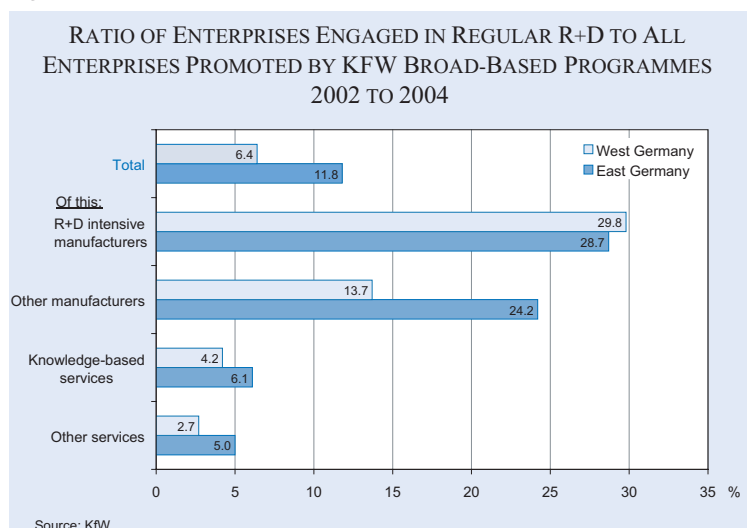
⁷ Cf. for example Schmalholz, H. und Penzkofer, H. (2001), “Hat die sächsische Industrie ihre Spielräume für mehr Innovationen genutzt? – Ergebnisse des ifo Innovationstests 1999/2000”, *ifo Dresden berichtet* 5/2001.

⁸ Departing from previous procedure, the enterprises promoted by the special KfW programmes for innovation finance are also included in this figure. This has been done because there are marked geographical differences in the enterprises promoted by the innovation programmes in the new federal states. Leaving these programmes out of the evaluation would have meant that the conurbations (particularly Berlin) would have posted an inordinately low innovation activity.

⁹ Cf. for example Andres, M. and V. Zimmermann (2002) “Originäre Innovatoren und Nachahmer-Bestimmungsfaktoren des Innovationsverhaltens von KMU”, *IGA – Zeitschrift für Klein- und Mittelunternehmen* 50.

The more innovative firms are in the southern part of east Germany

Figure 4



The differences are even more pronounced when it comes to cooperation partnerships. In the new federal states, at 16 percent, more than double the percentage of enterprises are engaged in cooperation than in the old federal states (see Figure 5). In manufacturing in particular, the share of SMEs cooperating with enterprises or research centres well exceeds that of their counterparts from the old federal states.

The high level of R+D and cooperation in the east German economy, in part well above that in west Germany, is attributable in large degree to special development measures to promote the east German innovation system:¹⁰ According to estimates by ZEW for 2000, every third industrial enterprise in the new federal states and every eighth enterprise in business services was awarded public assistance for research as compared with “only” every tenth industrial enter-

prises engaged in R+D would run these activities without assistance.¹²

Deficits in commercializing innovations

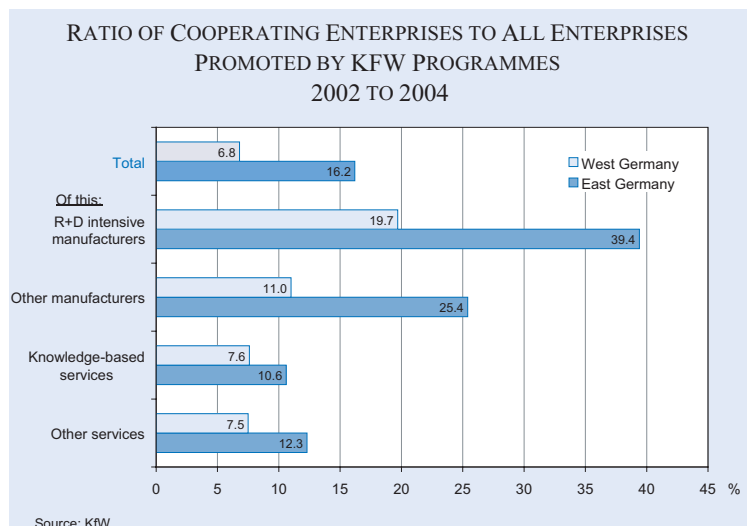
In the following, we shall leave the “input” side of the east German innovation system and turn to assessing the success of these efforts. A number of indicators at the macroeconomic level point to deficits in translating innovation efforts into marketable and technology-intensive products. Accordingly, measured against inputs, the output of research is relatively meagre, at least when comparing the eastern with the western states. If, for example, we compare the number of patents to R+D expenditure, east German enterprises only record about 40 percent of the “productivity” in west Germany.¹³

prise and every twelfth business service provider in the old states. Of the manufacturing enterprises engaged in R+D, as many as 90 percent received financial support for R+D (approx. a third in the old federal states).¹¹

More recent studies indicate that large parts of the innovation activities of east German firms are prompted by these measures: Calculations show, for example, that the bulk of R+D spending is attributable to public assistance. About two thirds of R+D expenditure was mobilized by assistance. Only a third of the enterprises engaged in R+D would run these activities

East German R+D is highly dependent on support programmes

Figure 5



The poorer innovation performance in comparison with west Germany can be verified with other indicators. East German firms, for example, glean a far lower share of turnover with new products (by expanding their own product range) than in the west. This is also true for the

¹⁰ Cf. for example Czarnitzki and Licht (2004), “Die Rolle der Innovationsförderung im Aufholprozess Ostdeutschlands”. *ZEW Discussion Paper* No. 04-68, and Legler et al. (2004), “Innovationsindikatoren zur technologischen Leistungsfähigkeit der östlichen Bundesländer.” *Studien zum deutschen Innovationssystem* No. 20-2004.

¹¹ Cf. Legler et al. (2004) loc. cit.

¹² Cf. Czarnitzki and Licht (2004) loc. cit.

¹³ Cf. Czarnitzki and Licht (2004) loc. cit.

ratio of turnover with market innovations. Nor have east German enterprises been able to make as many cost savings with process innovations as their west German counterparts.¹⁴

Moreover, the east German economy has been too heavily geared to producing standardized, less technology-intensive goods. At 43 percent, the share of R+D-intensive branches in total turnover in manufacturing is still considerably less than the west German figure of 60 percent. The new federal states are also lagging behind the old ones in high-tech goods production:¹⁵ While manufacturing in the west earns almost 40 percent turnover with high-tech goods, this amounts to only 25 percent in the east. So till now, corporate innovation efforts have not sufficed to establish a high-tech segment in the east German economy comparable to the West.

As the best way to succeed in new markets is with innovative goods, the disadvantage of this pattern of goods production is obvious. This is how the innovation activities of an enterprise also determine its market goal. In principle, market shares can also be gained with standardized products, but this is not where the comparative advantage of the east German economy lies over suppliers from Eastern Europe and Asia; so the deficits in the innovation system also affect performance in the export industry. The correlation between innovation and export activity has been substantiated empirically: Companies with product innovations record an export ratio of 21 to 28 percent¹⁶, while non-innovative enterprises record one of only 13 percent. At 39 percent, the share of export-dedicated branches¹⁷ in total manufacturing turnover is accordingly well under the west German figure of 60 percent. So a reason for the relatively low export ratio of east German industry as compared with the west, 25.5 percent to 40.9 percent, is the insufficient success of innovation efforts in the east. With keener international competition, particularly from the nearby Central and East European accession countries, this production pattern is not up to the challenge.

¹⁴ Source: Rammer, C. et al (2005), *Innovationsverhalten der deutschen Wirtschaft, Indikatorenbericht zur Innovationserhebung 2004*, ZEW. The share of turnover with market innovations, for example, amounts to 7.6 percent in the old federal states, in the new ones, to only 4.5 percent, however.

¹⁵ Leading-edge technology or high-tech goods are those with a R+D share of more than 3.5 percent in turnover.

¹⁶ The export ratio depends on the kind of product innovation. A distinction is drawn between upgrading, extending assortments and market innovations, cf. IAB loc. cit.

¹⁷ Branches are defined as export-dedicated if their export ratio amounts to more than 30 percent of turnover.

Possible causes

One reason for the less successful innovation performance of the east German economy are the financial arrangements for R+D expenditure. While almost three-quarters of R+D investment is funded by private financiers in the old federal states, not even 50 percent¹⁸ is financed this way in the new ones. The high share of public funds in research expenditure affects innovation efficiency: research efforts of public institutions are geared less to developing marketable products and services than is the case for private enterprises. Studies by ZEW, for example, prove that private research investments without assistance are more productive than government subsidized research: Measured by the number of patents, state-sponsored R+D in the new states only came to about 71 percent of the productivity of private R+D (old states: 89 percent).

One reason for the minor role of private research spending is the lack of large-scale enterprises and the large measure of “external control” in the east German economy exerted by west German or foreign owners. We shall now look at these two aspects.

Only 5.7 percent of all German large-scale companies (i.e. 91 out of almost 1,600) with an annual turnover of more than EUR 250 million have their registered offices in the new federal states.¹⁹ Just 30 out of the 757 manufacturing firms with more than 1,000 employees are located in east Germany (with Berlin: 44 out of 757).²⁰ Of the 500 largest German enterprises, only seven are situated in east Germany, but 144 are located in North Rhine-Westphalia. It is large-scale enterprises in particular that contribute most to R+D expenditure in a national economy: In Germany, large firms employing more than 500 people finance 87 percent of all private R+D. This is the main reason for the small share of private research expenditure and for the predominance of public spending in east Germany.

Moreover, large enterprises act as anchors for innovation networks and research cooperation

East German R+D is higher but less productive than in the west due to fewer big companies and more public funding

¹⁸ The new federal states invest 2.5 percent of their GDP in R+D. Of this, 1.2 percent comes from the private sector and 1.3 percent from government. The old federal states invest 2.6 percent of their GDP, with industry contributing 1.9 percent. Source: Cellar, D. et al (2004), “Die deutsche Forschungslandschaft – starke regionale Disparitäten.” HWWA-Forum, *Wirtschaftsdienst* 2-2004

¹⁹ Ifm Mannheim, Eckdaten der Mittelstandsstatistik, www.ifm.uni-mannheim.de.

²⁰ Statistical Offices of the Federal Government and the States (2004), *Regional statistics*.

projects, in which small and medium-sized firms also participate. This way, large enterprises can function as “technical drivers”.²¹ Cooperation with large companies is evidently also of great importance for market success, particularly in the worldwide marketing of new products.²² Finally, east German SMEs currently lack suitable cooperation partners that could afford them access to these networks.

The main reason for the smaller interface with large-scale enterprises is the transition from a planned to a market economy in east Germany. After the collapse of the GDR, the large-scale enterprises, which were largely located in industry, were demerged under the direction of the (Treuhandanstalt) Privatisation Agency and only a few survived. Along with west German and foreign-owned companies, these “old” enterprises make up the stock of the large-scale sector today. Most genuine east German firms founded after reunification, however, have not yet reached this scale of operation. This is why genuine east German global players are missing today.

Another consequence of the transition described above is that the few existing large-scale enterprises are frequently in the hands of west German or foreign owners and are controlled from “outside”. Forty-five percent of turnover in the east German manufacturing sector is generated in enterprises owned by west German or foreign interests.²³ In 2001, 65 percent of all fixed capital investments were made by foreign (10 percent) or west German (55 percent) investors.²⁴ These enterprises are often subsidiaries that produce much less or even no value added. This has repercussions on east German innovation activities, because the west German or foreign owners use their firms in the new federal states largely as production sites. They have rarely set up their corporate headquarters there. These are, however, where the high-value jobs are to be found, e.g. in management and development departments. These kinds of jobs are missing in the new federal states.

²¹ BBR (2005), *Verbesserung der Innovationsförderung in den neuen Ländern*.

²² Cf. Gerybadze, A. (2005), “Governance-Strukturen in multinationalen Konzernen und die Dynamik regionaler Innovationsnetze und Kompetenzcluster”, Fritsch, M. und Koschatzky, K., eds., *Den Wandel gestalten – Perspektiven des Technologietransfers im deutschen Innovationssystem*.

²³ Source: IAB Betriebspanel Ost – Ergebnisse der neunten Welle 2004, Teil I und III. *IAB Forschungsbericht* Nr. 20 und 22/2005.

²⁴ Guenther, J. (2005), “Investitionen auswärtiger Unternehmen in Ostdeutschland wesentlich höher als in Mitteleuropa”, *Wirtschaft im Wandel* 2/2005.

Interim assessment

The above outline of the innovation activities of small and medium-sized enterprises suggests that east German SMEs, at least as far as input factors are concerned, have caught up to the old federal states. At present, it is largely the output side of innovation efforts that is causing difficulties. A reason for this can be found in the heavy dependence on public assistance and the corollary low participation of the private sector in R+D activities. The productivity of public-sponsored expenditure on research regularly falls short of the level achieved with private finance. The relatively low private research spending in east Germany is attributable in turn to the low percentage of large-scale businesses as compared with the west. The main way to alleviate the problem of lacking of large-scale enterprises is for east German firms to grow. Considering the short span of 15 years, it is hardly surprising that too few large-scale enterprises have emerged to date and that the SME pattern is more prevalent.

An essential factor for the growth of enterprises is their investment activity. This kind of growth is only feasible, though, when finance poses no great problems. The question we therefore need to ask is how east German companies finance their investments and whether they face special difficulties. In the following section, we will therefore examine the capital structure and funding constraints of east German companies.

Capital structure and funding constraints in east Germany

After the “cold start into the market economy”, the surviving east German firms primarily set about modernizing their plant to step up their competitiveness. The high investments entailed, enhanced further by start-ups, left their mark on company balance sheets: The result was a high fixed capital ratio²⁵ in comparison with west German enterprises (1994:²⁶ 43.9 percent; west: 36.9 percent,²⁷ see Figure 8), even rising to over 50 percent²⁸ until 2003.²⁹ Among others, the high depreciation resulting from rapid capital accumulation has curbed balance-sheet profits;

²⁵ KfW balance sheet database.

²⁶ 1994 is the first year for which reliable balance-sheet figures are available in the KfW balance sheet database.

²⁷ Median: East 40.1 percent, West 39.5 percent.

²⁸ The median has dropped to 36.6 percent.

²⁹ The last accounting year available on completion of this text was 2003.

The few big companies in east Germany are mostly owned by west German or foreign investors

and relatively low yields have left little room for strengthening equity, resulting in a low equity ratio (on average across all enterprises: 24.2 percent in the east and 27.7 percent³⁰ in the west). Owing to their relatively limited internal financial resources, east German enterprises at that time resorted to borrowing (1994: 26.2 percent; west: 18.8 percent). Borrowing was facilitated by the initial high growth forecasts for the region and the resultant readiness of banks to finance this growth.

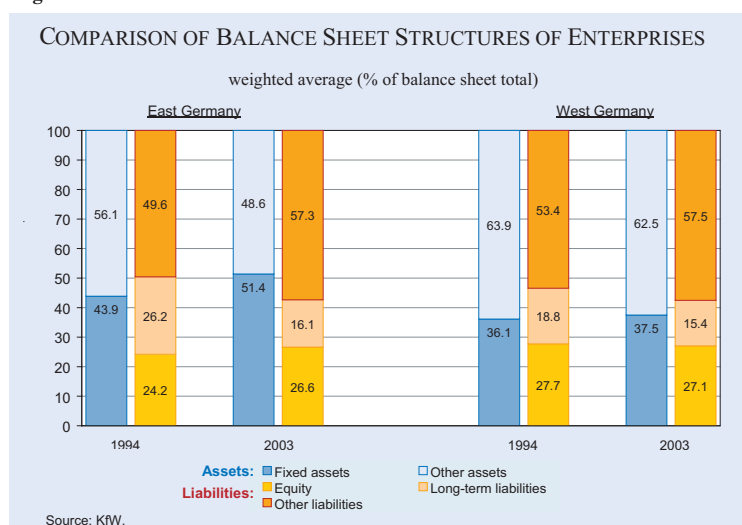
A slight improvement in the finances of east German enterprises is only discernible at the end of the sample period (2003). Nevertheless, up to 2003, the east German enterprises were able to curtail more of their long-term debt than those in the west (east: to 16.1 percent of the balance sheet total; west: to 15.4 percent) and raise their equity ratio a little at the same time (to 26.6 percent). This was possible due to the favourable earnings situation over the previous years and the convergence of investment activity by east German and west German enterprises in the meantime.

The rise in the equity ratio was not enough to compensate for the fall in the long-term debt ratio. As a result, the companies had to face a maturity mismatch between fixed assets and liabilities. Fixed capital assets of east German enterprises are still relatively high because they are newer and more modern than those in west German firms, with average residual asset maturity³¹ amounting to almost 7 years (west: over 5 years) in 2003. Their modern capital stock affords the east German enterprises a big advantage.

The main problem of the east German enterprises, in contrast, is the unhealthy horizontal finance arrangements, as they are financing a part of their long-term assets with short-term liabilities. This poses considerable financial risks.

The still relatively low equity ratio, despite tangible improvements in recent years, is not a specific prob-

Figure 6



lem of east German firms, however. On the one hand, there are also many enterprises in west Germany with a small equity base. On the other, and this is what counts, there are no large, highly capitalized enterprises in east Germany, which would raise the average equity ratio in the region, as they do in west Germany. This is also evident from a comparison of the average and median equity ratio in the regions: While the average driven by the large well-capitalized enterprises is regularly higher in the west (east: 26.6 percent; west: 27.1 percent), the median, which takes less account of differences in scale, is regularly higher in the east (east: 23.7 percent; west: 21.4 percent). Altogether, there is no discernible specific equity gap for east German enterprises, either in the past or at present, but there is one for the region, which is due to the special industry and scale pattern there.

Looking at the different financing patterns in east and west, the question is whether this has an effect on the financial situation of the enterprises in the new federal states as compared with their west German competitors. Based on the findings of the business survey on bank behaviour and finance carried out by KfW in cooperation with 25 trade associations in 2005,³² there are hardly any differences between the old and new federal states (see Figure 7). Almost 50 percent of the east German enterprises register greater difficulties in borrowing in 2004, while only about 41 percent are of this opinion in the west. However, as regression analyses carried

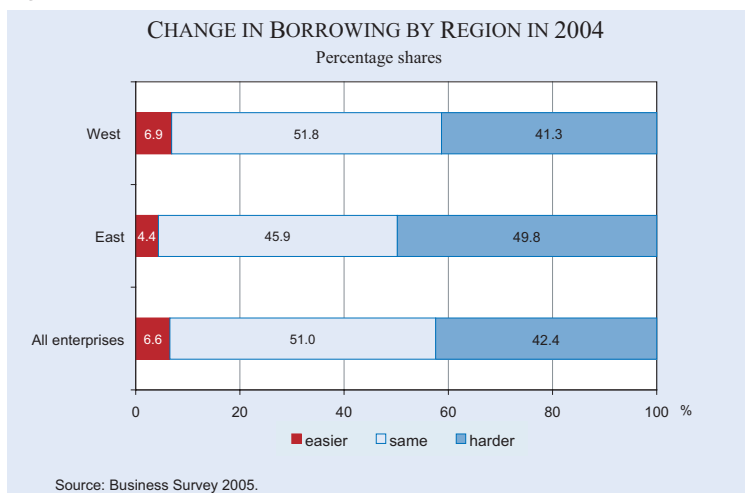
Company finance in east Germany suffers from a maturity mismatch of assets and liabilities

³⁰ The median of the equity ratio amounted to 23.7 percent in the east and 21.4 percent in the west.

³¹ The residual maturity of fixed capital assets is calculated by dividing them by annual depreciation.

³² Zimmermann, V., J. Schumacher (2005), "Unternehmensfinanzierung: Immer noch schwierig, aber erste Anzeichen einer Besserung. Auswertung der Unternehmensbefragung". Available at <http://www.kfw.de/DE/Research/Unternehme.jsp>

Figure 7



enterprises. Also, too few companies are engaged beyond regional markets. On average, the enterprises in the new federal states are therefore particularly affected by the present weakness in domestic demand. Nor can the current trend in start-up activity be gauged as an unqualified success: As welcome as the present increase in start-ups from unemployment is, there is also the attendant danger that too few viable and high-growth firms will be established in the medium to long term.

out in the course of the business survey show, the difference is solely attributable to differences in scale and industry patterns between the eastern and western enterprises surveyed.

If we look at the reasons for the greater difficulties in obtaining credit (see Figure 8), a major constraint on borrowing in east Germany is the banks' collateral requirements, whereas in west Germany it is their insistence on disclosure of information. This may have to do with the drop in real estate prices in east Germany. Noticeably, east German entrepreneurs complain more than west Germans of difficulties in obtaining loans at all. Checking these findings with the help of a regression analysis, however, we find that the reason for this is not the location but the inadequate company size.³³

As to the innovation activities of east German SMEs, they are making similar innovation efforts as the west German SMEs, in part even greater. There are, however, deficits on the output side, as shown. In large part, these deficits result from the relatively small financial stake of the private sector in R+D activities along with a high ratio of public expenditure on R+D. The main reason for the relatively low private research expenditure is the lack of large-scale enterprises, which account for the bulk of R+D investment. The absence of corporate headquarters

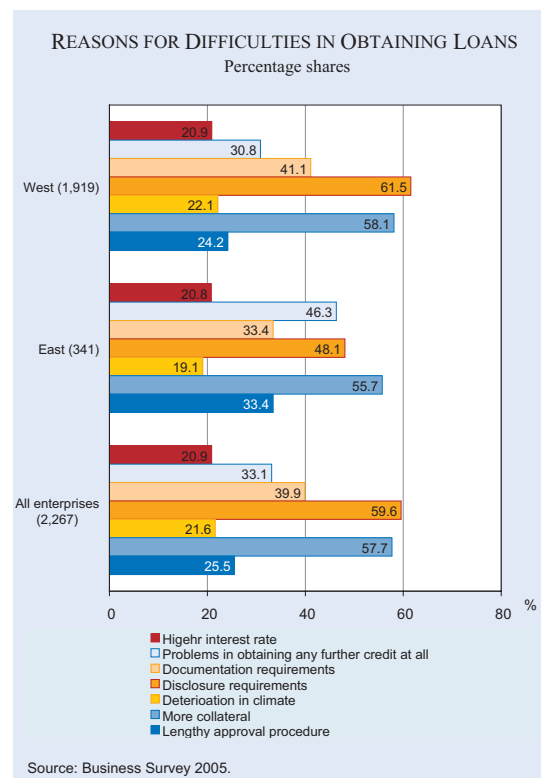
Differences in loan acquisition mainly due to differences in scale and industry patterns

Summarizing, the financial problems in east and west are not essentially different. The differences in the results are largely due to the different scale of businesses. east Germany lacks large-scale enterprises that are usually well capitalized. If one compares enterprises of the same size and in the same industry from east and west Germany, their finances are very similar regardless of region.

Assessment

Fifteen years after German reunification, the new federal states have for the most part managed to build up a stable and healthy stock of businesses. There are, however, still too few genuine large-scale east German

Figure 8



³³ Cf. Business Survey 2005, p. 13ff.

or parent companies with their large research and strategy departments is the reason why east German SMEs have no or hardly any avenues to profit from the (few) large-scale enterprises as cooperation partners or subcontractors, for example.

The present financial disparities between west and east can also be primarily attributed to the lack of large well-capitalized enterprises in the new federal states. The analyses of funding constraints for east German enterprises also show that the financial difficulties are the result of their small size. This can only be remedied by sustained growth.

Economic policy should continue with current promotion, but focus more on the deficits. Because of the key role which the innovation system plays for the future of east Germany, innovation promotion needs to be made more efficient. One way is to step up technology transfer from universities and non-university research institutes to industry. Dovetailing science and the private sector more closely engenders regional technology clusters, which bring about additional benefits such as the location of R+D intensive manufacturers. Setting up regional spinoff funds can also play an important role here. Another way to improve promotion is to increase the absorptive capacity for R+D results in existing east German enterprises. Due to the prevalent SME scale pattern in east Germany, this is relatively low. Assistance should therefore continue to be given to existing companies for investment and growth so that they can quickly attain a scale that enables them to translate more effectively the know-how of the research institutes into marketable products.

In general, the concern must be to make full use of the opportunities and resources in east Germany. These include in particular the modern infrastructure, more adaptable wage rates, longer working hours and the geographical proximity to the fast growing markets of the new EU member states in Central and Eastern Europe. In coping with the challenges of accepting structural adjustment and turning it to their advantage, the people in east Germany can draw on their extensive experience with upheavals – some radical – over the last 15 years since national reunification.



BLOOMING LANDSCAPES IN EAST GERMANY?

MICHAEL BERLEMANN* AND
MARCEL THUM**

Before Soviet Leader Mikhael Gorbachev propagated fundamental reforms in the Eastern bloc, the prospect of German reunification had widely been regarded, within both east and west Germany, as a distant hope rather than a concrete policy option. When the wall came down and German unification became a realistic option, Germany was not well prepared for this enormous task. While several reunification scenarios were initially discussed, the German states opted for rapid political and economic integration. German Chancellor Helmut Kohl promised “blooming landscapes” to evolve in east Germany within a short period of time.¹ What actually has happened in the 15 years that have passed since German unification? How did the east German economy develop? We will discuss the east German convergence process, the main economic barriers to a speedier development and the future challenges for the east German economy.

Initial expectations and factual speed of GDP per capita convergence

Given the political and economic institutions in Germany, most economists predicted steady income convergence of the “new” east German states. Compared to other transition countries, it was believed that the “new” states could immediately benefit from a well established legal framework and from massive fiscal transfers from the “old” states. However, opinions differed greatly with respect to the speed of convergence.²

A number of economists expected the east German economy to catch up quite quickly to the west German level. One of the most optimistic forecasts came from Willgerodt who, in a study for the German Federal Government, argued that eastern Germany might reach western Germany’s GDP per capita in only three to five years (see Thimann, 1995 p. 34). Similarly optimistic, Siebert (1990) believed that the process of convergence could be completed within a period of five to ten years. The Institute for Applied Economic Research (1991) was only slightly less optimistic, expecting that eastern Germany could reach 80 percent of the west German level by 2000. A study by McDonald and Thumann (1991) came to the same conclusion.

Not all economists were that optimistic, however. Sinn and Sinn (1991) as well as Helmstädter (1991) argued that it would take a period of at least 20 years up to a generation until east Germany would be on a par with west Germany. Huges Hallet and Ma (1993) predicted 30 to 40 years for this process. Westermann (1995) expected east Germany not to reach 80 percent of the west German level before 2025. The most pessimistic forecast came from Barro and Sala-i-Martin (1991) who projected a convergence period of more than 70 years.

Figure 1 shows alternative convergence scenarios. In 1991, east German GDP per capita amounted to 42.5 percent of the west German level. Starting in 1991, we plot various possible convergence scenarios on the assumption that west Germany’s GDP per capita would have risen at a rate of 1.8 percent per annum.³ An annual growth rate of 3 percent in east Germany’s GDP per capita implies that east Germany would achieve west Germany’s level in 2020. We also illustrate the earlier predictions of various economists on the convergence process. In 2004, east Germany reached 66.8 percent of west Germany’s level.

Opinions differed about the speed of east German convergence

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¹ Of course, one should take into account that this promise was made during the election campaign of the December 2000 Federal Election, the first all-German election since 1932. Thus Chancellor Kohl may have been well aware of his overly optimistic promise.

² For an overview on the various forecasts on East-West-convergence see Thimann (1996), p. 34–43.

³ This assumption is identical to the one made by Thimann (1995). However, different from Thimann our illustration starts out from 1991.

Figure 1

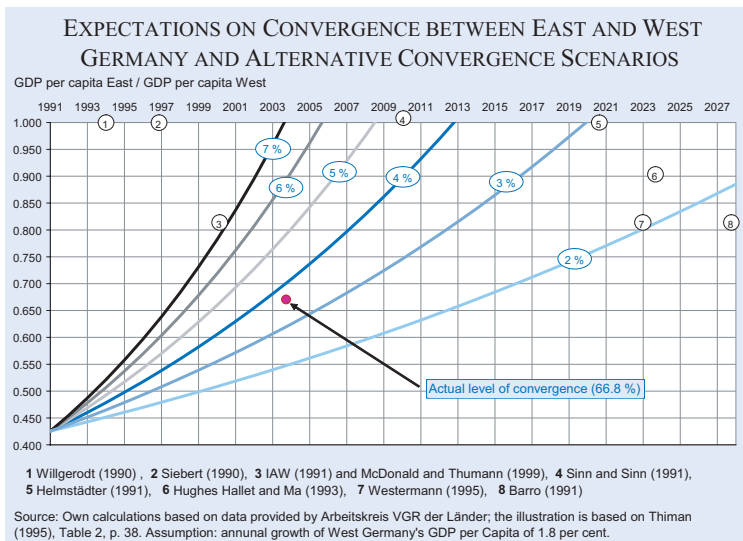
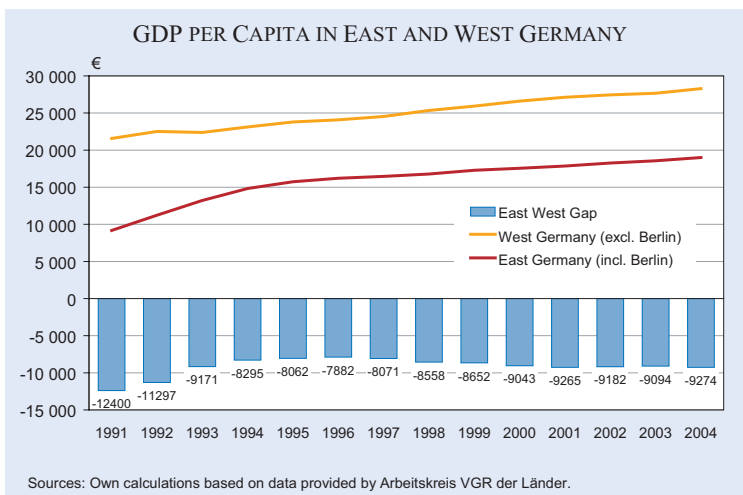
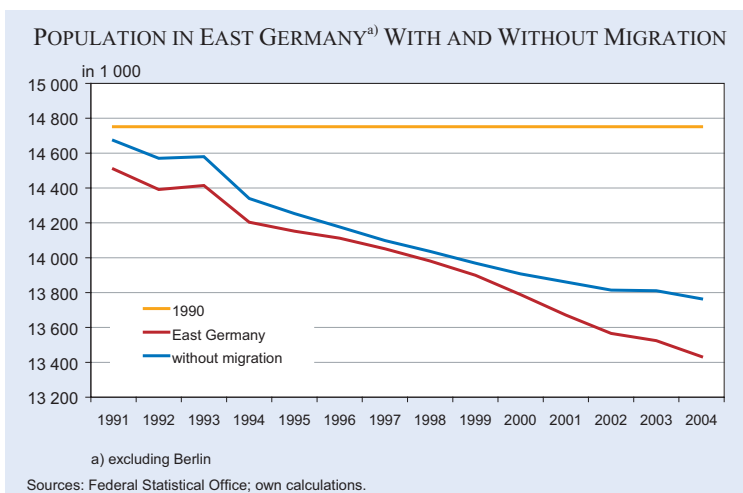


Figure 2



The income gap between west and east Germany has widened again since 1996

Figure 3



Looking at the process of convergence in recent years, one might get the impression that even the most pessimistic forecasts might turn out to be wishful thinking. Figure 2 shows GDP per capita in east and west Germany for the period 1991 to 2004. The lower panel depicts the gap in GDP per capita between east and west Germany. The early years after unification supported the belief of income convergence. The gap between east and west Germany narrowed markedly in these years. Until 1995, the difference in GDP per capita shrank by €1,000 per year or 10 percent of the initial gap; east Germany's GDP per capita reached two thirds of the western level in 1995. Since then, however, the convergence process of eastern Germany has come to a halt. From 1996 to 2004, GDP per capita grew at almost exactly the same rate as in the west. As the initial GDP level was lower, the absolute gap has grown again.

The actual gap would be even larger if account were taken of the fact that east Germany has lost a significant part of its original population. From 1991 to 2004 its population declined from 14.5 million to 13.4 million people (without Berlin). The blue line in Figure 3 presents the actual population figures from 1991 to 2004; the black line illustrates the initial population in 1990. The orange line shows how the population would have grown without migration. The remaining population decline (the vertical distance between the black and orange lines) represents the natural population growth. Births declined sharply after unification and still remain below west German levels, thus

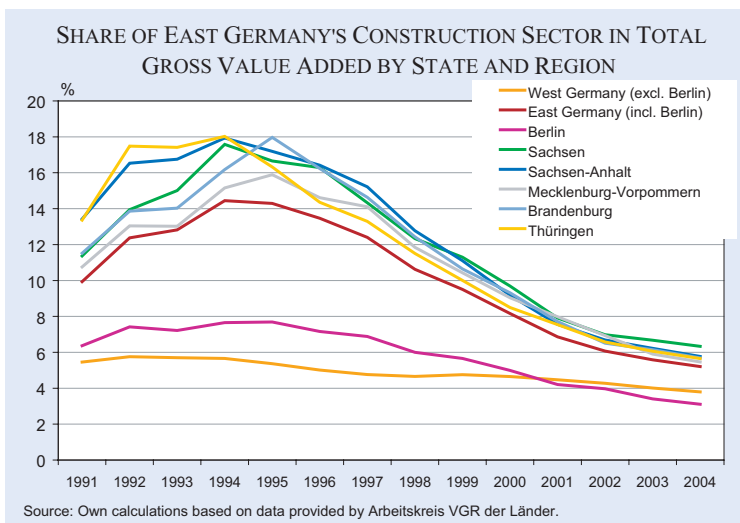
generating a deficit of births over deaths. If population had been kept at its original level (1990), GDP per capita in east Germany (without Berlin) would be lower by roughly 1,600 € which makes up for almost 10 percent of GDP per capita. Hence, the fairly stable ratio of GDP levels since 1995 can partly be attributed to the statistical artifact of declining population in the east.⁴

Structural convergence

The interesting question is why the initial process of convergence came to a halt in 1996. An important part of the answer is that a large proportion of the initial growth originated in the construction sector. In Figure 4 we show the growth rates of gross value added of east Germany's construction and manufacturing sectors during the period 1992 to 2004. Obviously, the construction sector experienced enormous growth during the early years after reunification thereby contributing significantly to the period of GDP convergence from 1991 to 1996. A large part of this growth was caused by public investment in the infrastructure. Moreover, generous subsidies and tax exemptions induced private investors to put large amounts of money into the renovation of buildings. During the first half of the 1990s, the share of east Germany's construction sector in total gross value added increased to more

Since 1993, the east German manufacturing sector has grown every year

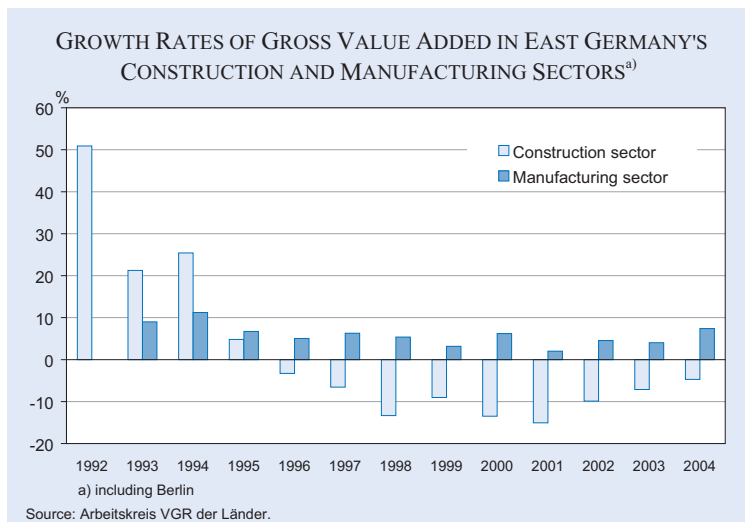
Figure 5



than 14 percent (see Figure 5) peaking at around 18 percent in most east German states (without Berlin). At the same time, the share of the construction sector in total west German gross value added was below 6 percent. When public and private investment in infrastructure and buildings ceased in the mid-1990s, the construction sector started to shrink. Since 1996, east Germany's construction sector has contracted in every single year. Figure 5 reveals that the construction sector in all east German states (without Berlin) is still larger than the west German average, indicating that the process of consolidation has not ended.

The development of the manufacturing sector was initially much slower than of the construction sector but also proved to be more sustainable. Since 1993, east Germany's manufacturing sector has grown every single year, in 2004 at a rate of 7.4 percent (gross value added). Although this growth started from a comparatively low level, the figures indicate that at least the process of structural convergence is on a good way. As depicted in Figure 6, the share of the manufacturing sector in total gross value added in most east German states is converging toward the German average.

Figure 4



⁴ Of course, one has to take into account that also GDP would have been higher without the population decline, e.g., due to local demand of non-traded goods.

Figure 6

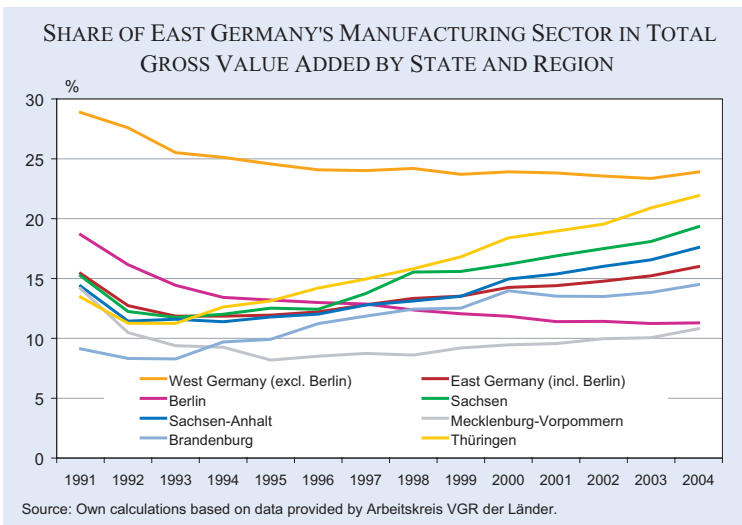


Figure 7

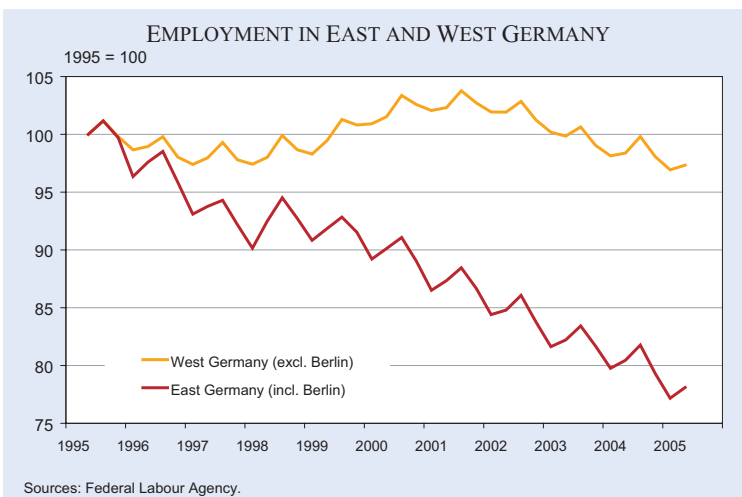
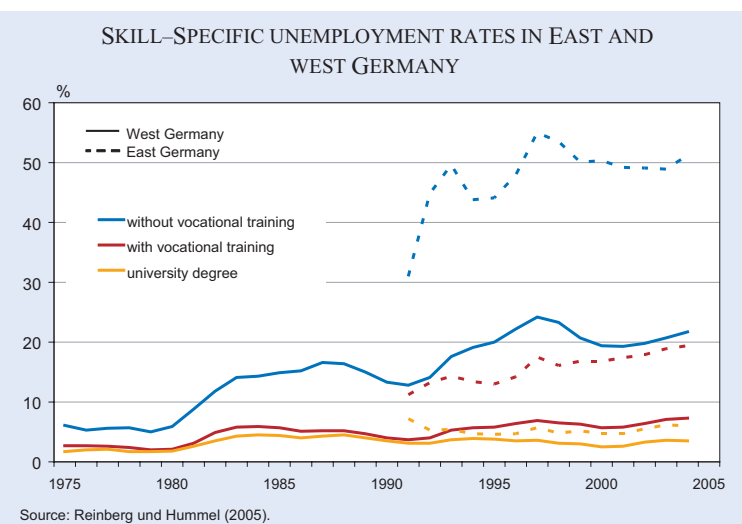


Figure 8



Labour markets

The poor growth performance of east Germany since 1996 is mirrored in the labour market. Figure 7 depicts employment (employees subject to social insurance) in east and west Germany. We take 1995 as the starting point to exclude the early, economically turbulent years after unification. West Germany shows the typical cyclical employment pattern. There was a moderate decline in the early 1990s, but when growth rates rose during the “New Economy” hype, employment returned to its initial level and then declined again. The pattern is completely different in east Germany. There employment shows a strong downward trend over the entire period. east German employment fell by more than 20 percent in ten years. The “new” states suffered a daily loss of 380 jobs.

East German employment has been declining rapidly due to rising job losses and migration

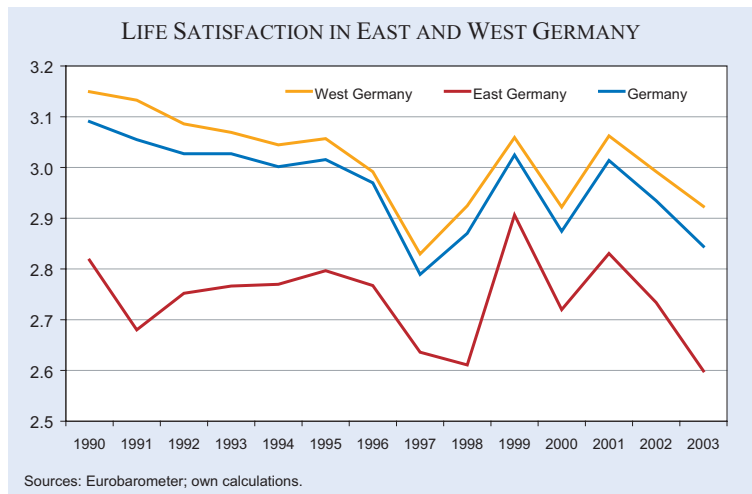
The decline in employment is accompanied by an increase in unemployment (and, at the same time, by a significant amount of migration to west Germany). The rising unemployment, however, is far from equally distributed among the population. The risk of unemployment is highly correlated with skill levels. Low-skilled workers face a significantly higher risk of being unemployed. Figure 8 shows the skill-specific unemployment rates for east and west Germany. For high-skilled workers, i.e. those with a university degree, unemployment is roughly at the natural level, and the difference between east and west Germany is fairly small. Of course, the low unemployment rate among high-skilled workers in east Germany is partly explained by the high labour mobility in this group –

and not necessarily by high local labour demand. Medium-skilled workers already face a significantly higher risk of unemployment. Their unemployment rate amounts to 7.3 percent in west Germany and more than twice that much (19.4 percent) in east Germany. Figure 8 also shows who bore the largest burden of the job losses in the past. It is the group of low-skilled workers. Even in west Germany, 20 percent of the low-skilled work force is without employment. In east Germany, however, every other low-skilled worker is unemployed. The Figure also illustrates the rapid increase in the unemployment rate from around 30 percent in the beginning of the 1990s up to 50 percent since the mid-1990s.

Bringing the medium-skilled and low-skilled workers back into employment is one of the major policy tasks in the near future; it could help to close the productivity gap between east and west Germany a bit further. As pointed out earlier, the disappointing performance of east Germany in terms of productivity and employment is largely home-made. Unemployment benefits and social assistance define an implicit minimum wage because almost no one would be willing to work for less than the transfer received from the welfare state. For high-skilled workers, such an implicit minimum wage is not binding and market clearing wages lead to (almost) full employment. The lower the skills, the more likely it is that the minimum wage becomes binding. Hence, the implicit minimum wage created by the welfare state explains the skill-specific pattern of unemployment in Germany. As the rules of the west German welfare state were extended to east Germany, the implicit minimum wage is almost the same as in the west. Given the lower productivity, the implicit minimum wage is responsible for the higher unemployment among low- and medium-skilled workers in east Germany. Appropriate reforms have to tackle this problem by lowering the implicit minimum wage or by reducing non-wage costs.⁵

⁵ For a detailed reform proposal, see Sinn et al. (2003). As the reduction of the implicit minimum wage can only be achieved by reducing social transfers, the losers in this reform have to be compensated by granting them tax credit on earned income.

Figure 9



Conclusion and future challenges

Without question, the evolution of the east German economy has not met politicians' and economists' initial expectations. The same seems to hold true for the German population in terms of general life satisfaction, as measured by the Eurobarometer survey. It declined for both east and west Germans over the period 1990 to 2003 (see Figure 9). East Germans reported lower life satisfaction over the entire period. Since individual unemployment and one's relative income position are major reasons for dissatisfaction, this result is not too surprising.⁶ While life satisfaction in east and west converged during the 1990s, recent developments go in the opposite direction – a result which is in line with the interrupted process of economic convergence.⁷

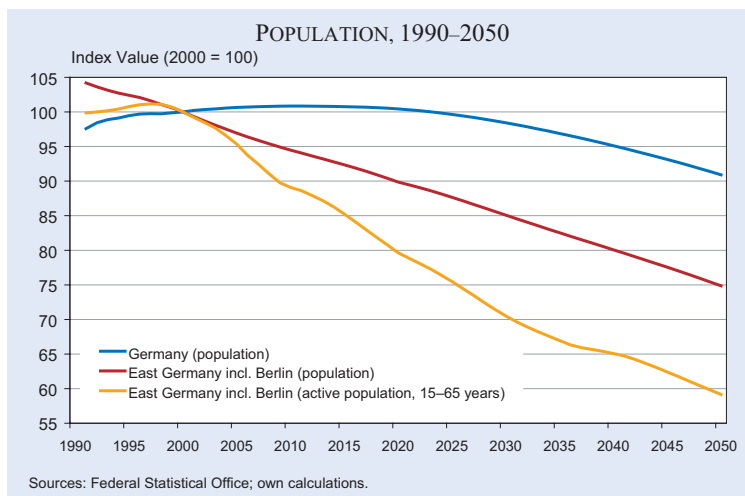
One may expect the convergence in life satisfaction to start again when economic conditions improve. The well developing manufacturing sector in several east German states gives rise to the hope that the process of economic convergence will continue once the structural adjustment in the construction sector has come to a halt.

Even though there is some reason to believe that east Germany can return to a path of catch-up growth during the next decades, there are at least two major challenges for the future development of the east German economy: the consequences of the demographic change and the unhealthy state of east German public finances.

⁶ See Frey and Stutzer (2002).

⁷ See Berlemann and Kemmesies (2004), Frijters, DeNew and Shields (2004) and Stutzer and Frey (2004) for more detailed studies of life satisfaction in East and West Germany.

Figure 10



While the total population in Germany will remain almost constant for the next 20 years,⁸ east Germany will face a steep decline in its population (see Figure 10). In 2030, the east German population will have dropped to 85 percent of its 2000 level. Low fertility rates and an aging population contribute to this decline. The decline of the working age population is even more dramatic. Since the average age of the population is rising, the active population aged 15 to 65 will shrink by 30 percent from 2000 to 2030.

Why should we care? A smaller population is not necessarily a bad thing – particularly in a densely populated country like Germany. Moreover, the out-migration of workers may be an efficient reaction to better employment conditions in other German regions. For east Germany, however, it is a threatening development as it weakens its comparative advantage in knowledge-intensive production in a global economy. Given the rigidities in the German labour market, demographic change will not eliminate unemployment among the low-skilled but may create scarcity of the high-skilled – thus making east Germany less attractive in firms' location choices.⁹

A second challenge is the imbalance of public finances in east Germany. 15 years after unification the revenue sources of east German regional

administrative bodies are still insufficient to finance their current expenditures. To date, a significant part of these expenditures are financed by transfers from west Germany. These funds, however, will decrease in future years. For instance, the transfers resulting from the “Solidary Pact II” (€10 billion in 2005) will be phased out until 2020. At the same time, expenditures are unlikely to be cut at this rate. Employment in the public sector will only gradually shrink to reduce the burden of the public payroll. Some expen-

diture categories will even increase, for instance those for public pensions of state employees. According to estimates of the Ifo Institute (Fester and Thum 2003), expenditures on pensions in Saxony will increase from roughly €50 million in 2005 to €400 million in 2020.

While east German politics has recognized the need for fiscal consolidation in general, it is yet unclear by which measures the expected shortfall in revenues will be met. Even if the process of convergence between east and west Germany picks up speed again, it will be overly optimistic to expect that the resulting tax revenues alone would be sufficient to generate balanced budgets in east Germany within the next decades.

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A shrinking population and fiscal imbalances are two major challenges

⁸ The population decline in Germany as a whole will start around 2013. The Federal Statistical Office expects a reduction of the German population from currently 82.5 million to 75 million, people in 2050. (Federal Statistical Office 2003).

⁹ A recent study of the Ifo Institute for Economic Research (Dittrich et al. 2004) calculates the employment gaps, i.e. the differences between labour supply and labour demand, for three different skill levels in Saxony.

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UNIFICATION, RECONSTRUCTION AND FEDERALIST REFORM IN GERMANY

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Today, German reunification is a historical truth. The consequences of this unique event, that instantaneous unification of two states with completely different developments, are almost exclusively perceived for eastern Germany, for the “new” states. That is why the issue of “eastern reconstruction” has largely disappeared from supra-regional debates in the Federal Republic. Yet, it remains the central issue of the country’s future. This future will not be determined by military and only to a small extent by transatlantic relations: Germany’s self-assertion, its identification with its social and cultural traditions and their importance in Europe and in the world, will have to be economically sound or not be at all. An economically weak Germany would also quickly lose its cultural position in Europe and the world and would thus be taken in tow by other powers in its own German-speaking area with its social structures and finally also with its political potential.

The consequences of unification, however, are, in a dramatic way, putting the country’s economic strength at risk. Last May, the European Commission, in a comprehensive report on the state of the German economy, came to the well founded conclusion that up to two thirds of the economic weakness of the present Federal Republic could be traced to the consequences of unification; another reason given for the condition of the German economy was the convergence dynamics following the introduction of the euro, because Germany’s traditional price stability could no longer benefit the national currency as a revaluation potential and Germany therefore had to cope with relatively high real interest rates within the euro area. Finally, and note should be taken of this assessment of the Commission: West Germany had not lost any of its former high com-

petitiveness (data base 2001). Further: Germany would only overcome its economic weakness if it succeeded in containing the follow-up costs of unification.

In a similar vein, the German Council of Economic Experts made this assessment in its 2004 Annual Report: An “essential” or a “substantial” cause of Germany’s economic weakness is to be found in the consequences of unification.

This assessment of the state of the German economy is a far cry from the tenor of the intra-German and international debate regarding the causes of German stagnation: stalled reforms take centre stage there. The Commission Report does not fit the tenor of this debate, in which – as mentioned – “eastern reconstruction” and the consequences of unification are in fact no longer an issue. But the Commission and the Council of Experts base their assessments on unquestionable and public data used in German discussions: The “new” states, which account for one third of the total area of unified Germany, host around one fifth of the German population, but produce only about one tenth of German gross domestic product and only about one twentieth of German exports. At the same time, unemployment in the eastern states, corrected for job creating measures and the like, amounts to more than 20 percent. This high level exists despite the fact that 600,000 to one million citizens, mostly young people, have migrated to work in the “old” states, another 40,000 per year “are moving west”, and, in addition, around 400,000 people commute to work daily from the “new” to the “old” states, not counting the long-term commuters.

Even this, very disquieting, situation of the eastern states is politically and socially stable only because west Germany transfers between 80 and 90 billion euros p.a., or around 4 percent of its national income, to the eastern states – in various ways, direct and indirect – and thus finances a substantial part of the east German economy and its jobs, for example in

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Unification is one of the causes of weak economic activity in Germany

retailing, the crafts, etc. About one third of east German national income depends on these transfers. An annual drain of 4 percent of west German gross domestic product since 1990 could not and cannot leave its performance unaffected. Since 1990, every single west German (including the unemployed and the little children) has worked for almost one year exclusively for “eastern reconstruction“. Today, the west is feeling more and more painfully the long-term withdrawal of financial resources. Universities, schools, transport systems, hospitals, cultural institutions: the greater scarcity of financial resources can be noticed everywhere. Those, however, who – at times even maliciously – point at united Germany as the laggard or the country that is bottom of the league, should consider what the “old” Germany might look like today if the level of the public debt of about 40 percent of GDP until 1989 (today: 69 percent) had been maintained and if the funds of the eastern transfers had not been “invested” in the ramshackle east German infrastructure, in eastern health services, pensions and unemployment benefits, but in the expansion and renovation of the “old” Federal Republic. To be sure, the west would still have problems today like any other industrial country. But this “old” and still competitive west Germany would certainly not be the economic laggard.

Direct and indirect transfers from west Germany finance eastern reconstruction

Eastern reconstruction has *also* been financed via “non-insurance” benefits of the social security systems. The German Council of Economic Experts (2004) estimated that for this reason the non-wage costs in west Germany are about four percentage points (i.e. 42 percent instead of 38 percent) higher today than would have been expected; IAB (Institute for Labour Market and Occupational Research) estimates even say five to seven percentage points! Example: According to IAB, from 1992 to 2002, the east German labour offices had deficits totalling around 167 billion euros that had to be offset by west German surpluses of unemployment insurance contributions of about 111 billion euros and other tax subsidies.

The high level of east German unemployment could initially be contained by investment (in construction) and transition measures. The “high” present level of unemployment in Germany also hides an admirable achievement, however: In 1989, the “old” Republic had a labour force of 29.7 million people; today’s Federal Republic has a labour force of 43.8 million! No other country has experienced such an increase. The number of gainfully employed also rose from

27.7 million (west Germany, 1989) to around 39 million (2005). Since the “new” states failed to bring along “customers”, especially foreign customers, for their products that were unattractive in open markets this achievement is also remarkable.

In view of the political necessity to organise Germany, which no longer had any domestic borders and despite the massive differences in economic output, as *one* bigger country now, the challenge for economic policy presented by unification was tremendous from the beginning. Today, nobody denies that many things could and should have been done differently. But today, “money” is no longer an answer. In 2019, Solidarity Pact II will not be followed by a Solidarity Pact III; shifting the unification costs, for example via the value added tax, will also affect eastern Germany. Other instruments with other dimensions must therefore be found.

Especially critical from the beginning was the sweeping adoption of the west German regulatory system. On the one hand, it was certainly essential to create clear legal conditions as soon as possible. But it should have been evident early on that the “old” Federal Republic would not have been able to develop successfully in the 1950s and 1960s under the tight regulations of the 1990s. Günther Krause, former Federal Minister of Transportation and a former GDR citizen, at least created easier planning conditions for construction; in fact, the Investment Acceleration Law remains the only regulatory advantage of east Germany, today.

Especially negative for the east was the adoption of numerous labour market regulations. Parity with the west would not have been “just” here: Any equalisation of competitive conditions has always particularly negative effects on those who must still cope with existing structural disadvantages. The “unjust” consequence of “parity” in the east, demanded primarily by the unions, was persistently high future east German unemployment. Is working longer hours in the east “unjust”? Have you ever heard of a young tennis player who considered it “unjust” having to train more every day than today’s number one seed on the tennis courts of the world?

It was not only a “mistake”, it was “unjust” vis-à-vis the people of east Germany to demand (as is still done by some politicians today) a general alignment of wages and regulations with those of west Germany before east Germany had at least caught up

with west German competitiveness. After all, the adoption of similar regulatory systems is primarily of advantage to the stronger competitors: It was they – especially western dominated unions – who consciously pushed the process of aligning wages and regulatory systems much too fast and too far out of fear of eastern low-wage competition.

Serious mistakes were made here, which are still waiting to be corrected today and quickly so. East Germany only has *one* more chance to catch up: states and local communities must be able to act more flexibly there, become more cost-effective, more imaginative and entrepreneurial than in western Germany. Today the “new” states urgently need a wider legal scope. That is why a fundamental reform of federalism is also in their interest.

But substantial mentality hurdles stand in the way of reform. In March 2005, the *Frankfurter Allgemeine Zeitung* posted the following headline: “Constitutional judges: Germans suffer from an equality syndrome.” The text reported on an interview with Udo Steiner, a Federal constitutional judge responsible for social law, who certified Germans to having a “mentality problem”: Germans are nearly “equality sick”. The newspaper further cited from the interview: “In this country, if somebody else owns more than oneself, it suggests wrongdoing; inequality is not taken as an incentive.”

Shortly before, the Federal Government had presented the report on “Living Conditions in Germany – Second Poverty and Wealth Report”, which says on the one hand that “Germany belongs to those EU countries with the lowest poverty risk ratios ...”, but on the other hand it attests “a trend ... toward increasing inequality”. And we know: introducing college fees; deductibles regarding health risks and parts of old age insurance; pension cutbacks, etc. are likely to cause additional inequalities in Germany. We also know, however, that there are massive regional differences in employment, income, and prosperity between east and west Germany; but also, for example, between the urbanised Ruhr area and areas like Frankfurt, Munich, Hamburg and Stuttgart. Migration from east to west and north to south suggests further disadvantages for the depopulating regions.

Where regional differences are so spectacular there are always two possibilities: convergence via financial transfers or convergence essentially via the exploitation of advantages achieved competitively.

The Federal Republic of Germany, as a federally organised state, is an exception among the countries of the European Union.

Federalism is said to be a German tradition. Germany’s historical tradition, however, was rather that of a loose network of authoritarian, German speaking states, i.e. of small states with centralised administrations. In the small German states, government was always very close to the people, it was a paternalistic top-down relationship. Only the citizens of cities and local communities had some autonomy, in particular following Stein’s community reforms at the beginning of the 19th century.

Historically, German “federalism” thus had a very different origin than that of the United States or Switzerland. In those countries, the people had created small entities that later grew together. The people of these member states then closely watched over their freedoms, responsibilities and rights. In Germany, however, kingdoms and principalities were simply united in a national federal state in 1871, a federal state that cared little about strengthening the democratic grass roots or to promote policies in the member states that were responsive to the needs of the people.

The purpose of federalism, however, is to anchor people’s rights of self-determination as close to the grass roots as possible: The people are to be entrusted with the implementation of their freedoms at the regional level, for which they must also assume responsibility, however. Regional differences as the result of regional freedoms and the consequences for regional responsibilities are characteristic of true federalism.

People’s freedom and responsibility for their region are also the only justification for a federalist state. For the remainder, federalism has only disadvantages: it is more expensive and slower than centralised state solutions; it usually results in provincial elites and can cause a fatal inclination to be bound up in oneself, to global short-sightedness and petty bourgeois behaviour. The only advantage that federalism has to offer – but this is a decisive advantage – is closeness to the people and people’s own responsibility. They permit the federal state to pursue policies that are characterised by people’s understanding and pragmatism, and in this way permit regional competition for ideas, followed by the observation of the results of different policy approaches in the fed-

Regional competition instead of transfers, differences instead of equalisation should be the freedoms granted by federalism

eral states and thus continuing learning from these different results. This means: federalism is always competitive federalism. The freedom implied by federalism is necessarily the freedom to have differences between the states in the federal nation. Without this freedom to compete, federalism is nothing but a hindrance.

Today, a structurally most differentiated, growing global competition undermines the fixed national regulatory systems of the economic and social German state. This demands very different and often very rapid reactions by firms and regions. Laws with too much attention to policy similarity will then turn out to be less and less able to meet the spontaneous, often unpredictable challenges of this global multifaceted competition. Where regional, or also national, flexible adjustments to new conditions are required, German politics and businesses run up against a dense network of country-wide laws and regulations, frequently supplemented by state rules that are defended nail and tooth by barricaded interests. Necessary changes fail at least just as frequently because of the complicated decision-making process between the federal government and the states; because of the partisan conflicts between the upper and lower houses of parliament (Bundesrat and Bundestag). And instead of meeting present and future challenges with a positive outlook on life, with imagination and the forces of competition, the people, sullenly and resigned, shift their responsibilities to the federal level which in turn cannot by itself and without strong support of the states bring about change.

In the final analysis, it is different policies with different results that constitute the only chance for more “equivalent living conditions” across the nation, and thus also for “eastern reconstruction”. Existing regional inequalities will, if at all, only be made to converge by employing different policy approaches at the regional level. It may sound paradoxical, but we need more policy differentiation in order to suffer fewer inequalities across the Republic. Given regionally differentiated starting positions, we can only achieve regionally “equivalent” results by granting more freedoms at the regional level.

If Germany’s constitutional structure is to be utilised productively at all, the states must be able to follow different avenues in many details within the framework of a more loose-knit federal system: live feder-

alism is Germany’s only hope in global competition. And this federalism will then also be suited to Europe. For it is hoped that the European Union itself will finally understand that variety is Europe’s strength and that for this reason subsidiarity and European differences must be the basic principles. In such a Europe, new regional networks will come into existence anyway that will not respect the old national borders.

Federalism reform in Germany is thus the “mother of all reforms”. Today, eleven of the sixteen states are recipients of fiscal equalisation funds: all six “new” states as well as Schleswig-Holstein, Lower Saxony, Rhineland-Palatinate, the Saarland und the city state of Bremen. At present, their different financial strengths are largely and comfortably levelled by fiscal equalisation. This means, however, that the financially weak states have hardly any incentive to be financially responsible. Leaving them to such a fate would not work for the sole reason that there are common country-wide social standards (remember the Poverty Report) that at present must be met by social transfers.

In view of these fundamental regional differences, would it be possible to utilise German federal structures more productively?

Indisputably, it is the very economic gap between eastern and western Germany that makes different measures necessary to close this gap. Let’s take the unions’ demand of “equal wage for equal work in the public sector in east and west”. This seemingly plausible sentence is more than problematic; the result would of course be highly unfair. For one thing, this principle applies nowhere in the private sector, not even in the west. After all, the level of real wages depends on productivity and the competitiveness of each individual firm. In the east, however, limiting the demand “for equal wages” to the public sector would result in the greatest inequality of all: for wages in the eastern business sector are substantially lower than in the west for competitive reasons (in manufacturing they are presently at 75 percent of the western level). A general solution of “equal wage for equal work” in the public sector at the western level would thus lead to an unbearable gap between the incomes in the east German administration on the one hand and the factories of the “new” states on the other. In order to catch up with the west in the long run, to offset today’s inequalities, the east German states would have to be able to determine

Regionally undifferentiated over-regulation stands in the way of flexible adjustment

their wage and income structures themselves within given limits and to set them substantially more flexibly, and that means mostly lower than in the west. And – furthermore – they would also have to tolerate greater differences between firms in different competitive positions.

Beyond this it would be helpful if German regulatory systems offered more regional differences. This is also demanded by the prime ministers of the east German states, who then shy away from the necessarily resulting financial consequences, however. And their colleagues in the west fear unilateral “deregulation competition” in case of deregulation advantages in the east. Therefore: Why not have more freedoms for all 16 states?

This will be opposed by the east, especially regarding the important consequence, i.e. the need to combine this with more tax responsibilities of the states, e.g. with surcharges and deductions on wage and income taxes. To be sure, in view of the commuter movements across state lines, this would require a revision of the presently unilateral assignment of wage and income taxes to the places of residence. Thus, it is a most complicated task.

If a levelling of the existing regional inequalities is truly to be furthered, a reform strategy would have to be chosen that entails more regionally based responsibilities. It would have to permit regionally differentiated social policy instruments. This means that, on the one hand, the states would have to be subject to clear long-term quantitative limits regarding the amount of needed social transfers, on the other hand, they would initially have to be granted the funds to comply within their own responsibility in this sector, and do so with their own administrations. Denmark and states in the United States could be models. In the United States, for example, important parts of the design of the welfare system (under President Clinton) combined with lump-sum revenue transfers were left to the states. In Germany, too, differentiated – over time degressive – cost ratios per inhabitant could be calculated for the states on which lump-sum financial transfers could be based, whose use would no longer be subject to a rigid, country-wide distribution system. Their total amount would not be allowed to be supplemented. There would no longer be “additional funds” – as presently demanded by Bremen and the Saarland. “Budget crisis” would have to be redefined.

It could then be left to the decision of the states to employ excess funds elsewhere (e.g. in investment), which would constitute a marked incentive for successful regional labour market and social policies. The success of option models in the present implementation of the rules of unemployment compensation, i.e. shifting the task to the local communities, confirms my optimism. For the United States, this solution was obvious because US states conceive their federalist task as their own responsibility and because they have utilised their regional sovereignty most successfully in economic terms, too, as impressively described by Fosler in *The new role of the American states*.

Would Germany, the federal state, then become a confederation of states, as feared by some in Berlin? Not so, if it were at last carefully determined what is truly essential at the central level to guarantee internal cohesion and the ability to act externally. But the anxiousness is regrettable with which attention is focused on the very theoretical question of “federal state or confederation”, instead of directing it at the positive consequences of greater freedom. It is a problem of mentality. Here, too, we say: More courage, Germany! Mistakes can usually be more easily corrected than omissions can be made up. More federalism is the most urgent demand of the day.

More federalism patterned after the U.S. would provide for more regional policy differentiation to reduce inequalities



WHY GERMANY NEEDS STRUCTURAL REFORM

ECKHARD WURZEL*

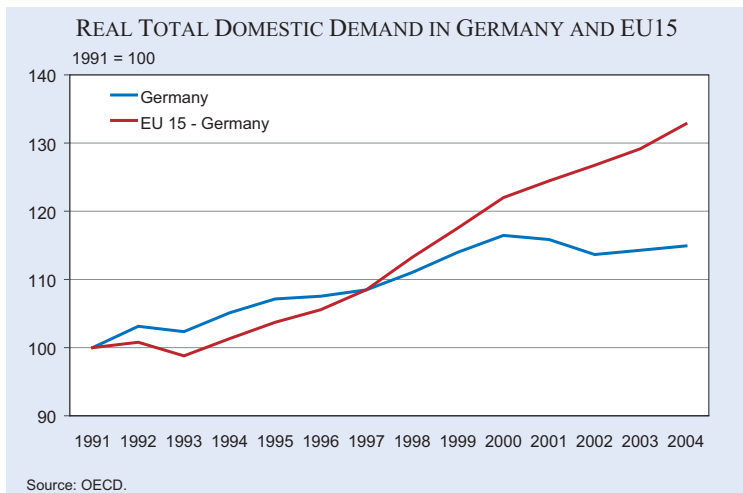
Observers of the German economy are facing an apparently contradictory picture. On the one hand, economic growth persistently undercuts that of the European Union by a significant margin, on average by some 1/2 percentage point relative to the other EU 15 countries over more than a decade. Domestic economic activity is notoriously weak (Figure 1), which is reflected in sluggish private consumption and investment, and progress in cutting high levels of unemployment appears to be lacking.

On the other hand, since the middle of the 1990s there has been a secular increase in the economy's external competitiveness, as reflected by measures of Germany's real effective exchange rate vis-à-vis its main trading partners. While the appreciation of the euro within the last couple of years interrupted this trend with respect to export destinations outside the euro area, German competitiveness within the euro area continued to rise owing to the country's relatively low inflation rate (Figure 2).¹ German industry is very successful in opening new export markets, in central and eastern Europe as well as in Asia, and since the beginning of the decade Germany's share in world exports has increased significantly.

How do these two apparently diverse observations fit together? Does the weakness of domestic activi-

ty underline the need for structural reform, or are we – on the contrary – dealing with a highly competitive economy with no need for an institutional overhaul? Indeed, the success on external markets indicates that Germany's export sector is able to address the challenges posed by a rapidly changing international environment.² In the same vein, the German economy is a main innovator, and research and development intensive industries contribute a larger share to exports than in OECD countries on average.³ Nevertheless, the observed gains in competitiveness on the one hand and weak overall growth and employment due to weak domestic activity on the other hand are to a considerable degree two sides of one and the same coin. They reflect adjustment processes in the overall economy in response to adverse economic shocks, in particular those that occurred at the beginning of the

Figure 1



Weak domestic economic activity but strong export performance

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¹ Other indicators also point to a trend increase in Germany's international competitiveness. See Nerb, G. (2005), Wie schätzen deutsche Industriefirmen ihre Wettbewerbsposition ein?, ifo Schnelldienst 13/2005.

² The dichotomy between strong export performance and weak GDP growth plays a pivotal role in Hans-Werner Sinn's recent analysis of structural shortcomings in the German economy. According to Sinn a pathological boost of value added in Germany's export sector coexists with a strong increase in the import content of German exports, which is crucially related to high labour costs. See Sinn, H.-W. (2003), Ist Deutschland noch zu retten?, Econ, Berlin; and Sinn, H.-W. (2005), Die Basar-Ökonomie – Deutschland: Exportweltmeister oder Schlusslicht?, Econ, Berlin.

³ According to key input indicators Germany belongs to the countries in the OECD with strong innovative activity, although Germany's relative stance appears to have weakened somewhat in the 1990s. Also, the growth in multifactor productivity, which is related to technical progress, decelerated in the 1990s. See the special chapter on innovation in: OECD (2004), Economic Survey of Germany, Paris.

Figure 2



1990s, subject to an institutional framework that is not yet sufficiently well geared to support rapid adjustment in favour of higher trend growth and employment.

Unification

At the beginning of the 1990s, the introduction of the German Mark in the former GDR at conversion rates far above the purchasing power of the old GDR currency, social transfers to the eastern states associated with the extension of the west German social security system to the east, massive industrial subsidies, and buoyant wage increases all combined to produce a temporary boost in domestic absorption that pushed up prices for domestically produced goods relative to foreign goods. Rapidly rising government debt added to this effect while high interest rates put upward pressure on the nominal exchange rate. High wage settlements were sustained until 1995, with early retirement programmes, job creation schemes and related measures effectively insulating collective wage setting from massive losses in employment in the eastern states.⁴ Rising social charges contributed to the upswing in unit labour costs. Overall, these factors triggered a real appreciation of the DM that accompanied the swing in Germany's current account from a sizable surplus into deficit. Other events that occurred over the 1990s and in the present decade, such as the transition to the European Economic and Monetary Union or the rapid economic development in China,

⁴ By the middle of the 1990s employment in the eastern German manufacturing sector had almost halved in comparison to 1990.

have added to pressures to adjust to a rapidly changing environment.

Unemployment

Mounting unemployment, excess capacities and – in the first half of the 1990s – falling international competitiveness with associated losses in export market shares triggered market adjustments that have continued for more than a decade. Wage increases have moderated significantly since the middle of the 1990s.

While real wages per hour – net of employers' social security contributions and deflated by the private consumption deflator – increased on average by 2¹/₂ percent annually between 1992 and 1995, since 1996 they have risen on average by 3³/₄ percent annually. Cost cutting programmes by business entailed further reductions in employment while hiring remained subdued. Indeed, measured in terms of the number of hours worked, as opposed to headcount, employment has trended down since the beginning of the last decade, with the volume of employment in 2004 undercutting the level that prevailed in the 1993 recession by almost 6 percent. Over-capacity in the construction sector – largely induced by subsidisation of projects in the eastern states – triggered a trend decline in construction investment that is still continuing. Equipment investment is driven to a considerable extent by the objective to streamline production processes rather than to widen capacity, as surveys among enterprises confirm. Similarly, there is empirical evidence that offshoring of production is motivated to a significant degree by the need to cut costs.⁵

Regulation

Economic adjustment along these lines helps to restore and preserve competitiveness. However, output and employment foregone can be considerable if raising competitiveness relies largely on prolonged periods of retrenchment. By contrast, structural change can become the vehicle that generates higher income and employment if the regulatory envi-

⁵ For a recent survey among enterprises see: Deutscher Industrie- und Handelskammertag (2005), Going International, Berlin.

Unification policies resulted in high costs in terms of debt, unemployment and subdued growth

ronment fosters the reallocation of resources and the expansion of activity in new areas. Wanted is a regulatory environment in which the economy can quickly transform gains in competitiveness into higher overall activity, for example by utilising resources that are saved via off-shoring for the development of new lines of production at home. Germany's subdued growth performance is characterised by lacking job creation while productivity growth is not high enough to compensate for the deficiencies in labour utilisation.⁶ There is considerable scope to improve the regulatory environment in various areas so as to raise the capacity of the economy to generate employment and raise productivity growth.

The need for regulatory reform will not diminish in the future. Raising the growth potential of eastern Germany remains a major challenge. While fast growth in various industrial branches of the economy cannot be ignored, a broader self-sustained upswing of economic activity has not yet been achieved, and a large part of total absorption in eastern Germany is still being financed via transfers. Total factor productivity (TFP) in manufacturing has been estimated to stand at around 70 percent of the west German level.⁷ Since, on the other hand, production technologies in industry were found to come close to those in the west, the gap in TFP is likely to reflect structural weaknesses of the east German economy that are unlikely to be remedied by subsidising capital accumulation, but require regulatory reform.⁸

Ageing

More generally, Germany's economic and social system will be profoundly affected by demographic ageing. Germany belongs to the OECD countries with the most significant deterioration in the age distribution of its population. According to the current population projections of the Federal Statistical Office, the old-age dependency ratio, defined as the ratio of persons aged 65 and older to those aged between 20 and 64, will rise to 53 percent in 2040, from somewhat below 30 percent at present. *Ceteris paribus* this development will be associated with

marked reductions in the labour force and potentially adverse consequences for labour productivity growth for the years and decades to come. At the same time, the fiscal pressure on the social security system and government finances more generally, including those of the states and municipalities, is set to increase.

Initiatives taken

Notwithstanding sizeable challenges, past economic adjustment toward viable market structures in the new eastern states and restructuring in the overall German economy provide a platform from which higher growth and employment can be achieved. In eastern Germany, new infrastructure has been established on a large scale and tremendous environmental damage inherited from the GDR has been remedied. Moreover, several reform initiatives that became effective over the last couple of years are significant steps in the right direction. This is true, *inter alia*, for policies aiming at more efficient job placement of the long-term unemployed, improving the sustainability of the pension system, increasing the efficiency of the health care system, and raising competition in the crafts sector. However, in several fields, including those where reform steps have been taken, more needs to be done to raise Germany's economic potential.

Federalism

Policy formation – fiscal and non-fiscal – is often subject to complex and opaque interactions between the federal government and the states and communities. Increasing the consistency of policy initiatives and the speed with which they can be designed and implemented requires reform of the system of federal relations. Responsibilities for related tasks are often split between the federal government and the states and communities. Moreover, the high degree of co-financing of spending across government levels allows regional governments in principle to condition their approval of federal fiscal legislation in the second chamber of Parliament (*Bundesrat*) on concessions in federal legislation that does not formally require their approval, as experienced in the past. There is an urgent need to untangle the responsibilities of the different levels of government and reduce the degree of co-financing. One example of a task of high importance for the future success of the

Needed are regulatory and federalist reforms to permit flexible adjustment

⁶ See OECD (2003), *Economic Survey of Germany*, Paris.

⁷ See: Beer, S. and J. Ragnitz (2002), "Wachstum des Ostdeutschen verarbeitenden Gewerbes vor allem durch höhere Wettbewerbsfähigkeit der Unternehmen", *Wirtschaft im Wandel* No. 13/2002.

⁸ See Würzel, E. (2001), *The Economic Integration of Germany's New Länder*, OECD Economics Department Working Paper No. 307, <http://www.oecd.org/dataoecd/60/57/1899874.pdf>

German economy, that will require streamlining the federal decision structure, is raising the efficiency of the education system.

Labour market

There are still significant hurdles to higher labour supply, and a perception that economic growth is not strong enough to prevent higher labour supply from translating into higher unemployment, in particular among older people. By contrast, in OECD countries where participation rates of older workers are high so are their employment rates, indicating that there are few inherent barriers to higher employment of older people. Germany's tax wedge on labour is among the highest in the OECD, requiring reform in the social security system to reduce it. Reducing tax and non-tax disincentives for spouses to take up work, lowering benefit withdrawal rates for the long-term unemployed, and removing financial incentives for early withdrawal from the labour force would improve labour supply conditions. More efficient activation of the unemployed requires further reform of the Public Employment Service, including revisions in the allocation of responsibilities across different public administrations. The potentially high costs of adjusting the regular work force to labour demand conditions, implicit in Germany's relatively strict employment protection regulation for regular employment, favours non-standard forms of employment. Fostering employment flexibility while developing incentives to invest in training would suggest more symmetric reform of employment protection legislation. Similarly, further progress is necessary in allowing firm-specific and regional conditions to impact on negotiated wage rates.

Competition

Product market competition is a driver for innovation and investment. Rents accruing to incumbents due to a lack of competition reduce resources elsewhere, notably for the development or marketing of new products. Also, prices that are higher than under more competitive conditions – for example for energy or household services – diminish the purchasing power of private households, weighing on consumption. While the German economy is traditionally very open with respect to international trade, there exist significant impediments to competition on some domestic markets. Barriers to entry in the

crafts sector have been recently reduced but warrant further deregulation. Regulation of professional business services, such as those of architects and engineers, is very restrictive by international comparison. Incidentally, Germany's share in internationally traded business services is relatively low, and competitiveness indicators point to much weaker sectoral performance than in industry.⁹ It might not come as a surprise that branches that are sheltered at home tend to under-perform on external markets. Fostering competition in network industries, such as in telecommunication, energy supply and in postal services, should also rank high on the policy agenda, notwithstanding the significant progress that has already been made in recent years. Streamlining administrative regulation in a number of fields is called for, and would help to increase labour productivity as firms can shift resources to productive uses. This would promote firm entry, as administrative costs are particularly burdensome for small enterprises.¹⁰ Further significant reductions in tax concessions and subsidies also belong to a range of measures that need to be addressed to improve the allocative efficiency of the economy.

Budget consolidation

Lasting budgetary consolidation is unavoidable if fiscal pressure stemming from society's ageing is to be coped with and the wherewithal for higher outlays is to be created in areas that are vital for the development of the productive potential of the economy. Over the last 15 years, general government debt relative to GDP increased by some 28 percentage points. While unification played a major role in this development, both in terms of spending increases and debt take-over, the marked increase in indebtedness points to the need to respond to new fiscal pressures by more stringent prioritisation of government spending. By 2004, almost 57 percent of general government outlays consisted of social spending, up from 48 percent at the end of the 1980s, whereas investment accounts for only 3 percent of spending. A more rigorous approach to evaluating public sector spending projects against alternatives is called for in various areas, such as health care, education, active labour market measures, and infrastructure investment. Redefining federal fiscal relations and

Germany's tax wedge on labour is among the highest in the OECD

⁹ See Nerb, quoted above.

¹⁰ For an evaluation based on enterprise surveys see: Institut für Mittelstandsforschung Bonn (2004), *Bürokratiekosten kleiner und mittlerer Unternehmen*, Deutscher Universitäts-Verlag, Wiesbaden.

reducing industrial subsidies stand as examples of policy requirements that could generate significant savings in public budgets while improving the functioning of the economy.

Conclusion

Important challenges facing Germany, such as high unemployment, adverse demographic developments and the impact of globalisation, are common issues within a wider set of OECD countries, notwithstanding the fact that reunification played a special role in shaping Germany's recent economic history. Indeed, several other industrialised countries went through periods of intense structural and fiscal reform that were triggered by sub-par economic performance. The new German government will need to firmly anchor and broaden the path of the regulatory reforms that Germany has recently embarked on.

MUCH ADO ABOUT LITTLE: THE FISCAL IMPACT OF GERMAN ECONOMIC UNIFICATION

ADAM S. POSEN*

After fifteen years, German unification remains a historic event, a diplomatic and political achievement, a notable benefit of the peaceful end of the Cold War, and the culmination of hopes for freedom and solidarity long-held and long-frustrated in both postwar Germanys. German *economic* unification, however, remains an event of only exaggerated importance beyond its impact on those citizens of the former GDR. Although often held up by the popular press and by foreigners as the leading source of poor German national economic performance since the immediate post-unification boom, unification's effect on the overall German economy was in fact surprisingly minor. While many leading economists inside and outside of Germany have made insightful and careful assessments of what went wrong in the integration of the *Neuen Bundesländer* (new states) with the former West Germany, they often overlook or assume the broader macroeconomic impact of unification – which contributes to the popular misimpression, at least by omission.¹

German economic unification should now be seen as a squandered opportunity rather than as a large ongoing burden for Germany. It is not an excuse for contemporary difficulties, nor even a major explanation for past underperformance. Unification is, however, the primary example of the way that corrupt linkages between insiders in the German economy – managers in less export-intensive and service industries, labor union officials, bankers in the unconsolidated *Sparkassen* and semi-public financial sector – conspire to maintain their privileges at the expense of those shoved to the outside. These institutionalized deals cause persistent unemployment and decrease returns to capital throughout the German economy.

The unsatisfying aftermath of unification is the embodiment of this system, rather than being atypical of German political economy or even all that extreme. And the direct costs of unification, like those of the overall system, are likely insufficient to compel a repudiation of these processes even over the next fifteen years, just as they were no constraint in the last fifteen since 3 October 1990 (*Tag der Deutschen Einheit*). The costs remain primarily those lost opportunities of what German national income could have been and could be, and the lesser sustainability of the welfare state as a result.

Taking the disappointing lack of income and productivity convergence between eastern and western Germany as given, what impact has this outcome had on economic performance? Large annual income transfers from west to east have diminished the social dislocation, while simultaneously occasioning increased budget deficits and tax rates. Clearly, the first step to assessing the economic costs of German unification is to tote up the accumulated fiscal largesse and its implications. At first glance, that largesse appears very large indeed: an average of 5.0 percent of GDP (94.9 billion euros) annually being transferred from west to east from 1991 to 2003.²

Little spending was cut elsewhere in the German Federal and *Laender* budgets to pay for these transfers, so the direct costs are those incurred in running up public debt and raising taxes. Some tax revenues were collected from eastern businesses and wage earners, however, even if on balance more was transferred in than out of the eastern states. The average annual gross transfers *net* of tax revenues collected in the east was 66.3 billion euros, or 3.7 percent of GDP.³

* Senior Fellow, Institute for International Economics (Washington). This is adapted from the author's forthcoming study, *Reform in a Rich Country: Germany*, supported by a major grant from the German Marshall Fund of the United States. Daniel Gould provided excellent research assistance. Contact aposen@iie.com. © IIE, 2005.

¹ For examples of the former, see the works of Hans-Werner Sinn, George Akerlof and Janet Yellen, Michael Burda, Jennifer Hunt, Holger Wolf, and Juergen von Hagen, among others.

² This assumes a euro-DM exchange rate equal to that at the time of EMU, 1 euro = 1.986 DM. To the degree that the exchange rate was temporarily overvalued, that would exaggerate the real costs in these calculations.

³ This average is computed for 1991-1999 data. Cyclically adjusted tax revenues from the new states were slightly increasing after 1999 as the labor force participation slightly went up over time.



Assessing the economic costs of unification by looking at fiscal transfers: 5.0 percent of GDP p.a.

Not all transfers are wasteful, however, even those made to the former GDR. Those that went to useful infrastructure investment can have benefits on a par with private-sector investment. In some instances – such as the installation of modern sewage treatment, transportation networks, and telecommunications; the creation of schools meeting western standards and conveying technical knowledge; the provision of local administrative apparatus sufficient to implement commercial contracting and dispute settlement – public infrastructure investment was necessary before private investment or even commerce could take place in eastern Germany. This amounted to an average of 10.5 billion euros annually from 1991 to 1999, or 0.6 percent of GDP per year. Also, some transfers from west to east were made solely on the basis of demographic qualifications by new German citizens. That is, the normalization of old-age pensions, disability payments, and health care for those qualified according to the western German standards, but excluding active labor market programs and the like that reflected solely eastern German economic conditions. We estimate this amount to be at least 30 billion euros per year.⁴

So after taking out infrastructure investment, tax receipts from eastern Germany, and demographic transfers, the cumulative net amount of annual fiscal transfers that can be characterized as direct reunification transfers therefore is an average of 25.7 billion euros, or 1.4 percent of German GDP. Even these are not a pure loss, however, because they did lead to some consumption and savings within the German economy, and perhaps some growth (depending upon the multiplier effect). Following the lead of Ball and Mankiw, one can roughly estimate an upper bound on what this total expenditure cost the German economy by imagining what would have happened had all these transfers been debt financed, and then all that debt issued been replaced with some useful private capital. That is, what if the transfers to eastern Germany had instead been fully placed as productive private investment yielding

market returns.⁵ This is an extreme assumption, since Germans usually consume 50 to 55 percent of income, and there is no reason that consumption by westerners would be any more beneficial than consumption by easterners, and no reason to think that easterners would not have saved a similar proportion of the transferred income.

In the event that the total transfers would have been productively invested, though, as in the thought experiment, then the loss to the German economy would have been the income stream (i.e., growth effects) of that increase in the capital stock. This is an *overestimate* as it does not allow for depreciation of the new capital, and/or for some decrease in the marginal productivity of capital, as there was a (meaningful) expansion of the capital stock.⁶ Over fifteen years of reunification, therefore, the capital stock could have been at most 21 percent of GDP higher (15 x 1.4 percent). Output would have risen by that amount times the marginal product of capital – in Germany, the capital share is about 30 percent, and the capital-income ratio is about 3, which implies a marginal product of capital of 10 percent. Thus, had all discretionary, assumed unproductive, net transfers to eastern Germany been replaced with productive private investment, output would have been 2.1 percent higher. While nothing to dismiss, this would have made up less than two year's gap of the amount that German real GDP growth trailed the OECD annual average over the last 15 years. One could try to reclassify some of the assumptions made here to bulk up the amount of "wasted" transfers, and thus increase the amount presumed to be lost, but a fair analysis would first take into account declining marginal product of capital, and the likelihood of some of the money kept in western Germany going to other than investment, which would work in the other direction.

Additionally, one could take into account the interest rate costs of the additional debt issued to pay for

After adjusting for infrastructure investment and demographic transfers, net fiscal transfers amount to 1.4 percent of GDP on average

⁴ This estimate assumes a similar demographic structure in eastern and western Germany. This likely understates the demographic driven transfers given that the eastern population was probably more expensive on this score. One could characterize this as a 'cost of unification,' given that this does add to the overall German social security rolls and the former GDR citizens had not paid in commensurate with their (future) benefits. In that case, one would also have to subtract the benefits to the overall German economy from the addition to the German workforce of contributing younger citizens. In any event, such a calculation would be contrary to the spirit of the universal pension, disability, and health benefits of the German *Sozialmarktwirtschaft*, whose generosity and sustainability should be evaluated on their own terms. And the reality that none of the current recipients paid in commensurate with their current benefits.

⁵ See Laurence Ball and N. Gregory Mankiw, "What do budget deficits do?," Annual Jackson Hole Conference 1995, Federal Reserve Bank of Kansas City.

⁶ In reality, this exercise also assumes away one of the major negative aspects of German unification: that the imposition of high wages and other inefficient institutions on the new *Länder* overcame the natural expectation that returns on capital should be *higher* in a transition economy like eastern Germany than in already developed (with a high capital to output ratio) western Germany. Had the returns in eastern Germany been allowed to rise unimpeded, presumably larger investment flows would have gone there from Germany and the entire western world, and fiscal transfers on this scale would not have been needed. For purposes of this argument assessing the costs of unification, though, the point is that simply leaving more capital in western Germany rather than making transfers to the east would not automatically yield constant rather than diminishing, let alone high, returns.

these transfers. Here, the actual increase in German government debt issued, as opposed to the tax-financed share of the transfers, is what is relevant. So we must total the net transfers, subtract the amount paid for by the Solidarity Tax, but add to the total debt inherited liabilities from the eastern governments at unification. That calculation yields a total increase in debt on the order of 430 billion euros, 1991 to 2003, and the average real borrowing rate on German government obligations was approximately 4 percent, yielding a total interest payments outlay of 105 billion euros over the period, or 6 percent of GDP.⁷

To the degree that this additional debt issuance led to an increase in the average rate of interest which markets charged the German government on its new issues, the additional outlays due to that increment on all German debt issued since unification for reasons other than these solidarity transfers should also be included as a cost. Real interest rates in Germany, however, dropped in 1992-93 versus the height immediately post-reunification, and only went above 5 percent again in winter 1994-95, staying below 4 percent for most of the time since 1991. Let us assume that the response of interest rates to anticipated sustained increases in the deficit, all else being equal, are similar in Germany to those in the United States, since a consensus has recently emerged on the point estimate of this number: a 40 basis point increase in long-term interest rates for every sustained 1 percent increase in the government unified deficit.⁸ Then for 1.4 percent of GDP annually transferred on net, interest rates on long German government bonds should have risen 60 basis points or less. Summing up outstanding German public debt not attributable to reunification, one gets a cumulative additional interest payment of 64 billion euros since 1991, for the 0.6 percent interest “penalty” due to reunification related debt. Thus, the total direct interest rate cost of German unification was under 170 billion euros, or

about one-tenth of a year’s GDP over the fifteen years since *Die Wende*, or 0.6 percent of GDP a year.

Over half of the transfers from western to eastern Germany, however, were funded through the raising of taxes. The solidarity surcharge on income taxes was the major source, but other taxes also were increased. Though tax-financed transfers do not incur interest rate costs, they do lead directly to dead-weight losses from distortions as tax rates rise. There is a wide range of estimates by public finance economists of these costs, starting with Arnold Harberger’s classic estimate of only 5 percent, with some recent general equilibrium models suggesting losses of up to 50 percent. Most empirical estimates would put the highest distortions to labor taxes on the order of 25 percent of any increase in marginal tax rates; distortions from increases in corporate tax rates would cost less than 10 percent of the increase. The effective marginal tax rate on labor in Germany has risen from an already high 0.57 in 1991 to 0.70 in 2001, but one cannot ascribe all of that to reunification (especially since that yields an increase in revenue that exceeds the amount spent or transferred east annually). If we were to arbitrarily attribute half the increase in marginal labor tax rates to unification, that would be a deadweight loss of 0.06 percent of labor income, with a labor share of 70 percent, for 0.042 percent of GDP (and the marginal tax rate only increased to 0.7 percent in 2001, so the amount was actually less for most of the reunification period). The corporate tax rate was being cut significantly over this period in Germany, so computing the distortions from unification increases is impossible.

Some economists would further suggest that increasing taxes, particularly on labor income, will lead to a withholding of effort, perhaps showing up as additional voluntary unemployment. The empirical support for such contentions is mixed, however, and in Germany is likely to be swamped by the impact of variations in the reservation wage due to high and long-duration unemployment benefits, as well as the already prohibitively high marginal rate of taxation on low wage employment.⁹ Perhaps more plausibly, increased taxes might lead to diminished savings – as discussed in research by von Hagen; however, empirically there is no sign that either eastern or western Germans saved at dimin-

Higher interest rates and distortions due to higher taxes are also minimal

⁷ As with the preceding cumulative assessment of the transfers, this is a retrospective adding up of the past interest paid amounts, not a net present value calculation of what an ongoing flow of debt growing at past or diminishing rates would cost. This is for two reasons: first, the issue of concern is what the costs actually have been, and whether those are sufficient to explain poor post-unification national German economic performance; second, there is no good reason to assume that such transfers (excluding the universal social security commitments as discussed) will continue or smoothly decrease rather than ending abruptly in the near future.

⁸ Estimates from US data in line with this were independently made by Thomas Laubach, Eric Engen and Glenn Hubbard, William Gale and Peter Orszag, and the US Congressional Budget Office. This probably overstates the response of interest rates in Germany, given less forward looking financial markets and far less external indebtedness than in the U.S. (though this remains to be established empirically).

⁹ This is why the Red-Green government’s Agenda 2010 quite logically focused its efforts on reforming these two aspects of the labor market in 2003-04.

ished rates following unification and the imposition of these tax increases.¹⁰

Thus, the direct fiscal costs to the German economy of 15 years of transfers to the new states totaled no more than 11 percent of one year's GDP cumulatively, or 0.74 percent of GDP annually. To put this number in perspective, compare it to other large-scale arguably wasteful multi-year expenditures in advanced democracies. The United States spends 1.5 to 2.0 percent more of GDP annually on defense than Germany, with an additional 0.4 percent a year currently going to the war in Iraq, almost all of which constitutes, in economic terms, either building expensive items useless in the civilian economy and then blowing them up, or transfers to low-skilled workers akin to the special job creation programs in eastern Germany; all of this is debt financed and so more expensive than a combination of tax distortions and interest rate increases as Germany financed unification. Closer to home, the Netherlands and Denmark are known for their highly generous long-term disability payments to people meeting very loose criteria, at least until recently. In Denmark, for example, if one took one-third of expenditures on disability cash benefits and occupational injury benefits, which understates the unnecessary generosity, that would total 1.1 percent of GDP annually. And both of these countries, each with their own substantial economically unproductive public spending, averaged higher growth rates, higher productivity growth, and greater job creation than Germany throughout the period since 1993.

In sum, the fiscal costs of the west-east transfers over 15 years came to 0.74 percent of GDP p. a.

There are other stories one can tell about the economic costs of German reunification, including the popular one that overspending led to interest rate increases leading to the ERM crises and overvalued German exchange rates, leading to a loss of competitiveness. Of course, this only applied to a short period of time, and had no lasting effects on Germany's exporters. IMF, European Commission, and Deutsche Bundesbank studies of the German real interest rate over the 1990s bear out this dismissal. So no matter how one examines it, the real cost of German reunification is to the unemployed of eastern Germany, and not so much to the German economy as a whole.

¹⁰ Of course, if there was such a savings response to the increase in taxes, Ricardian equivalence would not hold, and claims that the run-up in debt post-unification was exerting a drag on current German consumer confidence by causing worries about future tax obligations would be invalid.

PENSION AND MEDICOST REFORM – AVERTING THE DEMOGRAPHIC/FISCAL DEMISE

LAURENCE J. KOTLIKOFF*

The developed world is facing a much greater fiscal/demographic problem than is commonly believed. Take the U.S., which, arguably, is in better fiscal shape than Japan and most EU countries. It faces a fiscal gap of \$65.9 trillion, where “fiscal gap” refers to the present value difference between all projected future federal government expenditures and all future government tax receipts.

The \$65.9 trillion estimate comes courtesy of Jagadeesh Gokhale and Kent Smetters (2005) who based their calculation on US government projections, which, incidentally, tend to be overly optimistic.

One way to put the US fiscal gap in perspective is to ask how much of a tax hike would be required to eliminate it in present value? The answer is that US federal personal and corporate income taxes would have to be doubled, immediately and permanently! Alternatively, the gap could be closed by immediately and permanently cutting by two thirds the elderly’s Medicare health benefits as well as their Social Security pension benefits!

Either of these policies or any combination of them would impose a huge burden on current adults. But American adults appear in no mood to endorse any fiscal adjustments that either raise their taxes or cut their benefits. Of course, what people want and what they can get are often far removed. As the government’s intertemporal budget constraint reminds us, generational policy is a zero-sum game. So leaving today’s adults off the hook means forcing young and future Americans to pay this bill in its entirety. Such a policy is not only ethically abhorrent. It also appears to be economically unfeasible since it would entail a doubling of the average lifetime net tax rates levied on today’s young and future generations.

Laying blame

Much of the US fiscal gap can be ascribed to Social Security, Medicare, and Medicaid, i.e., to state pension and medical systems, if one wants to follow the

traditional accounting classifications. The same, presumably, would be true of fiscal gaps in other developed countries. But as discussed in Kotlikoff (2003), those classifications as well as cash flow (as opposed to present value) measurements of taxes, transfer payments, and deficits have no basis in economic theory. Consequently, one can adopt other classifications and conclude that those programs are in fine fiscal shape, while the rest of the government’s finances are the true problem.

Economic theory dictates, then, that we look at the overall fiscal picture. Slicing it and dicing it doesn’t cut it. Unfortunately, this is what the governments of virtually all developed countries are doing. They are looking at the individual trees and, potentially, missing the forests. The tree that gets the most attention is, of course, the official debt. In the U.S., the official debt is only one twelfth of the fiscal gap, so it’s doing a fine job hiding the true picture.

If the US fiscal gap is so big relative to its GDP, how big are the fiscal gaps of other developed countries relative to their GDPs? Unfortunately, we can only guess because, with a couple notable exceptions, none of these countries are doing fiscal gap accounting, let alone generational accounting, on an ongoing and systematic basis. Hence, we are heading into a huge generational storm without turning on the weather satellites. This is a very unwise course of action.

The reason why Japan and most EU countries may be in worse fiscal shape than the U.S. is that they are scheduled to age much more rapidly than the U.S. thanks to much lower past, current, and projected fertility and immigration rates. Italy’s current fertility rate, for example, is only 1.2 percent, making it the lowest of any country in the developed world. In addition, the generosity of benefits paid to the elderly seems to be greater in Japan and other EU countries when scaled by per capita income.

The role of growth in health expenditures

The big unknown in determining which developed country gets the prize for being the most bankrupt, is the future growth in health expenditures per recipient. As Table 1 indicates, the U.S. beat Japan and Germany and a number of other developed countries over the period 1970 through 2002 when it

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Table 1
Average Annual Growth Rates in Real Health Expenditures per Recipient and Real GDP Per Capita, 1970 to 2002

Country	Real Health Expenditures Per Recipient	Real Health Expenditures Per Capita	Real GDP Per Capita	Relative Growth of Health Expenditures and GDP
Australia	3.15	3.65	1.75	2.1
Austria	3.22	3.49	2.16	1.6
Canada	2.08	2.63	1.91	1.4
Germany	2.82	3.12	1.63	1.9
Japan	3.07	4.56	2.16	2.1
Norway	4.82	5.22	2.62	2.0
Spain	4.26	4.88	2.10	2.3
Sweden	2.11	2.26	1.71	1.3
UK	2.97	3.21	1.95	1.6
US	4.24	4.91	1.89	2.6

Source: Christian Hagist and Laurence J. Kotlikoff, "Who's Going Broke? Rising Health Care Costs in Ten OECD Countries," mimeo, Boston University, June 2005.

comes to letting its health expenditures grow relative to its economy. Over this period, US government health spending grew 2.6 times faster than the economy on an average annual basis. In Japan and Germany the comparable ratios were 2.1 and 1.9.

Table 1 helps us see how much of the excess growth in government health care spending is due to growth in spending per recipient as opposed to demographics, i.e., the increase in the number of recipients per capita and the shift in the age structure toward relatively expensive recipients.

Take the U.S. and Japan. Real health spending per recipient grew at annual rates of 4.24 percent and 3.07 percent in those countries, respectively. But the rapid aging of the Japanese society coupled with the higher health costs of the elderly meant that health expenditures per capita grew almost as rapidly in Japan as in the U.S. over the 22 years.

Table 2
Projected Future Health Spending as Percent of Projected Future GDP

Country	Discount Rate		
	r = 3%	r = 5%	r = 7%
Australia	10.67	9.61	8.93
Austria	7.82	7.25	6.86
Canada	11.00	9.72	8.92
Germany	12.47	11.67	11.10
Japan	10.54	9.67	9.09
Norway	11.98	11.08	10.47
Spain	8.76	8.15	7.67
Sweden	9.84	9.42	9.13
UK	9.15	8.47	8.05
US	12.71	11.01	9.94

Source: Christian Hagist and Laurence J. Kotlikoff, "Who's going broke? Rising Health Care Costs in Ten OECD Countries," mimeo, Boston University, June 2005.

Table 2 compares the present value costs of projected health expenditures in the different countries assuming that current expenditure growth rates per recipient are maintained for the next twenty years and then decline over the following 30 years to equal the rate of growth of per capita GDP.

At a 3 percent discount rate, the U.S. has the highest present value projected cost measured relative to the projected present value of GDP. At a 7 percent discount rate, Germany comes out

on top. The Japanese figures as well as those of the other countries are also quite high.

The bottom line here is that while the U.S. has been taking the lead in permitting unsustainable growth in health care spending, it's not far ahead of the pack and may actually soon be passed by other developed countries.

Macroeconomic repercussions

There are lots of ways – most of them bad – that the U.S. and other developed countries can achieve a sustainable fiscal policy. One is to raise taxes over the transition. As discussed in Fehr, Jokisch, and Kotlikoff (2004), raising payroll and income taxes over the transition to meet promised benefits will precipitate a significant capital shortage as young workers will have even less take-home pay to save and invest in capital. The capital shortage will, as simulated, drive down real wages by one fifth and drive up real interest rates by roughly 50 percent. Alternatively, if governments simply print money to pay their bills, we're likely see very high rates of inflation if not hyperinflation. The third option is simply to cut benefits. This seems politically the most difficult since elderly voters are very well organized politically.

The uncertainty about the resolution of the fiscal imbalances in the developed world as well as the size of these imbalances could precipitate a financial crisis under which interest rates, nominal and real, shoot up dramatically in response to concerns that governments will simply print money to pay their bills.

What to do?

Some have suggested that the developed world can cure its aging problems by simply increasing immigration. As discussed in Fehr, et. al. (2004) and Auerbach and Oreopoulos (1999), immigrants are likely to cost governments as much as they make for them. Other supposed cures like productivity growth, increased fertility, and delayed retirement do remarkably little. Getting control of excess growth in health expenditures could, on the other hand, make a significant contribution to restoring sanity.

Addressing the growth of health care expenditures

As mentioned, one can classify whatever revenue stream one wants as available for spending on health care programs, so saying that the health care system is the problem gets us back to substituting linguistics for economics. But no matter how one classifies such expenditures and how one measures their contribution to the overall problem, it's clear that letting health expenditures per recipient grow on an ongoing basis much more rapidly than the real wages of workers paying those benefits is a big problem. Somehow the developed countries must find a way to keep health spending from growing at the past and projected rates. They must also come up with new and more efficient state pension and tax systems. In this regard, let me briefly describe a new New Deal that Niall Ferguson and I (Ferguson and Kotlikoff, 2005) are proposing to reform US fiscal institutions.¹

The three proposals covering taxes, Social Security, and health care are interconnected and interdependent. In particular, tax reform provides the funding needed to finance Social Security and healthcare reform. Each of these reforms can and should be carried out by other developed countries.

Tax reform: FRST

Let's start with tax reform. Our plan is to replace the personal income tax, the corporate income tax, the payroll (FICA) tax, and the estate and gift tax with a federal retail sales tax (FRST) plus a rebate. The rebate would be paid monthly to households, be based on the household's demographic composition, and equal the sales taxes paid, on average, by house-

holds at the federal poverty line with the same demographics.

Most of the public believes a sales tax is regressive. But our sales tax has three highly progressive elements. First, thanks to the rebate, poor households pay no sales taxes in net terms. Second, our reform eliminates the highly regressive FICA tax, which is levied only on the first \$90,000 of earnings. Third, FRST would effectively tax wealth as well as wages, because when the rich spent their wealth and when workers spent their wages, they would both pay sales taxes.

Our single, flat-rate sales tax would pay for all federal expenditures. The tax would be highly transparent and efficient. It would save hundreds of billions of dollars in tax compliance costs. It would significantly reduce effective marginal taxes facing most Americans when they work and save. Finally, FRST would enhance generational equity by asking rich and middle class older Americans to pay taxes when they spend their wealth. The poor elderly, living on Social Security, would end up better off. They would receive the sales tax rebate even though the purchasing power of their Social Security benefits would remain unchanged (thanks to the automatic CPI adjustment that would raise their Social Security benefits to account for the increase in the retail price level).

Social security reform: PSS

Our second proposed reform deals with Social Security. We would shut down the retirement portion of the current Social Security system at the margin by paying in the future only those retirement benefits that were accrued as of the time of the reform. This means that current retirees would receive their full benefits, but current workers would receive benefits in retirement that are based only on covered wages earned prior to the reform. The retail sales tax would pay off all accrued retirement benefits, which eventually will equal zero. The current Social Security Survivor and Disability programs would remain unchanged except that their benefits would be paid by the sales tax.

In place of the existing Social Security retirement system, we would establish the Personal Security System (PSS) – a system of individual accounts, but one with very different properties from the scheme proposed by the President. All workers would be

¹ The remainder of this paper draws heavily on Ferguson and Kotlikoff (2005).

required to contribute 7.15 percent of their wages up to what is now the Social Security covered earnings ceiling (i.e., they would contribute what is now the employee FICA payment) into an individual PSS account. Married or legally partnered couples would share contributions so that each spouse/partner would receive the same contribution to his or her account. The government would contribute to the accounts of the unemployed and disabled. In addition, the government would make matching contributions on a progressive basis to workers' accounts, thereby helping the poor to save.

All PSS accounts would be private property. But they would be administered and invested by the Social Security Administration in a market-weighted global index fund of stocks, bonds, and real estate securities. Consequently, everyone would have the same portfolio and receive the same rate of return. The government would guarantee that, at retirement, the account balance would equal at least what the worker had contributed, adjusted for inflation; i.e., the government would guarantee that workers could not lose what they contributed. This would protect workers from the inevitable downside risks of investing in capital markets.

Between ages 57 and 67, account balances would be gradually sold off each day by the Social Security Administration and exchanged for inflation-protected annuities that would begin at age 62. By age 67 workers' account balances would be fully annuitized. Workers who died prior to age 67 would bequeath their account balances to their spouses/partners or children. Consequently, low income households, whose members die at younger ages than those of high-income households, would be better protected.

Healthcare reform: MSS

Our third and final reform deals not just with our public health care programs, Medicare and Medicaid, but with the private health insurance system as well. That system, as is notorious, leaves some 45 million Americans uninsured. Our reform would abolish the existing fee-for-service Medicare and Medicaid programs and enroll all Americans in a universal health insurance system called the Medical Security System (MSS). In October of each year, the MSS would provide each American with an individual-specific voucher to be used to purchase health insurance for the following calendar year. The size of

the voucher would depend on the recipients' expected health expenditures over the calendar year. Thus, a 75 year-old with colon cancer would receive a very large voucher, say \$150,000, while a healthy 30 year-old might receive a \$3,500 voucher. The MSS would have access to all medical records concerning each American and set the voucher level each year based on that information.

The vouchers would pay for basic in- and out-patient medical care as well as for prescription medications over the course of the year. If you ended up costing the insurance company more than the amount of your voucher, the insurance company would make up the difference. If you ended up costing the company less than the voucher, the company would pocket the difference. Insurers would be free to market additional services at additional costs. MSS would, at long last, promote healthy competition in the insurance market, which would go a long way to restraining health care costs.

The beauty of our plan is that all Americans would receive healthcare coverage and that the government could limit its total voucher expenditure to what the nation could afford. Unlike the current fee-for-service system, under which the government has no control of the bills it receives, MSS would explicitly limit the government's liability.

The plan is also progressive. The poor, who are more prone to illness than the rich, would receive higher vouchers, on average, than the rich. And, because we would be eliminating the current income tax system, all the tax breaks going to the rich in the form of non-taxed health insurance premium payments would vanish. Added together, the elimination of this roughly \$150 billion of tax expenditures, the reduction in the costs of hospital emergency rooms (which are currently subsidized out of the federal budget), and the abolition of the huge subsidies to insurers in the recent Medicare drug bill would provide a large part of the additional funding needed for MSS to cover the entire population.

Summing up

These three radical, but progressive, market oriented, transparent, generationally equitable, and sensible reforms can be adopted by any developed country or, for that matter, any developing country.

They are, in my view, the best way to position countries for the demographic and fiscal stresses that lie ahead.

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INTERNATIONAL COMPARISON OF LABOUR DISPUTES AND STRUCTURAL CHANGE

HAGEN LESCH*

Introduction

In many OECD countries, the number of working days lost per employee due to strikes and lockouts has declined during the last thirty years. Empirical research about labour disputes suggests several explanations for the shrinking strike propensity (Goerke/Madson 2004a, 2004b; Ludsteck/Jacobebinghaus 2005). They include political and institutional factors like the objectives and sway of trade unions and labour dispute rules as well as changes in the production process. The reduction of vertical integration by outsourcing and the limitation of inventories by just-in-time production have increased firm's vulnerability during the last twenty to thirty years. Unions can substantially disrupt the production process by organising only short work stoppages. Additionally, the decline of days lost due to strikes and lockouts has macroeconomic reasons like the successful fight against inflation and sectoral structural change. In most OECD countries, labour disputes are still concentrated in production and construction industries whereas the service sector remains largely free from them. Shrinking employment in strike-prone industries, like mining and manufacturing and the shift toward the service sector automatically led to a decline in the number of working days lost because of strikes. This structural change is sometimes identified as the "most salient of the macroeconomic reasons" for the decline in the volume of labour disputes (Ochel/Selwitschka 2003, 63; Jahn 2004, 426).

Before estimating the impact of the structural change hypothesis, we should look at the changes in strike activity by industry or sector in 17 OECD countries over the years from 1981 to 2003. In order to estimate the magnitude of the structural effect I will use a shift-share approach. At the end of this paper I will briefly discuss the reasons for the trends in strike activity within sectors.

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Methodology

International comparisons of labour disputes focus on the overall economy. The most important indicator for measuring strike activity is the volume of labour disputes, defined as the number of working days lost through labour disputes per 1,000 employees (Schnabel 1995; Aligisakis 1997; Davies 2000; Lesch 2001; Monger 2005). Comparisons by industry are scarce, however, and limited to the distinction between the secondary and tertiary sector (Davies 2000; Monger 2005). A detailed analysis by industry is missing. This article tries to fill this gap. The secondary sector is disaggregated into three industries: mining and energy, manufacturing and construction. In line with the "International Standard Industrial Classification of all Economic Activities (ISIC Rev. 2)" the tertiary sector is disaggregated into four sub-sectors: the first includes wholesale, retail, restaurants and hotels, the second transport, storage and communication, the third financing and insuring and the fourth public administration and social and personal services.

The main source of data on labour disputes is the International Labour Office (ILO), which collects data from the national labour agencies. The ILO's Yearbook of Labour Statistics supplies data on disputes in different sectors and is therefore extremely useful for analysing sectoral data. Further information is supplied by Eurostat. It should be noted, however, that an exact comparison between countries is not possible because there are important differences in the methods used for compiling statistics on labour disputes in individual countries (see ILO 1993, Aligisakis 1997 or Monger 2005 for an overview). In addition, the comparison is sometimes distorted by missing data and different industry classifications and groupings used by individual countries. For example, in Spain all days lost due to political strikes are counted as "activities not adequately defined". This practice creates a difference between the number of days lost in the whole economy and the aggregate number of days lost in the production and service sector.

The number of employees in the analysed OECD countries differs. We can expect a positive relationship between the number of days lost due to strikes and lockouts and the number of employees. This bias is eliminated by relating the number of days lost to the number of wage and salary earners as reported in the OECD Labour Force Statistics.

Missing figures on the number of employees are estimated on the basis of the total labour force and in some cases current values were extrapolated. Deviating industry classifications are adjusted as far as possible. If strike figures of two (or more) industrial sectors are aggregated, adjustment is impossible. In such cases the number of days lost is assigned to the larger sector and adjusted with respect to the respective employment. Accordingly there is no figure for the smaller sector.

Overall comparison

Figure 1 shows the volume of labour disputes defined as the number of working days lost through labour disputes per 1,000 employees over the period 1981 to 2003. The country with the highest volume was Spain with an average of 418 working days lost per 1,000 workers per year. Trailing far behind were Italy with 315 and Canada with 310 days. The ratio of days was lowest in Japan, with an annual average of 4 days lost per 1,000 workers. The next lowest were

Germany (17 days), the Netherlands (18 days) and Austria (20 days). Among other countries, France, the United Kingdom and the United States were positioned in the midfield. Their volumes ranged from 70 days (U.S.) to 140 days (UK).

Comparisons by main sectors

Table 1 shows the changes of the ratio of days not worked in the production industries (including construction) and the service industries over the five-year periods 1981/85, 1986/90, 1991/95, 1996/2000 and for the three-year period 2001/03. The figures exclude the primary sector (agriculture, hunting, forestry and fishing) which only has a small macroeconomic impact in all countries but Portugal. Furthermore, strike rates in this sector are still very low in most countries while declining in countries with higher strike rates (Australia, Italy, Canada and Spain).

The volume of labour disputes in the production industries has declined in most countries. In the

United Kingdom, Italy and Canada the number of days not worked per 1,000 employees exceeded 1,000 in the first half of the 1980s compared to 11 (UK), 96 (Italy) and 207 (Canada) days between 2001 and 2003. But there also were countries with a heterogeneous trend. This mainly concerned countries like Austria, Japan and Germany which enjoyed a high level of industrial peace. But it also concerned more strike prone countries like the Netherlands, Denmark and Norway. Whereas in the two Scandinavian countries the number of working days lost due to labour disputes peaked in the late 1990s, in the Netherlands it was highest in the early 1990s.

The volume of labour disputes in service industries decreased only in a small group of countries, including Australia, the United Kingdom, Ireland, Italy, Japan, Portugal and Finland. There was no downward trend in the other Scandinavian countries as well

Figure 1

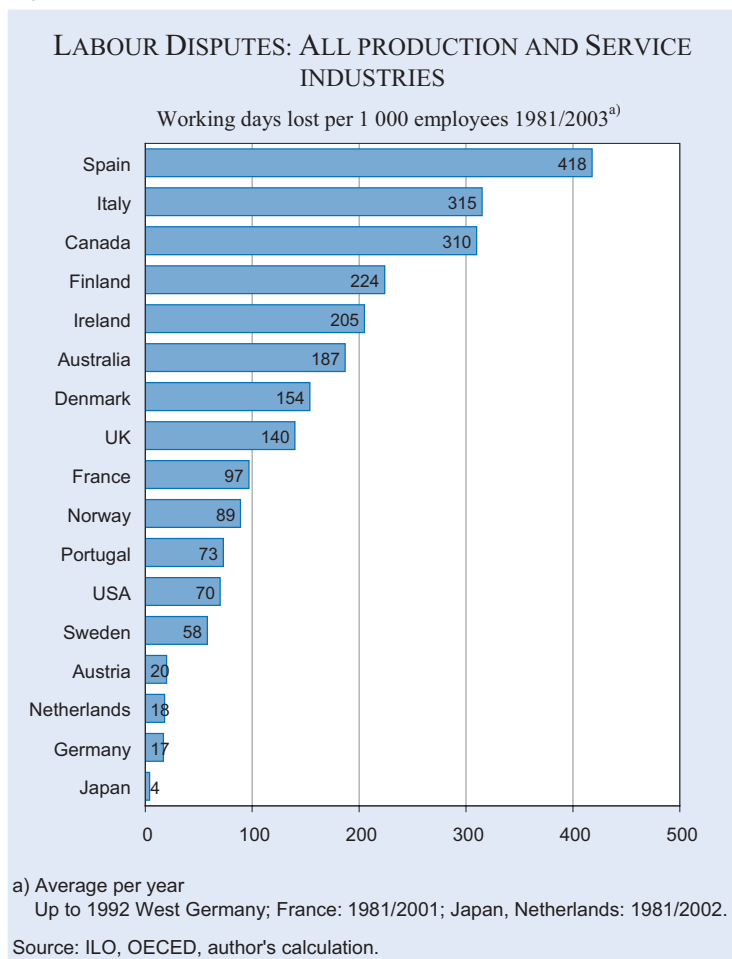


Table 1

Labour disputes: Working days lost per 1,000 employees 1981/2003
– Production and service industries –

		1981/85 ^{a)}	1986/90 ^{a)}	1991/95 ^{a)}	1996/00 ^{a)}	2001/03 ^{a)}	1981/03 ^{a)}
Australia	Production sector	862	606	359	257	172	476
	Service sector	154	87	62	39	14	76
Austria	Production sector	1	1	1	0	30	4
	Service sector	0	1	10	2	185	27
Canada	Production sector	1,110	922	324	302	207	605
	Service sector	298	228	114	185	152	199
Denmark	Production sector	815	102	129	718	84	395
	Service sector	93	17	13	138	7	58
Finland	Production sector	457	590	256	81	64	309
	Service sector	255	322	212	40	19	183
France	Production sector	177	87	70	63	n. a.	97
	Service sector	26	18	81	66	n. a.	49
Germany	Production sector	114	5	22	3	15	33
	Service sector	0	4	14	1	0	4
Ireland	Production sector	689	354	69	63	24	258
	Service sector	364	187	132	106	49	178
Italy	Production sector	1,177	398	262	143	96	443
	Service sector	433	266	124	36	44	192
Japan	Production sector	13	5	2	1	0	5
	Service sector	9	5	3	2	0	4
Netherlands	Production sector	21	34	105	6	79	45
	Service sector	23	4	10	4	6	10
Norway	Production sector	87	263	17	396	43	172
	Service sector	48	98	78	57	20	64
Portugal	Production sector	210	75	49	31	24	77
	Service sector	110	108	30	14	16	57
Spain	Production sector	572	664	457	312	172	458
	Service sector	113	372	171	100	37	169
Sweden	Production sector	18	204	47	1	12	60
	Service sector	51	135	54	12	70	64
United Kingdom	Production sector	1,027	167	21	15	11	269
	Service sector	120	127	25	25	38	70
United States	Production sector	249	114	108	89	10	123
	Service sector	61	70	21	51	17	46

n. a. = not available; ^{a)} Average per year.

Missing values: Production sector: Austria: 2000; France: 2002, 2003; Japan, Netherlands: 2003; Service Sector: Japan, Netherlands: 2003, France: 2002, 2003.

Sources: Austrian Trade Union Federation, Eurostat, ILO, OECD, author's calculations.

as in Canada and Spain. In France, the volume of labour disputes even increased. This surprising trend could be based on changes in the method used for compiling the statistics. Labour disputes in public administration, where unionisation and workers' mobilisation are comparably high, were excluded from the statistics until 1994.

Between 1981 and 2003 the number of working days lost due to labour disputes was higher in the production sector than in the service industries. As the scatter diagram (Figure 2) shows, in most countries more working days were lost in production than in services. Exemptions were Austria and Sweden, where the ratio was reverse. Most service industries have experienced strong employment growth in the past thirty years, whereas declining employment has hit

mining, manufacturing and construction. As a result of this structural change, the loss of working time caused by labour disputes is falling systematically. On the other hand, we can observe a marked and fairly steady downward trend in the volume of labour disputes in the production industries. In Ireland, the United Kingdom and France this trend was so substantial that the relation between the strike intensity in the two sectors was reversed during the 1990s with fewer strike days in production than in services.

Structural effect

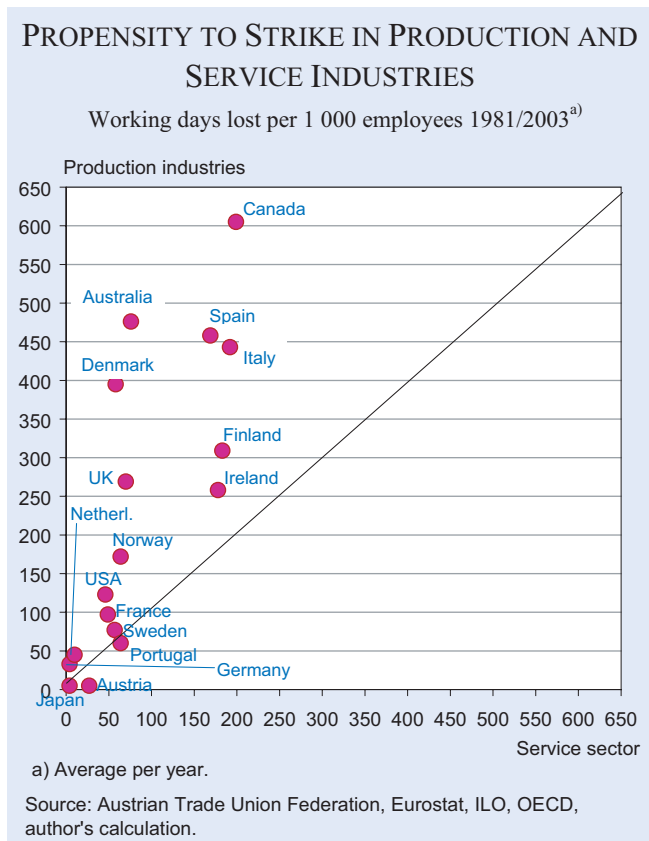
We calculate the influence of the structural effect on the changes in the volume of labour disputes by

using a shift-share analysis. The employment shares are used as a measure for the structural change. First, we estimate how many working days would have been lost if the employment shares of the production and service sector had remained unchanged (hypothetical number of working days). By comparing the observed number of working days with the hypothetical number we can isolate the structural effect. A negative (positive) sign indicates, that the structural change has decreased (increased) the number of working days lost due to industrial disputes.

The results are presented in Table 2. The table shows five-year averages. In order to show the relative magnitude of the structural effect, the table also displays the observed changes in the number of working days for the whole economy (adjusted for the primary sector and all activities which are not classifiable by economic activity). Due to the high level of industrial peace, structural change did not change the volume of labour disputes in Japan. Furthermore, there was only a marginal effect in Germany for all periods except 2001/2003. Likewise, the structural change decreased the number of working days lost in the United States, Portugal and Sweden, but the effect was rather small. Surprisingly we find a significant reduction of the strike rate only for a minority of countries, including Australia, Canada, Italy, Denmark and Finland. As shown by five-year averages, the structural change reduced the volume by 14 to 17 days in Australia, by 1 to 22 days in Canada and 1 to 15 days in Denmark. The table shows similar but smaller effects for Finland and Italy. In addition, for some periods we can observe large reductions in the strike rate in Norway (1996/00) and in the more peaceful Netherlands (1991/95 and 2001/02).

The results are mixed for all other countries. Especially between 2001 and 2003, structural change increased the number of working days lost in Austria. This is mainly because political strikes in 2003 were concentrated in the public sector as well as in transport and communication which also led to a historically high volume of labour disputes. In the absence of structural change, Austria as well as Spain, Ireland and the United Kingdom would

Figure 2



have had fewer working days lost due to strikes and lockouts.

Overall, we can conclude that structural change did not generally decrease the number of working days lost due to labour disputes. In addition, in cases of a positive influence of structural change, the effect was often rather small. This becomes apparent by comparing the structural effect with the five-year periodical change in the volume of labour disputes of the whole economy. By looking at the countries with the biggest structural effects, we find that only a minor part of the whole change was determined by the structural effect:

- *Canada*: The number of working days lost decreased by 273 days in the early 1990s, but only 14 days of this reduction were determined by structural change. A higher part was based on trends within sectors. The number of working days lost decreased from annually 922 days during the late 1980s to 324 days during the early 1990s in the production industries and from 228 to 114 days in the service sector.
- *Italy*: The volume of labour disputes decreased by 457 days in the late 1980s, but only 6 of those days

Table 2

Structural change and the volume of labour disputes
 – Structural effect^{a)} and change in the volume of labour disputes^{b)} –

		1986/90	1991/95	1996/00	2001/03
Australia	Structural effect Change	– 15.3 – 167.7	– 17.4 – 93.9	– 15.6 – 44.8	– 13.6 – 40.1
Austria	Structural effect Change	0.0 – 0.7	0.5 4.9	0.2 – 4.9	19.8 132.1
Canada	Structural effect Change	– 21.6 – 80.1	– 13.9 – 272.8	– 5.5 56.6	– 1.0 – 49.7
Denmark	Structural effect Change	– 0.8 – 263.8	– 2.0 4.2	– 14.9 248.3	– 3.8 – 251.3
Finland	Structural effect Change	– 10.2 81.2	– 4.3 – 192.4	– 3.5 – 162.3	– 4.4 – 22.1
France	Structural effect Change	– 2.7 – 0.3	0.8 – 16.7	0.3 – 28.5	n. a. n. a.
Germany	Structural effect Change	– 0.0 – 46.7	– 0.3 12.5	– 0.2 – 15.4	– 1.6 3.6
Ireland	Structural effect Change	– 4.2 – 235.1	2.3 – 132.4	14.0 – 19.0	1.4 – 49.3
Italy	Structural effect Change	– 6.1 – 456.6	– 6.3 – 132.6	– 6.0 – 106.4	– 3.6 90.9
Japan ^{c)}	Structural effect Change	0.0 – 6.0	0.0 – 2.3	0.0 – 0.9	– 0.0 – 1.0
Netherlands ^{c)}	Structural effect Change	– 0.7 – 8.9	– 4.7 19.9	– 0.1 – 28.3	– 16.8 16.4
Norway	Structural effect Change	– 3.9 84.8	3.4 – 81.3	– 22.2 70.6	– 1.8 – 108.3
Portugal	Structural effect Change	1.1 – 102.2	– 1.7 – 46.3	– 1.4 – 15.0	– 0.7 – 1.8
Spain	Structural effect Change	– 6.4 3.0	11.3 – 144.0	6.2 – 268.4	2.5 17.2
Sweden	Structural effect Change	– 0.8 93.5	0.3 – 81.4	– 1.5 – 42.5	– 1.0 46.5
United Kingdom	Structural effect Change	– 3.5 – 305.4	0.2 – 114.0	0.9 – 1.7	3.0 9.3
United States	Structural effect Change	– 0.8 – 45.3	– 4.5 – 40.5	– 2.1 17.7	0.5 – 44.5

n.a. = not available; ^{a)} Difference between the observed and the hypothetical number of working days lost per 1,000 employees (with constant employment shares); a positive (negative) sign indicates, that structural change has increased (decreased) the number of working days lost. – ^{b)} Periodical change of the number of working days lost (whole economy adjusted for the primary sector and all activities which are not classifiable by economic activity). – ^{c)} Only 2001/02 instead of 2001/03.

Sources: Austrian Trade Union Federation, Eurostat, ILO, OECD, author's calculations.

were due to structural change. Trends within sectors were more decisive. In the production industries, the number of working days lost fell by one half during the late 1980s compared to the early 1980s (from 575 to 274 days).

- *Spain*: The number of working days lost decreased by 268 per year between 1996 and 2000, but only 6 days can be explained by structural change. Again a major part of the change was due to trends within sectors. The volume of labour disputes dropped by one third in the production industries (207 days).

Trends within sectors

The shift-share analysis indicates that the decline in the volume of labour disputes mainly depended on trends within sectors, in particular in the production industries. To describe the trends within sectors in more detail, I will first look at more disaggregated data. After that, I will discuss two driving forces behind the observed trends: changes in manufacturing conditions and growing international competition. As mentioned above, I disaggregated the two main sectors in to seven sub-sectors. Five-year aver-

ages of the number of working days lost are shown in Table 3:

1. *Mining and energy*: The volume of labour disputes almost steadily dropped during all periods considered in Australia, Italy, Ireland, Japan, Portugal, the United Kingdom and the United States. This trend has also been observable in Sweden since the early 1990s and in Spain since the second half of the 1990s. We can find the sharpest drop in Australia and Spain. About 2,000 working days per 1,000 employees were lost in both countries during the 1980s compared to only 176 and 129 days in the last period considered. Due to the famous miners' strike in 1984/85 more than 8,000 working days per year were lost per strike in the United Kingdom during the first half of the 1980s, with 32,731 days per 1,000 employees in 1984 alone. A less strike-prone group of countries which included Denmark, Germany, Finland, France, the Netherlands, Norway and Austria followed a more heterogeneous trend.
2. *Manufacturing*: The volume of labour disputes dropped in most countries. This is not true for such countries with a high level of industrial peace like Austria, Germany, the Netherlands as well as for Denmark and Norway. The trend in Denmark was distorted by the general strike in 1998. Overall, the number of working days lost was relatively high in Norway in the second half of the 1990s.
3. *Construction*: There was no common trend in this sector. While labour disputes were rather rare in Germany, they often occurred in Australia, Denmark, Finland and Canada. A nearly steady downward trend was observable only for Italy, Ireland, Canada, Portugal, the United Kingdom and the United States.
4. *Retail, wholesale, hotels and restaurants*: In comparison to the service sector as a whole, the volume of labour disputes was relatively low. There was no common trend. To a greater or a lesser extent the volume declined only in Australia, Finland, Italy, Canada and Portugal. The volume fluctuated in all other countries, whereas labour disputes were rather rare in Austria, Germany, Japan and the UK.
5. *Transport and Communication*: Compared to other service industries this sector had consistently high strike rates. The number of days lost in transport and communication was nearly as high as in manufacturing in Canada and Norway, and even higher in Ireland, Portugal, Spain, the United Kingdom and the United States. However, the volume of labour disputes sharply dropped in some countries, particularly in those with high strike rates (in this sector) like Australia, Finland, Italy or Canada. The number of working days lost per 1,000 employees decreased from 797 to 86 days per year in Italy, from 621 to 75 days in Ireland and from 500 to 22 days in the United States. On the other hand, there was a small group of countries, including Germany, Spain and the UK, with no clear trend. For example, in Spain about 200 working days were lost per strike during the early 1980s, while this number jumped to 820 days in the late 1980s and to over 400 days in the 1990s.
6. *Financing and insurance*: Compared to the service sector as a whole, this sector showed relatively low strike rates in most countries. Therefore it is not surprising that we do not find a general downward trend in these countries. But there was a second group of countries which had relatively high strike rates and for which we can observe a general downward trend at least since the early 1990s. This group included Finland, Italy, Sweden, Portugal and the United States. For example, in Italy, the number of working days lost dropped from about 500 during the early 1980s to 19 days between 2001 and 2003.
7. *Public administration, social and personal services*: The strike rates in the public sector (including personal services) were rather low in Ireland, Portugal, the United States and Denmark and rather high in France, Canada, Spain, Australia and the United Kingdom. The volume of labour disputes dropped particularly in Finland, Spain, Italy and Australia. A similar trend was observed for the UK in the 1990s but has reversed recently (2001/03). The strike rate did not decline in the other countries. The rising number of working days lost during the 1990s in France could be a result of the inclusion of public administration in the statistics.

National and international competition

The significant decline in the volume of labour disputes in mining and energy as well as in manufacturing is not surprising, because international competition hit mining and manufacturing, two sectors which primarily produce tradable goods, many

Table 3

Labour disputes: Working days lost per 1,000 employees by sub-sectors 1981/2003
– Average per year –

		1981/85	1986/90	1991/95	1996/00	2001/03
Australia	Mining and Energy	2,106	1,882	958	576	176
	Manufacturing	599	414	324	132	133
	Construction	921	419	145	465	256
	Retail, Wholesale, Hotels and Restaurants	62	33	18	3	3
	Transport and Communication	605	188	138	72	35
	Financing and Insurance	39	20	32	11	4
	Community, Social and Personal Services	134	125	87	79	25
Austria	Mining and Energy	0	0	1	0	0
	Manufacturing	1	1	0	0	35
	Construction	0	0	0	0	21
	Retail, Wholesale, Hotels and Restaurants	1	0	0	1	3
	Transport and Communication	0	0	12	0	364
	Financing and Insurance	0	0	0	0	0
	Community, Social and Personal Services	0	1	21	4	362
Canada	Mining and Energy	1,086	1,133	486	652	455
	Manufacturing	1,125	784	350	301	243
	Construction	1,052	1,324	161	151	39
	Retail, Wholesale, Hotels and Restaurants	173	125	65	106	58
	Transport and Communication	643	754	273	476	362
	Financing and Insurance	204	49	33	20	22
	Community, Social and Personal Services	289	214	148	263	253
Denmark	Mining and Energy	249	7	11	142	6
	Manufacturing	959	134	157	717	106
	Construction	408	13	45	788	30
	Retail, Wholesale, Hotels and Restaurants	131	10	3	233	10
	Transport and Communication	127	55	43	559	36
	Financing and Insurance	51	0	0	0	0
	Community, Social and Personal Services	79	16	15	59	2
Finland	Mining and Energy	51	193	2	7	5
	Manufacturing	526	264	334	107	47
	Construction	310	1,751	17	0	141
	Retail, Wholesale, Hotels and Restaurants	271	100	131	1	0
	Transport and Communication	114	443	313	121	39
	Financing and Insurance	187	872	38	10	19
	Community, Social and Personal Services	296	242	263	49	23
France	Mining and Energy	19	23	90	45	n. a.
	Manufacturing	218	107	61	59	n. a.
	Construction	67	33	96	11	n. a.
	Retail, Wholesale, Hotels and Restaurants	20	9	7	14	n. a.
	Transport and Communication	103	94	65	71	n. a.
	Financing and Insurance	31	13	11	22	n. a.
	Community, Social and Personal Services	8	10	151	116	n. a.
Germany	Mining and Energy	0	0	42	0	0
	Manufacturing	144	6	26	4	18
	Construction	4	0	2	1	8
	Retail, Wholesale, Hotels and Restaurants	0	1	4	1	1
	Transport and Communication	2	6	52	1	2
	Financing and Insurance	1	0	9	1	1
	Community, Social and Personal Services	0	7	12	1	0

		1981/85	1986/90	1991/95	1996/00	2001/03
Ireland	Mining and Energy	2,105	331	325	95	0
	Manufacturing	685	456	62	63	33
	Construction	212	5	7	14	8
	Retail, Wholesale, Hotels and Restaurants	n. a.	n. a.	n. a.	92	9
	Transport and Communication	621	449	258	111	75
	Financing and Insurance	n. a.	n. a.	1	45	0
	Community, Social and Personal Services	n. a.	n. a.	n. a.	58	97
Italy	Mining and Energy	504	296	163	66	48
	Manufacturing	1,463	478	297	171	119
	Construction	446	175	168	46	19
	Retail, Wholesale, Hotels and Restaurants	368	103	95	21	16
	Transport and Communication	797	689	272	151	86
	Financing and Insurance	509	429	81	16	19
	Community, Social and Personal Services	366	219	116	24	56
Japan	Mining and Energy	40	31	0	0	0
	Manufacturing	16	6	2	1	1
	Construction	2	0	0	0	0
	Retail, Wholesale, Hotels and Restaurants	0	0	0	0	0
	Transport and Communication	50	27	17	11	4
	Financing and Insurance	1	0	0	3	0
	Community, Social and Personal Services	n. a.	n. a.	n. a.	n. a.	n. a.
Netherlands	Mining and Energy	1	0	0	0	0
	Manufacturing	17	15	21	5	5
	Construction	33	99	453	9	275
	Retail, Wholesale, Hotels and Restaurants	1	2	2	0	n. a.
	Transport and Communication	100	29	75	5	n. a.
	Financing and Insurance	0	0	0	0	n. a.
	Community, Social and Personal Services	23	2	6	9	n. a.
Norway	Mining and Energy	252	117	0	177	80
	Manufacturing	87	239	16	366	52
	Construction	32	375	28	606	11
	Retail, Wholesale, Hotels and Restaurants	2	48	2	30	72
	Transport and Communication	224	31	201	223	2
	Financing and Insurance	1	0	16	48	0
	Community, Social and Personal Services	28	162	100	38	8
Portugal	Mining and Energy	431	145	68	69	26
	Manufacturing	265	89	61	41	36
	Construction	47	13	3	0	0
	Retail, Wholesale, Hotels and Restaurants	23	12	7	4	2
	Transport and Communication	897	615	145	111	135
	Financing and Insurance	7	336	65	11	11
	Community, Social and Personal Services	6	3	3	1	3
Spain	Mining and Energy	1,471	1,556	2,050	799	129
	Manufacturing	434	497	427	177	198
	Construction	824	987	267	518	133
	Retail, Wholesale, Hotels and Restaurants	66	56	102	52	4
	Transport and Communication	196	820	441	472	184
	Financing and Insurance	211	222	72	45	18
	Community, Social and Personal Services	96	471	178	73	36

		1981/85	1986/90	1991/95	1996/00	2001/03
Sweden	Mining and Energy	14	1,595	49	4	4
	Manufacturing	23	182	8	0	0
	Construction	2	0	191	3	54
	Retail, Wholesale, Hotels and Restaurants	5	0	57	0	0
	Transport and Communication	14	20	40	98	6
	Financing and Insurance	102	414	4	0	0
	Community, Social and Personal Services	64	140	69	6	129
United Kingdom	Mining and Energy	8,439	278	40	5	28
	Manufacturing	330	184	22	11	10
	Construction	98	36	8	14	10
	Retail, Wholesale, Hotels and Restaurants	8	2	1	4	5
	Transport and Communication	465	583	61	160	62
	Financing and Insurance	6	1	2	5	1
	Community, Social and Personal Services	151	159	44	19	71
United States	Mining and Energy	1,793	111	294	1	28
	Manufacturing	174	140	111	124	9
	Construction	294	29	38	10	8
	Retail, Wholesale, Hotels and Restaurants	21	4	13	4	44
	Transport and Communication	500	739	179	124	22
	Financing and Insurance	0	0	5	242	1
	Community, Social and Personal Services	29	21	5	5	6

n.a. = not available; some missing values for France, Japan, the Netherlands, Austria and Portugal; mining/energy: 1983 only mining in Portugal; 1981/82 only energy in Sweden; 1998, 2000, 2001 including agriculture in Denmark; 1981 to 84 only mining in the USA; manufacturing: 1987, 2001 including energy and 1989 including agriculture in the Netherlands; 2003 including mining and energy; retail, wholesale, hotels and restaurants: 1985 to 1993 excluding hotels and restaurants in Australia; 1981 to 2003 excluding hotels in Japan; 2000 including transport and communication in Austria; 2003 excluding hotels and restaurants in the UK; transport and communication: 1981 to 2001 excluding France Telecom and La Poste in France; 1999 including IT and other business services in the Netherlands; 2000 including retail, wholesale, hotels and restaurants in Austria; financing and insurance: 1996, 1998, 1999 excluding IT and other business services in the Netherlands; community, social and personal services: 1985 to 1993 including hotels and restaurants in Australia; 1981 to 2001 including France Telecom and La Poste and 1981 to 1993 excluding public administration in France; 1993 excluding social and personal services, 1995 excluding public administration, social and personal services, 1998 including IT and other business services in the Netherlands; 1981 to 2003 excluding public administration in Portugal.

Sources: Austrian Trade Union Federation, Eurostat, ILO, OECD, author's calculations.

years ago. Accordingly, trade unions have been increasingly faced with a trade-off between higher wages and losing competitiveness, thus accelerating the process of shifting production and employment abroad. This trend has influenced the behaviour of unions and employers. Trade unions had to be more peaceful while employers changed their "concession schedule". Without the alternative of shifting production abroad, employers prefer time-limited stoppages over long-term wage increases. With this option employers can circumvent higher wages by outsourcing, thus avoiding strikes and lockouts. Therefore we can conclude that globalisation reduces the volume of labour disputes.

International competition entered energy, construction and most of the service industries some years later. Liberalisation of the service industries in the

European Union (EU) did not start until the completion of the Single Market in 1993. Although there was much progress in trade liberalisation (GATT and WTO) there has been no equivalent progress in service markets outside the EU until now. Because international competition in service markets did not take place before the early 1990s we cannot expect a significant influence on strike behaviour.

However, most service sectors faced national or regional competition. But this kind of competition did not generate comparable adjustment pressure on the bargaining partners as international competition. Since wages were mostly collectively agreed at branch level and many services were only supplied regionally, the trade-off between higher wages and lower employment was weaker than in the case of international competition and

internationally traded goods. Accordingly, trade unions were less disciplined. In addition, employers were less strike-averse because they could not circumvent higher wages by shifting production abroad or by substituting labour by capital (services are usually more labour intensive than goods). The fact that the number of working days lost due to labour disputes is higher in production industries than in services can also be explained by different strike traditions of manual and non-manual workers and by the fact that blue-collar workers are better unionized.

Changes in manufacturing conditions

Increasing international competition also influenced the behaviour of the bargaining partners by permanent changes of the manufacturing process (Döring 2001). The reduction of vertical integration and the cut in inventories resulting from just-in-time production increased the susceptibility of the production process to disruption. Trade unions changed their strike strategy. Long-lasting mass strikes were replaced by highly targeted strikes during the 1990s. Today, unions choose final producers, plants with high vertical integration or with major inventories for very short strikes, moving daily from one plant to another. This increases the efficiency of strikes and minimises strike costs, thus reducing the financial risk of industrial actions and probably increasing unions' propensity to strike. On the other hand, the risk of long-lasting production losses in a networked economy has increased employers' preference for concessions to avoid strikes.

Thus more and more firms threatened employees and unions with a shift of production and employment abroad to make them more willing to make concessions. For example, German employees and works councils now accept wage reductions or working time expansions in order to prevent outsourcing often by agreeing on a pact for competitiveness and employment at plant-level. Such a decentralisation of collective bargaining policy has reduced the bargaining power of trade unions.

However, the increased vulnerability of the production process only explains the decline of labour disputes in production industries. No comparable enhancement in the effectiveness of strikes has taken place in the service sector. Here, targeted strikes are actually no more effective than twenty

years ago. Furthermore, labour disputes in the service sector affect consumers immediately and directly in contrast to strikes in the production industries. This difference makes strikes in the service sector more risky, because a strike will be more successful if it is supported by the public. In addition, public support decreases with the duration of the strike and the lack of services. Therefore, unions must time-limit labour disputes. This also explains the lower volume of labour disputes in the tertiary sector compared to the secondary sector.

Conclusion

In order to retain national and international competitiveness, bargaining partners need to solve industrial disputes cooperatively. If wages rise faster than productivity, production and employment will be shifted abroad. In addition, production in the developed OECD countries has become more and more specialised. They supply capital-intensive goods and services produced by highly qualified employees, who demand fair wages. In this environment of growing human capital intensity, labour disputes are no longer adequate instruments of collective bargaining. Therefore we should expect a further convergence of the number of working days lost due to strikes and lockouts in the production and service industries in the long run. However, in the short term, the volume of industrial conflicts is influenced by other factors as well. Above all, the rising number of political strikes could increase the number of working days lost (Lesch 2003). For example, the increasing need to reform pay-as-you-go social insurance systems as the population ages already triggered political protest particularly in Austria, France, Italy and Spain, where industrial conflicts have traditionally centered around wages and working conditions.

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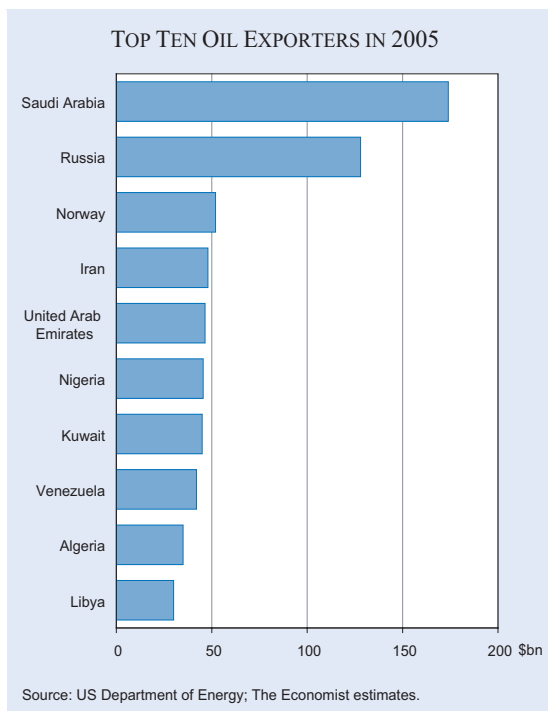
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A NEW FLOOD OF PETRO-DOLLARS?

According to the *Economist*, oil exporters could earn \$700 billion this year from selling oil to foreigners. This includes not only the Organisation of Petroleum Exporting Countries (OPEC) but also Russia and Norway, the world's second- and third-biggest earners (see chart 1 below). The International Monetary Fund estimates that oil exporters' current-account surplus could reach \$400 billion, more than four times as much as in 2002. In real terms, this is almost double their dollar surpluses in 1974 and 1980, after the twin oil-price shocks of the 1970s and early 1980s.

What is happening to all these petrodollars? In essence, they can either be spent or saved. Either way, some of the money can be recycled to oil-consuming economies and thus soften the impact on them of higher oil prices. If oil exporters spend their bonanza, they import more from other countries and thus help to maintain global demand. If they save their windfall, but invest it in global capital markets, they can finance oil importers' bigger current-account deficits – in effect, lending the increase in fuel bills back to consumers. And by increasing the demand for foreign financial assets, they can boost asset prices and push down bond yields in oil-importing countries. This in turn can help support economic activity in these economies.



In Russia, the government has taken the sensible step of setting up an oil stabilisation fund, which will be used to reduce its large foreign debt. That said, the country has been more eager than members of OPEC to spend its extra money. Around two-thirds of the increase in Russia's export revenues since 2002 has gone for imports.

In most of the Middle East, governments are being more cautious than usual with their extra revenue. The IMF estimates that governments have on average spent only 30% of their extra oil revenue since 2002, compared with 75% in the 1970s and early 1980s. Their average budget surplus has increased from 2% of GDP in 2002 to nearly 15% this year. Middle East oil exporters have greater capacity to spend petrodollars at home than in the 1970s and 1980s, because their populations have been rising rapidly and because their infrastructure needs upgrading after many years of dwindling government revenues. As well as spending more on health, education and infrastructure, the Middle East also needs to invest in oil production and refining capacity, to ease future supply shortages and so stabilise prices.

The energy shock of 2005 is different from past shocks. While sharply higher oil prices may have generated a huge revenue windfall for Middle East oil producers, the reflow back into dollars through the petro-dollar effect is largely missing. Stephen Roach, a Morgan Stanley economist, gives several reasons: (1) A significant portion of the oil revenue has been plowed back into surging domestic equity markets. (2) Booming domestic real estate projects have also absorbed a large portion of the windfall. (3) Post-9/11 security concerns are seriously hampering Middle Eastern capital flows into dollars. (4) Saudi Arabia, the region's and the world's largest oil producer, has a public sector debt problem. (5) There is deepening concern over the dollar outlook in the Middle East. US capital inflow data very much corroborate this intelligence he picked up in the Middle East.

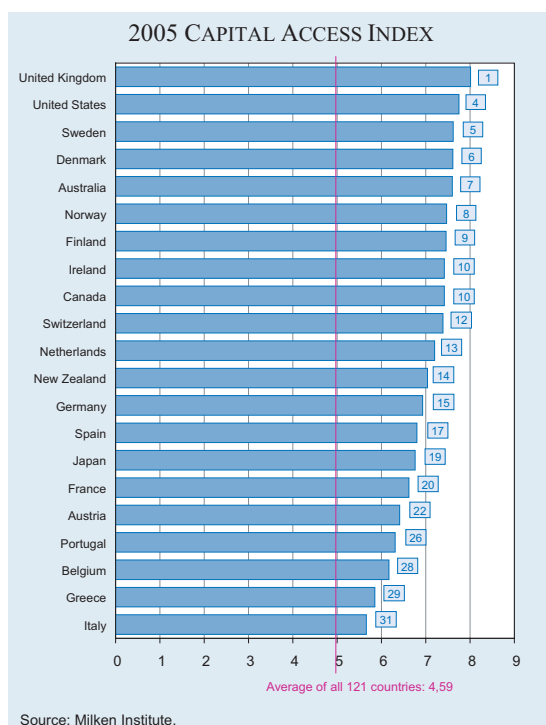
If oil prices remain high, so will oil exporters' surpluses. The IMF forecasts an average annual current-account surplus of \$470 billion over the next five years (assuming an average oil price of \$59 a barrel). The oil exporters will have to play a role in helping to reduce global imbalances. Importing more and letting their currencies rise, as well as increasing government spending and liberalising their economies, would be steps in the right direction.

H.C.S.

THE BEST MARKETS FOR BUSINESS FINANCE

The Milken Institute, an independent economic US think tank, has been publishing a Capital Access Index since 1998, whose objective is “to evaluate the ability of new and existing businesses to access capital in countries around the world.” The Index is based on the breadth, depth and vitality of the countries’ financial markets. Its sub-components are macroeconomic environment, economic institutions, financial and banking institutions, equity market, bond market, alternative capital sources, and international access.

Due to the greater integration of the world’s financial markets and a series of technological and financial innovations, the cost of financing economic activity has significantly declined. This is the result of stronger linkages between entrepreneurs and the investors who are willing to provide funds in exchange for a share of the potential gains from start-up operations. As a result, more innovative ideas make it to the market place, technological progress accelerates, and overall social welfare improves. Thus the Capital Market Index is based on the simple premise (but complex measurements), that efficient financial markets – making capital accessible to entrepreneurs who can use it to grow and sustain companies and generate jobs – are the key for long-term growth.



From the table of 121 countries, which between them represent 92 percent of global GDP, only 21 are reported below together with their current ranking. The Index, whose maximum is 10, ranges in 2005 from 8.01 (UK) to 1.62 (Chad).

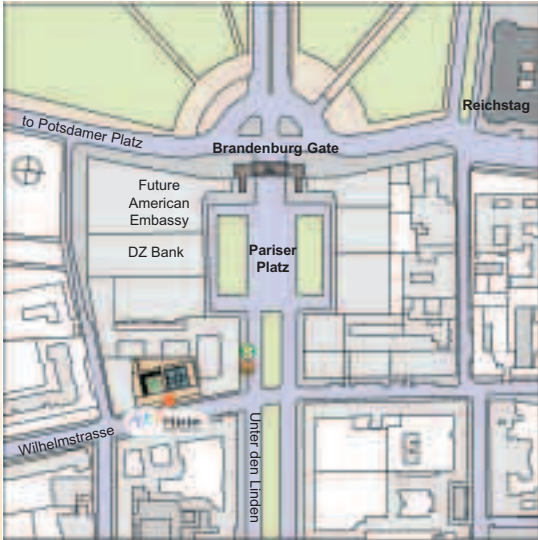
For the first time, the United Kingdom moved to first place, from third place in 2004 and eighth place in 2003. This was due primarily to its vibrant equity market, whose number of listings and liquidity has increased considerably. In 2005, Hong Kong and Singapore beat the United States into fourth place. The U.S. moved up from 6th place in 2004 because of an improved economic environment. Besides the UK, the Scandinavian countries are among the top ten with Sweden (5), Denmark (6), Norway (8), and Finland (9). They are followed by Ireland (10) and Switzerland which dropped from 7th to 12th place. Although a notch lower, the Netherlands and Germany rank 13th and 15th, respectively, ahead of France (20), Austria (22) and Italy (31). Two Eastern European countries follow closely behind: the Czech Republic (32) and Hungary (36). The other new EU accession countries were beaten by China (38), Brazil (40), and Mexico (43).

Among other findings of the 2005 Capital Access Index¹ are the following:

- Malaysia (16) and Chile (18) rank high in capital access, ranking among the most industrialised countries.
- The Philippines (down nine positions) and Thailand (down six) suffered large declines in capital access, and Asian countries in general show a continued lack of progress in bond market development, despite reform measures taken since the Asian Crisis.
- Ongoing weaknesses continue in Africa: 17 of the bottom 20 countries on the Index are in Africa.
- The United States and Western Europe account for 90 percent of the regional share of global securitisation; recent activities in Asia, Latin America and Eastern Europe will be important for future financial expansion and economic growth.

H.C.S.

¹ Milken Institute, Best Markets for Entrepreneurial Finance, 2005 Capital Access Index, October 2005.



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Impact of Energy Prices on the Global Economy

Preliminary Programme

Thursday 23 and Friday 24 March 2006
 British Embassy, Berlin



International Spring Conference 2006



23 March 2006

24 March 2006

11:00	Press conference	9:00	Welcome and Introduction Hans-Günther Vieweg, ifo Institute, Munich
12:00	Cold buffet lunch	9:10	Overview on Sectoral Developments in Europe Ben Gardiner, Cambridge Econometrics, Cambridge
12:45	Welcome and Introduction Hugh Mortimer, Deputy Head of Mission, British Embassy, Berlin Hans-Werner Sinn, President, ifo Institute, Munich	9:30	Petrochemicals Mattia Romani, Shell International, London
13:00	Keynote speech Impact of Energy Prices on the Global Economy Fatih Birol, International Energy Agency, Paris	9:50	Discussion
13:30	The US Economy in a World of High Energy Prices Jim O'Neill, Goldman Sachs, London	10:20	Coffee break
14:00	The European Economy Hans-Werner Sinn, ifo Institute, Munich	10:40	Chemicals Rudolf Meyer, Bayer, Leverkusen
14:30	Discussion	11:00	Commercial Vehicles Richard Walles, Global Insight, London
15:00	Coffee break	11:20	Microelectronics Industry Oskar Kosgalwies, STMicroelectronics, Geneva
15:30	Recycling of "Petrodollars" Claudio Borto, Bank for International Settlements, Basel (invited)	11:40	Mechanical Engineering Hans-Günther Vieweg, ifo Institute, Munich
16:00	The Middle East in an Era of High Energy Prices Daniel Hanna, Royal Institute of International Affairs, London	12:00	Logistics Richard Ellithorne, The Chartered Institute of Logistics and Transport, London (invited)
16:30	The Impact of Chinese Growth on Asia Markus Taube, University of Duisburg, Duisburg (invited)	12:30	General discussion
17:00	General discussion	13:00	End of session Hot buffet lunch
17:30	End of session	14:30	End of conference
19:00	Dinner at the British Embassy		

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