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The Search for Routes to Better Economic Performance in Continental Europe

Edmund Phelps and Gylfi Zoëga*

Economic performance is multi-faceted. Productivity and unemployment in a country are the headline indicators of its economic performance. They serve to summarize a variety of more basic considerations. High productivity indicates that wage rates are high in a wide range of jobs, so a wide choice of careers is open to people, and that incomes are high, so that people can afford the comforts, the diet, and so forth needed to function well. A low unemployment rate indicates that members of the labor force can readily find vacancies in a wide range of jobs, few employed people are quitting their jobs out of dissatisfaction, and few jobs are short-lived.

Labor force participation is an indicator in another dimension of economic performance. Uniformly high labor force participation rates are a sign that a generally high value is being placed on existing jobs and the wages they pay. In addition, participation rates are an indicator of another dimension of economic performance often called economic inclusion – inclusion in the mainstream economy: For one thing, they may reflect the extent to which mainstream jobs provide people with economic independence from the family and from the state. They may also reflect the degree and breadth of the access to mainstream jobs, thus indicating the country's success or failure in removing barriers to inclusion.

More needs to be said about the conception of economic performance. As many philosophers have argued, building on Aristotle, an economy cannot be said to be well-performing if its participants are not flourishing. And that deep kind of prosperity entails that the available jobs are, on the whole, intellectually engaging and rewarding: That means a wide availability of work enlisting the minds of jobholders, offering challenges in problem solving, leading them to discover some of their talents and causing them to expand their abilities. And from the discovery and development of talents and capabilities comes what is called personal growth.

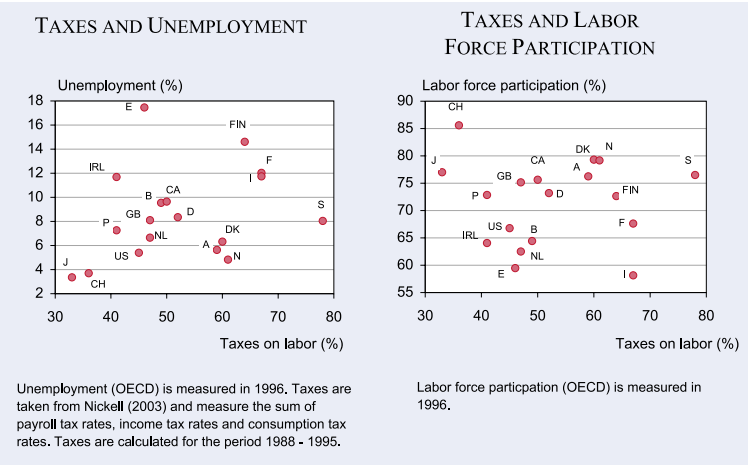
Direct measurements of such discovery and development are difficult, of course. It is reasonable, however, to suppose that an increase in such personal growth (from one era to another or from one country to another) is signaled by an observable increase in participation rates, reduced employee turnover and thus reduced unemployment. So the degree of prosperity in the above sense may be well *proxied* by the level of business activity – the participation rate, the unemployment rate and the activity rate.

The main national statistics on economic performance, therefore, may be said to be normally indicative of the underlying health of the economy they describe – just as measurements of a patient's weight, blood pressure, etc. are normally indicative of the patient's health. But the statistics of a very healthy economy may have statistics with some "false positives" leading incautious observers to believe that the economy is sick and in need of reforms when it is merely suffering from bad external shocks. And an unhealthy economy may at times enjoy favorable winds giving it great-looking statistics with "false negatives" that conceal its unhealthy structure. So we must use the always interesting "indicators" judiciously if we are not to be misled. Thus, in comparing recent national statistics with the glorious statistics in the 1960s, we must not jump to the conclusion that western continental Europe had well-performing economies then, relative to the rest of the OECD, and now they are worse-performing. Indeed, we believe (and have adduced evidence) that some unusual market forces were almost certainly the main driver of the glorious statistics – not a brief golden age of economic policies, economic

* The authors are McVickar Professor of Political Economy, Columbia University, and Professor of Economics, Birkbeck College and the University of Iceland, respectively. Several themes and hypotheses of this article were introduced in Phelps, "The Continent's High Unemployment: Possible Institutional Causes and Some Evidence," Keynote Address, Conference on Unemployment in Europe, CESifo, Munich, December 6 to 7, 2002.

institutions and economic cultural influences.[1] If so, it is the *inglorious* years of the past ten years or so, especially the mid-1990s, when all the OECD economies were more nearly in a steady-growth state, that better reveal the true relative health of the Continental economies, not the glorious years. (Whether in fact the structure of the western Continental economies has worsened on balance and, if so, by how much is far from clear.)

Figure 1



Unemployment (OECD) is measured in 1996. Taxes are taken from Nickell (2003) and measure the sum of payroll tax rates, income tax rates and consumption tax rates. Taxes are calculated for the period 1988 - 1995.

Labor force particpation (OECD) is measured in 1996.

Our question here is the following: If we are not mistaken, a great many Europeans sense that the economic performance of their economies as structured at present could be greatly improved. We agree that, in principle, their economic policies or economic institutions or both could be changed for the better. But which changes does actual evidence suggest would deliver better performance? We distinguish three points of view on the question, which we will discuss in turn.

Current efforts in some countries to lower taxes on labor may miss the essential points

Does the neo-liberal/supply-side critique point the way?

If a huge part of an advanced economy's potential performance is the stimulus and challenge presented by jobs and the consequent discovery and development of talents – a possibility requiring the economy to be structured for well-aimed innovation – we should be prepared to find much, and very likely most, of the sources of high performance embedded in the part of the economy's structure that determines the opportunities for problem-solving and personal growth in the workplace – hence, in economic institutions operating in the Continental countries and perhaps even in their economic culture – and relatively little in that part of the structure involving the calibration of tax rates and benefit rates.

In contrast, neo-liberals and supply-siders put their faith in reduced rates of tax and better tuning of various other policy parameter settings. Supply-siders assert that ill-considered increases in the average tax rate on personal income and in the social contribution levied on company payrolls are a major reason for the elevation of unemployment rates and the depression in participation rates.

Is there evidence that these policy settings are an important cause of poor performance and their correction an important cure? The fact that tax rates rose when – or before – unemployment rates rose on the Continent is not persuasive, since a great many other developments coincided with the rise in unemployment. To obtain some estimate of the effect of a tax rate increase or decrease on unemployment it is natural to conduct a more demanding test: to ask whether in the present era (or in an earlier one) inter-country differences in unemployment rate among the advanced economies of the OECD members appear to be explained in part by inter-country differences in, say, the total tax rate on labor.[2]

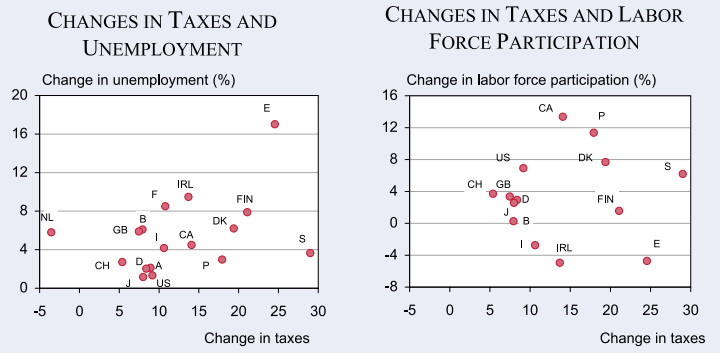
Figure 1 suggests that, within a considerable range at any rate, an increase of the average tax rate has rather little effect on unemployment. Even the very high-tax economies of Denmark and Sweden do not have relatively high unemployment and low participation. Neo-liberals may reply that many high-tax countries happen to have some compensating conditions avert high unemployment and low participation.

A further test is to ask whether inter-country differences in the increase of the tax rate on labor occur-

[1] Since industries on the Continent had done relatively little to improve the techniques in use during the 1930s, when the United States streaked ahead, and during the war and reconstruction in the 1940s, their opportunity in the 1950s and 1960s to adopt the American methods made possible a period of phenomenal technical progress.

[2] The failure of some of the explanations critiqued here were noted in Phelps and Zoega (1998).

Figure 2



Changes are measured as the difference between averages for the periods 1960 - 1972 and 1988 - 1995.

ring between some early time span after the war and a more recent span are strongly correlated with inter-country differences in the increase of unemployment and the decrease in participation.

Figure 2 suggests that, within the historical range, decadal changes in countries' average tax rate have little or no explanatory power in accounting for the decadal changes in their unemployment and participation rates. And some of the small effect that appears in the charts may be temporary, not permanent.[3]

Such findings do not establish that tax rates do not matter at all. We firmly believe, speaking for ourselves, that increases in tax rates on wage income in particular, such as payrolls, have temporary effects on the medium-term natural unemployment rate – the rate toward which the equilibrium unemployment will be approaching over some near-term span, barring new shocks (Phelps 1994).[4] But we also believe that, if the pace of wealth accumulation decreases in response to reduced after-tax pay (as in all but so-called Ricardian models), the decline of private wealth onto a lower path will tend to erase much of the short-run effect. The reason is that what matters for the amount of labor supplied and for employee loyalty – quitting, shirking, and other behavior determining the amount of unemployment – is not the absolute wage but the wage as a ratio of the workers' wage to their accumulated wealth (or the cash flow from it). The existence of a permanent effect thus depends on a failure of wealth to fall ultimately in proportion to after-tax wage rates.[5] This failure is likely, since wealth includes social wealth – the present discounted value of the entitlements provided by social legislation – as well as private wealth; and there is no reason why social wealth should fall at all merely because a tax increase has driven down private wealth. In fact, recent decades have seen tax rates increased for the express purpose of *increasing* social wealth; where the unemployment rate rose following the legislation, the tax increase was blamed when, in truth, the increase in social wealth was responsible.

What matters is the ratio of wealth – social and private – to after tax wage rates

In view of our theoretical strictures above, it will not be surprising to learn that the tax rate used above does little better in explaining differences in productivity either.

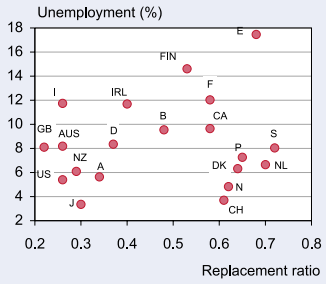
Another policy parameter that has been the focus of the neo-liberals is the "replacement ratio", giving the proportion of the wage earnings that will be replaced with benefits if a wage earner loses his job. In theory, an employee who can expect a high replacement ratio has a diminished stake in his employment: he may invest less in his job and may shirk his duties and quit more readily as a result (Summers 1988). Others have emphasized the incentives of the unemployed (Nickell and Layard 1999). Wage replacement delays and weakens the job loser's willingness to accept a new job and to search for one – the more so the higher is the replacement ratio.

[3] There is no significant relationship (the correlation is 0.14) between the two variables when Spain is omitted from the figure. Its inclusion creates the appearance of a relationship (correlation is 0.39). Whether to infer that tax hikes might be to blame for a significant part of the durable increases in the OECD unemployment problem then hinges on whether Spain's unemployment increase can be attributed to increased taxes. Time series data show that taxes in Spain rose continuously and smoothly from 1960 into the 1990s while unemployment rose rather abruptly after 1975, peaking in 1985. Thus we would not agree that Figure 2 supports supply-siders ascribing the increases in relative unemployment in some countries to increases in those same countries' relative tax burden. A convincing analysis will have to be detailed and sophisticated.

[4] Incidentally, the charts here pick up some of the temporary effect of tax rates, since, until recently, most OECD countries kept on increasing their tax rates, thus continually giving an upward jolt to unemployment. So some of the already very small effect of tax rate increases on unemployment depicted in the charts is not a permanent effect; the latter is even smaller than the charts suggest.

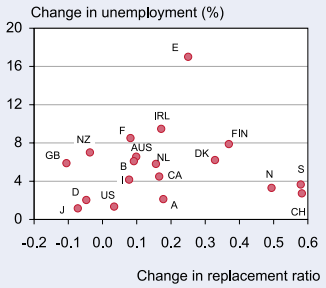
[5] In theory, the average tax rate on wages would be entirely neutral in the long run, in theory at in any rate, if the legislature were to keep workers' social wealth in fixed proportion to their after-tax wage rates. Then private wealth and total wealth would ultimately decrease so as to regain their former ratio to after-tax wage rates and in so doing restore the medium-term natural unemployment rate to its previous level.

Figure 3



Replacement ratios taken from Nickell (2003). They are averages for the period 1988 - 1995.

Figure 4



Same periods as in Figure 2.

However, Figure 3 does not show a significant correlation across OECD nations between the replacement ratio and unemployment in the mid-1990s.[6]

Figure 4 finds no apparent relation between the increases from the 1960s to the 1990s in the decadal replacement ratio and the increases in the replacement ratio.

The size of unemployment benefits and their duration also fail the test

We ought to consider whether the influence of taxes and replacement rates is present but masked by omission of other possibly important variables having influences. Nickell (2003) and various co-authors have sought to explain differences in OECD unemployment with a package of hypothesized variables alongside taxes, the replacement ratio and its duration. That package did a good job of fitting the intercountry differences in unemployment of the 1970s and 1980s. Nevertheless, it did not do a good job of fitting the differences of the 1990s nor the 1960s. As we see it, the former two decades yielded favorable results because the early years in both those decades saw an explosion of job losses; and replacement benefits (both level and duration) played a part in determining how slowly the bulge of jobless persons was digested into employment over the decade; in contrast, the mid-1990s and the mid-1960s look more nearly like a steady-state situation. Furthermore, the movements of the package over the decades do not generally explain why unemployment rose in many countries between the 1970s and the 1980s and fell in some countries between the 1980s and the 1990s.[7]

Research in the supply-side spirit has been expanded in the last decade to include the dial-settings of numerous other "policy variables" appearing in neoclassical models – variables not theoretically doomed to have little permanent effect. We might mention here our own work estimating the effect of our social wealth (or social income) variable upon one dimension of economic performance, namely the unemployment rate (Phelps and Zoega 1997). It can be reasonably said that the estimated effects on economic performance measures of these further supply-side forces – social wealth, public expenditure (i.e., government purchases), private-sector capital stock, public capital stock, corporate profits tax rate and so forth – have been disappointingly small, even if sometimes statistically significant.

If our conception of the advanced economies is one centered not around consumption and leisure but instead around the attractions and rewards of business life – problem-solving, the discovery and development of talents, and the achievements that may result – then it is not surprising that these policy parameters, though important in the neoclassical perspective generally adopted by supply-side analysts, do not make much of a dent on unemployment and participation – as long as they stay in the historical range. It becomes hard to see why the neoclassical preoccupations with work-leisure substitution should be center-stage. Reducing the calibrations of the welfare state or cutting government purchases or adding to capital stocks will not make jobs far more engaging and rewarding, hence make participation in the labor force far more attractive and unemployment far smaller. Only modest results can be reasonably hoped for. That may be why the plan of the European Commission to add to the Continent's stock of bridges and tunnels struck many as a sort of joke, even if they could not put their finger on why it was funny. It appears unlikely that more bridges and tunnels on the Continent will contribute measurably

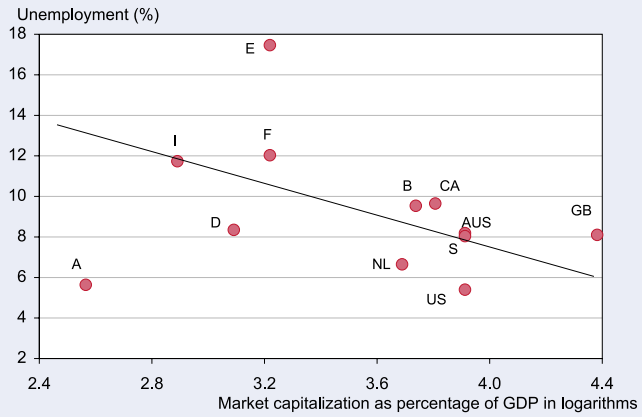
[6] Again, Spain is an outlier and has both high unemployment as well as a high value of the replacement ratio. But in this case its inclusion is not enough to raise a question about the inference to make from the chart.

[7] Using differences, as in Figures 2 and 4 above, we estimated an equation where changes in unemployment for 14 OECD countries were a function of changes in the tax rate, replacement ratio, the duration of benefits, and so forth. When estimated this way, most of the coefficients have counterintuitive signs and many are statistically insignificant.

to the sense of prosperity that those countries are so acutely and visibly missing. If that is so, they will probably have negligible impact on participation and unemployment. And it is doubtful they will be productive enough to repay their capital cost.

Figure 5

MARKET CAPITALIZATION[a] AND UNEMPLOYMENT[b]



a) measured in 1988 b) measured in 1996.

The importance of economic institutions for dynamism

The thesis has been advanced that what may be called economic dynamism – innovativeness coupled with a financial sector capable enough to choose reasonably well the innovations, firms and investments to support – is a force that powerfully lifts economic performance in all its main dimensions: participation, joblessness and productivity.[8] Though not itself a dimension of performance, this dynamism is the fuel, the energy, on which stimulation and problem-solving in business, thus prosperity, and well-directed innovation, thus relative productivity, feed.

There is circumstantial evidence that dynamism is hugely important for the performance. It is plausible to assume that a high value placed on the equity shares traded on the stock market is a sign of high dynamism in the business sector. Dynamism either drives share prices to a higher level, since extant firms represent a kind of option to exploit the valuable future opportunities that a dynamic economy fosters, or it causes an increased proportion of firms to list their shares on the organized stock exchange. It therefore strongly supports our thesis that, among 11 large OECD nations, differences in the level of market capitalization taken as a ratio to GDP – even the level many years prior to the year of the measured performance – have considerable power to explain differences in productivity, in participation and in unemployment.[9] See Figures 5, 6, 7 and 8. Two of these correlations have more explanatory power than all the neoclassical variables put together. Readers used to focusing on labor market features may be surprised. Yet, so broad a concept as dynamism is bound to encapsulate goods, capital and labor markets.[10]

Dynamism, as proxied by market capitalization, has great explanatory power

What institutions appear to matter for inter-country differences in performance? Presumably there are some economic institutions the presence and high development of which serve to encourage or facilitate dynamism. It is reasonable to hypothesize that organized stock exchanges, company law, suitable bankrupty provisions, and corporate governance

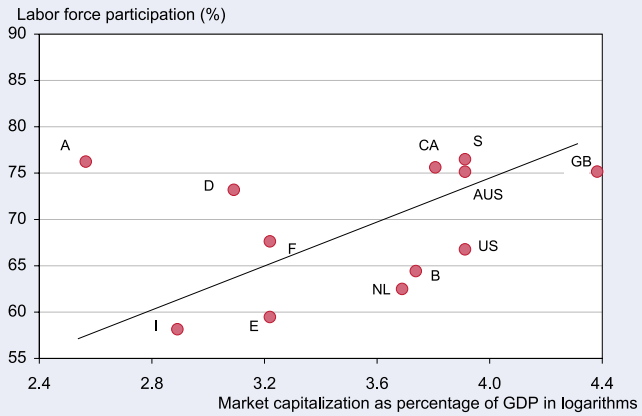
[8] The thesis was introduced in Phelps and Zoega (2001), developed further in Phelps (2001), and expanded upon in Phelps (2003b).

[9] See the latter two charts in Phelps (2003a).

[10] In Figure 8 we first adjust productivity for differences in the employment-to-working-age population ratio.

Figure 6

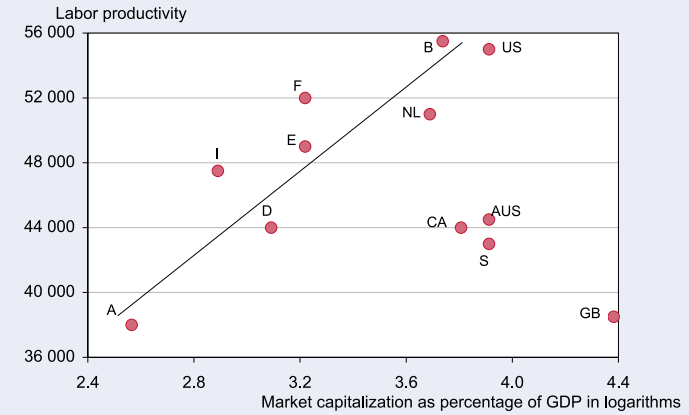
MARKET CAPITALIZATION[a] AND LABOR FORCE PARTICIPATION[b]



a) measured in 1988 b) measured in 1996.

Figure 7

MARKET CAPITALIZATION[a] AND LABOR PRODUCTIVITY[b]



a) measured in 1988 b) calculated as business output per employed worker in US dollars.

spurring corporate performance, and schools preparing the population for business life all foster dynamism. General institutions such as the rule of law and provision of enough personal and national security to safeguard earning, saving and investing are needed for any market economy, even market socialism; but they are not sufficient to generate dynamism.[11] Presumably there are also economic institutions whose presence and force obstruct or impede dynamism. Corporatist institutions that invest company employees, labor unions, communities and other interest groups with the veto power to block or limit entrepreneurial ventures and shifts in corporate operations may choke off valuable innovations, dampen entrepreneurial spirits and thus decrease dynamism. The task is to identify the institutions that foster dynamism and those that obstruct it; and to investigate their empirical contribution to performance.

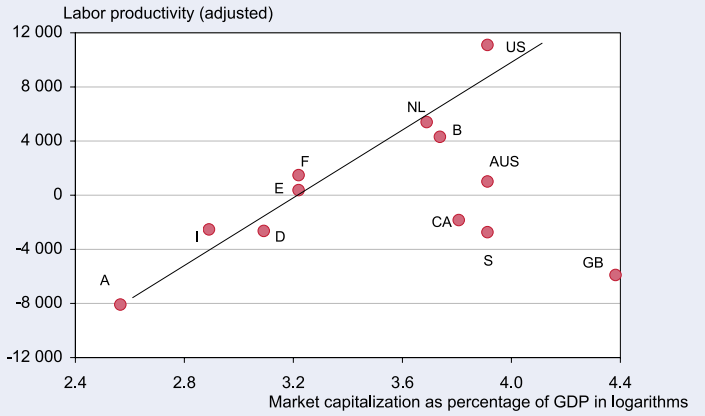
Some institutions help, others hinder dynamism

Research of ours a few years ago implicated some institutions in the failure of most European economies to grasp the opportunities of the internet revolution of the late 1990s – bureaucratic "red tape" and employment protection legislation were among these – and the findings credited some institutions with helping some of the other OECD economies with seizing the new opportunities – a relatively high proportion of the labor force with a university degree, for example (Phelps and Zoega 2001). In more recent research we have been looking at specific institutions in the corporatist landscape to see whether some of them are, statistically speaking, harmful for economic performance. The explanatory variables are the degree of employer- and union-coordination in the industrial bargaining process, here weighted by the extent to which wages are "covered" by union scales, the penalty for employee dismissal provided in employment protection legislation;[12] also, the volume of required licenses hindering or deterring the establishment of new firms and new projects, as measured by the OECD index of "red tape". Our highly tentative findings suggest that the effects of these institutions are harmful for market capitalization, which is a strong sign that they are harmful for economic performance.

[11] To say that is in no way to depreciate the pioneering work of Douglass C. North in arguing the near- unworkability of an economy not supported by property rights and the influential research by Andrei Shleifer devising persuasive evidence in support of this thesis.

Figure 8

MARKET CAPITALIZATION[a] AND ADJUSTED LABOR PRODUCTIVITY[b]



a) measured in 1988 b) calculated as business output per employed worker in US dollars.
We first regress productivity on male participation rates and then plot the residual agains

Is economic culture an important primary cause?

Continental Europe has been languishing more than two decades since the shocks of the late 1970s. Southeast Asia, China and India now exhibit enormous

[12] See the first two charts in Phelps (2003a).

Table 1

Market Capitalization Ratio and Economic Performance

Regressors	Dependent variables			
	Unemployment	Participation	Labor productivity	Labor productivity (adj.)
Market capitalization ratio	–4.18 (2.1)	9.06 (2.2)	4539.4 (1.4)	7591.8 (3.3)
Labor force participation (men)				–76419.2 (3.2)
R-squared	0.33	0.35	0.33	0.60

Notes: Market capitalization is the value of shares in the corporate sector as a fraction of GDP in 1988 (Morgan Stanley International). Labor productivity is calculated as business output per employed worker in US dollars. All dependent variables are 1996 values. t-statistics in parenthesis.

energy and initiative, whatever support and impediments are brought by their economic institutions. Some economists have speculated that differences in economic culture, even among the advanced economies of the OECD members, may play some *part* in the inter-country differences in current-day performance statistics.

Do elements of a distinctive economic culture on the Continent somehow impede the generation of dynamism and thus lessen its economic performance in terms of participation, unemployment and productivity? Europeans themselves have suggested that there is. In some Continental countries there is an expressed uneasiness about making money. As Hans-Werner Sinn said to one of us, a German would rather say that he inherited his wealth than say that he had made his fortune. There is the practice on the Continent of shielding teenagers from any sort of job experience or earning any money, so that the business world must seem rather foreign to them as they are growing up. Some observers have suggested that European schooling drains children there of some of their playfulness and creativity. Some Belgian businessmen were heard to say that they thought Europeans were more risk-averse than Americans. It has been said that the protection of European culture has effectively meant sheltering older and more established figures from competition, which may cause competing and upsetting the established order to be viewed as wrong. (None of these speculations implies that Europeans are deficient in some sort of genetic material. Americans, too, are largely of European stock.)

Critics say that these seeming deficiencies are not causes – they are effects of ill-chosen institutions. Yet, what are the causes of the institutions if not the prevailing political economy, on which culture may have much influence.

Economic culture affects the political economy which influences the institutions

Conclusions and a side-issue

We agreed with the Europeans who sense that the performance characteristics of the Continental economies as currently structured leave room for improvement. We went on to argue that the most effective means to improvement do not appear to be those in the neoclassical liturgy: smaller welfare entitlements, reduced public expenditure, and so forth. The conclusion to which we have been tending is that the Continent's performance will be markedly *better* if it will nourish and promote (more than it is already doing) entrepreneurial and financial institutions that encourage and facilitate dynamism and if it will remove or reform the institutions that obstruct entrepreneurial activity and well-chosen financing.

Of course, identifying with adequate confidence the many concrete institutions that are helpful and those that are harmful is a daunting task, yet some first steps can already be seen as warranted on the evidence.

But how – choosing our time period of observation carefully to avoid years or decades of

Table 2

Economic Institutions and Dynamism

Dependent variable: Market capitalization					
Coordination	–9.25 (1.6)	Employment protection	–10.50 (1.9)	University degrees	0.98 (1.9)
R-squared	0.73	Observations	19		

Notes: Union coordination and employment protection are taken from Nickell (2003) and represent averages for the period 1988–1995. University degrees show the proportion of the labor force that has completed university for the same period. t-statistics in parenthesis.

Table 3

Measures of Economic Performance

	Market output per hour worked	Wage share of business output in %	Men in labor force in % of work.-age men	Employment in % of labor force
US	100	49.5	87	94.6
France	92	42.3	75	88.1
Germany	92	52.4	82	91.3
Italy	–	46.9	74	88.5

Market output per hour worked is for 1992 (Solow/Bailey): wage share is calculated for year 2003 (OECD); and men in labor force and employment are measured in 1996 (OECD).

unusual market forces – does Continental performance generally rate gauged against the performance measures of the US economy? Is Continental performance already relatively *good*? Is it inferior in some respects and superior in others? Or what?

In Table 3 we show some estimated measures of economic performance in its various aspects for the three large Continental nations – Germany, France and Italy, the so-called "big 3" – and the United States in the steady mid-1990s.[13] One of the table's columns quantifies the familiar fact that the unemployment rate is considerably higher among the big 3 than in the United States. These 1996 data do not differ markedly from the rates in late 2003 and early 2004.

The performance of the big 3 European economies is inferior to US performance

Another column addresses the belief that women choose not to work on the Continent but men, having as much aspiration for self-realization as American men, have the same participation rate as American men. The data shows that, to the contrary, even the participation rate of men is lower in the big 3.

Another column addresses the vexatious issue of relative productivity on the Continent. The productivity estimates shown are those from a careful study by Solow and Bailey (2001) using 1992 company data from McKinsey & Company. These estimates suggest that, contrary to widespread belief in Europe, even *hourly* productivity in the big 3 is significantly below that in the United States. Their measurements of output per unit of capital in Europe relative to the United States were even lower. In the ten years since that study the productivity gap has widened, most strongly since 1997. According to some experts on productivity data, the gap would be markedly greater if an adjustment were made for the workers of low capabilities who are allowed to work in the American business sector but who are barred from such jobs in Europe by labor regulations, minimum wage laws.[14]

Moreover, in both France and Italy the wage rate gap is worse than the productivity gap, since workers there receive a compressed share of their productivity. As a result, the French and Italian average hourly wage in terms of goods produced is more depressed relative to the United States than is productivity. (The reverse appears to be true in Germany. It may be that business output in Germany is more composed of high-wage engineering goods than in other countries.)

If these estimates are to be believed, the performance of the Continent's big 3 economies does not compare favorably in any respect to those for the United States.

This finding, to the extent the many Continental economies conform to it, fits into the theme of this report. The finding suggests that the Europeans are right who say that there is much room for improving the performance characteristics of the Continental economies. The Continent's relative productivity performance is not a plus; certainly it does not redeem the poor performance on the other measures. Furthermore, the finding that the Continental economies tend to perform less well on all measures (and in any case not better on some) adds support to our belief, argued here, that the high joblessness in the Continental economies – most notably, the large ones – is just one manifestation of a systemic pathology harming economic performance in all its dimensions: Work is central to life and the quality of work is a telling sign of the health of the economy's structure. The active-age population can flourish only

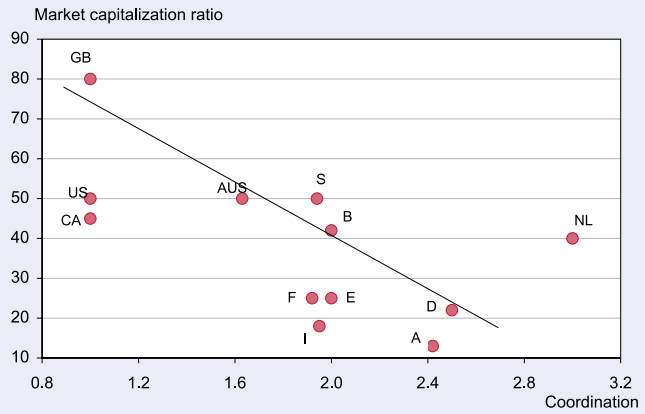
[13] As commented above, the mid-1990s were not severely and differentially disturbed by unique shocks such as the Continent's strides toward technical catch-up in the glorious years and the extraordinary investment boom that gripped the United States and left the big 3 on the Continent relatively untouched.

[14] It is not true, incidentally, that the Solow-Baily calculations have already adjusted for inter-country differences in the extent to which businesses in some countries use far more "less qualified" labor than do others. These results for France are discussed in a recent paper by Blanchard (2004).

with change, excitement and challenges in the workplace. Underdevelopment of the institutions encouraging and disciplining entrepreneurs and their financiers leads ultimately to diminished stimulation at work and lessened personal growth on the job, which are signaled by lower participation rates and higher unemployment. Artificial barriers to entrepreneurship and thus to innovation lengthen the technological lag behind best-practice levels in the world and thus to relatively low levels of productivity.

Figure 9

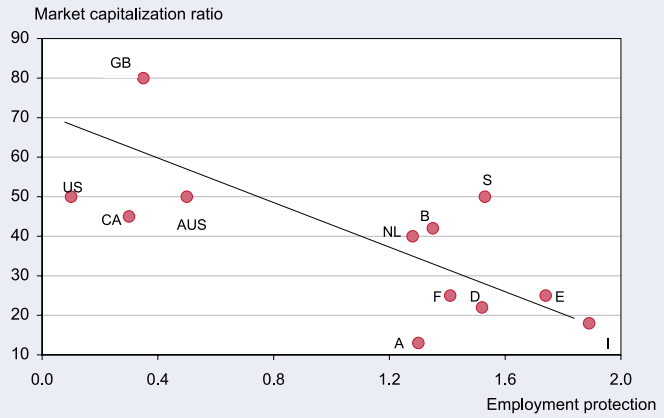
MARKET CAPITALIZATION[a)] AND COORDINATION FOR TWELVE COUNTRIES



Coordination protection measured for the period 1988 - 95.

Figure 10

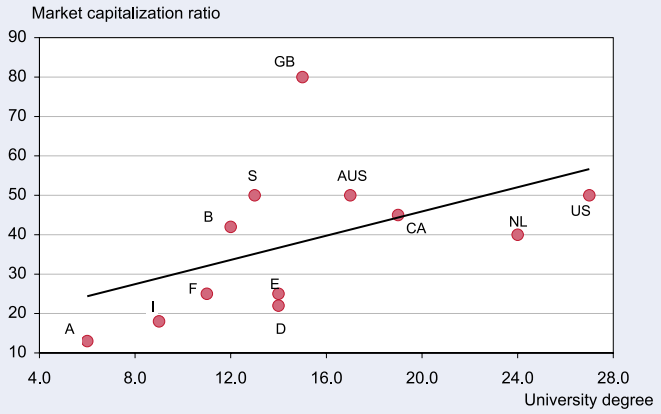
MARKET CAPITALIZATION[a)] AND EMPLOYMENT PROTECTION FOR TWELVE COUNTRIES



Employment protection measured for the period 1988 - 95.

Figure 11

MARKET CAPITALIZATION[a)] AND UNIVERSITY EDUCATION FOR TWELVE COUNTRIES



University education shows the proportion of the labor force with university degrees.

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Institutions encouraging entrepreneurs and excitement in the workplace are the solution

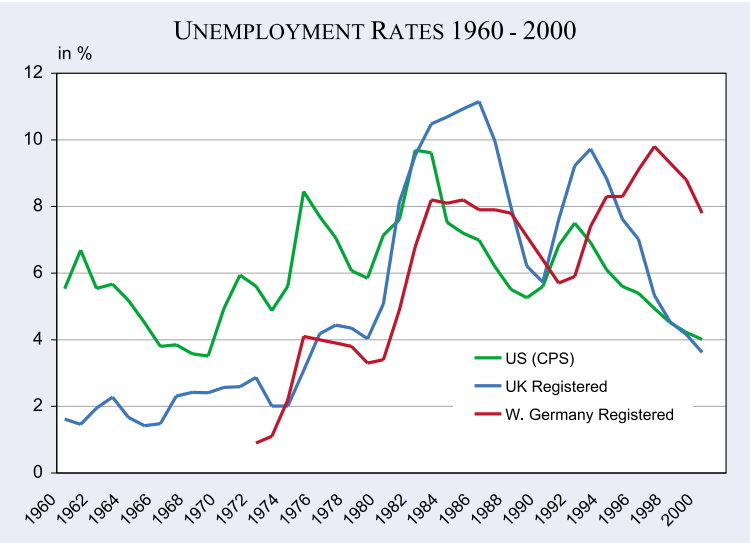
Differences in Labour Markets Across the Atlantic

Patrick A. Puhani*

During the last two to three decades, American and continental European labour markets experienced different trends in two dimensions. First, in contrast to continental Europe (in the following mainly represented by Germany), wage inequality increased substantially in the United States. In America, this increase in wage inequality did not just occur due to increases in real wages at the top, but also due to a *fall* in real wages in the middle and lower parts of the wage distributions (Acemoglu, 2002). In Germany, wage inequality hardly changed during the same period (Steiner and Wagner 1998; Fitzenberger 1999). However, wage inequality is not the only dimension in which American and German labour markets differed. Figure 1 exhibits the average unemployment rates for the United States, Germany, and Britain. Over the long-term (i.e. since 1960) no clear trend can be discerned for the American unemployment rate: It oscillated around six percent with a range between four and eight percent (with few exceptions). By contrast, German unemployment seems to have ratcheted up: Whereas it was clearly below American levels in the early post-WWII period, western Germany's unemployment rate surpassed the American rate shorty after the second oil shock and remained above it for almost every year since. The most striking divergence in American and German unemployment rates occurred in the 1990s. Interestingly, the British experience resembles the German one until about the end of the 1980s. In the 1990s, however, Britain changed from looking like a continental European labour market (the French graph would resemble the one for Germany) to follow the American pattern. Note that it was in the 1990s that German and Anglo-Saxon unemployment rates diverged, not in the 1980s (although the largest increase in Anglo-Saxon wage inequality ocurred in the 1980s). One may wonder how much one can learn from such a time series exegesis: From a macro perspective, the observed divergence in unemployment across the Atlantic might just be a temporary cyclical phenomenon. However, the fact that the Anglo-Saxon economies experienced significant increases in wage

While wage inequality hardly changed, unemployment rose in Germany

Figure 1



Note: The United States unemployment rate is based on the CPS, which uses a definition of unemployment equivalent to the ILO definition. For western Germany, OECD figures only provide the registered unemployment rate for a longer time period. Comparing the registered with the OECD standardised unemployment rate for united Germany suggests about a 1.5 percent difference between the two, so that the standardised unemployment rate for western Germany would also be lower than depicted in the graph. For the UK, however, the standardised unemployment rate is about 1 percentage point higher than the registered one shown in the graph. It is, however, not available for such a long time period.

Source: OECD.

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dispersion since the 1970s or 1980s, whereas Germany did not, *plus* the fact that the unemployment rates diverged in the 1990s, has raised considerable interest in the economics profession and in the political arena. Krugman (1994) has raised the hypothesis that the different experiences in wage dispersion and unemployment across the Atlantic are "two sides of the same coin". The story runs like this: Relative negative demand shocks against unskilled workers lead to an increase in wage dispersion in labour markets with flexible wages, such as the United States. If relative wages (of high-skilled versus low-skilled workers) are not sufficiently flexible, though, relative unemployment of low-skilled workers will increase, thus raising the average unemployment rate. According to the "Krugman hypothesis," this may explain the German experience.

Astonishingly, the literature testing the Krugman hypothesis is not very large, given the importance of the issue for continental European economies: We currently observe how difficult it is to reform European post-war labour market institutions. It is therefore important to gather empirical evidence on the validity of the Krugman hypothesis. Otherwise, we do not know whether the costs of changing entrenched institutions are justified.

At first sight, it might seem straightforward to test the Krugman hypothesis. Data on wages and unemployment are readily available. However, two main problems arise. First, key components of the hypothesis, *supply, demand* and *wage rigidities,* are not directly observable and need to be proxied or estimated. Previous studies have either explicitly or implicitly taken different approaches to this problem, which makes comparison and judgment of the results difficult. Second, the Krugman hypothesis refers to differences across countries and thus requires data that are internationally comparable. Even if data collection were harmonised across countries (which is only partly the case), education systems differ so much that harmonisation of educational degrees by the researcher effectively imposes another (possibly strong) assumption on the analysis. In the literature, degrees obained outside the United States are often classified into American educational categories (like *college* or *high school*). Of course, it may be justified or even necessary in many situations to try to see the German school system through the American lens. However, in the context of testing the Krugman hypothesis, I argue that this is neither necessary nor justified. Other authors have shown that the German school system produces a rather different skill structure from the American one (Nickell and Bell, 1996; Freeman and Schettkat, 2000). We will see below that this matters in the current context.

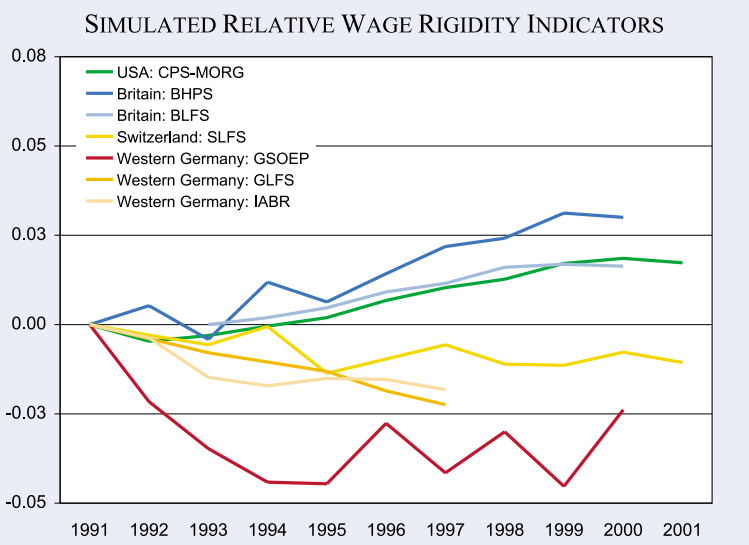
In the following, I will informally describe my empirical results concerning the Krugman hypothesis as outlined in Puhani (2003a; 2003b; 2003c). As Switzerland has a similar education system to that of Germany, but more flexible labour market institutions more similar to the ones of the United States than the rest of continental Europe, I will also report on Swiss evidence. Britain will provide another Anglo-Saxon example.

Data

I use the Current Population Survey Merged Outgoing Rotation Group (CPS-MORG) files for the United States. The CPS is a representative and large data set, which allows to measure hourly wages as well as unemployment as defined by the ILO definition (not working, actively looking for a job and available for a job within short notice). Germany does not have a directly equivalent data set (cf. Zimmermann and Wagner 2002, 113–14). The corresponding survey would be the *Mikrozensus*, which I call the German Labour Force Survey (GLFS) here (part of this data is also the basis of the German component of the European Labour Force Survey). Although the quality of this data set is high in the sense that interviewees are obliged to respond to most questions by law, the GLFS does not contain wage information, only income in intervals and hours worked. Therefore, I use two more data sets for Germany to check the robustness of the results. One of the additional data sets is the internationally well-known German Socio-Economic Panel (GSOEP). In terms of measuring wages and unemployment, the GSOEP is conceptually well-suited for the current purpose. However, its panel nature and small sample size (compared to the other data sets used here), call into question its representativeness and its ability to measure changes in wage and unemployment structures precisely enough over time. Therefore, another large German administrative data set (IABR) is used. It precisely measures labour earnings of workers within the German social security system (which does not include civil servants and the self-employed), although there is some top-coding. A disadvantage of the IABR data set is

that it only allows the measurement of registered as opposed to ILO unemployment. For Switzerland, I use the Swiss Labour Force Survey (SLFS), which has information both on hourly wages and ILO unemployment. I also use the British Labour Force Survey (BLFS) and the British Household Panel Survey (BHPS) to provide another Anglo-Saxon comparison. More information on the data can be found in Puhani (2003a; 2003b; 2003c).

Figure 2



Note: The y-axis displays the simulated relative wage rigidity indicator in log points, i.e. the difference in the logarithms of the observed and the simulated market relative wage of high-skilled versus low-skilled workers. A negative number means that compared to the base year 1991, the relative wage of high-skilled versus low-skilled workers has not increased enough to balance changes in relative supply and demand for high-skilled versus low-skilled workers between 1991 and the year of observation.

Sources: Current Population Survey – Merged Outgoing Rotation Group Files (CPS); British Labour Force Survey (BLFS); British Household Panel Survey (BHPS); German Socio-Economic Panel (GSOEP); German Labour Force Survey – Mikrozensus (GLFS); German Adminsitrative Data – Institut für Arbeitsmarkt und Berufsforschung Regionalstichprobe (IABR); Swiss Labour Force Survey (SLFS); own calculations.

A "macro" perspective

Macro evidence supports Krugman

Many studies related to the question of this article are based on an analysis of relative wages and employment of two skill groups (high and low). In an American context, high-skilled workers are those with a college degree and low-skilled workers those with completed high school education. In Germany and Switzerland, workers with tertiary education (*university* or *equivalent*) are defined as high skilled and those with vocational apprenticeship training are defined as low skilled. In Britain, the high skilled are those with a degree (from a university or a former polytechnic, all polytechnics being universities now), the low skilled are those with an education equivalent to *O-levels*. The definition of the low skilled reflects the largest low-skilled groups in the respective countries (we will see below that contrary to a myth that seems to prevail among some Anglo-Saxon labour economists, those with German apprenticeship training are low skilled, at least in terms of the German wage hierarchy).

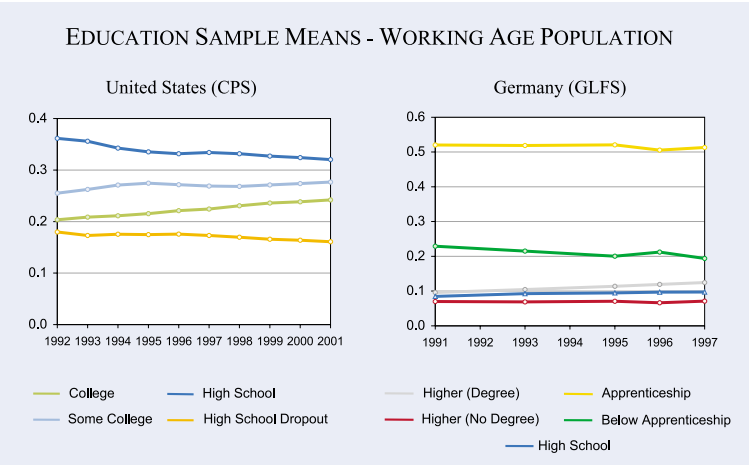
Similar to the studies by Katz and Murphy (1992), Autor, Katz and Krueger (1998), and Acemoglu (2003), I define *age-education-gender-region* cells (between 100 and 360 cells depending on the data set) and aggregate them either into the high-skilled or the low-skilled group (see Puhani 2003a; 2003b; 2003c for details). I then estimate relative supply and demand for skill changes within a constant elasticity of substitution production function framework. This allows simulation of relative wage changes since a base period (1991 in my case) warranted by changes in relative demand and supply ("market relative wage changes"). The differences in the observed and the simulated "market" relative wage is an indicator of relative wage rigidity between high-skilled and low-skilled workers. The results are displayed in Figure 2. A negative number indicates wage compression, i.e. that wages have become (more) rigid. In other words, a negative number means that, compared to the base year 1991, the relative wage of high-skilled versus low-skilled workers has not increased enough to balance changes in relative supply and demand for high-skilled versus low-skilled workers between 1991 and the year of observation.

The point estimates of Figure 2 show a clear difference between the two Anglo-Saxon economies on the one hand, and the two continental European countries on the other. All data sets on Germany and Switzerland indicate wage compression, although wage compression in Switzerland seems to have been smaller than in Germany (note that Swiss labour market institutions allow much more flexibility in terms of employment protection and wage setting than that of Germany). By contrast, the evidence on the United States and Britain suggests wage decompression, i.e. the relative wage of high-skilled versus

low-skilled workers rose by even more than warranted by relative supply and demand changes since 1991. Most of the displayed points in the graphs are statistically significant at the 10 percent level. An exception is the result for Switzerland, where only the figure for 1995 is statistically significant.

The macro evidence reproduced here from Puhani (2003a; 2003c) thus gives support to the Krugman hypothesis by demonstrating that, contrary to the Anglo-Saxon experience, relative wages in Germany moved unfavourably to the relative employment of low-skilled versus high-skilled workers. In Switzerland, this occurred to a lesser degree than in Germany, if at all.

Figure 3



Note: The y-axis displays the shares of the respective education categories. Between 1991 and 1992 the coding of the education variable changed in the CPS. I therefore use 1992 as the base year in the microeconometric analysis.

Sources: Current Population Survey – Merged Outgoing Rotation Group Files (CPS); German Labour Force Survey – Mikrozensus (GLFS); own calculations.

Although this macroeconomic simulation approach has an appeal by providing a quantitative measure of wage rigidity (e.g. a figure of – 0.02 in the graphs of Figure 2 implies that the relative wage of high- versus low-skilled workers should have increased by about two percent in order to accommodate relative supply and demand changes), it rests on strong assumptions and simplifications. By distinguishing only between two skill groups (high and low), this approach ignores interesting information about which skills exactly are associated with relative wage rigidities.

A "micro" perspective

Because of these deficiencies, I developed a microeconometric approach to test the Krugman hypothesis without unnecessary assumptions on the ability to proxy demand or supply shocks. The analysis is based on a neoclassical model of the labour market with heterogeneous types of labour. Here I will only outline the intuition: The approach rests on the idea that unemployment (quantitiy rationing) is a consequence of the failure of the market to clear (wage rigidity). Therefore, changes in *relative* wage rigidity can be detected by observing changes in the wage and unemployment *structures*. This idea was already set out in Nickell and Bell (1996) and Gottschalk and Joyce (1997). In contrast to these studies, however, I distinguish between more than just two skill categories and compare regression-adjusted changes in wage and unemployment structures (non-employment is also used as an alternative measure to unemployment as an indicator of quantity rationing). The dimensions of skill investigated are *age* as a proxy for experience and *education*. *Age* is discretised into five intervals (16 to 25, 26 to 25, etc.). *Education* is classified into four to five categories depending on the country. In the United States, these categories are *completed college, some college, completed high school* and *high school dropout.* In Germany, the categories are *degree, higher education but no degree, high school (Abitur), apprenticeship* and *less than apprenticeship.* Thus, unlike most previous studies, I preserve national education definitions. Figure 3 exhibits sample means for the education groups in the United States and western Germany. It is shown that the educational structures in the United States and in Germany exhibit some differences, especially among the low skilled. In the United States, workers with *high school education* and *high school dropouts* constitute about one half (trend declining) of the working age population (with about 30 to 35 percent *high school graduates*). In Germany, those with *apprenticeship* education or *below* constitute about 70 percent of the working age population. However, 50 percent of the German working age population have obtained *apprenticeship* training. German apprenticeship training is quite different in content from an American high school education: Although students leave the system at roughly the same age (18 or 19 years), German apprenticeship training is

Different educational structures

Relative Wage and Unemployment/Non-Employment Behaviour and Labour Market Classification

	Contributing to a relative unemployment decrease $(\gamma^*_{t+\tau,k} - \gamma^*_{t,k}) < 0$	Contributing to a constant relative unemployment $(\gamma^*_{t+\tau,k} - \gamma^*_{t,k}) = 0$	Contributing to a relative unemployment increase $(\gamma^*_{t+\tau,k} - \gamma^*_{t,k}) < 0$
Contributing to a relative wage increase $(\beta^*_{t+\tau,k} - \beta^*_{t,k}) > 0$	*(7): weakly adjusting in increasing market relative to the reference market*	*(6): strongly adjusting in increasing market relative to the reference market*	*(1): strongly rigid (wage push) relative to the reference market*
Contributing to a constant relative wage $(\beta^*_{t+\tau,k} - \beta^*_{t,k}) = 0$	*(8): weakly rigid in increasing market relative to the reference market*	*(5): stable in stable market relative to the reference market*	*(2): weakly rigid in decreasing market relative to the reference market*
Contributing to a relative wage decrease $(\beta^*_{t+\tau,k} - \beta^*_{t,k}) < 0$	*(9): converging (wage pull) relative to the reference market*	*(4): strongly adjusting in decreasing market relative to the reference market*	*(3): weakly adjusting in decreasing market relative to the reference market*

Note: $\beta^*_{t,k}$ and $\gamma^*_{t+\tau,k}$ are the regression coefficients of the skill category k in the wage and unemployment regressions in the base period t and reporting period $t + \tau$, respectively. The coefficients of the skill dummy variables are transformed (indicated by an asterisk) to report the differential with respect to the base period sample mean as the reference category.
The terminology "increasing market" refers to a positive relative net demand shock (which is the same as a negative relative net supply shock for labour market l with respect to the reference market r (the sample mean in the base period) as defined in Puhani (2003c). Increasing markets relative to the reference market are identified in cases (6), (7), and (8). Analogously, a "decreasing market" is equivalent to a negative net demand shock. Decreasing markets relative to the reference market are identified in cases (2), (3), and (4). In cases (1) and (9), the sign of the net demand shock cannot be identified. In case (5), there is no such shock. See also the theoretical discussion in Puhani (2003c).

not only classroom, but provides dual education: half classroom, half on-the-job.

The microeconometric approach estimates cross-sectional wage and unemployment regressions with *age, education, gender* and *region* as explanatory variables. Statistical tests on the *ceteris paribus* changes in the wage and unemployment structures obtained from these regressions are the basis for the classification displayed in the table. Each age and education characteristic is classified into one of nine cells depending on whether its contribution to the relative wage and unemployment position has increased, remained constant or decreased. In case the Krugman hypothesis were true, we would expect that low-skilled (young age, low education) characteristics in western Germany are classified as (1): "strongly rigid", (2): "weakly rigid in a decreasing market", or, if wages were somewhat but not sufficiently flexible, as (3): "weakly adjusting in a decreasing market". In the United States, we would only expect relative wage adjustments, but no changes in relative unemployment (at least not against the low skilled). Hence, in the presence of negative relative demand shocks, low-skilled characteristics in the United States should be classified as (4): "strongly adjusting in a decreasing market".

Both, the German and US wage structures have become more unequal between educational groups

In this survey, I only display the graphical results for the United States and western Germany with respect to educational groups. The classification results for both *age* and *education* categories for these countries as well as for Britain and Switzerland are reported in Puhani (2003a; 2003b; 2003c). The graphs in Figure 4 show that both the German and the American wage structures have become more unequal between educational groups. It is also shown that German workers with apprenticeship training are low-skilled if skills are defined in terms of the relative wage position that they hold in Germany (astonishingly, some Anglo-Saxon labour economists call German workers with apprenticeship "high skilled"). A striking contrast between western Germany and the United States emerges when comparing the changes in the unemployment structures between these two countries. Whereas the American *ceteris paribus* unemployment structure has become more *equal*, the German unemployment structure has become more *unequal*. This finding is consistent with the Krugman hypothesis, although one has to add that the German

wage structure was rigid not in the sense of having been constant, but in the sense of not having been flexible *enough*.

Formal statistical tests (reported in my cited papers) substantiate this view: For both *high school dropouts* and those with *completed high school,* the flexible classification (4) (cf. Table) dominates the test results for the United States. For western Germany, a distinction emerges between the two low-skilled groups, i.e. workers *with* and those *without apprenticeship training*. Whereas a relative wage rigidity is robust in the two large German data sets for those without apprenticeship training classification (1) dominating in the GLFS and classification (3) dominating in the IABR data), the finding of a wage rigidity for workers with apprenticeship training is not robust (classification (2) dominates in the GLFS, but classifications (6) and (7) dominate in the IABR data). The results for Switzerland similarly point to relative wage rigidity only for workers who do not even have *apprenticeship* training (as discussed in Puhani 2003a; 2003b; union demands for minimum wages might have shown their bite for this least qualified group). Those with *apprenticeship* training do not seem to have been affected by a relative demand shock. This finding reveals the importance of distinguishing between more than just two education categories and considering each major education group as it is defined in the respective country! Indeed, it seems that the largest parts of the low skilled in Germany and Switzerland – that is those with *apprenticeship* training, who constitute about half of the working age population in both countries – were not affected by the same negative relative demand shocks as were workers with a *high school degree* and *high school dropouts* in the United States. The German-style vocational education system (apprenticeships) may thus shield the largest part of low-skilled workers in Germany and Switzerland from the negative relative demand shocks experienced by the largest part of low-skilled American workers. This result is consistent with the arguments made in Nickell and Bell (1996) and Freeman and Schettkat (2000) that the German-style apprenticeship system may provide the low skilled in Germany with more valuable human capital than does the Anglo-Saxon school system to their peers in the United States and in Britain. Hence, although I find evidence for the Krugman hypothesis, it only seems to be valid for the very lowest skill groups in Germany and Switzerland. Another qualification of the Krugman hypothesis arises from the British case. For Britain, the bottom line of my results is that large-scale skill upgrading due to educational reform helped to keep the British wage structure fairly constant in the 1990s (cf. Puhani 2003c).

As to the *age* structure (not displayed here, see my cited papers), there is robust evidence that the German wage structure behaved rigidly with respect to

Figure 4a

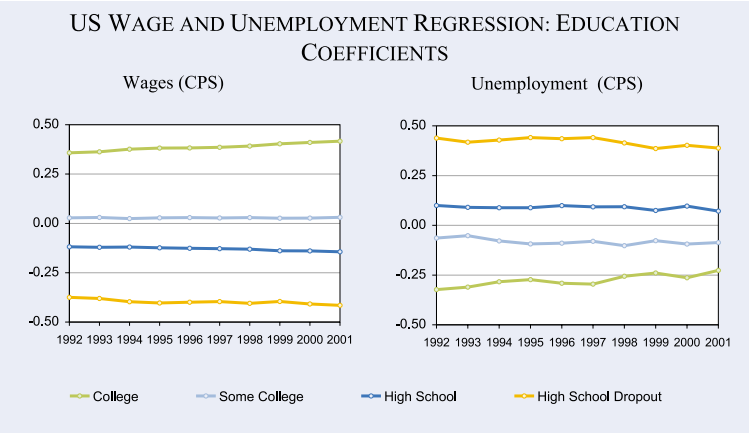
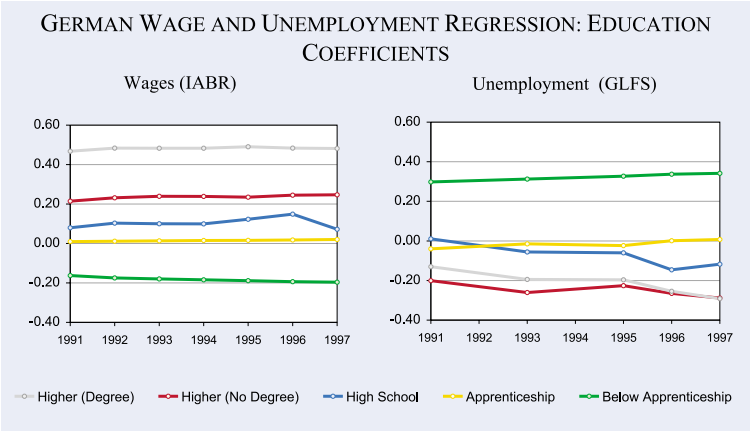


Figure 4b



Note: The left and right panels exhibit the transformed wage and unemployment regression coefficients β_x and γ_x respectively.

Sources: Current Population Survey – Merged Outgoing Rotation Group Files (CPS); British Labour Force Survey (BLFS); German Labour Force Survey – Mikrozensus (GLFS); own calculations.

The US unemployment structure has become more equal, the German one more unequal

the youngest age group (16 to 25 years of age). There is similar evidence for the United States, but it is not robust.

The robustness checks I carry out do not only use alternative data sets, but also choose different base periods for the tests of changes in wage and unemployment structures and the subsequent classification of the table above. In addition, I use *non-employment* instead of *unemployment* as an alternative measure of quantity rationing. In sum, the results are robust in the sense that a negative relative demand shock and relative wage rigidity is found for workers without apprenticeship in western Germany and Switzerland. In western Germany, there is an additional robust relative wage rigidity concerning young workers. (Results based on the GSOEP are often not statistically significant due to the smaller sample size). For the United States and Britain, no robust results of relative wage rigidities against the unskilled groups can be found. But consistent with the Krugman hypothesis, all investigated countries exhibit negative relative demand shocks against low-skilled workers.

Evidence for the Krugman hypothesis applies only to the very lowest skill groups in Germany

Alternative explanations?

Although the empirical evidence discussed here is – with some qualifications – consistent with the Krugman hypothesis, one may think of alternative interpretations of the data. In Puhani (2003c), I discuss several other potential explanations. These are (i) business cycle effects, (ii) efficiency wage effects, (iii) welfare and unemployment benefit reform effects, and (iv) sample selection effects. I argue that these alternative explanations are not convincing, because – to sum up the arguments – (i) the changes in the unemployment structures look rather smooth and trendlike over a period longer than a representative business cycle, (ii) efficiency wages cannot explain differences across countries and furthermore should have less effect on the least skilled, (iii) the timing of welfare and unemployment benefit reforms is not consistent with this alternative explanation, and (iv) sample selection effects cannot be the main explanation as the evidence for the United States is inconsistent with that.

Conclusions

Empirical evidence broadly supports Krugman's hypothesis that negative relative demand shocks against low-skilled workers led to increased wage dispersion in the United States, but increased unemployment in continental Europe. However, the German-style apprenticeship system might have shielded large parts of the low skilled in Germany and Switzerland from the negative relative demand shocks affecting high school graduates and high school dropouts in the United States. In addition, supply effects dominate the British experience of a fairly constant wage structure with respect to educational groups in the 1990s.

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Aggregate Unemployment and Relative Wage Rigidities

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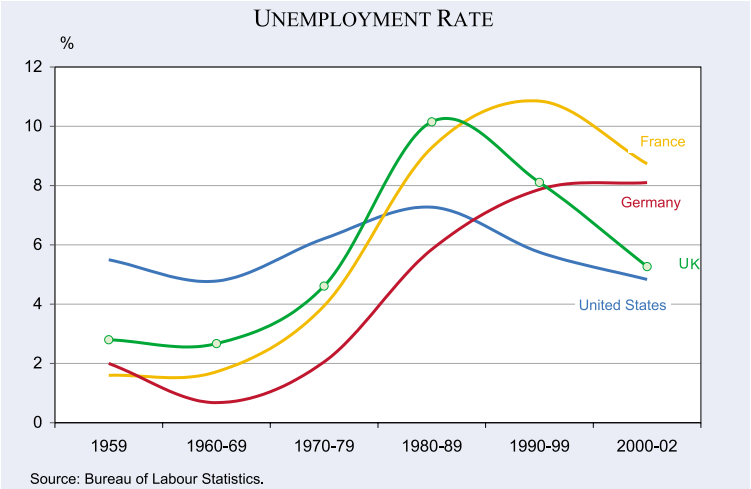
The contrast between the United States and the EU countries in terms of unemployment is well known. It is summarised in Figure 1. In the United States there is no trend (if any, it is negative) over the period 1959–2002, although the unemployment rate remained abnormally high during the 1980s and early 1990s. In Europe, we start in the early 1960s with low unemployment rates (around 2 to 3 percent in France, Germany and the UK, that is, approximately half the US unemployment rate at the same period). In the 1970s, unemployment starts increasing in all countries. Substantial intra-EU differences are, however, observed after 1985. The unemployment rate remains high in a majority of countries (more than 8 percent in France and Germany, for instance), while it is on a decreasing path in some others (mainly the United Kingdom and the Netherlands).

The rules governing the labour market (the so-called "labour market institutions") are, of course, quite different in the United States compared to most EU countries: limited social security provisions (especially unemployment insurance), wage formation, etc.. However, most economists agree today that such institutional differences alone cannot explain the differences summarised in Figure 1. Many European countries were already enjoying well-developed welfare systems in the late 1960s, well before the rise in unemployment. It is also difficult to explain US-EU differences by country-specific shocks. Most economic shocks (oil shocks, disinflation, introduction of new technologies, etc.) were common to all countries. Against this background, the consensus view is that the observed variety of outcomes can only be explained by the interaction between specific institutional setups and common shocks. Despite the difficulty of measuring "institutions" and "shocks", empirical work has accumulated convincing evidence supporting that point of view.[1] The main challenge, however, is to uncover the mechanisms at work, so as to be able to derive the right policy implications and design appropriate institutional setups.

Figure 1



Source: Bureau of Labour Statistics.

Labour market institutions

Our understanding of the interactions between institutions and shocks and their implications for unemployment has been improved by the use of general equilibrium models incorporating job creation and destruction, search and wage formation behaviours. Three institutional aspects have been particularly emphasised in the literature: unemployment benefits, employment protection and wage rigidities (in the form of minimum wages, e.g.).

Unemployment benefits affect the equilibrium outcome by

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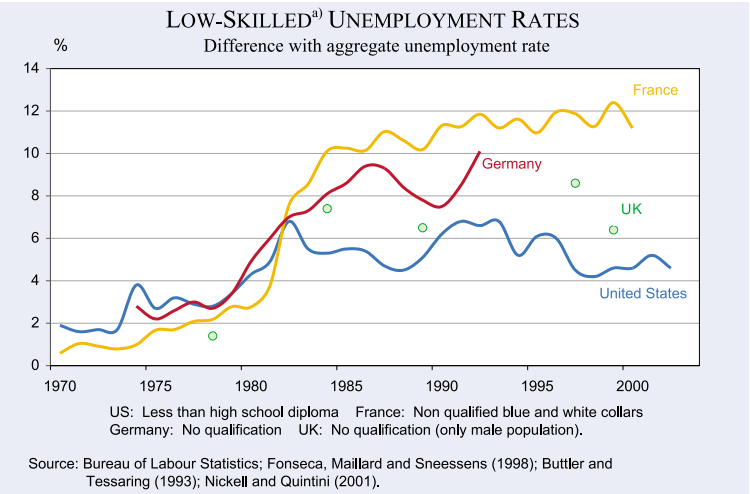
[1] See for instance Blanchard-Wolfers (2000), Bertola, Blau and Kahn (2001).

changing the unemployed job seeker's search and bargaining behaviour. The effect on equilibrium employment is clearly negative. The quantitative effects obtained by simulating general equilibrium models are in line with those reported in the empirical literature: the elasticity of expected unemployment duration with respect to benefits is generally in the range of 0.2 to 1.0; and an increase of ten percentage points in the replacement ratio increases the equilibrium unemployment rate by one to two percentage points.[2]

Figure 2



Employment protection legislation is known to have a priori an ambiguous effect: it decreases the job destruction rate, but has simultaneously a negative impact on the job creation rate. When all wages are adjusted by free bargaining between employers and employees, the net outcome seems to be a lower unemployment rate. With rigid wages, the results are reversed, albeit quantitatively small.[3] Imposing a minimum wage constraint turns out to have a strong negative impact on employment through a higher job destruction rate. This result is again confirmed by empirical literature.[4]

Wage regidity in least productive jobs explains most of the US–EU differences in unemployment

The role of these three institutional variables has been further examined in Joseph, Pierrard and Sneessens (2004). They consider an economy where firms are hit by firm-specific (idiosyncratic) productivity shocks. Wages are negotiated at the firm level, but can never fall below a minimum wage determined at the aggregate level (by a minimum wage law e.g.). Employment protection is introduced as a firing tax. Unemployed workers receive unconditional unemployment compensation. As expected, the wage rigidity reinforces the negative employment effects of employment protection. The key result, however, is the dominant role played by relative wage rigidity. Numerical simulations suggest that, among the three institutional variables considered in the model, it is the wage rigidity associated with the least productive jobs that explains most of the differences between US-type and EU-type economies, both in terms of equilibrium unemployment rates and of the cyclical properties of job creation and destruction.

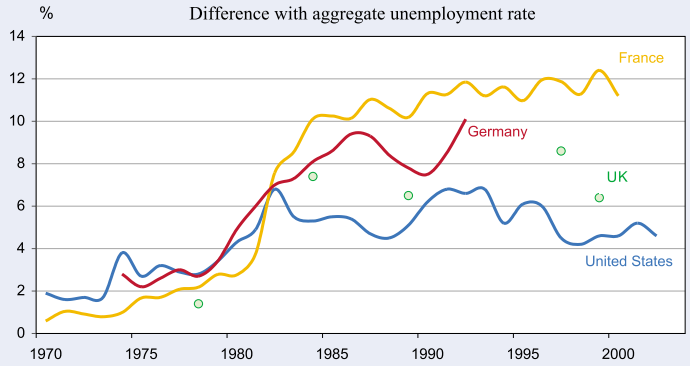
Low-skilled unemployment

It is not enough to take into account firms' heterogeneity. Workers are heterogeneous, too. There is ample empirical evidence that biased technological change (combined with organizational changes) has had a negative impact on the demand for low-skilled workers. Microeconometric studies also show that the probability to exit unemployment is much lower for low-skilled workers. Figure 2 reproduces the difference between the low-skilled and the aggregate unemployment rates in the four countries already considered in Figure 1. It is in France and in Germany that the low-skilled unemployment problem seems most acute. More recent data, reported in Puhani (2003), suggest that the low-skilled unemployment problem has further increased in Germany during the 1990s. Figure 3 compares the real minimum wages in the United States and in France over the last three or four decades. The trends go in opposite directions: downward trend in the United States, upward trend in France. Standard wage dispersion indicators (D5/D1 ratios) suggest that throughout the 1980s and the 1990s wage dispersion has been increasing in the United States and in the United Kingdom, stable or decreasing in France and Germany respectively. This suggests that the low-skilled unemployment problem may be related to relative wage rigidities in the face of relative demand changes.

Although this last conclusion is widely accepted, there is much controversy about the contribution of

[2] See for instance Layard, Nickel and Jackman (1991), Holmlund (1998).
[3] See Garibaldi (1998), Cahuc and Zylberberg (1999).
[4] See for instance Kramarz and Philippon (2001) for an empirical evidence on French micro data.

Figure 3



Source: Bureau of Labour Statistics; Fonseca, Maillard and Sneessens (1998); Buttler and Tessaring (1993); Nickell and Quintini (2001).

the low-skilled unemployment problem to aggregate unemployment. If relative demand changes were the main cause of low-skilled unemployment, one should simultaneously have observed a decrease in high-skilled unemployment, with a resulting ambiguous effect on total unemployment. Some people thus argue that the rise in low-skilled unemployment is much more related to the change in relative supplies rather than to the change in relative demands. With more and more high-skilled job seekers, low-skilled workers are crowded out of their traditional labour market segment (the so-called "job competition" or "crowding-out" effect). Empirical investigations correlating aggregate unemployment to a variety of institutional variables and to a measure of the change in net relative demands for skilled workers often suggest a limited (albeit significant) effect. A correct evaluation is, however, made difficult by the lack of long-run time series data on relative wages, relative labour force and employment changes, and on crowding-out effects.

Biased technological change and job competition

Calibrated general equilibrium models offer an interesting alternative analytical tool. In Pierrard-Sneessens (2003), we construct a model with two types of jobs ("simple" and "complex") and two types of workers (low-skilled and high-skilled), so as to be able to discuss both biased technological change and job competition issues. This representation of the working of the economy includes frictions and search behaviours in the labour market. The model is calibrated on Belgian data (Belgium is a fairly typical EU country in terms of aggregate unemployment performance, wage dispersion, labor market institutions, etc.). The numerical parameter values are either based on the available empirical evidence chosen so as to reproduce the situation observed in the mid-1990s, in terms of unemployment rates, job destruction rates, unemployment exit rates, etc. We next introduce two changes: (i) an increase in the proportion of high-skilled workers in the labour force; (ii) a biased technological change stimulating the relative demand for high-skilled workers. The net outcome is a "net biased technological change" unfavourable to low-skilled workers. These two changes are meant to reproduce the changes observed from the mid-1970s till the mid-1990s. Information on labour force composition changes comes from labour surveys; information on biased technological change comes from the estimates of a production function.

Is low-skill unemployment related to changes in relative supplies, to crowding-out?

The results of this simulation exercise are reproduced in Table 1 for two variants of the same scenario, respectively fixed vs. flexible wages. The "fixed relative wage" variant reproduces the observed situation: relative wages did remain unchanged over the whole period. With this constraint on relative wages, our representation of the working of the economy

Table 1

Simulating the effects of a net biased technological change

	net skill bias	u^h	u^l	w^l/w^h	crowding out
Actual data (Belgium)					
1996 values		6.8%	20.1%	67%	n.a.
1977–96	+0.28	+2.1	+13.3	+0.0	n.a.
Model with rigid wages					
1977–96	+0.28	+2.7	+10.1	+0.0	+6.5
Model with flexible wages					
1977–96	+0.28	+0.4	+2.4	-15.5	+7.2

Sources: Pierrard and Sneessens (2003). u^h: high-skilled unemployment rate; u^l: low-skilled unemployment rate; w^h: high-skilled wage; w^l: low-skilled wage. Low-skilled: at most lower secondary education. High-skilled: at least upper secondary education.

reproduces quite well the unemployment changes observed in Belgium: the high-skilled rate increases by around 2.5 percentage points, the low-skilled unemployment rate increases by more than 10 percentage points. The "flexible wage" variant mimics quite well (from a qualitative point of view) the situation observed in countries like the United States or even the United Kingdom: the rise in aggregate unemployment is moderate, the relative wage of low-skilled workers decreases, but still the difference between the low-skilled and the high-skilled unemployment rates increases. The role played by job competition seems crucial. Although the proportion of "simple jobs" occupied by "over-qualified" high-skilled workers remains limited (around 6 to 7 percent, which is well below the most often quoted estimates of "crowding-out"), job competition contributes significantly to the deterioration of the low-skilled worker's employment perspectives.

Combining cuts in the replacement ratio and subsidies to low-skilled workers would reduce unemployment without increasing inequality

The conclusion seems to be the existence of a trade-off between wage inequalities and unemployment: low wage inequalities are associated with high unemployment (typically in European economies) and high wage inequalities are associated with high levels of employment (typically in Anglo-Saxon countries).

Policy implications

Should we choose between income inequality and unemployment? Table 2 reproduces the outcomes of three policy scenarios. The results are based on numerical simulations of a general equilibrium model similar to the one discussed before. The reference situation is the one prevailing in 1996 (first row of Table 1). The first policy considered is simply a drastic reduction in the replacement ratio (50 percent cut). The effects are those one would expect: a significant reduction in the unemployment rates (10 percentage points for the low-skilled worker group). The cost of this increased economic efficiency is a drastic increase in income inequality. The relative wage of the low-skilled worker decreases by 6.2 percent; the average consumption of low-skilled workers decreases by 10 percent, while that of high-skilled workers increases by 5 percent. That is, labour market conditions (relative labour productivities, relative labour supplies) are such that the economic efficiency gains benefit only one category of worker and is detrimental to the other, in absolute as well as in relative levels.

The second policy scenario considered is a 15 percent tax cut on low-skilled wages, financed by a tax on high wages (5 percent) so as to keep the government budget in equilibrium. This policy stimulates the demand for low-skilled workers (the low-skilled unemployment rate decreases by 6.6 percentage points), while leaving high-skilled employment almost unchanged. Both unemployment and wage inequality are reduced, but the welfare of high-skilled workers deteriorates.

The last policy scenario combines the previous two: a drastic cut in the unemployment replacement ratio and simultaneously a subsidy to low-skilled employment. The effects on unemployment rates are more favourable than in each of the previous two scenarios. This time though, the improved economic efficiency benefits both categories of workers.

Conclusions

We emphasised the role of relative wage rigidities in explaining the differences between the United States and a "typical EU economy". Simulating general equilibrium models does suggest that relative wage rigidities are one of the key institutional features explaining both the changes observed in several EU countries over the last decades and the contrast with the US economy. Our conclusion is thus that to stimulate employment one should change the "institutions" of the labour market so as to allow more (downward) flexibility of wage costs. Simply reducing the generosity of the unemployment benefit system contributes to that objective, but is does so by

Table 2

Policy design, unemployment rate and income inequalities

	u^h	u^l	W^l/w^h	consumption	
				high skill	low skill
50% replacement ratio reduction	–1.3	-10.0	–6.2%	+5.0%	–10.1%
15% low-wage subsidy	–0.4	–6.6	+7.1%	–0.8%	+7.4%
Combining the two policies	–1.5	–12.4	+3.2%	+2.2%	+0.7%

exacerbating income inequality. Combining this policy with wage tax cuts targeted at low-skilled workers amplifies the positive employment effects and avoids the income inequality problem. Such a policy combination can be beneficial for both groups of workers.

Distinguishing two groups of workers (high-skilled and low-skilled), of course, fails to account for the huge heterogeneity observed in actual economies. Designing an optimal policy package is thus not that simple. Our discussion, however, illustrates why unemployment figures alone may be grossly inappropriate policy performance indicators. Labour market reform proposals will be more successfully and efficiently implemented if they benefit the poorest workers as well as the wealthiest.

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Disincentive Effects of Unemployment Benefits on the Paths Out of Unemployment

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John T. Addison**

The role of unemployment insurance (UI) in prolonging unemployment duration is well established. Job search theory informs us that subsidized search will elevate the reservation wage, and an extensive empirical literature has duly confirmed the prediction that this will lead to longer unemployment duration on the part of recipients (see Mortensen 1997; Devine and Kiefer 1991). But the other key prediction when benefits are finite – that the disincentive effects of UI will vary through time, declining with the approach of benefit expiration – has been altogether less subject to empirical scrutiny. Only a handful of studies have allowed for time-varying UI effects, although they clearly reject the constraint that unemployment benefits have the same effect throughout the course of the jobless spell (see Addison and Portugal 2004). Finally, there is no real theoretical recognition of the various exit options available to the unemployed individual and virtually no investigation of whether access to UI affects choice between them.

Our analysis allows the effect of UI to vary through time and also for individuals to exit joblessness via a number of routes. The need to account for a time-varying effect of UI is obvious enough: it provides more information on worker behavior and should thereby assist in the design of policy (with respect to the duration of benefits). The role of destination state is potentially no less important. First, if unemployed individuals attach different utilities to the various alternatives to employment then the effects of the regressors (i.e. the determinants of unemployment such as age or education) may differ markedly across destinations. In the case of UI, an individual drawing benefits in a regime that does not allow them to be paid in conjunction with part-time employment is unlikely to move into such employment prior benefit expiration. Second, the underlying functions describing the pattern of escape rates from unemployment over time to each destination (see below) may differ markedly, in which case observationally-equivalent individuals will differ in the timing of their transitions out of unemployment. For example, unemployed individuals – most likely women – may engage in home production; if they become increasingly more productive in this endeavor (through learning by doing), the opportunity cost of accepting a job offer will rise, leading to higher transition rates into inactivity. The bottom line is that *de facto* aggregation over destination states is likely to cloud the portrait of the unemployment experience of individuals by compounding distinct (even contradictory) influences.

We will therefore pursue an empirical strategy leading to a disaggregated approach. In what follows, we preface a simplified statement of our reduced-form competing risks model with some brief remarks on the unique dataset used here. We then review the empirical evidence, beginning with results from a standard aggregate specification before allowing for time-varying UI effects and different destination states. Several policy implications of our analysis are offered in conclusion.

Our analysis is of the Portuguese labor market, 1992–96. Portugal is of interest because its institutions, including the generosity of its UI system, are mainstream continental European; because its unemployment data are of very high quality; and because its distinct barriers to reemployment might be expected to amplify the impact of UI on joblessness (see Blanchard and Portugal 2001). The five-year sample period was selected because major changes in the employment surveys (e.g. in sampling procedure and definitions of employment, unemployment and inactivity) occurred immediately prior

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to 1992 and after 1997. No material changes were made to the Portuguese UI system over this sample period.

Data and Methodology

Our data are taken from the *Inquérito ao Emprego,* the quarterly, nationally representative Portuguese employment survey. The survey inquires of individuals their current labor market state and elapsed duration in that state. Individuals are interviewed for six quarters and are then rotated out of the sample, allowing us to track unemployed individuals for up to five quarters and identify their transition rates by elapsed duration.

The destination states of previously unemployed individuals can also be identified. As noted earlier, we shall distinguish between four such states, namely, full-time employment, part-time work, "discouragement," and inactivity. We define discouraged workers as those individuals who, although they did not search for work in the prior 30-day interval, nevertheless responded that they would like a job. In all other respects, however, they are identical to the economically inactive.

In addition to providing information on the length of the current unemployment spell in months and the manner in which individuals exit unemployment, the employment surveys also identify whether or not the individual receives unemployment benefits *(BENEFITS)*. As a practical matter, recipients comprise not just those receiving "regular" or "full" benefits but also recipients of "unemployment assistance" which is a lower form of benefits. Since the surveys do not distinguish between the two types of benefits – let us call them *UI PROPER* and *ASSISTANCE* – neither will the preponderance of our analysis. However, we can offer a rough delineation based on the individual's tenure on the last job, and we will provide tentative (aggregative) estimates of the disincentive effects of the two types of benefits.[1]

The bulk of our analysis will instead focus on the *BENEFITS* variable and also on an imputed measure of time to benefit exhaustion we call *TIMEEX*.

As noted, *BENEFITS* simply capture whether or not the individual receives unemployment benefits, as reported in the survey. We can calculate *TIMEEX* because maximum benefit duration in Portugal is purely age determined. (It is 10 months for those aged less than 25 years, rising in roughly three-month intervals for each incremental five years of age to 30 months at age 55 years.) We calculate these remaining weeks of benefit entitlement as imputed maximum duration based on the individual's age less his or her reported elapsed duration, employing the simplifying assumption that all benefit recipients are entitled to regular of full *UI* benefits. Aggregate and disaggregate results for each UI measure are provided. Further, we allow the effect of *BENEFITS* to vary with elapsed duration and for non-linearities in the effect of *TIMEEX*.

In addition to data on elapsed unemployment duration, benefit status, destination state, age and tenure on the last job, the survey also contains information on worker disability, the number of jobs held, whether or not the individual is a new entrant, broad occupational status, reason for job loss, and region of residence, inter al. The sole restrictions placed on the data were that, at the time of the survey, the individual be unemployed, aged between 16 and 64 years, and resident in mainland Portugal. The final sample was 15,734.

Our empirical analysis is conducted within the general framework of job search theory. Possessing imperfect information as to the wage offer distribution, job searchers devise an optimal strategy *ex ante* that involves their accepting any wage offer above a given threshold: the reservation wage. This crucial variable is determined as a function of the key parameters of the wage offer distribution, the expected arrival rate of job offers, search costs, and of course unemployment insurance benefits. Most relevantly for present purposes, the search model predicts an unambiguously positive relationship between the mean duration of unemployment and the generosity of benefits, as indexed by their maximum potential duration and the fraction of net earnings that they replace.

We shall estimate a reduced form version of the job search model. In particular, we specify a simple log-linear regression equation relating the (log) hazard rate of exiting unemployment to a number of relevant covariates. The hazard function indicates the probability of moving out of unemployment at a

[1] Individuals have to have been employed for at least 18 (six) months during the two years prior to the unemployment event to draw full benefits (social assistance). Thus, we can with imprecision classify a worker as eligible for *UI PROPER (ASSISTANCE)* if he or she is a recipient and had at least 18 (between six and 18) months tenure on the last job.

given time, conditional on having been unemployed up until that point. In the interests of flexibility, the time axis is divided into 11 intervals and we assume that the hazard rate is constant within each interval, yielding what is known as a "piecewise-constant hazard function." Given the functional form employed, the role of the regressors is to shift proportionally the (baseline) hazard function either up or down, which is why this model is called a proportional hazards model. The baseline hazard function simply depicts the hazard function when the covariates are zero; typically, as in this case, non-categorical variables are defined as their deviation from the sample means.

Table 1
Estimated Piecewise-Constant Hazards Regression, Aggregate Model

Variable	Coefficient Estimate
BENEFITS	– 0,291
=1 if received unemployment benefits, 0 otherwise	(0,048)
MALE	0,079
=1 if male, 0 otherwise	(0.038)
AGE	– 0,010
age in years	(0,002)
SCHOOL	0,019
years of schooling completed	(0,006)
TENURE	– 0,011
years of tenure on previous job	(0,004)
JOBS	0,012
number of previous jobs	(0,003)
WHITE COLLAR	– 0,115
=1 if white-collar employee, 0 otherwise	(0,057)
MARRIED	0,032
=1 if married, 0 otherwise	(0,047)
DISABILITY	– 0,487
=1 if disabled, 0 otherwise	(0,220)
FIRSTJOB	– 0,178
=1 if looking for first job, 0 otherwise	(0,062)
LAYOFF	– 0,014
=1 if job lost by reason of mass layoff, 0 otherwise	(0,066)
ENDFT	0,082
=1 if job lost through termination of a fixed-term contract, O otherwise	(0,047)
YEAR DUMMIES	yes
REGIONAL DUMMIES	yes
Log-likelihood	– 7465,312

Asymptotic standard errors in parenthesis.
Notes: The pattern of the four year dummies confirmed that flows out of unemployment are procyclical, while the four regional dummies are indicative of the strong persistence in Portuguese regional unemployment differentials

Older, longer-serving or disabled persons have higher jobless duration

We referred earlier to the stock sampling nature of the *Inquérito ao Emprego*. It follows that the construction of the likelihood function has to account for the incomplete spells of unemployment and the over-representation of long durations implied by this sampling plan, namely, observation over a fixed-interval.

In order to study the four distinct ways of exiting unemployment – full-time employment, part-time employment, discouragement, and inactivity – we made the simplest and most conventional assumption of independent competing risks. Although this assumption does require that innovations (errors) across exit modes are uncorrelated, it greatly simplifies estimation because each destination-specific hazard model can be estimated separately, simply treating exits into other modes as right-censored spells.

Findings

Results of estimating the piecewise-constant hazards model are given in Table 1. Recall that the coefficient estimates show the effect of the regressors in shifting the baseline hazard up or down. It can be seen that workers in receipt of UI benefits are 25.2 percent [viz. $(\exp^{-0.291} - 1)$] less likely to escape unemployment than their non-recipient counterparts. Most of the other determinants of escape rates behave in an expected manner. For example, older *(AGE)* and longer-serving *(TENURE)* workers and disabled individuals *(DISABILITY)* have lower escape rates/higher jobless duration. Age and tenure may be expected to lower escape rates by elevating reservation wages, although the main effect of age is probably via a reduced arrival rate of job offers an effect which presumably dominates in the case of disability as well. The positive effects of greater education *(SCHOOL)* and marital status *(MARRIED)* are also quite conventional – reflecting an improved wage offer distribution/better search efficiency and higher opportunity cost considerations, respectively – even if the effect of marriage is imprecisely estimated here. Three variables proxy labor market

knowledge/search efficiency: number of past jobs *(JOBS)* and job loss by reason of termination of a fixed-term contract *(ENDFT)* directly, and recent labor market entry *(FIRSTJOB)* inversely. And their opposing and generally well determined effects again accord with search-theoretic priors.

Summary results for alternative representations of UI are considered in columns (2) through (5) in Table 2, although the regression specification is otherwise unchanged. The entry in the first column simply carries over the coefficient estimate for *BENEFITS* from Table 1. The next column substitutes two measures of UI for this single *BENEFITS* measure: regular or full UI benefits *(UI PROPER)* on the one hand, and the second-order benefit of social assistance *(ASSISTANCE)* on the other. As noted, each is imputed using information on the recipient's tenure on the last job. It can be seen that access to regular benefits depresses escape rates by 34.5 percent as compared with 26.7 percent in the case of social assistance. Replacement rates explain why imputed receipt of regular benefits is stronger in absolute terms than reported benefit receipt, but observe that the differential is not large.

In the third column of the table are the results for *TIMEEX*, namely, time to benefit exhaustion. Consistent with search theory, escape rates are lower, the further away is the (mainstream) benefit recipient from benefit exhaustion. Specifically, escape rates decline by 2.6 percent for each remaining month of unemployment benefits. Evidently, this variable improves our understanding of the effects

Table 2
Summary Results of the Effect of Unemployment Benefits on Transitions Out of Unemployment, Aggregate Model

	Specification				
Variable	(1)	(2)	(3)	(4)	(5)
BENEFITS	– 0,291 (0,048)				
UI PROPER		– 0,423 (0,005)			
ASSISTANCE		– 0,311 (0,091)			
TIMEEX			– 0,026 (0,004)		
Recipient Elapsed Duration					
1–6 months				– 0,388 (0,062)	
7–12 months				– 0,253 (0,088)	
13–18 months				– 0,272 (0,140)	
19 months or more				– 0,060 (0,118)	
Recipient Time to Exhaustion					
1–2 months					– 0,034 (0,169)
3–5 months					– 0,296 (0,118)
6–11 months					– 0,414 (0,073)
12–17 months					– 0,479 (0,094)
18–23 months					– 0,392 (0,112)
24 months or more					– 0,336 (0,160)
Log-likelihood	– 7465,3	– 7458,1	– 7460,6	– 7459,5	– 7452,3

Asymptotic standard errors in parenthesis.
Note: The full array of covariates is given in Table 1.

The longer the time to benefit exhaustion, the lower the escape rates from unemployment

Table 3
Summary Results of the Effect of Unemployment Benefits on Transitions Out of Unemployment by Destination State

	Transition to:			
Variable	*Full-time Employment*	*Part-time Employment*	*Discouragement*	*Inactivity*
BENEFITS	– 0,130 (0,055)	– 1,533 (0,025)	– 0,324 (0,143)	– 0,511 (0,156)
Log-likelihood	– 5905,8	– 1096,3	– 1576,8	– 1628,4
TIMEEX	– 0,013 (0,004)	– 0,118 (0,118)	– 0,035 (0,012)	– 0,044 (0,013)
Log-likelihood	– 5904	– 1102,7	– 1574,5	– 1627,6
Asymptotic errors in parenthesis. *Note*: The full array of covariates is given in Table 1.				

of UI on joblessness since we are not simply contrasting the behavior of benefit recipients with non-recipients but also examining the behavior of recipients through time.

The last two columns of Table 2 respectively allow the effect of benefit receipt to vary with elapsed duration of joblessness and allow for non-linearities in the effects of the time to exhaustion of benefits measure. In the former case, introducing time-varying effects improves the estimate but mainly points to the persistence of the disincentive effect. In the case of the modified *TIMEEX* variable the results are sharper. If there are just under 18 months of remaining entitlement, the recipient is 38 percent less likely than his uninsured counterpart to escape from unemployment. Twelve months closer to exhaustion this value falls to 26 percent, and with just two months to go it is only 3 percent.

Benefit recipients are less likely to enter part-time employment

We can now report the results of distinguishing between destination states. Table 3 provides summary results for the main UI measures as before, namely, *BENEFITS* and *TIMEEX*. The coefficient estimates given in the table inform us as to how UI affects the probability of entering any one of four destination states, namely, full-time employment, part-time work, discouragement, and inactivity. (Some results for the other regressors are footnoted below.) Beginning with *BENEFITS*, although disincentive effects of UI are found across all destination states, they are striking for part-time employment. Benefit recipients are 4.6 times less likely than their non-recipient counterparts to enter part-time employment. This result is not surprising: insured workers have reservation wages that typically exceed the part-time wage. Disincentive effects are somewhat strong for inactivity. This result is also not unexpected: if some insured individuals plan from the outset to exit the labor force, it makes sense for them to claim that they are looking for work, as required by the UI rules, at least up to benefit exhaustion.[2]

The second row of Table 3 gives results for *TIMEEX*, the time to exhaustion of benefits measure. It provides a very similar description of the role of UI. Thus, disincentive effects are again observed for all transitions and the pattern of coefficient estimates closely tracks that established earlier for *BENEFITS*. But the substitution of *TIMEEX* for *BENEFITS* yields a modest improvement in the fit of the model.

Allowing for time-varying effects/non-linearities results in further improvement. To facilitate exposition we simply graph the effects and this time just for our preferred representation of UI, namely, the modified time to exhaustion of benefits measure. Figure 1 expresses the percentage changes in transition rates of insured recipients over the relevant entitlement period, where non-recipients are the benchmark. As is readily apparent, the effects of UI are strongly negative throughout but still well differentiated. In the case of the two most frequent transitions (full-time employment and inactivity), it is clear that escape rates increase sizably just prior to the expiration of benefits; for the other destinations, the disincentive effects benefits persist up to very end.

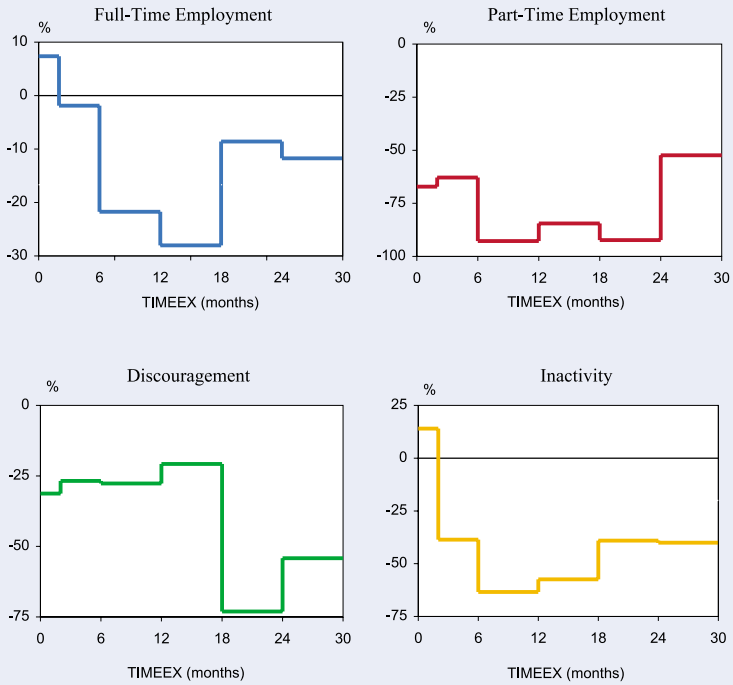
The baseline hazard functions for each of the four destination states are given in Figure 2. As before,

[2] The effects of the other variables also vary by destination state. We find that discouragement is a relatively unlikely destination state for males; that older workers are less likely to move into full-time employment than their younger counterparts but, unlike longer-tenured workers, not more prone to be discouraged; that better educated individuals are more likely to move into full-time employment and disabled workers more likely to enter part-time employment; and that those looking for their first job are much less likely to locate full-time jobs and much more likely to end up discouraged or inactive than other job seekers.

the specification is for *TIMEEX*. The results are interesting. First, transitions into full-time employment point to a near continuous decline in escape rates with rising jobless duration. This negative duration dependence can be produced by human capital depreciation and stigmatization. To the extent that the unemployment pool is increasingly made up of less employable workers due to unobserved factors, the phenomenon may also be generated by unobserved individual heterogeneity, although there is no straightforward way of dealing with this issue.[3] Second, the baseline hazard for part-time employment is U-shaped. This configuration is consistent with there being two distinct types of transitions: individuals desiring part-time employment from the outset manage to locate such jobs rather rapidly, while others less enamored of part-time work reluctantly take it after unsuccessful search for a preferred full-time job. Third, the baseline hazard for the destination we characterize as discouragement, if anything, shows some modest upward trajectory. In this sense, discouraged workers appear to fit the stereotype. Fourth, the path taken by transitions into inactivity is clearly decreasing in jobless duration. The suggestion may be that some individuals optimally seek inactivity. The suggestion is not rejection of the notion that inactivity is an end state realized after all else has been tried precisely because we formally take account of discouragement. Had we instead used a composite inactivity destination state the baseline hazard would have been U-shaped.

Figure 1

RELATIVE EFFECTS OF TIME TO EXHAUSTION ON ESCAPE RATES BY GROUPED INTERVALS



In the case of full-time employment and inactivity, excape rates rise sizably just prior to benefit exhaustion

Figure 2

BASELINE HAZARD FUNCTIONS BY DESTINATION STATE

The baseline hazard for part-time employment is U-shaped

[3] Accounting for unobserved individual heterogeneity – stemming from omitted variables, measurement error, etc. – would seriously complicate the estimation procedure without offering any prospect of materially altering our results for either regression coefficients or the parameters of the baseline hazard (see Portugal and Addison, 2003).

In summary, we have found that UI is a disincentive that operates across all destination states. Further, UI influences the choice of destination state by slowing the transitions at different rates across destinations. The disincentive effect is strongest for part-time work followed by inactivity, and discouragement. Accordingly, it is weakest for full-time employment.

Conclusions

We have analyzed the effects of UI benefits on escape rates from joblessness/unemployment duration in Portugal. Portugal is typical of EU countries in having generous unemployment benefits, particularly with respect to their duration. It is atypical in having a stricter system of employment protection as well, which should serve to amplify the effects of UI on joblessness. Strong disincentive effects of UI were duly reported.

The novelty of our analysis resides in its use of time-varying effects of UI in conjunction with a set of four destination states, namely, full-time employment, part-time employment, discouragement, and inactivity/labor force withdrawal. The importance of the destination state is that it accommodates potentially different search strategies on the part of unemployed workers. Failure to differentiate between types of transition out of unemployment may be expected to compound heterogeneous effects and impart bias to estimates of the impact of UI on unemployment duration. Estimates of our reduced form, competing risks model confirmed that one cannot assume common regression coefficients across destination states. The use of an aggregate approach was demonstrated to compound distinct effects of the covariates – at times contradictory influences in the case of certain non-UI regressors.

One conclusion: Duration of unemployment benefits should be shortened

In investigating the effects of our two main benefit measures – receipt of benefits and time to exhaustion of benefits – strong and differentiated disincentive effects were observed across all destination states. (The same was also true for the time-dependent variants of these UI measures.) The disincentive effects were strongest for part-time employment and smallest in the case of full-time employment.

From the perspective of policy, and given the failure of longer unemployment duration to translate into higher subsequent earnings, the inescapable conclusion is that the duration of benefits be shortened – even if this policy shift has to be accompanied by increased outlays for other measures such as job search assistance. We do not make recommendations in respect of replacement rates for the obvious reason that our data do not provide such information. However, given the fairly modest difference in disincentive effects observed for eligibility for full benefits *(IU PROPER)* on the one hand and social assistance *(ASSISTANCE)* on the other, we would speculate that changes in the rules governing duration would have much the bigger bang per Euro.

Finally, there is at least a modestly optimistic note on which to end. As we have seen, huge disincentive effects of UI were obtained for the destination state of part-time employment. One obvious policy implication here is that workers should be allowed to draw benefits for some period after they make the transition into part-time jobs. In 1999, the Portuguese government obliged and revised the rules of the UI system so as to permit this very option.

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Wage Norms in Europe – A Curse or Blessing?

Torben M. Andersen*

How does economic integration affect the labour markets?

The characteristics of European labour markets are centre stage to many policy issues. Structural problems causing impediments in the adjustment process are widely perceived to be a key reason for persistent unemployment problems in a number of European countries. Furthermore, the formation of the European Monetary Union is often taken to put further demands on the flexibility of wages to compensate for lack of (national) instruments to deal with country specific shocks. In the absence of sufficient flexibility it follows that asymmetries and differences in labour market performance across European countries may not only persist but increase. However, labour market structures and institutions may adapt as a response to the integration process, and therefore it is necessary to evaluate the mechanisms through which labour markets could be affected by integration before any conclusions on the need for structural labour market reforms can be made.

The process of wage formation in Europe is affected by integration through two main mechanisms. First, the ongoing integration process, in particular of financial and product markets, implies that production and thus employment can be more easily relocated across countries and thus labour markets. This occurs via changes in market shares and relocation of production via outsourcing, foreign direct investment etc.. The effects of product market integration on labour markets can roughly be summarized as implying that the elasticity of employment with respect to wages increases. Accordingly, wage setters face a steeper trade-off between wages and employment, and this would in general tend to induce wage moderation. This may have beneficial effects on the level of employment, and therefore it is often hypothesized that product market integration is like a structural reform making labour markets more flexible. More sensitivity of employment to relative wages also means that wage interdependencies become stronger, that is, the consequences of having wage developments out of line with that of competitors become more severe.

Second, the common monetary policy implies that an increased adjustment burden is put on wages to cope with asymmetric or country specific shocks; not least in cases where no leverage is left for fiscal policy. Much focus in the debate has therefore been on the need to ensure that wage formation is consistent with the inflation target pursued by the European Central Bank.

It is therefore quite common to encounter statements to the effect that the key issue is to have wage developments in Europe be in accordance with the monetary policy objective of low and stable inflation. This is, however, a very imprecise yardstick by which to evaluate the importance of labour market structures. First, to the extent that the monetary policy objective is pursued rigorously, the issue is not to make wage development consistent with low and stable inflation, but rather at what level of unemployment wage formation is consistent with the inflation target. Second, informal coordination on wage setting via e.g. strong norm building in wage setting (like the formula or norm calling for wage increases to equal inflation plus productivity growth) may be detrimental to more smoothly working labour markets, since it reinforces wage interdependencies in wage setting and therefore leads to large sensitivity of employment to country-specific or asymmetric shocks. Such norms may thus be conducive to nominal convergence but come at the cost of less real convergence.

The development in the level and dispersion (measured by its standard deviation) of aggregate nominal wage increases for all EU-countries (except Portugal) for the period 1971 to 2001 is given in the Figure.

It can be seen that average nominal wage increases have come down, particularly in the 1990s during the

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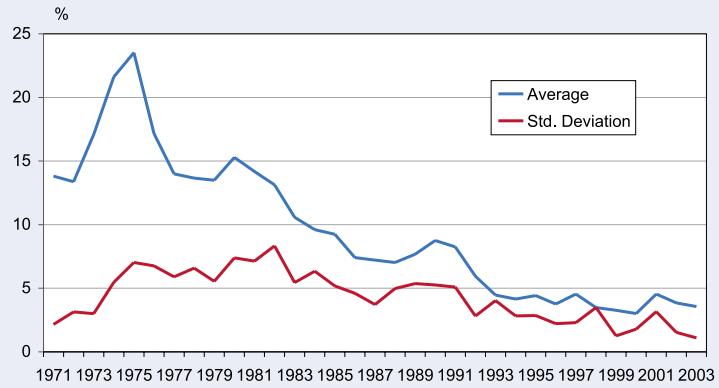
LEVEL AND DISPERSION OF AGGREGATE NOMINAL WAGE INCREASES IN THE EU



Source: Eurostat.

preparation phase up to and after the establishment of the European Monetary Union. Nominal wage increases have thus fairly quickly adapted to the low inflation environment, which may be taken as a sign that this process quickly established credibility. The dispersion in wage increases has also been reduced over this period, partly reflecting the lower average level of nominal wage increases

Wage formation has adapted to a low inflation environment

Looking at recent developments, there are reasons for concern. Although wage formation has adapted fairly smoothly to the new monetary regime in the sense of more moderate nominal wage increases and less dispersion in nominal wage increases among member countries, there is a risk that nominal convergence is achieved at the cost of real divergence. This is suggested by the fact that the dispersion in wage increases across European countries does not seem to reflect that business cycles are asymmetric. If so, one should expect to find a positive relationship between the dispersion of e.g. GDP growth rates and the dispersion of nominal wage changes. However, the correlation between nominal wage changes and GDP growth is falling, since the correlation was 0.74 over the period 1971–80, 0.62 over the period 1981–1990 and 0.56 over the period 1991–2002. This suggests that nominal wage changes to a lesser extent than previously reflect differences in business cycle developments.

Accordingly, the empirical evidence suggests that there has been some strengthening of wage interdependencies with some convergence of nominal wage increases across European countries, but also that wages to a lesser extent respond to domestic labour market conditions, that is, the nominal convergence does not necessarily reflect real convergence.

Wage formation in European countries remains largely a national matter. Although there are theoretical arguments that the incentive for unions to cooperate across borders increases with further integration, no formal cooperation has been seen. However, the importance of the "European" element in wage formation, that is, the increased focus on competitiveness following from intensified integration, is visible in all EU labour markets. In various countries a "European norm" has played either an explicit or an implicit role in wage formation. An interesting example is the Belgian "law on competitiveness" of 1996 which explicitly linked wage increases to wage increases of its main competitors (Germany, the Netherlands and France). This prompted the so-called "Doorn initiative", which involves unions in Germany, France, Belgium, the Netherlands and Luxembourg. The "Doorn initiative" is not an attempt at establishing transnational wage bargaining, but rather an initiative which, through exchange of information and peer pressure, aims at avoiding a process of "competitive" wage cuts, or competition between different national collective bargaining systems. The initiative has launched a "wage coordination formula" which defines the scope for nominal wage increases as the sum of inflation and productivity growth. The intention is to have a norm "protecting" the labour share, and to ensure a level playing field to avoid undercutting. In recent years the norm has also been interpreted more flexibly to take into account qualitative aspects like work environment, flexible working hours, training etc.

Thus more focus has been put on wage norms, and in some cases there are even explicit recommendations that wages should be set according to such norms to protect the "wage share". The appealing idea underlying this is that there is room for wage increases equal to the sum of productivity increases and inflation. While this may sound appealing, there are several caveats attached to these norms, and widespread adoption of these norms may therefore be problematic.

In the first place, application of the norm is not trivial. What measure of productivity or inflation to use? Is it observed or expected values which should be incorporated in the norm? Is it firm-specific, nation-

al or European-wide measures which should be applied?

The wage norm tends to have a self-fulfilling property for a very basic reason. At any given wage, firms will tend to adjust the workforce to match the value of the productivity (marginal product) of labour. Hence if wages are set at a high level, the ex-post observed productivity would be high since firms had to adapt to wages, and therefore the norm would seem vindicated. The point is, of course, that it is uninteresting whether the wage norm is met, unless it is seen relative to the level of employment.

Widespread application of the wage norm will also strengthen wage interdependencies in Europe in the sense that wage formation would tend to be more alike if the same measures of productivity and inflation are applied. In particular the latter is likely to the extent that the inflation target of the ECB is credible. This may thus imply that it in some sense becomes easier to attain the inflation target. However, it is problematic since it also implies that wage formation in local or national labour markets comes to depend less on local conditions and more on aggregate or currency-wide conditions. This implies that wages would take less of a burden in adjusting to asymmetric or country specific shocks and therefore more of a burden would necessarily fall on employment and output. Therefore nominal convergence may come at the cost of increased real divergence. This is an example of wage formation in contrast to the usual condition for a currency union that nominal wages should be more flexible.

There is no such thing as a common wage norm which can be applied across European countries. To ensure sufficient adaptability wages have to adjust to local conditions.

Are European Labor Markets as Awful as All That?

Richard B. Freeman*

"It's the job market, stupid."[1]

Few European institutions have had the bad press given to the labor market. The standard explanation of why advanced Europe has generated less work per adult than the United States is that something is seriously amiss with EU labor markets. Labor institutions are inflexible. Institutional wage interventions have reduced incentives. Social benefits are too high. Employment protection legislation is too strong. Mobility is too low. If only the EU could magically transform its labor market into ... the US market, it could do so much better.

EU labor markets are bad, but better than their reputation

Why the EU might be able to mimic the US record of ... three decades of declining real wages for average workers ... third world levels of inequality ... a jobless recovery in the early 2000s ... declining provision of health insurance for workers ... short vacations and increasing hours worked ... full-time employment by mothers with children less than one year old ...

Yes, EU labor markets suck compared to the perfect Invisible Hand market of economic theory. But so, too, does the US labor market. The EU labor market fails on the quantity side of the market in the volume of employment created for those who seek work. The US labor market fails on the price side of the market in the pay for those who work and economic security for those who do not.

Like virtually every other economic institution created by humankind, labor markets are imperfect. Whether labor markets are more or less imperfect than, say financial markets, with their excessive volatility of share prices, panics and manias etc; or than international trade and capital markets, with their sluggish response of prices to exchange rates, currency crises, wild flights of private capital, etc is debatable.

The theme of this piece is simple. Compared to an ideal competitive market, EU labor markets fall seriously short, but compared to labor markets in the United States and to other markets in advanced capitalist countries, EU labor markets do not live up to their awful press. EU labor markets can be improved, but so, too, can financial markets, corporate governance, business regulation, conditions for the formation of new businesses and bankruptcy laws, the efficiency of the EU Commission, and the operation of the EU Central Bank. The variety of labor market institutions among EU countries, moreover, reveals a much richer picture of performance and diversity than the blanket condemnation of inflexibility suggests.

I make my case in four propositions, with supporting evidence. My comparisons are with the actual labor market in the United States and with other real world markets, not with the economists' dream ideal competitive markets. I review briefly the evidence that labor markets in the EU have performed worse on the quantity side of the market but better on the price or wage side of the market than the US labor market, then consider the extent to which differences in outcomes are attributable to differences in the performance of labor markets .

Differing labor market outcomes

Until the 1970s, EU countries had lower unemployment rates than the US and similar or higher hours of work. Productivity growth exceeded that in the United States as Europe recovered from World War II. EU countries managed this performance with a set of labor and social welfare state institutions that included significant reliance on

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[1] This paraphrases, "it's the economy, stupid" that Clinton used to focus his first campaign. The parallel phrase "it's the stupid economists" is associated with the Bush administration.

collective bargaining and administrative determination of labor market outcomes. One of my European friends used to say that during this period, he could never lecture on the virtue of competitive labor markets without feeling as if he was talking theology.

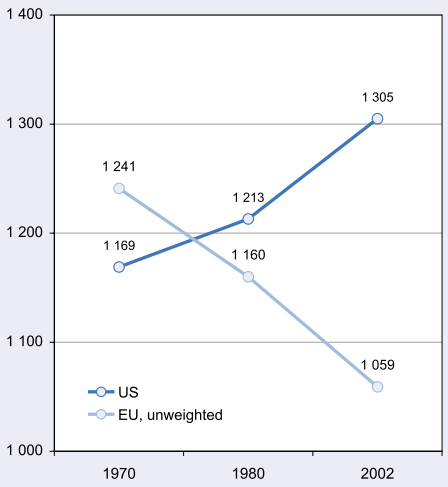
Employment to Population rates, EU vs US, 2002, by education for persons aged 25 to 34 and for persons 15 to 24 and 55 to 64

	Men			Women		
	EU	US	Gap	EU	US	Gap
All, aged 15 to 64	72.9	78.0	–5.1	55.7	66.1	–10.7
15 to 24	43.7	57.1	–13.4	37.2	54.3	–17.1
25 to 54	86.7	86.6	0.1	67.3	72.3	–5.0
55 to 64	50.5	66.3	–15.8	31.0	53.2	–22.2
Aged 25 to 64						
Less than 2ndary	71.0	69.8	1.2	40.5	47.1	–6.6
2ndary	81.7	82.1	–0.4	66.8	70.6	–3.8
Tertiary	88.3	89.9	–1.6	79.8	79.1	0.7

Source: OECD, *Employment Outlook*, 2003, tables B, C and D.

In the past three decades, there is no theology in arguing the virtue of competitive labor markets in generating employment. The facts are clear. Employment-population rates in the United States, with its less regulated and institutionalized labor market, rose compared to employment-population rates in the EU. The rate of unemployment in the EU has exceeded the rate in the United States for over a decade, while hours worked in the EU fell sharply relative to US levels. The figure below shows the rising divergence in hours worked per adult in the United States and the EU from 1970 to the present. In 2002, American adults averaged 20 percent more hours worked over the year than Europeans. About half of the divergence comes in the form of higher employment-population rates in the United States and about half in the form of greater hours worked per employee, with much of that associated with the smaller vacation time that Americans have compared to Europeans.

ANNUAL HOURS WORKED, US AND EU



Source: Freeman and Schettkat (2004), Table1.

Labor utilization differs among demographic groups. As the table shows, there are no differences between the EU and United States in employment rates for men aged 25 to 54. The differences are among younger and older men and among women. In part, the difference among younger persons reflects the greater tendency for US students to work part-time or over summers compared to European students, but in part it also reflects the lengthy time it takes to obtain a first job in the EU. Among older persons, the difference is associated with early retirement, which has grown more rapidly in the EU than in the United States. The sizable difference in employment rates among women is mirrored by a large difference in hours worked, as American women, including those with young children, tend to work full time compared to European women.

Differences in labor utilization rates exist among younger and older men and among women

Ronald Schettkat and I have shown that much of the difference in women working has to do with the differential marketization of household work in the United States and in the EU. US families rely on the market for the production of many traditional household activities, such as child care, preparation of food, and house-cleaning to a greater extent than Europeans. European women report many more hours of household work than American men. German women, in particular, work almost identical hours to American women, only they do more of their work in the household (Freeman and Schettkat 2001 and 2004).

Would the EU be better off if it had higher market employment? If one puts any stock in responses of not employed persons to questions about job search, the answer is yes. Would the EU be better off if it had longer working hours and limited vacations? If one

puts any stock in the responses of Europeans to questions about time worked[2], the answer is no.

On the price side, the situation looks quite different. Real wages in the EU have risen for virtually all workers in the past thirty years while they have stagnated or fallen for large numbers of American workers. The particulars of change for the Americans depends on the survey, the measure of earnings, the quality of the price deflator used to turn nominal pay into real earnings and the like, but there is no gainsaying that employed Americans have not enjoyed the fruits of economic growth to the extent that employed Europeans have.

Equally striking, EU labor markets have produced markedly lower dispersion of pay than the US labor market. The lower level of dispersion cannot, moreover, be attributed to the greater variation in skills among Americans than Europeans. This is most clearly seen in the 1998 International Adult Literacy Test (IALS) that the OECD organized across major OECD countries. The IALS gave adults in the countries the same exam in their native language. Americans had a wider dispersion in exam scores than did Europeans, in part because of a sizable number of immigrants, many of whom spoke Spanish rather than English. The surveys in some countries, including the United States, Sweden, the Netherlands, and Germany, also gave the earnings of workers. Consistent with other data sets, these data show that within narrowly defined skill groups, Americans have a much wider dispersion of earnings than the Europeans. Most amazing, however, is the fact that the dispersion of earnings among Americas with effectively the same level of measured skill exceeded the dispersion of earnings among **all** workers in the European countries.[3]

Union density and collective bargaining coverage are major differences in labor market institutions

Does the lower dispersion of earnings of persons with similar measured skills in the EU than in the United States imply that EU labor markets have excessively narrowed the wage distribution or is it a sign of a failure of the "law of one price" in the US labor market? In the United States there are large differences in the earnings of seemingly similar workers across firms or establishments. Workers earn more and gain larger increases in pay in more profitable firms or sectors. One interpretation of this is that there are huge differences in unobserved skills among workers that the US job market rewards but which EU job markets suppress. The other interpretation is that the EU job market comes closer to the competitive ideal of a single price whereas the US job market fails to reduce the effects of random luck, economic rents, discrimination, etc. to the levels of the Invisible Hand ideal. However one comes down on this (since the issue hinges on unobserved skills, it is difficult to get a scientific consensus) you can this to the bank: the dispersion of wages in the EU falls markedly below the dispersion of wages in the US.

Yes, labor market institutions differ

Anyone who works or employs workers in the EU and in the United States quickly realizes that there are great similarities and striking differences in the way labor market institutions operate in the two settings. The similarities are that the EU and the United States operate under the rule of law, with substantial regulations of employers, freedom of association, and so on. The differences are also substantial. Union density is higher in the EU, and even more important, collective bargaining coverage is far higher than density in the EU because many EU countries have mandated extension of collective contracts. Over 75 percent of workers were covered by collective contracts in EU countries compared to 14 percent in the United States.

Perhaps the greatest indication of the difference between EU and US markets is that the phrase "social partner", which the EU uses to describe the management and unions who deal regularly on economic issues, has no counterpart in the United States. Mention social partner to Americans and people think of square dancing in Texas, not business and labor. There are no regular forums in which business and labor meet to discuss national problems. When the two sides get together, it is more likely to push for protectionist legislation, as in steel, than to seek agreement about national problems.

The institutional differences between the United States and the EU countries can be measured in various ways. The World Economic Forum's *2002–2003 Global Competiveness Report* asked business persons four questions on labor practices in the US and

[2] European Foundation for the Improvement of Living and Work Conditions, *Working Time Preferences in Sixteen European Countries 2003*, www.eurofound.eu.int/publications/files/EF0207EN.pdf

[3] The average standard deviation of log earnings of Americans who scored within four points of each other was 0.79 compared to a standard deviation of log earnings of 0.68 for the EU countries. See Devroye and Freeman (2001), Figure 3.

EU countries that illustrate the differences. On the question of whether wages in your country are set by collective bargaining or were up to individual companies, the United States scored 3rd out of 80 countries in having wages set by companies compared to a 79th score for Germany, 78th for Finland, 76th for Ireland, with other EU countries save for the UK also scoring low on company and high on collective bargaining. On a question about regulation of hiring and firing, the United States scored 3rd in having decisions determined by employers compared to "impeded by regulations", Germany was 79th, France 76th and again most other EU countries save for the UK were rated as high in regulation. There was somewhat greater variability in responses on relation of pay and productivity, though again the United States was rated highly (2nd) compared to 44th for Germany. Thus, in all of these measures the United States was closer to the free market ideal. But many EU countries scored higher than the United States in cooperation in labor management relations. Here Germany was 20th in terms of cooperative, the United States 21st, and Denmark was 3rd, Austria 4th, Sweden 6th. Italy and France rated very low.

At the workplace, the EU has the Social Charter, which provides for works councils in which elected representatives of workers confer with management over workplace issues. This institution is largely outlawed in the United States as a company union. The EU also has stronger employment protection legislation than the United States, which gives European workers greater ownership of their jobs. In the United States, the employer owns the job to the extent that the employer can bring in permanent replacements for striking employees. The one area where US employment laws are more stringent than EU laws is in the option for court suits, which has led some US firms to insist that workers agree to forego their legal rights to going to court in favor of going to a company appointed arbitrator.

In short, the EU relies more on institutional wage setting and employment regulations than does the United States. Whether these institutions greatly affect the employment and wage differences noted above is by no means clear. Cantillon told the story of the rooster that cries cock-a-doodle-doo every morning before the sun rises and believes that its crying rouses the sun. Social partners may meet and talk and talk and meet but markets place great constraints on economic decisions. Much of what social partners do may be more rooster rhetoric and show than reality. The link between institutions and outcomes requires empirical analysis.

So what is the effect of EU labor market institutions?

It may seem obvious to critics of EU job markets that EU labor market institutions are the main cause of employment problems. The argument has two parts:

more institutionalized markets –> lower wage dispersion/higher costs of employment for low-skilled workers
wage/cost interventions –> lower employment rates.

The evidence that EU wage setting institutions are a major cause of lower wage dispersion seems fairly strong. Unions invariably seek to reduce wage differentials among similarly situated workers (outside of professional sports and entertainment) and reduce managerial discretion in pay-setting. Unions invariably seek to raise the pay of lower paid workers compared to higher paid workers. No one has come up with an alternative explanation for the lower dispersion of pay in the EU than in the United States.

Institutional pay setting is a major reason for lower wage dispersion

It is less clear that EU institutions raise the cost of hiring workers relative to the cost in the United States, though this is certainly plausible. On the one side, because the United States lacks national health insurance, employers pay health insurance for permanent workers, which creates an incentive to outsource work or favor additional hours to additional workers. By contrast, health costs are covered by national taxes in EU countries. But EU employment protection legislation increases the cost of hiring workers by raising the cost of firing. It is more expensive to hire and to fire, with uncertain effects on overall employment, though with a definite impact on the distribution of employment between those initially holding jobs (the 25 to 54 year old men in the table above) versus other groups. On net, the effect on employment may be negative, but neither the economic arguments nor the evidence are definitive.

The argument that has not fared well is that lower wage dispersion/higher costs of employment of low-skilled workers leads to lower employment rates.

The 1994 OECD Jobs Study made an evidentiary case that wage interventions and inflexible institutions were at the heart of EU employment problems. The evidence on which the OECD relied was largely time series or cross country comparisons based on limited observations and imperfect measures. In ensuing years the evidence has proven to be non-robust. Add a few years, change the definition or model specification modestly and poof! it vanishes in a cloud of a large standard error.[4]

If you have strong priors, you can still hold to the Jobs Study view of the world, but your belief is just that – a belief based on priors rather than evidence. American economists, aware that growth of employment and hours in the United States has been concentrated among highly educated workers and among women workers, whose wages rose relative to others, have always found it hard to believe that wage compression at the bottom of the income distribution lay at the heart of EU jobs problems. The barely discernible impact that US minimum wages has had on employment reinforces this suspicion.

When the United States produced relatively more college graduates per young person than EU countries, it was plausible to argue that the EU labor market was not giving young people enough inentive to invest in higher education, with adverse effects on human capital investment. This in turn could have contributed to the lower employment rate in the EU due to the historically higher rates of employment among the more educated. But without US levels of earnings dispersion and college/high school wage differentials, EU countries have greatly increased the proportion of young persons going to university. Perhaps most important as an indicator of the future, in 1999 the EU produced more PhDs in science and engineering that did the United States – for the first time since before World War II.

There is no good evidence that wage interventions and inflexible institutions cause the EU employment problems

If a badly functioning EU labor market is not the prime cause of the EU-US employment gap, what is? If I knew for certain I would rush to Frankfurt or Brussels or Berlin or Paris, or wherever the key decisions are made and shout the answer at officialdom until they cured matters. My surmise is that a series of major institutional changes and policy errors – ranging from the unification of Germany at economically indefensible wage and currency valuations, to the currency union without accompanying institutional changes to conservative monetary policy lies at the heart of the problem. Imagine if the United States and the EU had traded central bankers and central banking policies over the past decade or so. Whose employment record would have looked better, at least over the 1990s?

EU institutions and outcomes can be improved

The claim that EU labor institutions are not as awful as many critics of EU-style institutional arrangements make them out to be does not of course mean that the instititutions and outcomes cannot be improved. They can. On the one side, policies that make it easier for women, particularly those with considerable education, to work full- time will go a long way to increasing the EU employment rate for a group with a very large gap compared to the United States. These policies may include greater social support of child care, stronger equal opportunity laws, changes in school leaving hours, as well as changes in taxes, and in immigration laws. Given its aging population and the improved health of the elderly, Europe needs to change pension policies and to consider new policies on immigration. Perhaps more EU countries should adopt policies to encourage more child-bearing, as some countries such as France and Sweden have done. Experiments with unemployment insurance countries suggest that greater pressure/assistance to the unemployed to find jobs can reduce the length of time people spend unemployed. The Nordic policy of tying social benefits to work has clear advantages over forms of social welfare that make non-work more attractive.

There is one area in which the EU job market performs so differently than the US job market as to seem from another world. Americans think nothing of moving from Atlanta to San Francisco, or from St. Louis to Boston for a job. Despite the absence of any institutional rigidities, Europeans tend to cluster in their own countries, in some cases in their native cities, for work. Greater geographic mobility would ease European employment problems, particularly among countries with the common currency. Politicians who lose jobs in London, Paris, Berlin, seem to find full employment by migrating to Brussels. Workers could surely reduce spells of unemployment if they showed similar mobility. But low mobility cannot be readily blamed on labor insti-

[4] Howell (2004) provides the most recent evidence, but the OECD Employment Outlooks in ensuing years told a more complex story than the Jobs Study as well.

tutions, which have become increasingly friendly to migration within the EU.

In sum, EU labor markets are imperfect institutions. They are imperfect in different ways than US labor markets and are imperfect in different ways than other economic institutions. But they are not the monster at the end of the book, the villain in the movie, the prime cause of EU employment problems. Not as awful as all that.

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Savings in Germany and the United States

Hubertus Bardt and
Michael Groemling*

Not only did private households in the United States. save less than German households in the 1990s, their savings rate also decreased faster. If, however, public and business savings are taken into account, the difference between both countries' savings rates seems less significant. Furthermore, the US overall savings rate rose for several years while Germany's declined constantly. Interest rate developments are partly responsible for the diminishing propensity to save of private households in both countries. A better labour market performance, higher and rising wealth, and success in balancing the public budget weakened the savings efforts in the United States. A rising old-age dependency ratio in Germany reduced the savings of private households. Since the United States are highly attractive for international investors, investment there was financed more easily by foreign capital.

While the United States have been very successful in increasing economic growth, fighting unemployment and reducing public deficits during the 1990s, Germany still has to solve fundamental problems regarding all these indicators. At the same time, a brief comparison of both economies shows significantly lower savings in America. Macroeconomic theory offers two perspectives on the impact of savings on economic growth:

- According to Keynesian theory, current savings slow down economic growth. Savings are equated to a lack of consumption and therefore a troublesome lack of demand.
- For neo-classical economists, savings are fundamental to investment. Higher investment boosts growth – in the short run as a part of total demand, in the long term by raising the stock of capital. The new growth theory stresses technical progress initiated by savings.

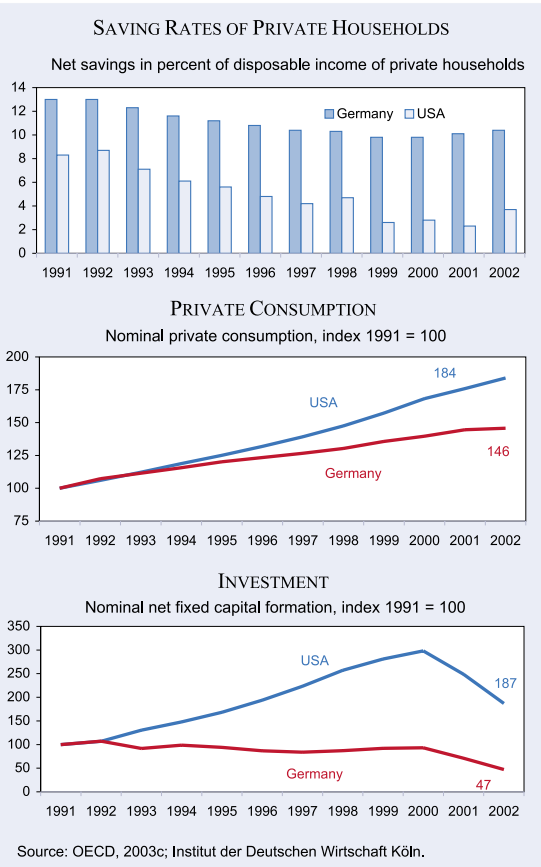
This survey first focuses on savings and consumption of private households as well as on business investment in Germany and the United States between 1991 and 2002. This will be followed by an analysis of differences in measurement methods and a discussion of potential explanations for differences in both countries' savings behaviour.

Savings, consumption and investment

Most studies on savings behaviour focus on the savings of private households. The savings rate of private households – nominal savings as a percentage of nominal personal disposable income – was significantly higher in Germany between 1991 and 2002 than in the United States (Figure 1a). The difference between both countries' savings rates was 4.7 percentage points in 1991, rose to 7.8 percentage points in 2001 before slightly declining to 6.7 points in 2002.

This difference in levels has to be separated from the diverging development over the period analysed. In Germany, the savings rate was quite stable. Influenced by the tax cuts in 1986, 1988 and 1990 it reached 13 percent at the beginning of the 1990s (Deutsche Bundesbank, 1999) before declining to 9.8 percent in 1999 and 2000. An increase in the sav-

Figure 1



Source: OECD, 2003c; Institut der Deutschen Wirtschaft Köln.

* Institut der deutschen Wirtschaft, Köln.

ings rate to 10.4 percent in 2002 could be observed recently. The situation in the United States was completely different. The savings rate dropped much faster from an already lower level of 8.3 percent in 1991 to its minimum of only 2.3 percent in 2001. A slight recovery took place in 2002, when savings reached 3.7 percent of nominal personal disposable income. As a first result, savings by private households in the United States were lower than those in Germany and there was a stronger reduction of private savings in the United States in the 1990s.

From a Keynesian point of view, the different developments in both countries' private consumption are the expected counterpart of their declining savings (Figure 1b). Nominal consumption expanded much faster between 1991 and 2002 in the United States (84 percent) than in Germany (46 percent). Higher nominal savings in Germany seem to go along with less dynamic nominal consumption compared with the United States. A comparison in real terms shows a huge gap as well: While real consumption rose by 47 percent in America, the increase turned out to be only one third of this in Germany.

According to neoclassical theory, the sharper decline of private savings in the United States should have led to a corresponding low level of capital formation. However, empirical findings show a different picture for the period 1991/2002 (Figure 1c):

- Nominal net investment in the United States rose by almost 90 percent, although the year 2000 was a turning point. While private investment was fostered by rising stock prices during the New Economy era, the fall of stock prices since spring 2000 and the fading information technology boom led to reduced investment.
- In the United States, the decline of nominal fixed capital formation since 2000 (by 37 percent) happened to be less severe than in Germany (by 49 percent). In Germany, investment more or less stagnated from the early 1990s until 2000. After its sharp fall in 2001 and 2002, nominal net investment in fixed capital was not more than half of its 1991 level.

The focus of this analysis is on nominal net investment. There are two reasons for this perspective. First: Saving rates are calculated in nominal terms. Second: Net savings are by definition savings less depreciation. To guarantee comparable results, it is necessary to consider net investment (gross investment less depreciation). By the way, the development of real gross capital formation shows similar results: While it increased by almost 80 percent in the United States between 1991 and 2002, it stagnated in Germany. The decline of real investment since 2002 has been sharper in Germany (by 11.6 percent) than in the United States (by 4.4 percent).

A positive nexus between capital formation and the savings of private households cannot be deduced from these empirical findings. Rising investment is combined with lower and shrinking savings rates in the United States, while Germany had to face a sharp drop in net investment despite higher and less declining savings efforts. Obviously, high savings of private households do not seem to be a prerequisite for higher investment. Nevertheless, this does neither prove the irrelevance of the neoclassical view on savings and investment nor does it validate the Keynesian connection of savings and consumption. However, two questions emerge:

1. What kinds of methodical empirical problems may be overlooked in a comparison of German and US savings rates?
2. Which macroeconomic determinants can explain the different savings behaviour in Germany and the United States?

Savings rates – a variety of definitions

As a result of various differences in national data, international comparisons are difficult. Data on savings used in this survey are taken from the OECD national accounts. The table gives an overview over commonly used definitions of savings rates. It is remarkable how big the differences are between the various rates for the year 2002. These differences result from gross and net values, different base values and different sectors.

Net savings rates are commonly used in Germany while some other countries prefer gross values. Unfortunately, the OECD mixes savings rates based on net and gross values in an important overview table (OECD, 2003a). The difference between the two concepts is depreciation. Gross savings contain net savings and depreciation and therefore have a systematically higher value than net savings.. We will focus on net savings, because funds that must be

Gross and net savings ratios 2002
– in percent –

Gross/net	Sector	Base	Germany	USA
gross savings ratio	all sectors	gross domestic product	20.5	14.5
gross savings ratio	all sectors	disposable income[1)]	24.5	16.6
net savings ratio	all sectors	disposable income[1)]	6.4	1.9
net savings ratio	government	disposable income[1)]	–2.9	–2.5
net savings ratio	business enterprises	disposable income[1)]	1.2	1.5
net savings ratio	private households	disposable income[1)]	8.2	3.0
net savings ratio	private households	disposable income[2)]	10.4	3.7

Gross savings = net savings + depreciation. [1)] Disposable income of all sectors. [2)] Personal disposable income.
Source: OECD, 2003c; Institut der Deutschen Wirtschaft Köln.

spent for imputed capital consumption during the current production process cannot be interpreted as savings in the conventional sense. Furthermore, the base chosen to calculate the rates is important as well. Macroeconomic savings of all sectors can be related to GDP (OECD, 2003a) or to the disposable income of all sectors which is on a significantly lower level. This explains a discrepancy of 4 percentage points in the case of Germany in 2002.

An enormous difference exists between gross and net savings rates of all sectors related to the disposable income of the whole economy. The gross savings rate amounted to 16.6 percent in the United States and to 24.5 percent in Germany in 2002. At the same time, the net savings rate was only 1.9 percent in the United States and 6.4 percent in Germany. The main reason is the diverging dynamics of capital consumption (depreciation). Besides different methods of calculating capital consumption, growing net investment and a rising capital stock result in higher depreciation in the United States.

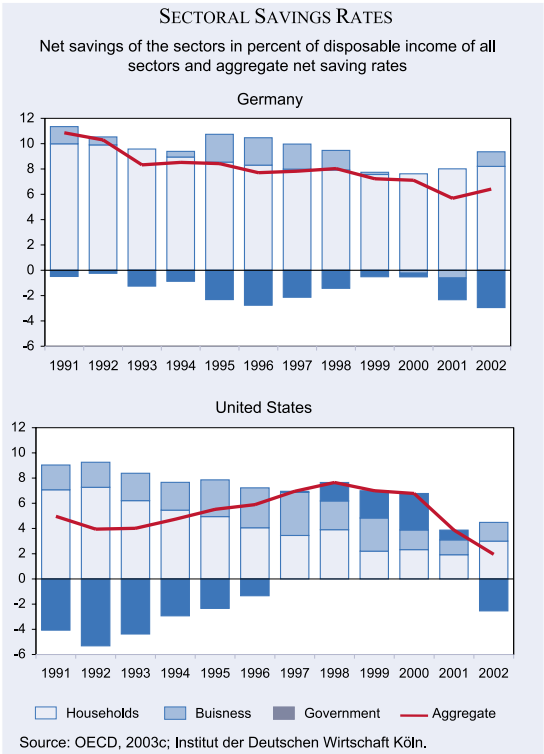
Sectoral savings

To analyse the sources of the divergence in the savings behaviour between Germany and the United States it is helpful to consider savings rates of the various sectors of an economy – private households, business and the government. This shows the distribution of the macroeconomic net savings among these sectors.

A look at the German and US sectoral savings rates and the resulting macroeconomic net savings rate over the period 1991/2002 shows significant differences in level, already documented in Table 1, but also differing sectoral profiles during that period. The dominance of consumer savings in Germany is striking. Savings of private households ranged between 7.6 and 10 percent from 1991 until 2002 and represented the bulk of macroeconomic savings, although a moderate downward trend can be noticed (Figure 2). As savings are related to disposable income of all sectors and not to disposable income of households only, the savings rates of private households in Figure 2 differ from those in Figure 1.

The savings rate of the business sector turns out to be less stable than that of the private households. Between 1991 and 2002, it ranged from – 0.6 to

Figure 2



Source: OECD, 2003c; Institut der Deutschen Wirtschaft Köln.

2.2 percent of all sectors' disposable income. Current business savings equal the undistributed profits of incorporated firms, not withdrawn profits of unincorporated firms and net current transfers. One reason for the dominance of private households in macroeconomic savings is the development of government savings, which mostly offset corporate savings throughout the period. Government savings equal the disposable income less consumption expenditures of the public sector. In the best case, government reduced the macroeconomic savings rate by 0.2 percentage points only.

The situation is fundamentally different in the United States (Figure 2). Over time, the macroeconomic savings rate is lower than in Germany but the composition of savings is quite different. Private households did not stabilise total savings as they did in Germany. In fact, their savings rate declined from 7.1 percent in 1991 to a minimum of 1.9 percent in 2001 before increasing again to 3.0 percent in 2002. In contrast, business savings grew remarkably more than in Germany. With savings rates between 1.2 and 3.4 percent there was no single year over the business cycle in which business dissaved in contrast to Germany in 2000 and in 2001.

This development was dominated by heavily fluctuating government savings which determined overall macroeconomic savings in the United States. Public saving turned from a negative 5.3 percent in 1992 to positive savings rates at the end of the 1990s, peaking at 2.9 percent in 2000. Rising government spending, large tax cuts and the economic slowdown following the New Economy boom led to a drop of the public savings ratio to a negative 2.5 percent in 2002.

A comparison of German and US savings rates on the macroeconomic level provides a sharper picture than an analysis on the basis of private households alone. However, both perspectives show smaller saving efforts in the United States than in Germany. The difference in the levels of the net savings rate of all sectors between Germany and the United States averages 2.7 percentage points from 1992 to 2002. Savings rates of private households as a percentage of personal disposable income differ by 6 percentage points. The macroeconomic savings rate in Germany declined slowly but constantly. In the United States, the overall savings rate increased until the end of the 1990s, but tumbled sharply in 2001 and 2002.

Determinants of savings behaviour

Differences in level, development and composition of the German and US savings rates should be explained by various determinants of savings behaviour. Therefore, six categories will be examined to find some of the reasons for the specific savings efforts in both countries.

Interest rates

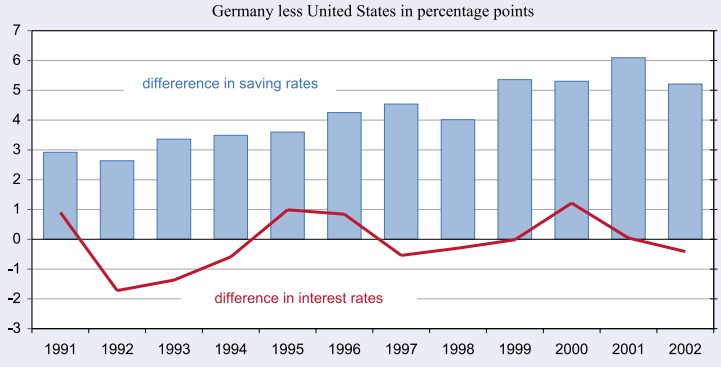
Inflation adjusted interest rates are relevant for intertemporal consumption decisions. High real interest rates raise the price of present consumption and foster savings. Furthermore, interest rates have an impact on capital income and therefore on the ability to save. A number of studies covering several (Hussain/Brookins, 2001) or single countries such as Germany (Deutsche Bundesbank, 1996; 1999) or the United States (Kauffmann, 1988; Sherman, 1999; Milleker, 2002) confirm a connection between interest rate developments and savings behaviour:

- In the second half of the 1990s, the level of German real interest rates was slightly higher than in the early 1990s, which were characterised by major fluctuations. But a look at the average hides that real interest rates declined from 5 percent in 1995 to less than 3 percent in 2001. Between 1995 and 2000, US interest rates were on

Figure 3

INTEREST RATES AND SAVINGS

Difference of savings rates of private households and of real interest rates
Germany less United States in percentage points



Real interest rates: long-term nominal interest rate deflated by consumer price index.

Source: OECD, 2003c; Institut der Deutschen Wirtschaft Köln.

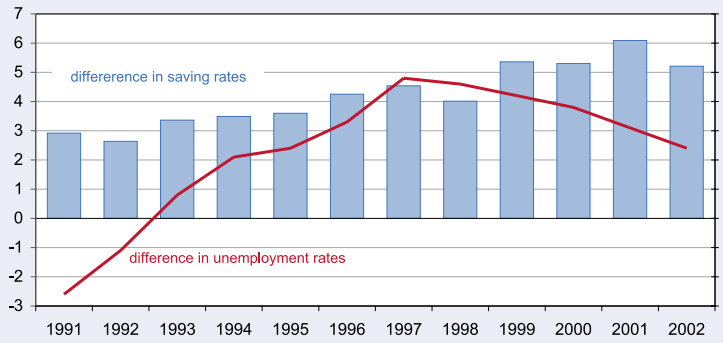
average 0.4 percentage points lower than during the five preceding years. In both countries, savings of private households followed the development of real interest rates. Diminishing inflation and rising real interest rates in the last few years also coincide with growing savings rates of private households.

- But the constantly growing gap between German and US savings rates of private households cannot be explained by a permanently growing interest rate differential (Figure 3). Between 1995 and 2002, average interest rates after adjustment for inflation were only 0.1 percentage point higher in Germany than in the the United States.

Figure 4

UNEMPLOYMENT AND SAVINGS

Difference of savings rates of private households and unemployment rates
Germany less United States in percentage points



Source: OECD, 2003c; Institut der Deutschen Wirtschaft Köln.

Growth and unemployment

The economic situation may also affect savings behaviour (Ohmayer, 1997). While some economists postulate a positive correlation between income growth and savings, others predict higher savings of private households in times of high unemployment. Although the growing number of unemployed may save less than before, the larger group of the employed may increase their savings efforts to have a nest egg in case of unemployment:

- Economic growth in the United States was substantially higher than in Germany – on average by about 2 percentage points in the period 1992/2000. The shrinking differential between the macroeconomic savings rates – it was only 0.2 percentage points in 1999 – reflects the deteriorating relative growth position of Germany.
- Unemployment dynamics are one of the most striking differences between the two economies (Figure 4). The United States managed to create new jobs and to halve the unemployment rate to a minimum of 4 percent in 2002, while Germany had to face an increase of its unemployment rate to 9.7 percent in 1997 before it slightly decreased to 7.8 percent in 2001. However, cyclical weakness of economic activity since 2001 has led to a significant increase in US unemployment.

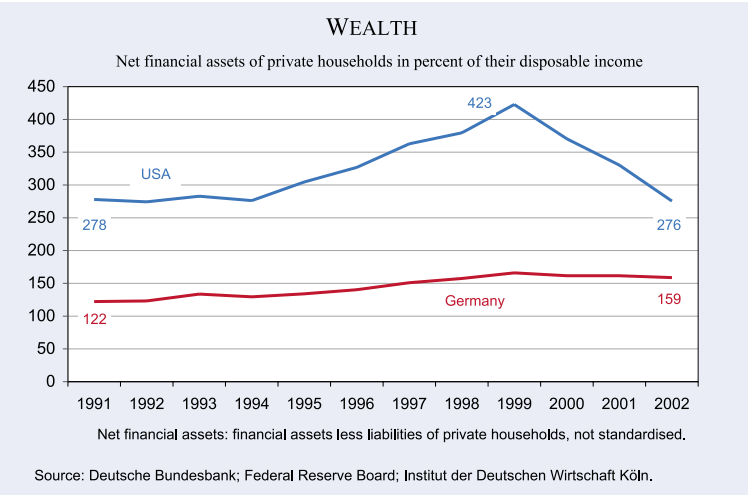
Lower and decreasing savings efforts of private households in the United States can be explained by the lower risk of losing one's job and income due to a more favourable development of the labour market. Additionally, more flexible labour markets provide better chances of finding a new job in the United States, which leads to diminished savings efforts as well.

Wealth

An increase in assets can have two causes: Savings out of current income build up wealth, and rising prices of existing assets (e.g. property, stocks) result in a higher value of assets. In the latter case, it can be possible to achieve a certain wealth level without saving more out of current income. Therefore, a higher share of current income could be used for consumption which is equivalent to a decreasing savings rate. A boost to wealth caused by sustainable asset price increases can be interpreted as a substitute for savings out of current income (Davis/Palumbo, 2001; Sherman, 1999).

Capital gains are neither calculated as income or savings in the German nor the US national accounts (Deutsche Bundesbank, 1999; Perozek/Reinsdorf, 2002). In periods of rising capital gains, national accounts calculations come to lower figures for income and savings than if capital gains were considered (Peach/Steindel, 2000; Milleker, 2002). According to OECD data (OECD, 2003b), stock prices rose much faster in the United States (212 percent) between 1991 and 2000 than in Germany (196 percent). However, from 1995 to 2000, German stocks gained about 160 percent while US stocks lagged behind with an increase of 121 percent. But the decline after the peak in 2000 was stronger in

Figure 5



Germany: by 42 percent compared to 18 percent in the United States.

From 1991 to 2002, total financial assets of private households – bank deposits, insurance contracts, securities and company pension reserves less liabilities – rose by 77.5 percent in Germany to €2,195 billion or 159 percent of the annual disposable income of private households. Asset growth was slightly weaker in the United States (73 percent). Despite the massive reduction since its peak in 1999, the wealth ratio (net financial assets in percent of disposable income) was still significantly higher in the United States (276 percent) than in Germany (Figure 5). Although the stock markets were more stable in the United States, the higher commitment to stocks and strongly rising liabilities led to a pronounced reduction of net financial assets there.

Summing up, different levels of German and US wealth ratios can be part of an explanation of the different levels of savings rates. Higher wealth ratios are supposed to reduce savings rates (Milleker, 2002). The relatively strong increase in the US wealth ratio between 1995 and 1999 corresponds to a marked decrease of the savings ratio of private households. Both countries have faced a shrinking wealth ratio since 1999 combined with rising savings rates.

Government

The fundamental influence of government savings on the macroeconomic savings ratio was already shown (Figure 1). Between 1991 and 2002, the average public deficit in the United States was only 0.2 percentage points lower than in Germany. But a closer look at the public deficits shows a more significant difference. Although the US deficit has grown rapidly recently, a more successful balancing of the government budget was achieved during the 1990s compared with Germany's weak consolidation efforts. Moreover, in the years from 1998 to 2000 the United States realised a budget surplus. This happened only once in Germany: One-time receipts of the G3-auctions led to the reduction of the total public debt in 2000. As higher deficits today may mean higher taxes tomorrow, private households build up reserves for these expected payments (Hussain/Brookins, 2001). Accordingly, the more comfortable state of public budgets in the United States made a reduction of savings efforts plausible.

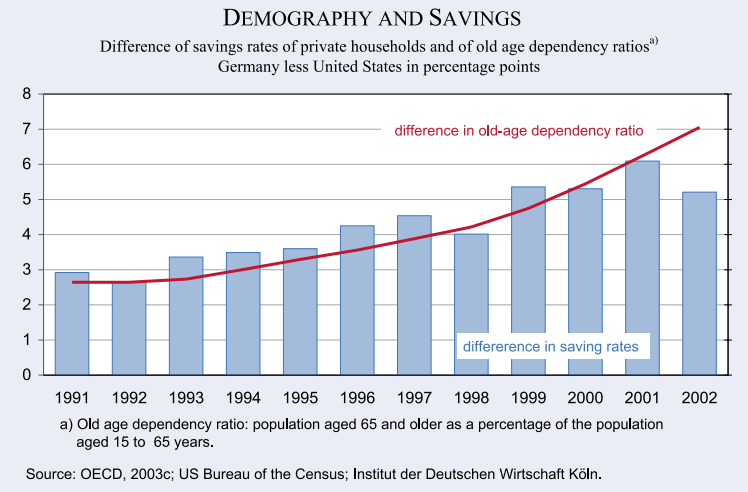
The conditions for economic activity are very different in the United States and Germany (Kauffmann, 1988). The lower US tax burden allows a freer disposition of personal income and provides better opportunities for higher savings. Nevertheless, private savings in the United States were on a much lower level than in Germany. Yet, changes of the savings rate between 1991 and 2000 show the expected connection. The faster increase of the tax burden in the United States (2.8 percentage points) relative to Germany (1.1 percentage points) reflects a corresponding decrease of the differential in the savings rates of private households.

Demography

According to the life-cycle hypothesis of savings, the creation of financial reserves is expected to take place during one's working life. These reserves can be used for consumptive purposes in old age. This combination of saving and dissaving should stabilise personal consumption over the expected lifetime (Doshi, 1994). Therefore, an ageing society is supposed to accumulate more reserves in order to finance a longer period of retirement.

One demographic feature that may partly explain differences in savings between Germany and the United States is the financial burden on employees

Figure 6



caused by a growing proportion of older people. Between 1991 and 2002, the total population grew by 3.0 percent in Germany and by 13.5 percent in the United States. In Germany, the population of working age (15 to 64 years) rose by 1.1 percent only, the number of people above 64 years of age grew by 19.0 percent. In the United States, the fraction of people between 15 and 64 years of age rose by 15.1 percent while the number of people older than 64 years increased by 11.8 percent only. America is much less affected by the ageing of its population than Germany.

An analysis of both countries' old age dependency ratios comes to the same results. From 1991 to 2002 the population above 64 years of age as a percentage of the population between 15 and 64 increased from 21.8 percent to 25.6 percent in Germany. In the United States, this ratio even shrank from 19.1 percent to 18.6 percent. The difference between the two countries' old age dependency ratios almost tripled from 2.6 to 7.1 percentage points, paralleling the difference between the corresponding savings rates of private households (Figure 6).

According to the life-cycle concept, a growing share of older people should have led to a reduced savings rate. A stronger decline of private savings would have been expected in faster ageing Germany (Deutsche Bundesbank, 1999). Institutional factors seem to be a decisive explanation of the differences between the two countries. As a result of the great weight of the statutory pay-as-you-go pension system in Germany, the liquidation of private reserves is less important in one's old age. Therefore, the ageing population had a smaller negative influence on the total savings of private households.

International capital flows

In an open economy, the volume of investment and savings during a certain time period need not be equal. International capital flows can settle the balance. If the foreign exchange account is balanced, a capital account surplus corresponds to a savings gap. Insufficient domestic savings cannot finance all of domestic investment. In other words: The option to use internationally mobile capital for domestic investment can have a negative effect on domestic savings efforts (Hussain/Brookins, 2001).

The experience of the United States in the 1990s does not contradict the results of Feldstein and Horioka (1980). According to them, a significant correlation between domestic savings and investment existed in the past. In fact, the savings rate of private households declined, which ran counter to the investment boom during that time (see Figure 1). Nevertheless, Figure 2 showed an increase in macroeconomic savings for several years. Furthermore, the United States realised a powerful capital account surplus. Capital imports exceeded capital exports by far, making it possible to finance the investment boom despite the shrinking savings rate of the private households. High growth rates and good domestic business conditions made the United States an attractive location for international investors. On the other hand, despite high German savings rates, investment in Germany remained static because of unsolved structural problems.

In the course of weak world-wide economic growth in recent years, the focus turned back on possible risks of the huge US capital account surplus. A reduction of the corresponding large current account deficit may well trigger declining investment as long as the savings rate stays low. Surveys of the last four decades have come to the result that US capital and current accounts have always been balanced by an adjustment of investment (Olivei, 2000). In this case, the low savings rate limits long-term investment possibilities and therefore potential growth. In Germany, high savings rates should permit a strong increase of domestic investment, if the general business framework can be improved by fundamental reforms.

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OECD: Despite Job Growth, Most Labour Markets Remained Slack

From 1979 to 2002 average employment in twelve OECD countries examined rose by 23 percent, which means that a considerable number of additional jobs were created during this period. Job growth varied greatly from country to country, however, being highest in the United States and the Netherlands and lowest in Finland, Sweden and western Germany.

Looking only at the rise in the number of people employed is not the entire story, however. How much additional work was done? Reductions in weekly working hours or an increase in part-time employment may offset some of the increase in the number of people employed. By multiplying the latter by the number of hours worked yields the total number of hours worked in the economy. Even taking into consideration that, with the exception of Sweden, average annual working hours declined, the twelve countries showed an increase in the total number of hours worked. Between 1979 and 2002, this number increased by 14 percent on the average of the twelve countries observed. This is a remarkable performance, especially of the United States and the Netherlands that again came out on top (see Figure 1).

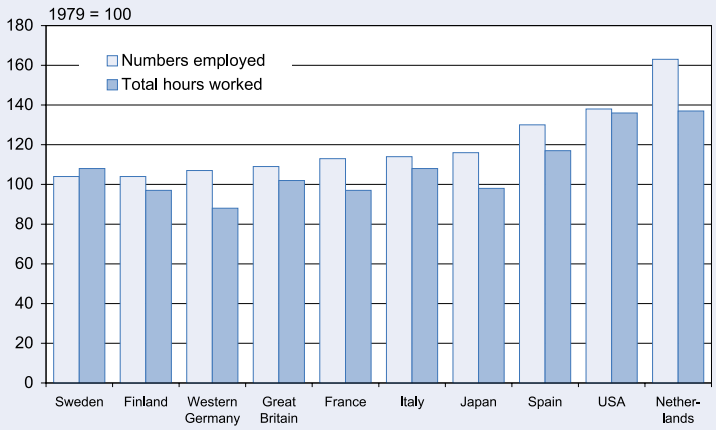
The increase in the number of people employed and in the number of man-hours worked does not in itself indicate whether there is an associated improvement in the employment situation as the working-age population increases. In order to take population growth into account, the total number of hours worked must be divided by the working-age population or – better - by the potential number of working hours that the population could work if it worked full out. This entails calculating the "utilisation rate" of the factor labour.

As a rule, the potential number of working hours is assumed to amount to 2.080 hours per year. The calculations yield the result that, as the working-age population grew, the per capita hours worked rose little on the average of the countries examined. As Figure 2 shows, a marked increase in the utilisation rate of the factor labour occurred only in the United States and the Netherlands, while Spain experienced just a small increase. The other countries registered a decline, however, that was most pronounced in Japan, France and western Germany. Countries whose institutional regulations and economic policies are designed to boost employment did well, whereas those, which failed to introduce labour market reforms, suffered considerable slack in their labour markets.

W.O.

Figure 1

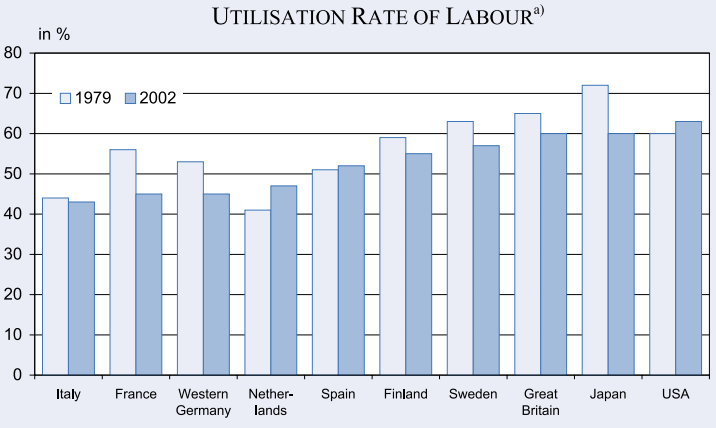
Numbers Employed and Total Hours Worked 2002



Source: German Council of Economic Experts, OECD Employment Outlook, DICE database.

Figure 2

Utilisation Rate of Labour[a)]



a) Total hours / Working Age Populaton * 2080

Source: German Council of Economic Experts, OECD Employment Outlook, OECD Quarterly Labour Force Statistics, DICE database.

Youth Unemployment in the OECD: Immense Variation

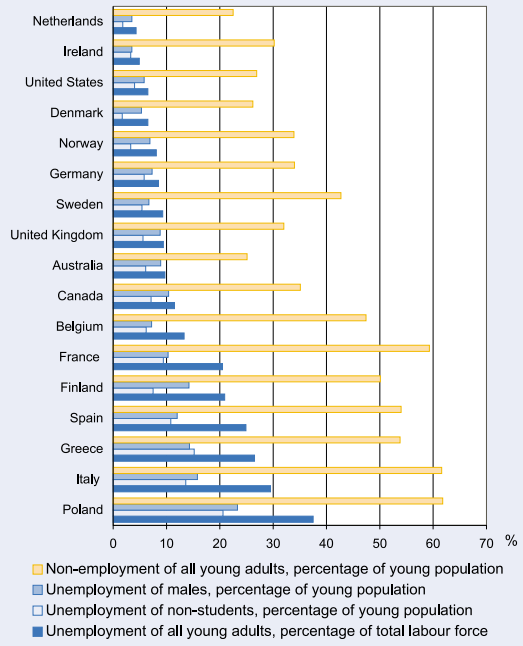
In most OECD countries, the youth unemployment rate has remained twice or more the adult rate, despite the fact that the share of young people in the total OECD population of working age fell by a quarter between the 1970s and 2002, and in some countries large and further falls are projected over the next two decades. Peak years for the youth population (15 to 24 years) relative to the prime age population (25 to 54 years old) occurred in the 1960s for Japan, the Czech Republic, Denmark, Finland, the Netherlands and Sweden, in the 1970s for the United States, Mexico, Turkey, France and many smaller countries and in the 1980s for Austria, Germany, Greece, Italy, Spain and the United Kingdom. Falls since the peak have exceeded 40% in Canada, Japan, Korea and a few European countries.

There are various summary indicators for the scale of youth labour market problems besides the conventional measure shown in the table below. The figure above shows that conventionally measured youth unemployment rates, very high in some countries, can become much lower when youth unemployment is expressed as a percentage of the youth population. Furthermore, in some countries there are large overlaps between participation in education and the labour market – for example, in some countries many unemployed youths are also students. When attention is restricted to non-students, the unemployment rate is increased in some countries (e.g. France and Germany) and lowered in others (e.g. Netherlands and Norway). Youth unemployment rates also increase sharply when non-employment (i.e. labour force inactivity as well as unemployment) is used as an indicator. Finally, when the focus is only on males, because female labour force inactivity does not necessarily indicate labour market distress, youth unemployment/population ratios are higher, but non-employment/population ratios are lower.

H.C.S.

Unemployment and Non-Employment of Young Adults, 2000

persons aged 20 to 24 years



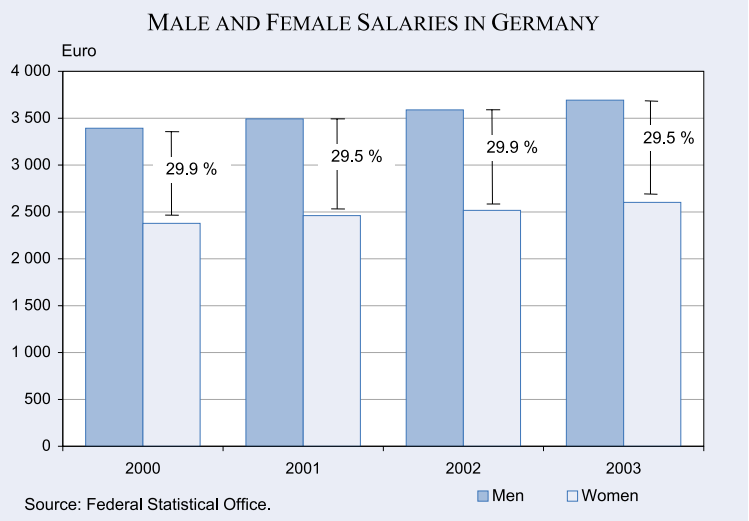
Source: OECD Secretariat database on labor market status by educational participation.

Youth vs. prime age unemployment

	1983		1990		2002	
	15–24	25–54	15–24	25–54	15–24	25–54
Belgium	23.9	9.5	14.5	6.5	15.7	6.2
Canada	19.7	9.8	12.4	7.3	13.7	6.6
Denmark	18.9	8.0	11.5	7.9	7.1	3.7
Finland	10.5	4.3	8.9	2.1	20.7	7.3
France	19.7	5.7	19.1	8.0	20.7	9.2
Germany	11.0	6.9	4.6	4.7	9.7	8.2
Greece	23.1	6.1	23.3	5.1	25.7	8.6
Ireland	20.1	12.5	17.6	12.4	7.7	3.7
Italy	28.9	4.4	28.9	6.6	26.3	7.5
Japan	4.5	2.2	4.3	1.6	10.0	4.9
Netherlands	21.1	9.8	11.1	6.7	5.9	2.6
Norway	8.9	2.7	11.8	4.2	11.5	11.5
Portugal	17.9	5.2	10.4	3.7	11.5	4.5
Spain	37.6	11.5	30.1	13.1	22.2	10.2
Sweden	8.0	2.4	4.5	1.3	12.8	4.2
United Kingdom	19.7	9.5	10.1	5.8	11.0	4.1
United States	17.2	8.0	11.2	4.6	12.0	4.8

Sources: OECD Employment Outlook 1997 and 2003.

German Women Earn 30 Percent Less Than Men



According to the German Statistical Office, female full-time salaried employees in manufacturing, commerce, the banking and insurance industry earned an average of €2,602 per month in 2003. This corresponded, as in 2002, to about 30 percent less than their male colleagues. Full-time female wage earners in the non-farming sector achieved average monthly gross pay of €1,885 or 26 percent less than male workers (€2,549).

In eastern Germany, the earnings differential between men and women was markedly smaller than in western Germany. Salaried women earned 23 percent less and wage earners 22 percent less than their male colleagues.

In large part, the earnings differential is due to different activities – in terms of their placement in performance groups. The highest salaries are earned in performance group I which comprises the management employees. It includes four times as many men as women (8.0 percent vs. 2.0 percent). In performance group II, which requires responsible activities and special experience, men also dominate. In 2003, group II contained 40 percent of the male salary earners compared to only 15 percent of the women. There are still considerable gender specific earnings differentials within both performance groups. Women earned 24 percent less in performance group I and 17 percent less in performance group II.

More than half of the women and 45 percent of the men are assigned to performance group III. Women dominate even more in groups IV and V. They more frequently hold jobs with lower qualifications.

Salaries may also be compared by job classification rather than performance group. Some jobs may be called typical women's jobs. Thus, in office jobs, the share of women is around 60 percent. In sales, about 60 percent of sales personnel and 80 percent of cashiers are women. In most of these jobs women as well as men earned below average salaries.

The highest paid jobs were those of director and branch manager. Here, too, the women earned 32 percent less than the men. Women earned the highest salaries as business consultants and organizers; again, their salaries were 18 percent lower than those of their male counterparts.

As a rule, for the five occupations most favoured by men and women, the differences in wages between male and female workers are less pronounced than those of salary earners. Gender specific earnings differentials are normally also a bit smaller.

H.C.S.

World Economic Survey*

World Economic Climate Close to Previous Peak

In the January 2004 survey the World Economic Climate continued on the upward trend that had started in 2003 (see Figure 1). After the third improvement in succession, the overall climate indicator stood at 111.0 (1995=100), way above its long-term average (1990 – 2003: 92.97) and is now approaching its all-time high reached in early 2000 (117.2 in January and April 2000). The improvement resulted once again from both more favourable assessments of the current economic situation and highly positive expectations for the coming six months.

World economy: Expectations of a pronounced upswing

The continued improvement of the overall climate indicator (see Figure 1) is based mainly on economic expectations for the coming six months. At 7.3 on the WES grading scale from 1 to 9, they reached the highest level since 1985, pointing to a pronounced upswing of the world economy. The assessments of the present economic situation also improved, surpassing the "satisfactory" level. Although the climate indicator is approaching the peak reached in 2000, appraisals of the current state of the economy are significantly less positive than at that time. Nevertheless, the climate indicator points to an economic upswing in all surveyed regions of the world. In most countries, the recovery of investment is expected to be more pronounced than that of private consumption.

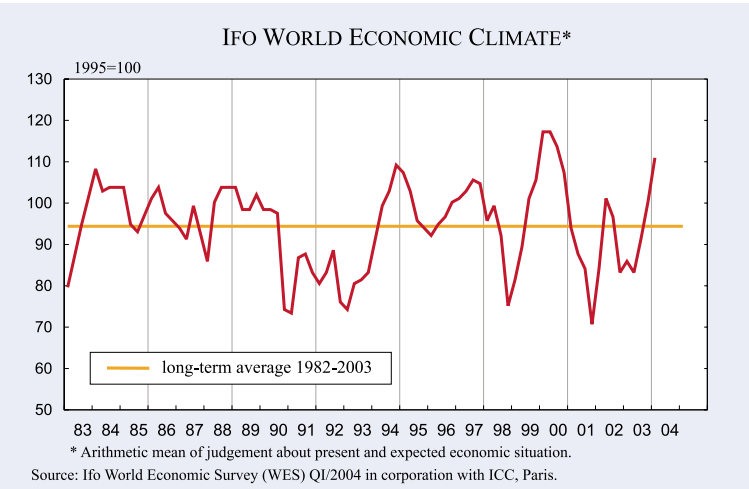
United States: North America: Growth will continue

According to the WES experts polled, the US economy showed a strong performance in January. The high assessment of consumption and capital expenditures at present and during the next six months bodes well for a continuation of lively economic activity, at least in the first half of the year. Output is still below potential, however, while domestic spending and borrowing are well above the levels sustainable in the longer term. Exports are expected to grow faster than imports in the coming six months. Given the huge gap between the levels of exports and imports, this will only have a limited impact on the reduction of the merchandise trade deficit. The expected continuation of dollar depreciation will help to shrink the deficit.

European Union: Optimistic expectations

According to the panel of experts, there is increasing confidence in an economic recovery of the European Union (see Figure 3). Though the current state of the economy is not yet seen to be satisfactory, the panel's assessments have been on an upward trend since July 2003. An improvement of the current economic situation was reported from all EU countries, except

Figure 1



* Arithmetic mean of judgement about present and expected economic situation.

Source: Ifo World Economic Survey (WES) QI/2004 in corporation with ICC, Paris.

* The survey is jointly conducted by the Ifo Institute and the Paris-based International Chamber of Commerce (ICC).

Denmark, where it remained unchanged at a highly satisfactory level, and *Portugal*, where assessments deteriorated even more from an already unsatisfactory level. Economic expectations have been upgraded significantly in all EU countries and are the most optimistic among all WES regions. Investment and consumption growth are expected to support the economic recovery during the year. In the *United Kingdom,* growth of private consumption – after strong performance in the recent past – is expected to slow down somewhat in the course of the next six months. Owing to the region's economic recovery, imports are expected to rise faster again. As exports should recover as well, the trade balance will remain mostly unchanged in all countries of the region, except in *Greece* and the *United Kingdom,* where WES experts expect an increasing trade deficit.

In the euro area, *Austria, Belgium, Finland, Greece, Ireland* and *Spain* appear to be faring significantly better economically than the other countries, in particular *France, Germany, Italy, the Netherlands* and *Portugal*, where the present economic situation is still assessed to be below the satisfactory level.

Eastern Europe: Stabilizing markets

Since the beginning of 2000, the economies of Eastern Europe have been on a stabilizing course (see Figure 2). Economic sentiments in the region were almost untouched by the world-wide economic slowdown of recent years and demonstrated remarkable robustness against external shocks. Nevertheless, diverging economic trends were observed in the Eastern European countries polled by WES.

On average, assessments of the present economic situation in the ten EU accession countries – *Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia* and *Slovakia* – were above the satisfactory level in January. Forecasts for the coming six months point to further economic improvement in all new EU member states, except for *Hungary*, where the present economic situation was also rated to be below the satisfactory level. The Baltic States *(Estonia, Latvia* and *Lithuania)* remained the strongest economies of the region, according to WES participants. However, since 2000 *Slovakia*, too, has been steadily moving toward a high level of assessments. In all ten countries, experts expect marked increases in business investment during the first half of 2004.

In the other Eastern European countries, economic trends observed in January differ widely. In *Bosnia Herzegovina* and *Serbia-Montenegro* the overall economic climate is still signaling recession, and near-term prospects remain cloudy. In contrast, in *Albania* and *Bulgaria* the economic climate points to recovery. In *Croatia* and *Romania* the present economic performance was rated below "satisfactory", but expectations for the next six months signal an economic recovery.

The export sector is expected to stimulate economic growth in all Eastern European countries, and imports will also continue to grow strongly. Private consumption, which markedly increased in the recent past, will expand somewhat less dynamically in coming months, particularly in the *Czech Republic* and *Hungary*, and to a lesser degree also in *Albania* and *Croatia*. On the other hand, growth of capital expenditures is generally expected to pick up in the next six months, laying the groundwork for more growth in the future.

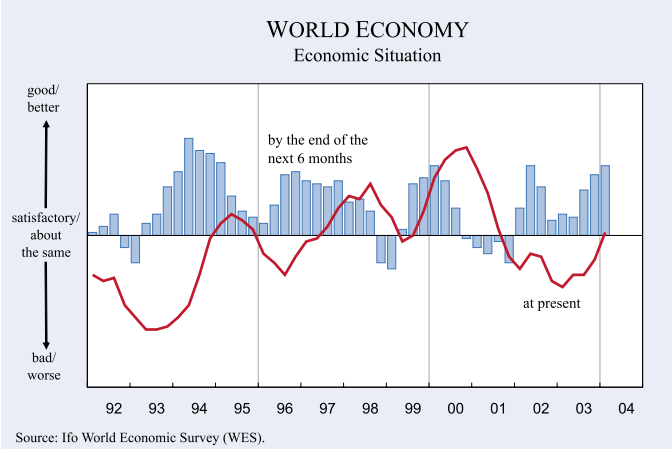
Latin America: Continuing recovery

The latest survey results confirm the economic recovery in Latin America. Both, assessments of the current economic situation and economic expectations have been upgraded, though to a slightly lesser degree than in other WES regions.

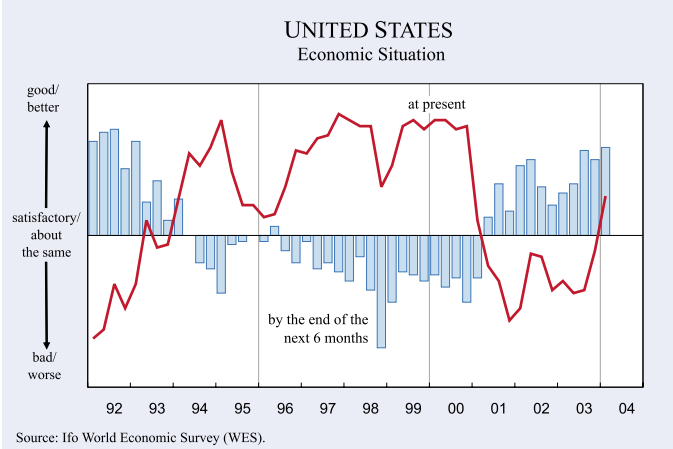
Increasing optimism was reported by *Brazilian* experts. The assessments of the present economic situation are above satisfactory, and the prospects for the next six months point to further economic growth. WES experts expect increasing business investment as economic policy is succeeding in restoring investors' confidence. An even brighter economic climate was reported for *Chile*. The economic performance in the country is remarkably strong since all demand aggregates are performing satisfactorily and are expected to gather further speed in the first half of this year. *Colombia* and *Costa Rica* are also among the group of buoyant economies. Their present economic performance is already considered satisfactory and is expected to remain on the upward trend.

Although there was no further improvement in the economic climate of *El Salvador*, the experts polled basically confirmed the favorable results of the October survey. No marked improvement of the less

Figure 2



Source: Ifo World Economic Survey (WES).



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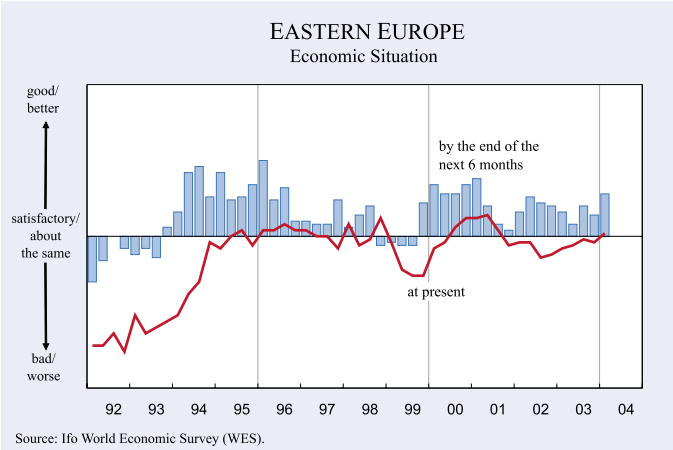

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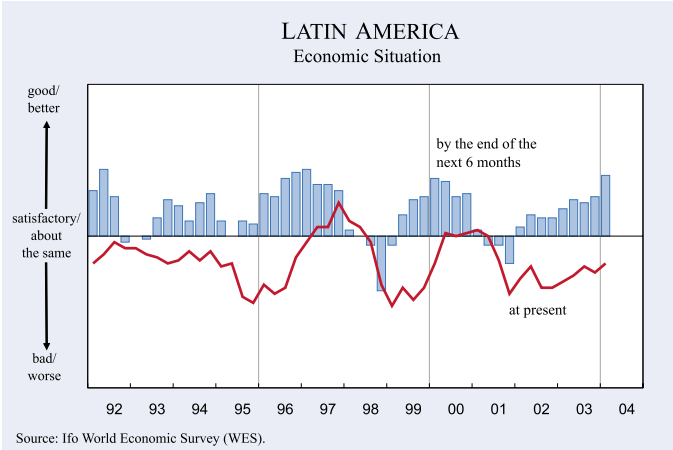

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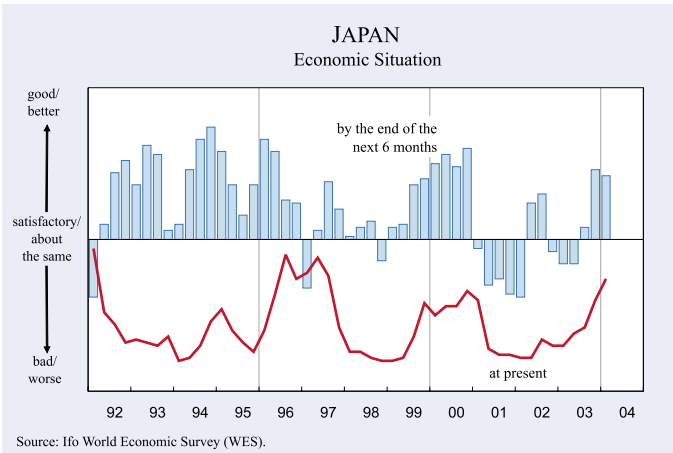

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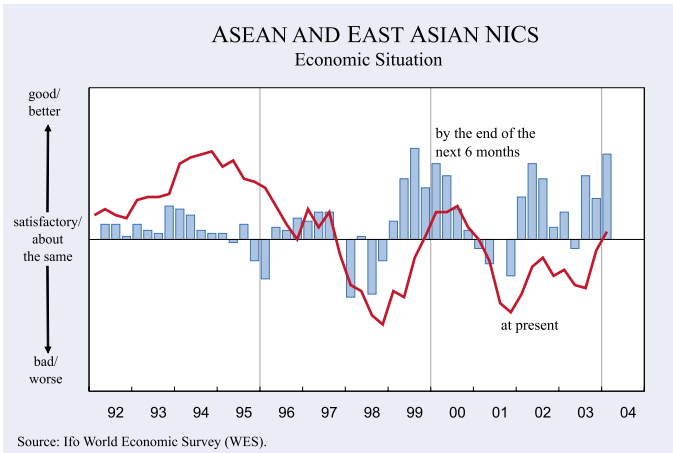


Source: Ifo World Economic Survey (WES).

favourable economic conditions has been reported by experts in *Mexico*. Their economic expectations have been slightly upgraded, however, projecting an increase in business investment during the coming months.

In *Argentina*, assessments of the current economic situation and expectations of future activity have been upgraded, but the economic recovery remains sluggish, indicating that the economy is not yet out of the woods. Private consumption and business investment are still weak, although some strengthening is expected during coming months.

The economic situation slightly deteriorated in *Peru*, but is likely to recover in the foreseeable future, with exports being the driving factor. In *Venezuela, Paraguay* and *Uruguay* the assessments of the current economic situation have also deteriorated or remained very poor. The projections are largely optimistic, however. Only in *Bolivia, Panama* and *Ecuador* do panel members still not see clear signs of a marked economic upturn in the near future.

Asia: Economic expansion continues

According to the January survey, economic expansion in Asia is likely to achieve an all-time high in the near future (see Figure 2). Average economic climate improved due to a higher assessment of the current economic situation. Expectations concerning the economic situation during the coming six months remained very optimistic. Domestic demand is forecast to strengthen in almost all countries. Thus, the improved global and regional environment is expected to have further positive effects on exports of all Asian countries. Although bird flu has devastated the region's poultry industry, the overall economy appears not to have been affected seriously.

In *Japan*, the economic climate index showed a sharp upturn. Assessments of the current state of the economy remain rather cautious, while expectations for the next six months are very optimistic, relying on growth in investment and exports. While *India* received the highest marks for the present state of the economy and also high marks for economic expectations, *China* is expected to face a moderate economic slowdown in the next six months.

Hong Kong has obviously recovered from the severe crisis of 2003. Assessments of the present economic situation climbed above the satisfactory level. The panel is also fairly confident with regard to future economic developments. The economic situation in *South Korea* remained unstable, but WES experts forecast improvement resulting mainly from a revival of investment and private consumption in the coming months. Exports are expected to remain an engine of growth. The bird flu crisis has damaged *Thailand's* poultry exports and has had some negative impact on the tourism industry. However, according to the January survey, which preceded the worst of the impact, WES experts see no risk to the entire economy. The present economic situation was assessed as highly positive, and prospects for the near future also look good.

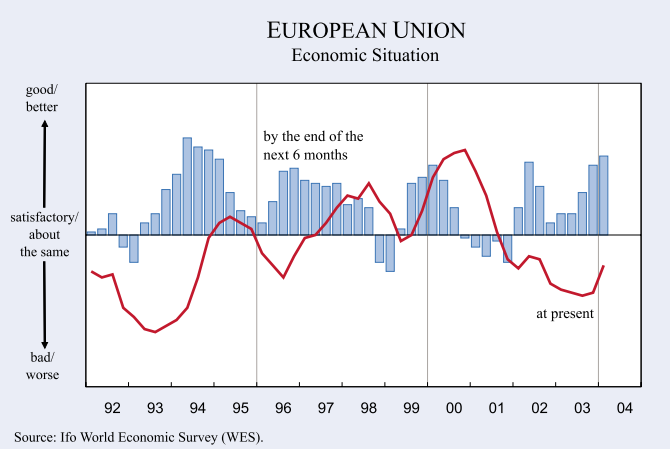
The other Asean economies – *Singapore, Taiwan, Malaysia and the Philippines* – continued to demonstrate fundamental health. Economically, these countries belong to the midfield of the region. The present economic state is already considered more than satisfactory and is expected to improve further. Only experts in Indonesia have become somewhat skeptical concerning the near-term economic outlook.

Inflation: Only moderate increase in consumer prices

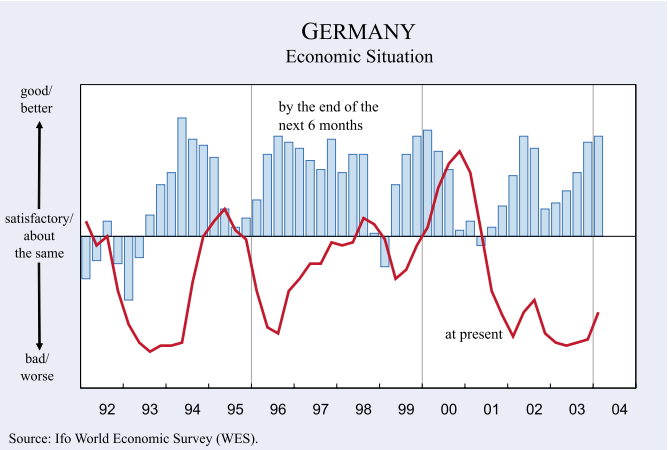
An average 2.7 percent increase in consumer prices is expected for the world economy in 2004, which is lower than the 2003 estimates. In the euro area, inflation is seen to remain close to the 2 percent mark (1.9 percent). The range of inflation estimates in the euro area is expected to narrow: in Ireland, where inflation was highest in 2003 (3.6 percent), a rate of 2.6 is expected for 2004. The lowest inflation rate will still prevail in Germany, at an expected rate of 1.3 percent after 1.1 percent in 2003.

At 2.2 percent, inflation in the United States is expected to remain unchanged from 2003 and thus clearly below the 2.5 percent mark that the Fed would still consider acceptable. Of all surveyed country blocs, Asia again displays the highest degree of price stability. Compared to last year, however, a somewhat higher inflation rate is expected now (1.6 percent instead of 1.3 percent). This slight increase of the Asian average is broadly based. Japan is gradually leaving the deflationary phase with an expected decline of consumer prices of only 0.2 percent after 0.4 percent in 2003 and 0.8 percent in 2002.

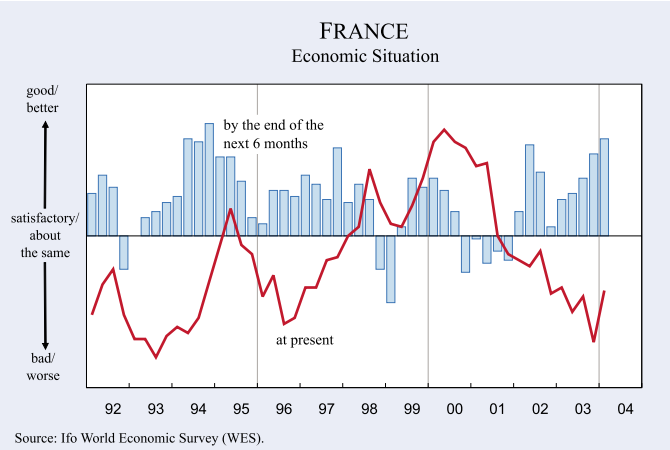
Figure 3



Source: Ifo World Economic Survey (WES).



Source: Ifo World Economic Survey (WES).



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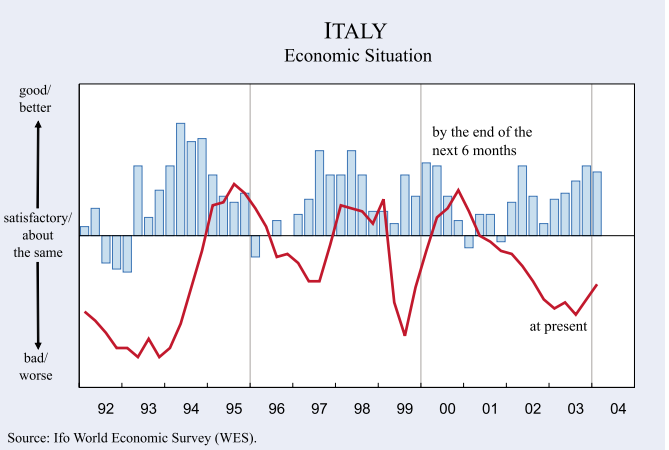

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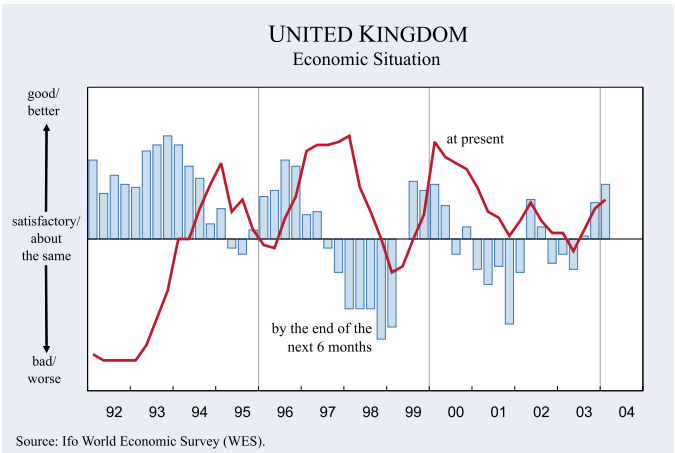

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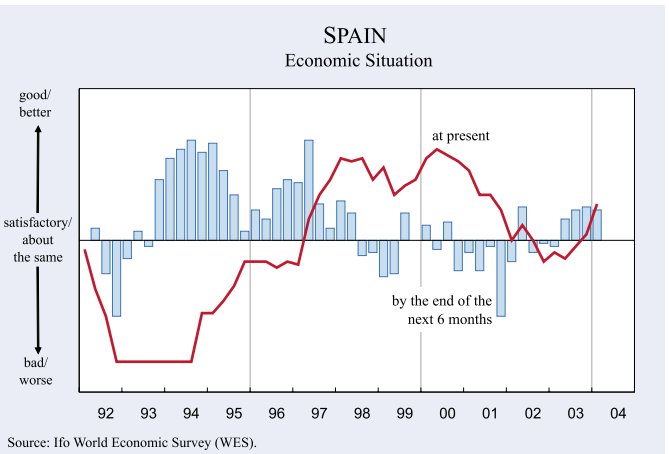


Source: Ifo World Economic Survey (WES).

Inflation in Central and Eastern Europe is expected to increase from 4.2 percent in 2003 to 4.9 percent in 2004. According to the WES experts, the likely pickup of prices is particularly strong in Hungary, with a presumable rate of 6.9 percent in 2004 after 5.3 percent in 2003. On the other hand, a slowdown of the relatively high inflation rate appears likely in Romania (from 13.8 percent in 2003 to 10.8 percent in 2004) and in Serbia-Montenegro (from 9.0 percent to 5.8 percent in 2004).

In Latin America inflation is likely to slow down further, with an average of 6.6 percent in 2004 after 7.8 percent in 2003. The highest inflation rate persists in Venezuela, at an expected 29.4 percent in 2004.

Interest rates: A reversal expected

Short-term interest rates are expected to start rising in the course of the next six months with an increase in central-bank interest-rates considered more likely in the *United States* than in the *euro area.* In Western Europe outside the euro area, the course of monetary tightening is expected to continue in the *United Kingdom,* and rising interest rates are also expected in *Denmark* and *Switzerland*. In contrast, WES participants continue to assume that interest rates will fall slightly in *Sweden* and *Norway*. In *Eastern Europe* cuts in short-term rates are expected in Slovenia, Slovakia, Hungary and also Bulgaria, whereas rising rates appear more likely in the Czech Republic, Estonia, Croatia, Poland, Lithuania and Latvia. In *Latin America* declining short-term rates are expected only in Brazil, whereas stable central-bank interest rates are projected for most other countries of this region. Only in Venezuela, Peru and also Mexico are rising rates on the horizon. In most *Asian countries* – after an extended period of falling and then stable interest rates – a switch to monetary tightening appears likely.

Parallel to the expected increase of short-term interest rates, a rise in **long-term interest rates** is also considered likely. The only exceptions are Latin America (here particularly Brazil), and some Eastern European countries, particularly Slovenia, Slovakia, Hungary and Bulgaria, where a further drop in long-term rates is expected.

Currencies: Growing overvaluation of the euro

The *euro* was considered overvalued on the average of all 92 countries covered. To a lesser degree this judgement holds true for the *British pound sterling.* As a mirror image, the *US dollar* was seen as undervalued by even more WES experts than in the previous two surveys. A similar result was last observed at the end of 1996. The *Japanese yen* is considered to be close to its fair value. This overall pattern of currency assessments also characterises Western Europe. It was remarkable, however, that the *US dollar* and the *yen* were seen more often as undervalued by Western European experts than on the world average. Not surprisingly, in the United States the exchange rates of the euro, the *British pound* and also the *yen* are seen as overvalued.

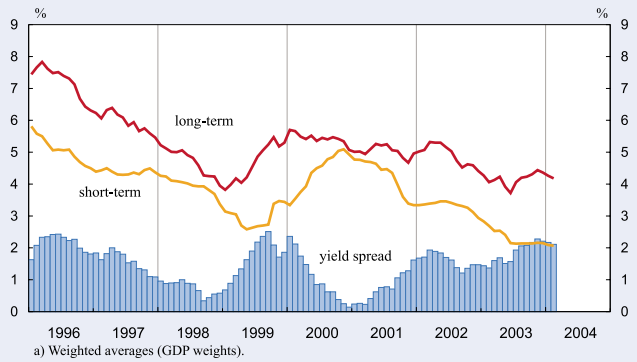
According to the responses to the supplementary survey question on the likely change in the exchange rates, the *US dollar* is expected to slip further vis-à-vis most currencies in the course of the next six months.

To our readers

This is the last report on the World Economic Survey in the CESifo Forum. Those interested in the survey results are kindly asked to consult the separate publication "CESifo World Economic Survey". That publication reports on many more countries and appears in February, May, August, and November, i.e. right after the survey results become available.
For subscriptions please contact
Ms. Anna Stangl, e-mail: stangl@ifo.de.

Financial Conditions in the Euro Area

Nominal Interest Rates [a)]

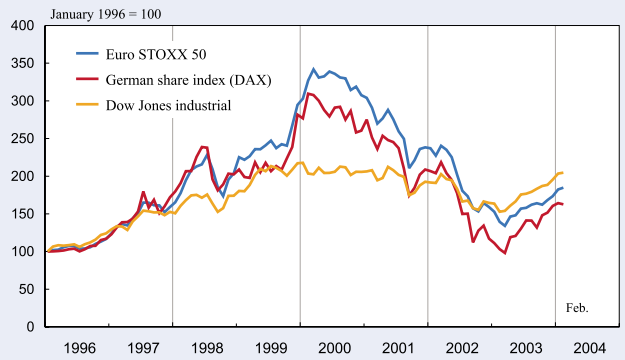


a) Weighted averages (GDP weights).

Sources: European Central Bank.

In the absence of any ECB interest rate cuts, short-term interest rates have remained flat, declining only marginally in January and February 2004 to average 2.07 in the latter month. Long-term rates, which peaked at 4.4% in November, declined to 4.2% in February. Accordingly, the yield spread narrowed from 2.3% to 2.1% over the same period.

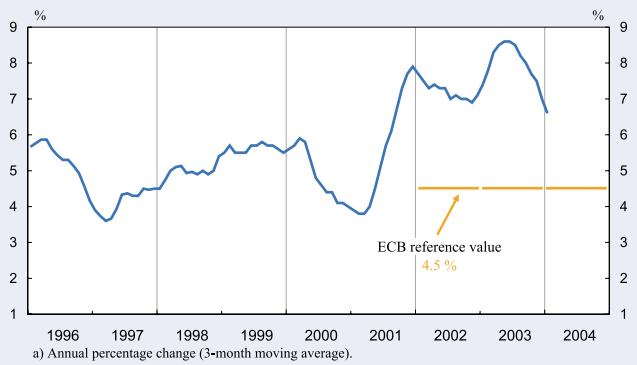
Stock Market Indices



Source: Deutsche Bundesbank, Dow Jones & Co., Inc.

Stock prices continued their upward trend through February 2004, but sharply declined in March. On March 27, the Euro STOXX closed at 2763, the DAX at 3822 and the Dow Jones Industrial at 10212.

Change in M3 [a)]

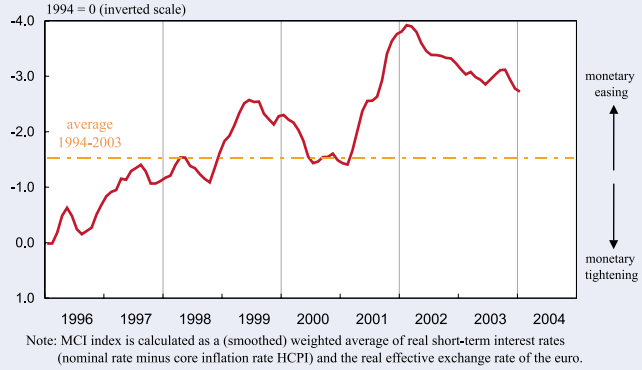


a) Annual percentage change (3-month moving average).

Sources: European Central Bank.

The annual rate of growth of M3 declined to 6.3% in February 2004, from 6.5% in January, thereby continuing the downward trend that began in the summer months of 2003. The three-month average of the annual growth rates of M3 over the period December 2003 to February 2004 decreased to 6.6% from 7% in the period November 2003 to January 2004. The ECB suspects that euro area investors are gradually shifting their portfolios toward longer-term and riskier financial assets outside M3.

Monetary Conditions Index

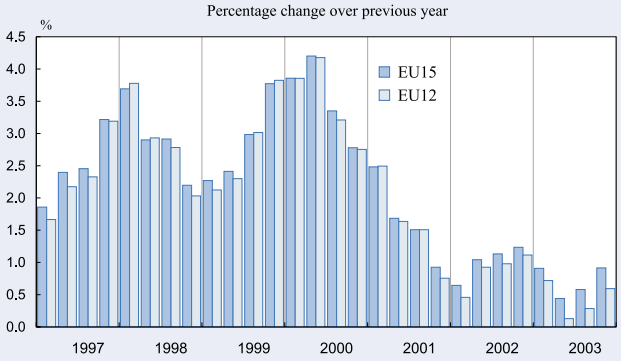


Note: MCI index is calculated as a (smoothed) weighted average of real short-term interest rates (nominal rate minus core inflation rate HCPI) and the real effective exchange rate of the euro.

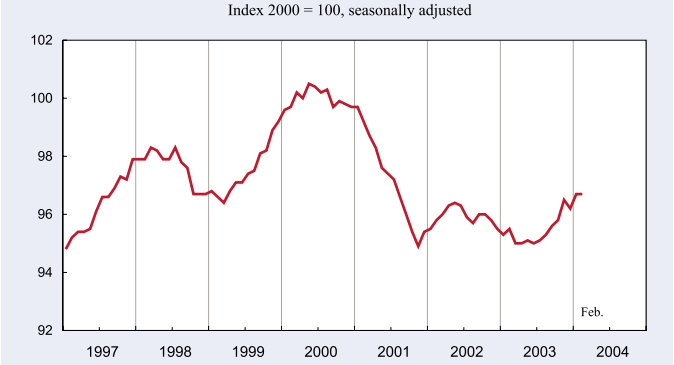
Sources: European Central Bank, calculations by the Ifo Institute.

This indicator of monetary conditions in the euro area (3-month moving average) continued to decline in January, albeit less than before. It thus reflected slightly less monetary easing. Both underlying statistics, the real short-term interest rate and the real effective exchange rate of the euro rose during the three-month period under consideration.

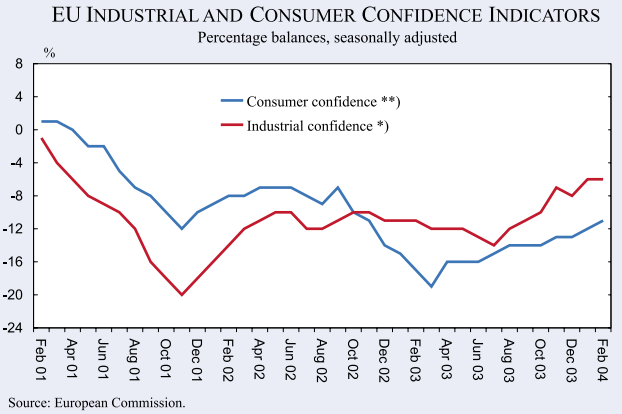
EU Survey Results



According to first estimates for the fourth quarter of 2003, euro-zone GDP grew by 0.3% and EU15 GDP grew by 0.4% compared to the previous quarter. Compared to the fourth quarter of 2002, GDP grew by 0.6% in the euro-zone and by 0.9% in EU15, after 0.3% and 0.6% respectively in the previous quarter. Investment rose faster than private consumption and imports faster than exports.

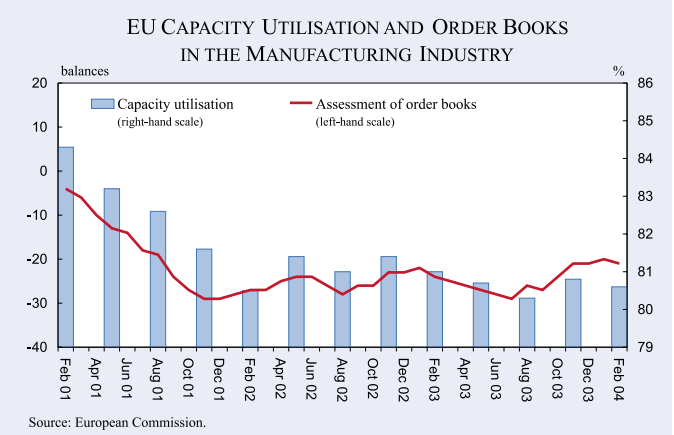


Following its nearly continuous increase since summer 2003, the Economic Sentiment Indicator in the EU stabilised in February at a level of 96.7. A small decrease in confidence in the construction sector was offset by an equally small increase in consumer confidence. The biggest improvement, by 0.6 percentage points, was registered by Denmark, the biggest deterioration, by 0.5 points, by Ireland. Among the larger Member States, economic sentiment saw an improvement in Germany and Spain, whereas in France and Italy the indicator worsened. It remained unchanged in the UK.



* The industrial confidence indicator is an average of responses (balances) to the questions on production expectations, order-books and stocks (the latter with inverted sign).
** New consumer confidence indicators, calculated as an arithmetic average of the following questions: financial and general economic situation (over the next 12 months), unemployment expectations (over the next 12 months) and savings (over the next 12 months). Seasonally adjusted data.

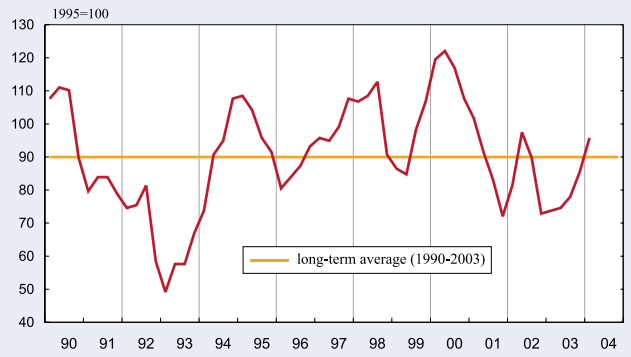
The *industrial confidence* indicator moved sideways at -6, a value representing a three year high. Among the components, production expectations remained unchanged, whereas *order books* and the *stock of finished products* worsened slightly compared to January. The *consumer confidence* indicator continued its upward trend that started a year ago, increasing by one point. The indicator improved by 7 points in the Netherlands and by 3 points in Germany.



As mentioned, EU *order books* declined against the previous month. The deterioration was most pronounced for France, Ireland and Austria. Denmark, Italy, Finland and the UK showed an improvement. *Capacity utilisation* fell again, to 80.6 in the first quarter of 2004 from 80.8 in the previous quarter.

Euro Area Indicators

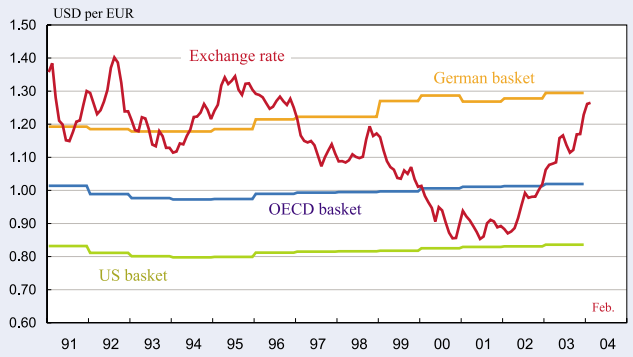
IFO Economic Climate for the Euro Area



Source: Ifo World Economic Survey (WES) QI/2004.

In Jnauary, the quarterly Ifo indicator for the economic climate in the euro area rose for the fifth time in succession. The assessments of the current economic situation improved even more than the already quite optimistic expectations for the next six months. In spite of the more favourable appraisals, the current economic situation is still far away from a satisfactory level. Within the euro area, the economic climate was considered most favourable in Finland, Ireland, Belgium, Spain, Greece, and Austria. In the Netherlands, Portugal, Italy, Germany, and France, the climate index lay below the euro-area average.

Exchange Rate of the Euro and PPPs

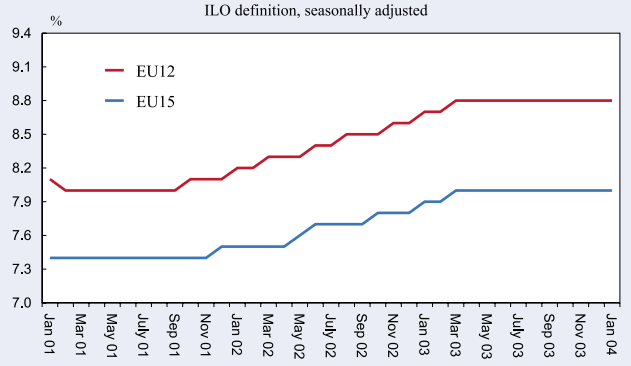


Sources: European Central Bank, Federal Statistical Office, OECD and calculations by the Ifo Institute.

The euro continued to appreciate against the dollar in February, averaging $1.2646. It declined, however, during the month of March, approaching its level of December 2003.

Unemployment Rate

ILO definition, seasonally adjusted

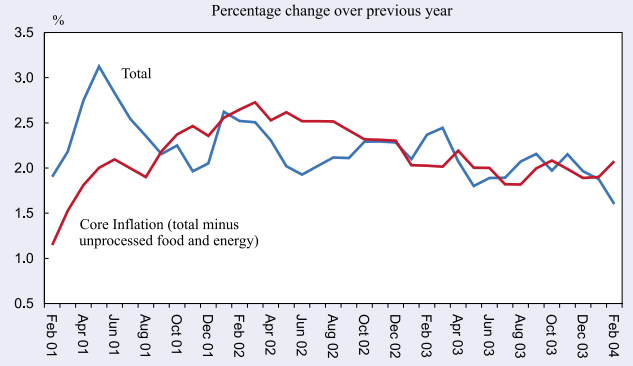


Source: Eurostat.

In January, the euro-area (seasonally adjusted) unemployment rate stood at 8.8%, unchanged from December 2003. It had been 8.7% in January 2003. The lowest rates were registered in Luxembourg (3.9%), the Netherlands (4.3% in December 2003), Austria (4.5%) and Ireland (4.6%). Spain's rate, at 11.2%, remained the highest, topping Finland's (9.0%), Germany's (9.2%), and France's (9.5%).

Inflation Rate (HICP)

Percentage change over previous year



Source: Eurostat.

Euro-area annual inflation fell from 1.9% in January to 1.6% in February 2004. It had stood at 2.4% a year earlier. Compared with January 2004, annual inflation fell in twelve Member States and rose in three (Italy, Luxembourg and Austria). Core inflation (adjusted for unprocessed foods and energy) rose from 1.9% in January to 2.1% in February.

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