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Wim Kösters and Ansgar Belke\*

# Slow Adjustment to Shocks or True Hysteresis?

## Lessons from the Different Labour Market Performances in Western Europe and the USA

*In Western Europe in the last two decades the unemployment rate has increased during cyclical downturns only to persist at or around the higher level in the following phase of economic recovery. One of the most notable exceptions to this pattern of unemployment persistence, often termed hysteresis, is the United States. The following article examines the empirical evidence and the possible theoretical explanations for this difference.*

Since the mid-seventies a permanent increase in the unemployment rate can be observed in many OECD countries, most clearly though in the EU countries where the rate has risen from about three per cent then to significantly over ten per cent now. One of the most disturbing features of the high rates of unemployment in the EU is the tendency for unemployment, after rising during a cyclical downturn, to persist at or around the higher level even when economic activity recovers again. This is a feature of each of the four unemployment cycles since 1966. Though the causative negative influences – identified as oil price shocks, excessive wage demands, dollar revaluation, restrictive monetary policy and consolidation of public budgets – typically vanished after the recession, most of the rise in unemployment did not disappear in the subsequent revival of economic activity.<sup>1</sup> This phenomenon of unemployment persistence is often synonymously called hysteresis although for true hysteresis to exist certain further conditions have to be fulfilled.<sup>2</sup> The most notable exceptions from the patterns of unemployment trends just described are the United States, Japan and some of the Scandinavian countries. It seems, however, that the United States has been able to avoid a rising trend in unemployment only by tolerating higher poverty and income inequality ("working poor") than that in Western Europe.<sup>3</sup> Excluding Japan, whose standardised unemployment rate in the long run moves around a level of less than

three per cent, the unemployment rate in the countries named above increased abruptly in the wake of recessions as was the case in Western Europe. In contrast to many Western European countries however, their unemployment rates regularly reached the same low level as in the preceding cycle at normal capacity utilisation in the periods of recovery following recessions. The US unemployment rate, however, has been significantly more volatile over the last two and a half decades than in Japan and the Nordic countries.<sup>4</sup> This might at first glance render the US labour markets more vulnerable to the working of hysteretic propagation mechanisms.

The empirical evidence for Western Europe suggests that the protracted increase in unemployment cannot be interpreted merely as a cyclical phenomenon. There is, rather, a broad consensus blaming imperfections of the labour markets and/or

<sup>1</sup> Cf. C. R. Bean: European Unemployment: A Retrospective, in: European Economic Review, Vol. 38, 1994, pp. 523 f.; J. Elmeskov, M. MacFarlan: Unemployment Persistence, OECD Economic Studies, 1993, No. 21, p. 60; W. Kösters, A. Belke: Arbeitslosigkeit in Westeuropa – Ein Hysteresis-Phänomen?, in: E. Kantzenbach, O. G. Mayer (eds.): Beschäftigungsentwicklung und Arbeitsmarktpolitik, Schriften des Vereins für Socialpolitik, Vol. 219 new series, Berlin 1992, p. 10.

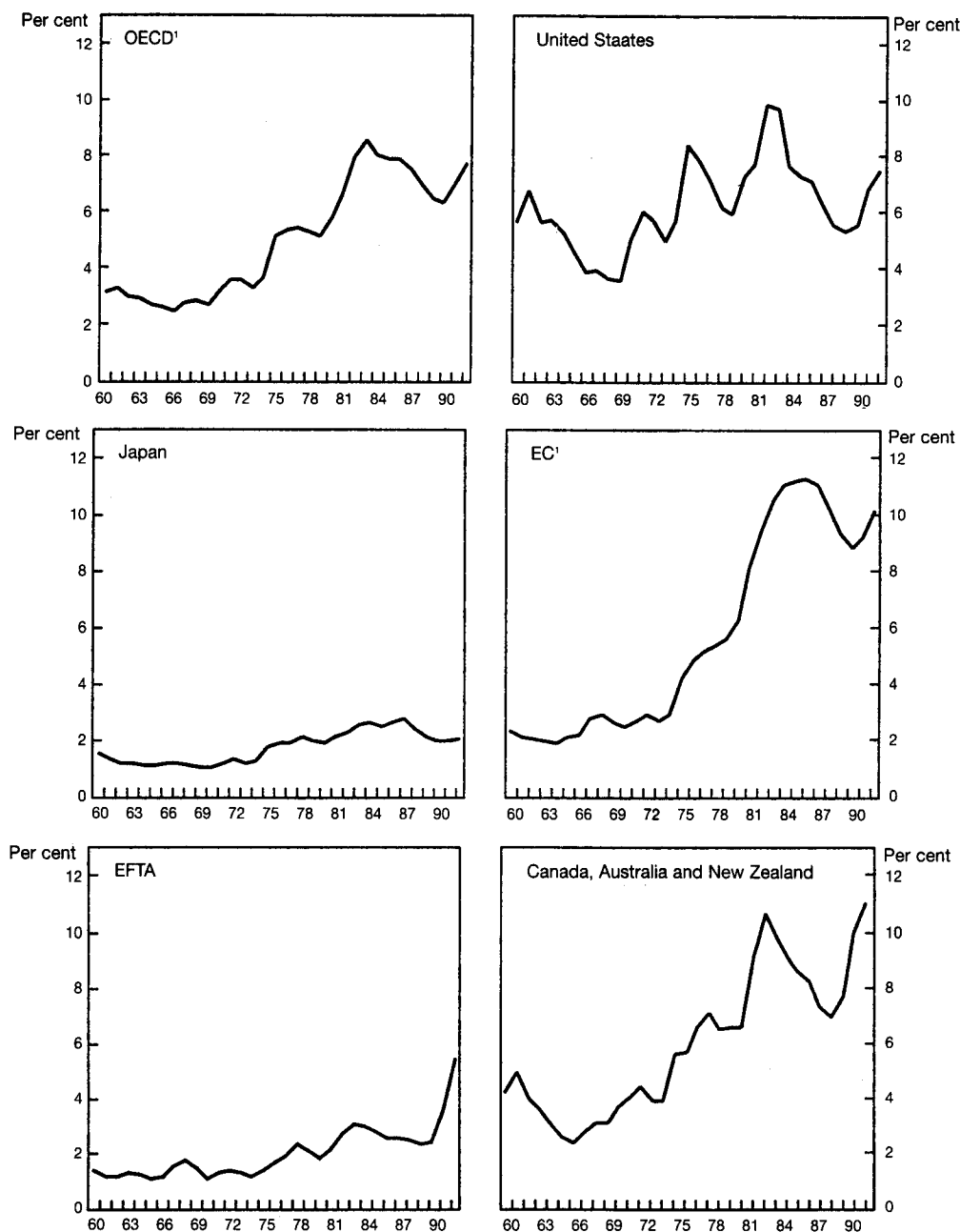
<sup>2</sup> Cf. W. Franz (ed.): Hysteresis Effects in Economic Models, Studies in Empirical Economics, Heidelberg 1990; W. Kösters, A. Belke, op. cit.

<sup>3</sup> Cf. B. Bosworth: Unemployed in Europe Versus Poor in America, in: International Economic Insights, March/April 1994, pp. 2-5; P. Krugman: Past and Prospective Causes of High Unemployment, in: Economic Review, Federal Reserve Bank of Kansas City, Vol. 79, 1994, p. 31.

<sup>4</sup> Cf. C. R. Bean: European Unemployment: A Survey, in: Journal of Economic Literature, Vol. 32, 1994, p. 573; J. Elmeskov: High and Persistent Unemployment: Assessment of the Problem and Its Causes, in: OECD Economics Department Working Papers, No. 132, Paris 1993, pp. 5 f.; W. Kösters, A. Belke, op. cit., pp. 10 ff.

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**Figure 1**  
**Unemployment Rate**



<sup>1</sup> Includes only Western Germany.

Source: J. Elmeskov, M. MacFarlan: Unemployment Persistence, OECD Economic Studies, 1993, p. 61.

government interventions for the European unemployment malaise. In particular, it is often stated that there were no significant decreases in wage growth following recessions in Western Europe, although there were in the United States. Significant decreases in wage growth, however, could have led – besides the consideration of the interests of the employed, the so-called “insiders” – to proper regard

being paid to the interests of the unemployed, the “outsiders”. Moreover, Western European labour markets reveal a substantially higher degree of regulation than the US labour market, inducing considerable impediments on both the labour supply side and the labour demand side. First, the marginal burden of taxes and public charges on employees is markedly higher in Western Europe, driving a wedge

between gross and disposable earnings and thereby reducing incentives for the unemployed to search for and to take up a new job. A similar negative impact is ascribed to the more generous unemployment insurance system in Western Europe. Second, higher non-wage labour costs (including fringe benefits) as well as legal regulations like e.g. the rigid regulations concerning protection from dismissal and hours of work constrain labour demand in Western Europe. Third, relative scarcities are taken into consideration only insufficiently in the Western European wage-setting process because of the lower degree of wage differentiation. In contrast to the USA, where wages for lower qualified workers even fell in the past, wages for low-skilled workers grew in many Western European countries at the same rate at least as average earnings.<sup>5</sup>

In this connection it is remarkable that the wage structure with respect to different income groups levelled slightly in the 1980s in Western Germany as the only country of the 17 OECD industrialised member states. In twelve other OECD countries, among them Belgium, France, the United Kingdom, the Netherlands, Sweden and the USA, on the other hand, the wage structure has continued to differentiate. In the latter countries a widening of the wage difference between high-skilled and low-skilled workers – as is the case for the USA – could be observed.<sup>6</sup> In addition, legal regulations concerning minimum wages affected a growing number of employees in Western Europe. Moreover, negotiated standard wage rates were often changed into minimum wages by means of governmental regulations (as e.g. in Germany) so that the protracted high unemployment in Western Europe can be explained to a significant extent as unemployment due to minimum wage agreements. The higher degree of regulation of the Western European labour markets makes the reintegration of the unemployed more difficult. This manifests itself in the important fact that long-term unemployment (>12 months as a percentage of total unemployment) is markedly higher in Western Europe ( $\approx 40\%$ ) than in the United States

( $\approx 10\%$ ). Another striking feature pointing in the same direction is the – empirically well-founded – growing importance of diminishing outflow rates in comparison to increasing inflow rates from unemployment for the protracted high unemployment in the EU.<sup>7</sup> Seen altogether, structural unemployment in Western Europe continued to rise during the recent business cycle. An important exception to this development, however, is represented by the United Kingdom where the unemployment rate – measured by OECD standards – has tended to decrease since the beginning of the 1980s. Apart from the liberalisation of the labour market preponderantly by legal restrictions of union power to reduce worker militancy this decrease is largely attributed to an increase in the incentives to work by means of a significant reduction in marginal tax rates on labour input. Both measures were enacted by the Thatcher government. It has, however, to be suggested that a limitation to merely anti-union legislation may even be counterproductive.<sup>8</sup>

Recently, barriers to more employment were reduced in some other European countries, too, by agreeing upon moderate wage growth rates and increasing the flexibility of the labour markets in several respects. For example wage indexation has been abrogated in Italy. At the same time restrictions to the hiring of workers have been relaxed significantly. In Spain entrant wages below statutory minimum wages – similar to the US-style two-tier wage contracts – have been agreed upon for special groups of workers. In some countries, among them Germany, a tendency to more flexible working time arrangements has sporadically become perceptible.<sup>9</sup>

The preceding statements suggest that the striking differences between the labour market performances of industrialised countries in the last decades do not primarily depend upon cyclical factors but to a great

<sup>5</sup> Cf. C. R. Bean: *European Unemployment: A Survey ...*, op. cit., p. 595; W. Kösters, A. Belke, op. cit., p. 31; R. Soltwedel et al.: *Regulierungen auf dem Arbeitsmarkt der Bundesrepublik*, Kieler Studien, Institute of World Economics, Kiel, No. 233, Tübingen 1990, pp. 1 f. and p. 59.

<sup>6</sup> Cf. K.-J. Gern, K.-W. Schatz, J. Scheide, R. Solveen: *Industrieländer: Stabilitätsorientierte Geldpolitik – fortgesetzter Aufschwung*, Thesen zum 51. Kieler Konjunkturgespräch, 1995, pp. 18 f.; OECD: *Employment Outlook*, July 1993, Paris, Table 5.2.; H. Siebert: *Geht den Deutschen die Arbeit aus? Neue Wege zu mehr Beschäftigung*, Munich 1994, pp. 133 ff.

<sup>7</sup> Cf. C. R. Bean: *European Unemployment: A Survey ...*, op. cit., pp. 575 f.; W. Kösters, A. Belke, op. cit., p. 20; OECD: *Employment Outlook*, July 1995, Paris, p. 219.

<sup>8</sup> Cf. "Papering over the Cracks", in: *Financial Times*, 9. 12. 1993, quoted in: *Deutsche Bundesbank, Auszüge aus Presseartikeln*, No. 88, p. 14; W. Franz, S. Profit: *Wege aus der Unterbeschäftigung*, in: H. König (ed.): *Bringt die EU-Beschäftigungsoffensive den Aufschwung? Die deutsche Wirtschaftsforschung nimmt Stellung zum Delors-Weißbuch*, ZEW-Wirtschaftsanalysen, Sonderband 1/1994, Mannheim 1994, p. 107; C. Wyplosz: *Demand and Structural Views of Europe's High Unemployment Trap*, INSEAD Working Paper Series, No. 57, Fontainebleau, France 1994, p. 42. A. Belke, M. Göcke: *Starke Hysteresis auf dem Arbeitsmarkt*, in: *ZWS – Zeitschrift für Wirtschafts- und Sozialwissenschaften*, Vol. 114, 1994, pp. 345-377, explain protracted high unemployment on the micro- and on the macro-level even in the absence of unions.

<sup>9</sup> OECD: *Economic Outlook*, Paris, December 1994.

extent on the longer-term trends on the labour market. These facts can be elucidated with the help of Table 1, which emphasises the causal link between growth and employment.

As Table 1 demonstrates, the number of employed persons in the period 1970-1994 grew in the USA and Canada by approximately 2% p.a., but in Western Europe merely by 0.3% p.a. This difference appears even more aggravating if one takes into consideration that the additional employment in Western Europe mainly stems from the expansion of the public sector. Employment in the private sector has even been declining. In contrast to this, the main part of the additionally employed in Northern America found jobs in the private sector.<sup>10</sup> Since, as shown in Table 1, the average annual growth rates of real GDP in the USA and in Western Europe are about the same, the different development of employment cannot be attributed to different real growth rates of output. Rather, the conclusion seems to be appropriate that real output growth has a far less positive effect on employment in Europe than in Japan and the USA. With respect to Western Germany, for example, the "employment threshold" (i.e. the real GDP growth rate compatible with a constant level of employment) is

**Table 1**  
**Employment and Production in Selected**  
**Industrialised Countries 1970-1994**  
(Average annual increases)

Country	Real GDP	Potential labour force <sup>a</sup>	Labour force (employed and unemployed)	Employed persons	"Employment gain" <sup>b</sup>
United States	2.6	1.2	1.8	1.8	103
Canada	3.3	1.7	2.2	2.0	73
Japan	3.9	0.8	1.0	1.0	86
Western Europe <sup>c</sup>	2.6	0.8	0.7	0.3	29
Western Germany	2.4	0.7	0.7	0.3	31
France	2.5	0.8	0.7	0.2	18
Italy	2.6	0.5	0.4	0.1	12
UK	2.0	0.3	0.4	0.1	24

<sup>a</sup> Persons aged 15 to 65 years.

<sup>b</sup> Absolute increase in the number of employed persons as a percentage of the absolute increase in the number of persons of employable age, 1970-1994.

<sup>c</sup> Eastern Germany not included.

Data sources: OECD: Economic Outlook, Paris, December 1995; calculations by the Kiel Institute of World Economics.

Source: Cf. K.-J. Gern, K.-W. Schatz, J. Scheide, R. Solveen; Industrieländer: Stabilitätsorientierte Geldpolitik – fortgesetzter Aufschwung. Thesen zum 51. Kieler Konjunkturgespräch, 1995, p. 16.

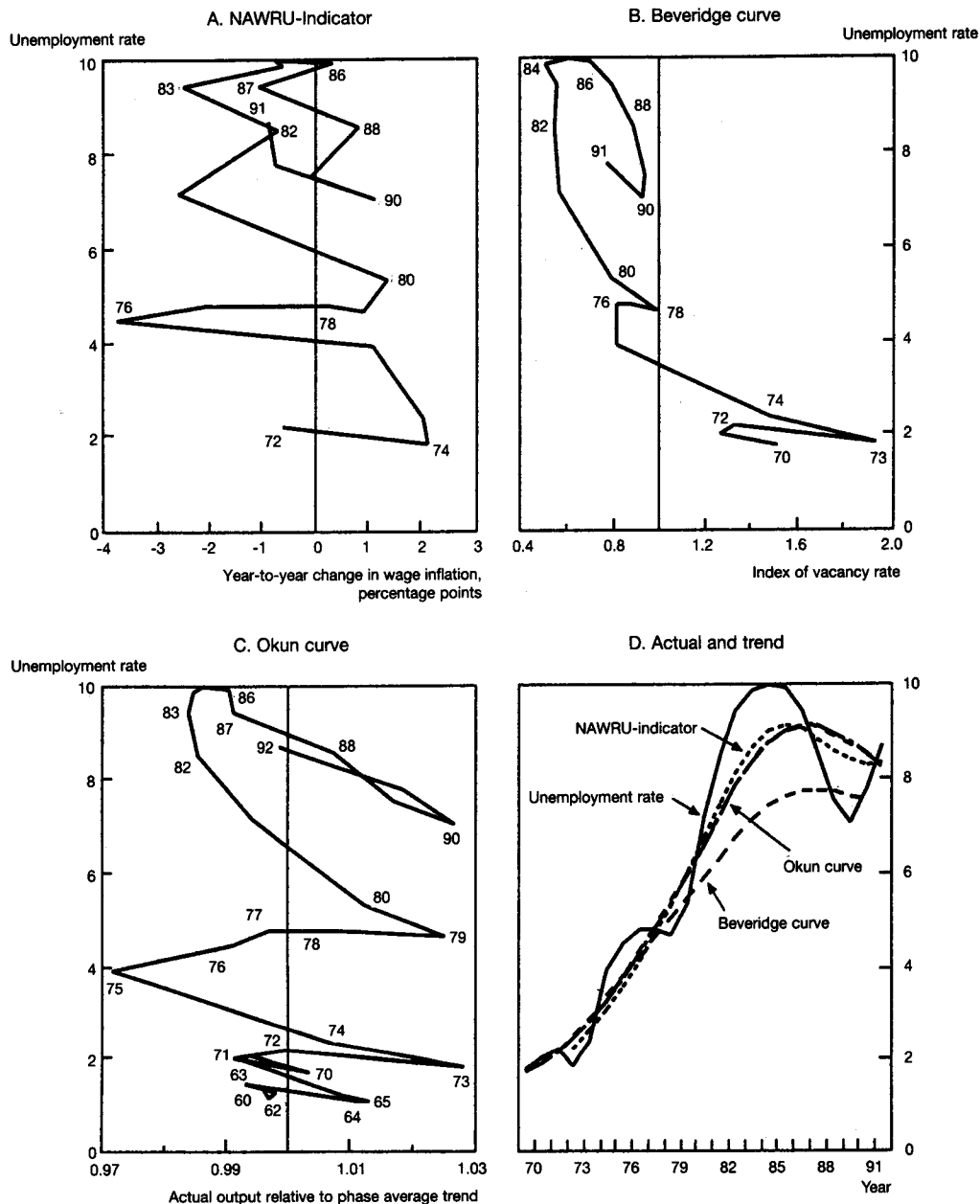
estimated to be approximately 1.7 per cent for the period 1970-1989. When deriving recommendations for suitable economic policies it consequently has to be kept in mind that focusing solely on real output growth turns out to be insufficient to guarantee a high employment-intensity of growth (defined as the relation of employment to GDP). At GDP growth rates of 1.7 per cent and less there is the danger of "jobless growth" as has often been pointed out with respect to Western Europe lately. Especially for Western Germany this argument is relevant with respect to the sometimes proposed aim of industrial growth, since the share of persons employed in the manufacturing sector diminished from 38% in 1970 to roughly 30% in 1994. This aspect is stressed in the European Commission's 1993 White Paper, when it deals with fighting the European unemployment problem by means of industrial policy. The strategy of concentrating public aid to foster the growth of large enterprises seems highly problematical, since in Germany and other EU member states the majority of existing and, especially, new jobs are in small and medium-sized firms.<sup>11</sup>

As suggested by the comparison of labour market performance and labour market regulations in Western Europe and the USA above, employment intensity possibly depends on factors other than real output growth, such as e.g. the wage level, the wage structure and the details of the labour market constitution. In Japan too the "employment gain" amounting to 85 per cent is much higher than in Western Europe. The data, therefore, do not support the view that an increase in the labour supply in recent decades caused the European unemployment crisis. US employment performance, however, appears even more positive in comparison to Western Europe, since the average growth rate of the number of persons of employable age and the growth rate of the labour force were substantially higher (Table 1). Though the labour supply situation in the USA has consequently been more unfavourable than in the EU, employment in the USA has increased even more than the growth of the number of persons of employable age which amounted to an „employment gain“ of 103 per cent (Table 1). In contrast to this the „employment gain“ in Western Europe was only 23 per cent.

<sup>10</sup> Cf. K.-J. Gern et al., op. cit., p. 13.

<sup>11</sup> Cf. Commission of the European Communities: Weißbuch: Wachstum, Wettbewerbsfähigkeit, Beschäftigung – Herausforderungen der Gegenwart und Wege ins 21. Jahrhundert, in: Bulletin der Europäischen Gemeinschaften, Beilage 6/1993, pp. 49 ff. and 139; H. Siebert, op. cit., pp. 64 ff.

**Figure 2a**  
**Actual and Trend Unemployment (EU)**



### Empirical Findings of Policy Oriented Research

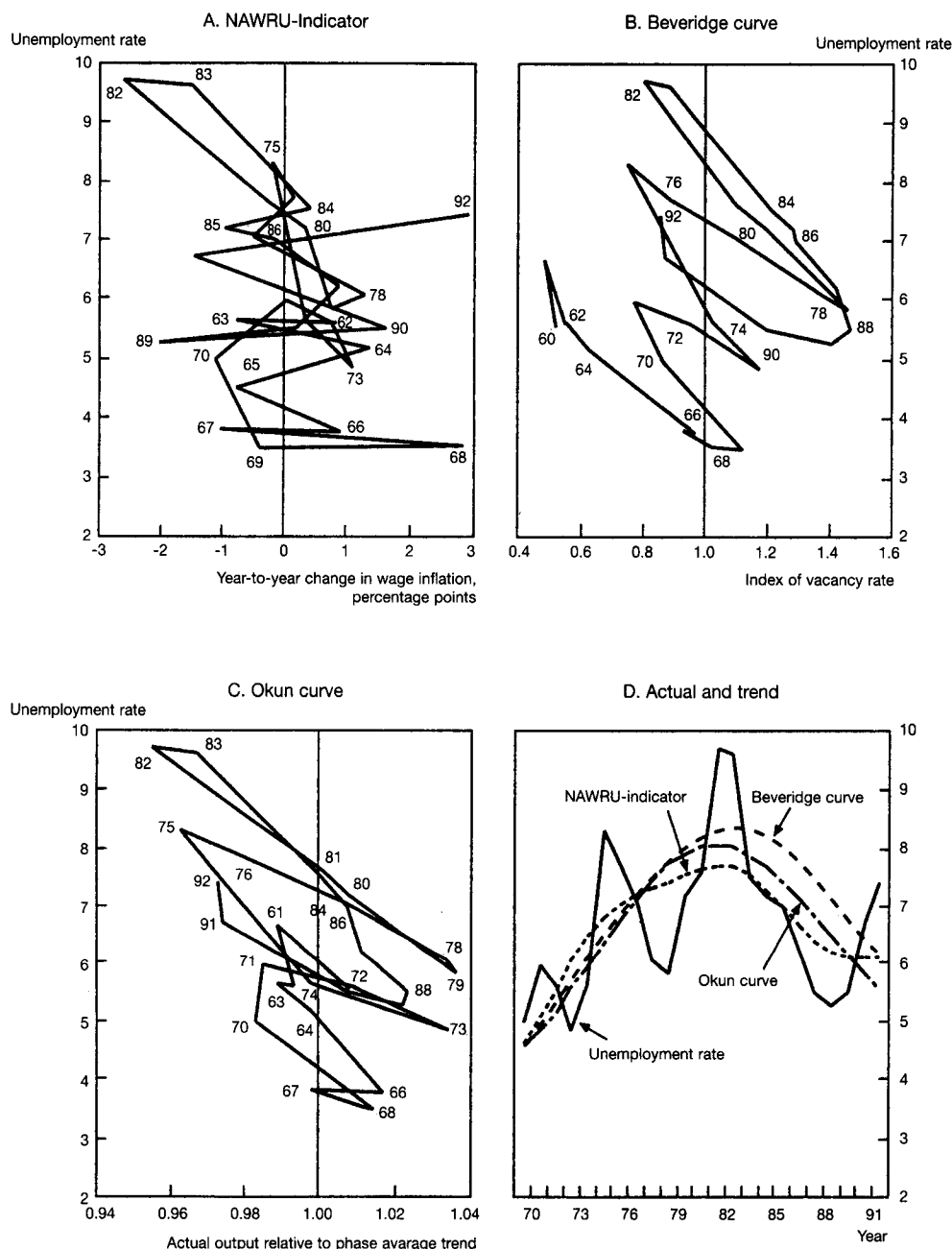
The problem of fighting unemployment efficiently can only be discussed after its possible causes have been analysed more closely. The overwhelming majority of empirical studies<sup>12</sup> show that most European unemployment is not of the demand-deficiency but of the structural variety: "the demand component ... represents a relatively thin crust lying on top of a fat layer of structural unemployment ...".<sup>13</sup> This has usually been empirically proved by shifts in

the NAWRU (non-accelerating wage rate of unemployment) or NAIRU (non-accelerating inflation rate of unemployment), the Okun curve and the Beveridge curve. Figure 2 shows the development of the

<sup>12</sup> Cf. e.g. J. Elmeskov, M. MacFarlan, op. cit.; P. Krugman, op. cit., pp. 24 ff.; C. Wyplosz, op. cit.

<sup>13</sup> C. Wyplosz, *ibid.*, pp. 8 f. This view is principally shared by most of the empirical labour market research and among others also by the Commission of the European Communities: *The Composition of Unemployment from an Economic Perspective*, Analytical Study No. 3, Brussels 1995, p. 12.

**Figure 2b**  
**Actual and Trend Unemployment (United States)**



1. EC: Germany, France, United Kingdom, Belgium and Denmark.

2. NAWRU-indicator: consecutive yearly observations can be combined to provide an estimate of the NAWRU by linear interpolation, e.g. in 1983 wages decelerated by about 2 percentage points at an unemployment rate of 7.7 per cent while in 1984 wages accelerated by about 0.5 percentage points at an unemployment rate of 7.1 per cent, suggesting a NAWRU of about 7.2 per cent.

3. Beveridge curve: the index of the vacancy rate is calculated by weighting together, with labour force weights, individual country indices based on average for the period 1970-91 equal to 1. Individual country indices are calculated from actual vacancy rates.

4. The trends are based on yearly estimates of unemployment rates which would have (a) stabilised wage inflation, (b) resulted in a normal vacancy rate or (c) led to a normal rate of capacity utilisation. These estimates have subsequently been smoothed using a Hodrick-Prescott filter. For a detailed derivation of the trend measures in figure 2.D. see the technical annex in Elmeskov (1993), pp. 94 ff.

Source: J. Elmeskov, M. MacFarlan: Unemployment Persistence, in: OECD Economic Studies, No. 21, Paris 1993, pp. 64 and 66.

NAWRU, the Okun curve and the Beveridge curve over time with respect to a sample of selected EU countries.

As illustrated in Figure 2, the development of most European unemployment can be empirically explained by shifts in these curves. Given levels of wage acceleration, vacancy rates and capacity utilisation today appear to be associated with significantly higher unemployment rates than two decades ago.<sup>14</sup> At first glance, corresponding to our definition the shifts of the Beveridge curve appear solely to indicate increased difficulties in matching supply and demand in the labour market and for this reason rising structural rather than cyclical unemployment.<sup>15</sup> However, outward shifts of the Beveridge curve do not necessarily only reflect increased mismatch. Instead, they might e.g. also be the result of a lower search intensity or of a stigmatisation of the long-term unemployed as outlined below and tested for empirically in some studies. The ratchet effects with respect to the Okun curve, however, suggest increasing capital shortage in the sense that the capital stock has been increased insufficiently to a growing extent over time to employ the complete labour force in the wake of recoveries after recessions.

Therefore, Figure 2 demonstrates that in the European Union – in contrast to the USA – the rise in structural unemployment seems to be the dominant cause of increases in the unemployment rate. In the USA increases in structural (and actual) unemployment tended to revert to previous levels during the eighties, and in Japan structural (and actual) unemployment has remained very low. The EFTA countries on the other hand were only recently hit after a protracted period of low unemployment rates by sharp increases in actual and structural unemployment.

## Theoretical Explanations

As implied by Figure 2, structural unemployment in a wider sense can have many causes, each of which requires a different therapy. It can be the outcome either of the slow adjustment of the economy to endogenous or exogenous shocks towards a given natural rate or of changes in the equilibrium unemployment rate (natural rate) itself or of hysteresis. All these phenomena are usually discussed in the

framework of an expectations-augmented Phillips curve of the Friedman-Phelps type.

The hypothesis of a “slow adjustment” implies the maintenance of a time-path independent natural unemployment rate as a “centre of gravitation” of the labour market dynamics determined solely by structural factors. Demand-side policies would then merely cause temporary expectation errors and thus temporary deviations of the actual unemployment rate from its natural level. In this concept the extent of structural unemployment in a narrow sense is that level of unemployment which is compatible with a constant steady state inflation rate resulting from a zero expectation error. It is equivalent to the natural rate in Friedman and Phelps’ definition, i.e. that long-run equilibrium unemployment rate which is determined by the underlying structural characteristics of the labour market. Thus an increase in structural unemployment will shift the natural rate or NAIRU upwards. The demand-deficient or cyclical component of unemployment can then be distinguished from structural unemployment, since the former occurs only temporarily, dependent on cyclical factors. This strict differentiation is usually denoted as “structural-demand distinction” or “structural-cyclical distinction” in the literature.<sup>16</sup>

The empirical distinction and its theoretical explanation were, however, called into question when it became obvious at about the mid 1980s that the increase in Western European unemployment was more than a cyclical deviation from a constant natural rate. Furthermore, the empirical evidence indicated that an increase in the unemployment rate caused at first by cyclical factors could produce an upward shift in structural unemployment and, therefore, in the natural rate. In this way a persistence of the decrease in employment would be effected and the distinction between cyclical and structural unemployment would no longer be clear cut. Instead, it would be more appropriate to describe and to explain sustained high unemployment by the so-called hysteresis phenomenon. “Hysteresis” is a specific feature of persistence in economic relations. In general, the hysteresis phenomenon can be described as a property of open dynamic systems with respect to the long-term equilibrium, or more specifically a time-path dependence of the system’s equilibrium. In

<sup>14</sup> Cf. also C. R. Bean: *European Unemployment: A Survey ...*, op. cit., pp. 574 ff., 591 and 613.

<sup>15</sup> For methodological and statistical caveats cf. J. Elmeskov, op. cit., pp. 9 f. and 95.

<sup>16</sup> Cf. C. R. Bean: *European Unemployment: A Retrospective ...*, op. cit., pp. 523; P. Krugman, op. cit., p. 25; E. Malinvaud: *The Theory of Unemployment Reconsidered*, Oxford 1977; C. Wyplosz, op. cit., pp. 4 ff.



the case of hysteresis, effects of past values of the explanatory variable on the explained variable remain; thus, hysteresis describes permanent effects of a transitory cause.<sup>17</sup> This implies that the present level of structural unemployment (in the wider sense) depends on past levels of actual unemployment. The potential relevance of hysteresis effects with respect to the EU countries is indicated in Figure 2a(D), which conveys the impression that the increasing trend of unemployment rates clearly moves in line with actual unemployment rates.

Since unemployment thus became path-dependent, the concept of a unique natural rate no longer holds and the clear-cut structural-demand distinction referred to above also becomes blurred: "... the equilibrium path of the unemployment rate is driven by a natural rate that is a variable of the system rather than a constant or a forcing function of time. The endogenous natural rate becomes the moving target that the equilibrium path constantly pursues".<sup>18</sup>

The fact that in the case of hysteresis temporary supply and demand shocks will permanently shift the level of unemployment is surely important information for policymakers. However, it does not by itself reveal the causes of this phenomenon and, therefore, does not lead straightforwardly to specific policy recommendations. With hysteresis in unemployment, indeed, it cannot be excluded a priori that expansionary demand management – if proper fine tuning is possible – could result in permanent employment gains accompanied only by a limited amount of additional steady-state inflation. This view is of course favoured by Keynesians. If, however, the causes for hysteresis in unemployment were, instead, deeper-rooted in the dynamics of labour market adjustments, more subtle structural and microeconomic policies would probably be more successful.

The growing popularity of the hysteresis approach has resulted from the obvious failure by usual Keynesian (demand-oriented) and/or neo-classical (supply-oriented) approaches to cover the stylised facts of the development of unemployment in Western Europe more completely. With respect to the demand and supply shocks of the last two decades these

traditional approaches are at best able to deliver explanations for the increase in unemployment but not for its persistence at a higher level thereafter in spite of the cessation of these shocks. They can, therefore, only explain some of the facets of the phenomenon of unemployment but not all.<sup>19</sup>

### Insider-Outsider-Approach

There are at least three types of possible explanation for the long-lasting or permanent unemployment effects of temporary shocks to the economy. These can be termed the "insider-outsider", the "human capital" and the "physical capital" approaches. A first propagation mechanism which is able to generate the kind of path-dependence necessary for hysteresis relies on the distinction between "insiders" and "outsiders" in the labour market. This distinction is somewhat broader than the distinction between the union and the non-union sector, or between employed and unemployed. Those unemployed for a short duration might reasonably be included in the insider group together with the employed, whereas those unemployed for a longer duration would be included in the outsider group. Blanchard and Summers as well as Lindbeck and Snower developed slightly different formal models in which insiders have an influence on the wage bargaining process whereas outsiders have not.<sup>20</sup> Both approaches rely heavily on the assumption that insiders are primarily interested in maximising their real incomes and in safeguarding their own employment. This leads to hysteresis in the natural rate since changes in employment are reflected in changes in the membership of the insider group. This group has, however, sufficient market power to prevent real wages, and hence employment, from adjusting to equilibrium values. It transforms short-lived cyclical into longer lasting structural unemployment (in the wider sense).

The two approaches differ concerning the source of insider power. Whereas Blanchard and Summers emphasise an employment-dependent union membership status and thereby rely on additional assumptions, Lindbeck and Snower trace back the source of insider power to a simple sunk cost argument valid even in the absence of unions. They

<sup>17</sup> For a detailed description of hysteresis as a property of systems cf. A. Belke, M. Göcke: Cointegration and Structural Breaks in German Employment, *Volkswirtschaftliche Diskussionsbeiträge*, No. 214, Westfälische Wilhelms-Universität, Münster 1995, pp. 1 ff.

<sup>18</sup> E. S. Phelps: *Structural Slumps – The Modern Equilibrium Theory of Unemployment, Interest, and Assets*, Cambridge, Mass. – London 1994, p. 1.

<sup>19</sup> Cf. C. R. Bean: *European Unemployment: A Survey ...*, op. cit., p. 603; W. Kösters, A. Belke, op. cit., pp. 13 f.

<sup>20</sup> Standard references are O. J. Blanchard, L. H. Summers: *Hysteresis and the European Unemployment Problem*, in: *NBER Macroeconomics Annual*, Vol. 1, 1986, pp. 15-78; and A. Lindbeck, D. Snower: *The Insider-Outsider Theory of Employment and Unemployment*, Cambridge, Mass. 1988.

base their model on the basic insight that it is costly for a firm to exchange current, full-fledged employees (the insiders) for unemployed workers (the outsiders) and that the rent associated with this turnover cost can be absorbed by the insiders in the process of wage negotiation. Three separate types of insider-outsider turnover costs can be differentiated: the costs of hiring, training and firing, the costs that arise when insiders tend to withdraw cooperation from entrants ("harassment") and the costs implicit in the adverse effect of labour turnover on work effort. Since these costs represent "sunk costs" with respect to the insiders, the turnover costs generate an economic rent, i.e. the firm would be willing to pay something more in order to avoid a turnover. The insiders are assumed to have enough bargaining power to capture part of this rent. More specifically, they raise their wage demands above the entrant wage, but by no more than the relevant turnover costs.<sup>21</sup>

### Human Capital Approach

A second mechanism which is to a great extent complementary to the "insider-outsider" approach works through human capital. Essentially, the human capital approach holds that workers who are unemployed lose the opportunity to maintain and update their skills by working ("learning by doing", "on-the-job training"). According to this approach, missing work experience also has negative effects on important attitudinal aspects of the work ethic such as getting to work on time. It is argued that prolonged unemployment may lead to a deterioration of the job seeker's skills and motivation. If employers, therefore, use duration of unemployment as a screening device, the mere fact of being out of work for a longer time may be deemed by them to be a negative signal about expected productivity. Since, in addition, structural change devalues their human capital, outsiders after a while no longer represent effective competitors in the labour market. To sum up, the disconnection of outsiders from the labour market results on the one hand from the fact that they become progressively unattractive to employers and on the other hand that their search intensity drops.<sup>22</sup> In effect, the unemployed lose their influence on the wage bargaining process as there are increasingly fewer incentives for

the bargaining cartel to sacrifice insider interests and allow for a substantial wage differentiation which would disadvantage those insiders with similar characteristics to the relevant, e.g. unskilled and/or older, outsiders.<sup>23</sup> This implies long-lingering effects of current unemployment on future unemployment. It was indicated empirically for Western Europe earlier in this paper by the increasing share of long-term unemployment in total unemployment and by the apparent outward shift of the Beveridge curve in Figure 2.

### Institutional Propagation Mechanisms

Obviously, government interference can aggravate the workings of the "insider-outsider" mechanism and the human capital mechanism. First, minimum wages or rigid pay scales may prevent people with actually or seemingly decreasing human capital from pricing themselves into a job. In addition, minimum wages prevent employers from engaging less productive workers, which strengthens the dualisation of the labour market. France, Luxembourg, the Netherlands, Portugal and Spain are all EU countries with nationwide minimum wages imposed by law. In five other countries minimum wages are the outcome of bargaining on the national (Belgium and Greece) or industry level (Denmark, Germany and Italy). The only exceptions concerning mandatory minimum wages are the UK and Ireland. Second, strict legal employment protection, restrictions on hiring and firing (statutory seniority systems) and regulation of part-time work enhance the rents which are potentially exploitable by insiders. The third and perhaps most relevant government interference which can cause hysteresis effects is the specific shaping of the social security systems in many EU countries especially with respect to unemployment pay, direct interventions in the labour market and welfare payments. This corresponds to the thesis put forward by Krugman and others that distortions caused by the welfare state are the principal cause of the differences in labour market performance observed in Western Europe and the USA which were described at the beginning of this paper.<sup>24</sup> Yet, Krugman and Bosworth concede the existence of a trade-off between poverty

<sup>21</sup> Cf. A. Belke, M. Göcke: *Starke Hysteresis ...*, op. cit., pp. 355 ff., who analytically demonstrate the applicability of this micro-founded sunk cost approach to the explanation of hysteretic unemployment as a macro-phenomenon.

<sup>22</sup> O. J. Blanchard, P. A. Diamond: *Ranking, Unemployment Duration and Wages*, in: *Review of Economic Studies*, Vol. 57, 1994, pp. 417-434.

<sup>23</sup> Cf. K. H. Paqué: *Unemployment and the Crisis of the German Model: A Long-Term Interpretation*, Working Paper No. 655, Institute of World Economics, Kiel 1994, p. 17.

<sup>24</sup> Cf. B. Higgins: *Reducing Unemployment: Current Issues and Policy Options: A Summary of the Bank's 1994 Symposium*, in: *Economic Review*, Federal Reserve Bank of Kansas City, Vol. 79, 1994, pp. 48 f.; P. Krugman, op. cit., pp. 28 ff.; E. S. Phelps, op. cit., pp. 62 ff.

and inequality on the one hand and unemployment on the other. This trade-off might prevent reforms of the European labour market from being implemented which could lead to a new constitution supporting the creation of new jobs better than the existing one. The disincentive arises since reforms might lead to the "working poor" phenomenon already established in the USA. Welfare payments and unemployment pay can be seen as politically defined minimum income which creates connections to the labour market as in a system of "communicating tubes".<sup>25</sup>

Two aspects of the "system of communicating tubes" deserve special attention with respect to the explanation of protracted high unemployment. First, it has been suggested that in Germany, for example, the difference between income from social security and earned income is too small from an incentive point of view.<sup>26</sup> A substantial argument supporting this point is that a new (higher) reservation wage rate is defined by social security payments which is used by the unemployed to evaluate the utility of leisure in comparison to their labour supply decision. Especially for workers in low-wage segments incentives arise to prefer jobs in the shadow economy to entering into official employment contracts. Empirical evidence shows that if unemployment payments are granted for a long time-span and to a relatively high amount (i.e. a high replacement ratio defined as the percentage value of benefits vis-à-vis earned net wages) the intensity of job search will be lowered, job acceptance will be reduced, and long-term unemployment will tend to increase. Moreover, enterprises will be more inclined to dismiss workers the more comprehensive the social security system is. This is especially obvious in the case of transitional retirement arrangements. In addition, the knowledge of having a generous benefit system improves the bargaining position of wage-earners in wage negotiations. It follows from this strain of argument that a politically defined minimum income reduces the effect of unemployment on moderating wages. Collective wage bargaining cartels are thus induced to neglect outsider competition on behalf of insider interests. Hence, the shaping of the unemployment insurance system can impede an economically necessary reorientation of wage bargaining outcomes. Empirical

research indicates that the long and perhaps indefinite duration of the payment of unemployment benefits – as is the case in most EU countries – is more relevant for explaining long spells of unemployment and for the disenfranchising of unemployed workers than the mere level of benefit payments.<sup>27</sup>

Furthermore, wage-bargaining parties tend to have an incentive to raise the incomes of the lower wage brackets significantly above incomes from the social security system. Their aim in doing so – apart from efficiency wage considerations – is to induce workers from lower wage brackets to supply labour on the official labour market or, alternatively, to capture the rents emerging from the existence of labour turnover costs. That is, employers might be interested in this "spread" to avoid these turnover costs, to combat competitors with lower market shares who cannot afford such a high wage level and to discipline wage claims by increasing unemployment. It has to be noted in this respect that increasing unemployment in this case does not lower the reputation of the wage-bargaining parties because of constitutional assignment problems in many industrial countries. As a consequence, this kind of wage-setting behaviour generally leads to a distortion of the wage structure, to the advancement of labour-saving technical progress and to reduced demand for workers in the low-wage segments. This is especially true if, because of strong international competition for the firms in question, no margins exist in which they could pass on to prices the higher unit labour costs resulting from the employment of workers with low productivity. The resulting compression of profits forces the firms to react by exporting capital and jobs.<sup>28</sup> This argument is even more relevant if one takes into account that income received from the social security system not only influences the structure of wages but also taxation because of its importance as a tax-free subsistence level. If welfare payments are increased while all other government expenditures and public debt remain constant, either (already high) tax rates or tax progression have to be raised. Both measures, however, would have negative effects on economic efficiency and, therefore, on employment. It is important that those responsible for the solution of

<sup>25</sup> Cf. H. Siebert, *op. cit.*, p. 148.

<sup>26</sup> According to estimates by H. Siebert, *op. cit.*, pp. 150 ff., the distance between income earned by labour and income from social security payments of different kinds decreased significantly in West Germany in the period 1970-1993. Cf. also Deutsche Bundesbank: Monthly Report, February 1996.

<sup>27</sup> Cf. H. Lehment: Arbeitslose in der Teufelsspirale, in: Frankfurter Allgemeine Zeitung, 28.01.1995, No. 24, p. 13; R. Layard, S. Nickell, R. Jackman: Unemployment: Macroeconomic Performance and the Labour Market, Oxford et al. 1991, pp. 514 f.; K. H. Paqué, *op. cit.*, pp. 22 ff.

<sup>28</sup> Cf. H. Siebert, *op. cit.*, pp. 39 ff. and pp. 84 ff.; C. Wyplosz, *op. cit.*, pp. 20 f.

the European unemployment problem realise that there is international competition for jobs: the number, quality and security of jobs in an economy today heavily depend on how capable the immobile factors of production (mainly labour) are in the attraction of mobile factors (mainly capital). In turn, however, international capital flows and the jobs created by them are influenced significantly, among other things, by the shape of the constitution of the labour market and the social security systems of a country.

### Collective Bargaining

A second crucial factor which reinforces possible hysteresis effects of the "insider-outsider" variety and, to a lesser extent, the human capital variety is collective bargaining. Especially the insider-outsider approach shows that collective bargaining creates incentives for an implicit collusion between employers and unions as employee or insider organisations to prevent outsiders from underbidding the insiders. Since insiders still represent the great majority of workers, as voters they possess the political power to defend their interests. This comprehensive group represents so many voters that the enactment of labour market deregulation programmes might often not be possible against their will. In most of the EU countries they are organised in unions which have to be large in order to be effective in the pursuit of highly justified social goals. The theory of bureaucracy, however, tells us that large organisations typically behave as rent-seeking units. Additionally many firms and/or employers' associations themselves have monopoly power on the goods market to a certain extent and have an incentive to tacitly defend employee organisations with which they share their monopolistic rents. To exclude the market failures and inefficiencies which lie at the heart of a great part of Europe's unemployment problem these rents have to be eliminated. If it is, however, rational for both unions and employers' associations to prevent the long-term unemployed from having any significant influence on the bargaining outcome, the resulting long-term unemployment cannot be affected by macro-economic policy alone. In this case there are no obvious benefits for unions in fighting long-term unemployment, since the returns of the fight accrue to a fringe group of society and will occur only after a

prolonged adjustment process in the course of which the causal link between the unions' goodwill and the outcomes in the public's view tends to get blurred.<sup>29</sup>

Union membership is much higher in Europe than in the USA. Even the trends are different. Whereas the level of union membership, i.e. the "union density rate", has been falling in the USA since the mid 1950s, it rose strongly in Western Europe in the 1970s and has continued to rise thereafter in Sweden and Denmark. Significant falls can be found only in the UK, Italy, the Netherlands and (as a kind of borderline case) France in the 1980s.<sup>30</sup> The difference shows up even more clearly if it is taken into account that in the USA coverage by collective wage agreements exceeds union membership only by about 10 per cent. In Europe, in contrast, the overwhelming majority of workers are covered by collective wage agreements even if they are not union members. The "collective bargaining coverage rate" (defined as the number of workers covered by collective agreements as a percentage of wage and salary earners) in Western Europe ranges from 47% in the United Kingdom, where the coverage rate has fallen by more than 20 percentage points since the late 1970s, to more than 90% in Belgium, Finland, France and Germany.<sup>31</sup> In Germany, for example, the government of the region can use a legal option to declare a collective agreement "generally binding" and extend collective agreements to all non-union workers. In contrast, the United Kingdom and the USA are among the countries without extension procedures.<sup>32</sup>

Yet, to assess correctly the effect of unionisation and corporatism on real wage rigidity and unemployment one important qualification has to be made. Insider power may depend on unions but to be effective requires in addition a particular form of organisation. Early contributions in this field stressed the fact that a high degree of centralisation in bargaining might lead to higher real wage flexibility or to wage moderations since wage negotiators have to take into account the macroeconomic consequences of the bargaining results. This is mainly explained by the basic idea that wage increases for one group carry negative externalities on others that will be internalised under cooperative behaviour. Hence centralization is said to create incentives for wage moderations ("internalisation effect") which supports the conjecture that corporatist economies adjust

<sup>29</sup> Cf. K. H. Paqué, *op. cit.*, p. 21.

<sup>30</sup> Cf. R. Layard, S. Nickell, R. Jackman, *op. cit.*, pp. 87; OECD: *Employment Outlook*, July 1994, Paris, pp. 184 f.

<sup>31</sup> Cf. OECD, *ibid.*, pp. 172 ff.

<sup>32</sup> Cf. C. Wyplosz, *op. cit.*, p. 18; J. Hartog, J. Theeuwes: *Labour Market Contracts and Institutions: A Cross-National Comparison*, Amsterdam et al. 1993.

faster to shocks.<sup>33</sup> More recent contributions additionally take into consideration that centralisation may positively affect the market power of wage setters ("monopolisation effect"). Consequently, under decentralised wage bargaining competitive pressures emerge that tend to restrain wages. Both opposite effects are usually combined and regarded jointly by the "hump shape" hypothesis. It states that the highest aggregate real wage and/or real wage rigidity and the highest unemployment may be expected for the case of an intermediate degree of centralisation. Since, in contrast, highly centralised as well as decentralised bargaining systems lead to lower wage and unemployment levels a "hump shape" relationship between centralisation in bargaining and the level of real wages can be derived.<sup>34</sup> The empirical evidence on the "hump shape" hypothesis, however, is not strong. Therefore, policy recommendations should be made with great care.<sup>35</sup>

### Exogenous Causes

The reasons for the drastic depreciation of unskilled labour – a fact which lies at the heart of the European unemployment problem – do not have to be endogenous as implied by the human capital approach. Recently economic globalisation and technological progress have been brought into the discussion as possible exogenous causes of protracted unemployment in Western Europe. These exogenous influences might even be interpreted as micro forces behind macro hysteresis, if the explanation of hysteresis based merely on an endogenous dequalification and/or demotivation process seems to be insufficient. Possible insufficiencies arise from the fact that estimates of aggregate wage gaps do not always support the view that the current wage level is too high. In addition, the incidence of long-term unemployment is often clearly related to identifiable structural characteristics, so that the explanation of hysteresis exclusively by endogenous dequalification and demotivation processes appears dubious. Thus, mismatch seems to be inevitably connected with hysteresis. The former argument alludes to increased worldwide competition mainly due to the growing importance of the newly

industrialised countries (NICs). These countries have reached a level of industrialisation, technical standards and labour skills which allows them to compete increasingly successfully in the lower market segments of labour-intensive goods. Since all of the EU member countries are characterised by a high degree of openness, rising unit wage costs cannot simply be passed on in the form of higher goods prices. Therefore, stronger competition from NICs can lead to persistently higher unemployment in Europe. The latter argument implies that technological progress in industry has been labour-saving. Which of the two effects is more important in explaining the increase in European unemployment, is still a theoretically and empirically open question.<sup>36</sup>

Some have suggested a third approach referring to physical capital as the main factor explaining why temporary shocks cause persistently higher unemployment.<sup>37</sup> Since it can, however, be argued that capital shortage contributes to an explanation of unemployment persistence but not of true hysteresis, the capital shortage approach has to be regarded more as an economic argument behind the slow-adjustment case mentioned above.

### Growing Market Imperfections

A further view regarding the increasing and protracted high unemployment in Western Europe – besides slow adjustment and hysteresis – is the maintained existence (and increasing importance) of "natural" market imperfections. Referring to Friedman's definition of the natural unemployment rate as the long-term rate determined by the structural imperfections of the labour market, advocates of this view usually point to the growing importance of mismatch, e.g. regional, qualification or sectoral inadequacies between labour demand and supply. An increasing mismatch in European unemployment was already indicated by the outward shifts of the Beveridge curve in Figure 2. From this perspective it

<sup>33</sup> M. Bruno, J. Sachs: *The Economics of Worldwide Stagflation*, Oxford 1985.

<sup>34</sup> Cf. C. R. Bean: *European Unemployment: A Survey ...*, op. cit., pp. 600 ff.; L. Calmfors: *Centralisation of Wage Bargaining and Macroeconomic Performance – A Survey*, OECD Economic Studies, 1993, No. 21, pp. 165 ff., and L. Calmfors, J. Driffill: *Bargaining Structure, Corporatism, and Macroeconomic Performance*, in: *Economic Policy*, 1988, No. 6, pp. 13-61.

<sup>35</sup> Cf. N. Berthold: *Arbeitslosigkeit in Europa – Ein schwer lösbares Rätsel?*, in: E. Kantzenbach, O. G. Mayer (eds.), op. cit., p. 62 ff.; L. Calmfors, op. cit., pp. 179 ff.; B. Fitzenberger: *Zentralisierungsgrad von Lohnverhandlungen und Lohnbildung in Ländern der Europäischen Union*, Discussion Paper, No. 20, Center for International Labour Economics, Constance 1995; W. Franz, S. Profit, op. cit., pp. 109 f.

<sup>36</sup> Cf. B. Higgins, op. cit., p. 48; P. Krugman, op. cit., pp. 35 ff.; K. H. Paqué, op. cit., pp. 17 f.

<sup>37</sup> M. Burda: *Is There a Capital Shortage in Europe*, in: *Weltwirtschaftliches Archiv*, Vol. 124, 1988, pp. 38-57; H. R. Sneessens, J. H. Drüze: *A Discussion of Unemployment Comparing Traditional Concepts and Disequilibrium Economics*, in: *Economica*, Supplement, Vol. I. 53 (S), 1986, pp. 89-120.

might be explained as a result of structural changes' having induced adverse responses by labour demand and/or supply.<sup>38</sup> It has to be noted, however, that growing permanent unemployment in the wake of structural changes cannot be distinguished theoretically and empirically from hysteretic behaviour of the unemployment rate. It is important to notice that, from this point of view, the rise in European unemployment *reflects* but has not (as in the hysteresis case) *caused* a corresponding rise in the long-run equilibrium rate. According to the terminology introduced above this kind of unemployment has to be characterised as structural unemployment in the strict sense of the term. To evaluate its relative importance it has to be noted that empirical research on mismatch preponderantly assigns only a limited role to mismatch factors as ahysteretic explanations of high European unemployment. This seems to be the case especially in the 1980s.<sup>39</sup>

The survey of possible theoretical explanations shows that European unemployment will probably not have just one but many causes. No one single cause mentioned above can a priori be excluded when therapy is discussed. This makes apparent one difficulty in fighting European unemployment: many causes have to be considered, the specific quantitative contributions of which to actual unemployment are not always known with sufficient certainty. No one instrument or measure seems to bring the remedy but only a bundle of them. In addition, not all causes and, therefore, not all policy instruments seem to be equally important among the EU member states. So e.g. the relative share of demand-deficient and structural unemployment as well as the relevance of hysteresis is estimated differently in the empirical studies. A closer look at the empirical evidence on the causes of European unemployment is therefore necessary.

### Empirical Evidence

Many efforts have been made in the past to estimate the proportion of cyclical and equilibrium unemployment to total unemployment. Nearly all empirical studies come to the same seemingly robust conclusion that little of total unemployment is explained by cyclical factors. Instead, the great bulk of European unemployment seems to be of the structural variety (in the wider sense). In one approach equilibrium unemployment is simply approximated by the average rate of unemployment over business cycles or – as is usually the case in the course of econometric tests of the hysteresis hypothesis in a

wage equation framework – by moving averages of the actual rate.<sup>40</sup> The difference between the actual unemployment rate and the approximated equilibrium rate is commonly interpreted as the cyclical unemployment rate. Another approach frequently used to identify the cyclical and equilibrium components of unemployment is based on the NAIRU concept mentioned above. The NAIRU can be identified empirically by estimating structural models of unemployment. These models typically include as one ingredient structural explanatory variables referring to unemployment benefits and various characteristics of the wage-setting system as well as the change in the rate of inflation or money supply growth. The NAIRU is then calculated for the case of a constant rate of inflation or money growth. These studies convey an impression of the relative development of total to equilibrium unemployment with respect to different industrialised countries, when the equilibrium path of unemployment is computed by dynamic simulations on the basis of structural unemployment equations estimated in advance.<sup>41</sup> The empirical results corroborate the main thesis stated above that little of total unemployment can be explained by cyclical factors. This conclusion seems valid independent of the chosen sample and – seemingly in contradiction to the conjectures at the beginning of this article – of the countries chosen. In addition, a second striking fact emerges which might be interpreted as a first indication of the relevance of the hysteresis hypothesis: equilibrium unemployment grows in parallel with total unemployment.<sup>42</sup> Since little of total unemployment can apparently be attributed to cyclical factors, attention in empirical studies focuses on the analysis of equilibrium unemployment: is it uniquely determined as in the changing natural rate and the slow adjustment case, or not, as in the hysteresis case?

It was argued above that because of certain weaknesses in the structural-cyclical distinction, hysteresis effects, e.g. the possibility of multiple

<sup>38</sup> Cf. W. Kösters, A. Belke, op. cit., pp. 27 f.; R. Layard, S. Nickell, R. Jackman, op. cit., pp. 285 ff.

<sup>39</sup> Cf. C. R. Bean: European Unemployment: A Survey ... , op. cit., p. 603; C. Wyplosz, op. cit., p. 22.

<sup>40</sup> Cf. K.-J. Gern et al., op. cit., pp. 13 ff.; W. Kösters, A. Belke, op. cit., pp. 23 f.; C. Wyplosz, op. cit., p. 6.

<sup>41</sup> Cf. R. Layard, S. Nickell, R. Jackman, op. cit., pp. 430 ff. and pp. 436 f., Table 14; C. Wyplosz, op. cit., pp. 6 f.

<sup>42</sup> For more sophisticated approaches to evaluate the relative importance of structural unemployment at the industry or firm level empirically cf. J. H. Drüze, C. R. Bean: Europe's Unemployment Problem, Cambridge, Mass. 1990; C. Wyplosz, op. cit., pp. 7 f.

equilibria, have to be admitted. This basic insight enlarges the set of testable hypotheses by one. Consequently, an empirical assessment is required whether protracted periods of high unemployment in Europe (independently of the history of shocks) merely reflect a changing natural rate of unemployment or result from slow adjustment to a lower equilibrium level of unemployment or represent full hysteresis. This assessment, however, suffers severely from the limited power of the tests to discriminate empirically between slow adjustment to a unique equilibrium (persistence) and path-dependence of unemployment equilibria (hysteresis). An identification problem arises which is reflected in the low power of econometric testing procedures of the null hypothesis of non-stationarity (hysteresis) against stationary alternatives.

When estimating the empirical relevance of the three different approaches to protracted high unemployment in the EU five different testing procedures are mainly used:

□ First, wage equations or Phillips curves are chosen as a basis. The different potentially relevant hypotheses are mostly captured by different specifications of the influence of an employment or unemployment variable. Hysteresis in unemployment cannot be rejected if for example the rate of wage growth responds on the one hand to changes in unemployment but not to its level or on the other hand to a variable corresponding to short-term, but not to long-term, unemployment. Both specifications reflect the vanishing influence of the unemployed on the wage bargain the longer their spell of unemployment.<sup>43</sup>

□ Second, techniques for analysing the time-series properties of unemployment are applied. This seems to be strongly suggested by the fact that the first two approaches – “changes of the natural rate independent of the history of shocks” and “slow adjustment” – imply “stationarity” of the unemployment rate around a unique equilibrium, the natural rate of the Friedman-Phelps type. Hysteresis in contrast leads to a fundamentally different testable equilibrium concept: a locally unstable, non-stationary

unemployment rate (i.e. no constant mean), but an equilibrium determined by the history of past unemployment rates. Although most studies confine themselves to univariate unit-root tests, it might be demonstrated that a multivariate approach in an error-correction framework is superior, e.g. more efficient in using available information, to simple unit-root tests. Unit roots, an expression originating from the time-series literature, refer to a breakdown of the adjustment dynamics of a single or a system of time-series.<sup>44</sup>

□ Third, estimates of Beveridge curves are often used to test explicitly the significance of the influence of long-term unemployment on the outward shift of these curves in the EU. Due to this specification – i.e. explicitly including long-term unemployment – the test goes beyond an empirical investigation of the question whether a change of mismatch factors in the sense of the changing natural rate hypothesis is responsible for the observed increase in permanent unemployment in Europe.

□ Fourth, wage shares are examined in order to test the hypothesis compatible with hysteresis that average real wage growth does not fall below the growth in aggregate labour productivity. This, however, would be necessary for a reduction in unemployment. Apart from a lack of discriminating power between hysteresis and slow adjustment the inspection of wage shares suffers from many other conceptual difficulties.<sup>45</sup>

□ Fifth, the hypothesis of a positive correlation between unemployment volatility and the trend rise in unemployment which is compatible with hysteresis can be tested empirically on the basis of a cross-country study. If it is not rejected, the conclusion seems to be admissible that even contemporary boosts of the unemployment rate – possibly caused by temporary shocks – contribute to a significant rise in unemployment.<sup>46</sup>

The present authors have presented an extensive survey of the results of empirical applications of the first three econometric tests mentioned above for Western European countries.<sup>47</sup> The results indicate a potential relevance of the hysteresis hypothesis for some European countries, especially Germany,

<sup>43</sup> Cf. C. R. Bean: *European Unemployment: A Survey ...*, op. cit., p. 610; J. Elmeskov, M. MacFarlan, op. cit., pp. 73 ff.; OECD: *Employment Outlook*, July 1993, op. cit., pp. 92 ff.

<sup>44</sup> For research in multivariate hysteresis tests based on the cointegration concept cf. A. Belke, M. Göcke, op. cit.

<sup>45</sup> Cf. J. Elmeskov, op. cit., pp. 12 f.; H. Siebert, op. cit., pp. 74 ff.

<sup>46</sup> For a recent study of different OECD-countries cf. J. Elmeskov, M. MacFarlan, op. cit., pp. 81 f.

<sup>47</sup> W. Kösters, A. Belke: *Arbeitslosigkeit in Westeuropa – Ein Hysteresis-Phänomen?*, in: E. Kantzenbach, O. G. Mayer (eds.), op. cit., pp. 9-50. For more recent studies cf. J. Elmeskov, M. MacFarlan, op. cit., pp. 72 ff.

France, Spain, Italy, Denmark and the Netherlands. A deeper analysis of these results reveals that they point to different degrees of unemployment persistence in European countries. One should, however, keep in mind that the empirical findings critically depend on the model specifications. The results are only valid under the assumption that the tests are sufficiently able to discriminate between non-stationarity and stationarity and, furthermore, the three above-mentioned competing hypotheses cannot be nested in a singular test equation. In addition, the samples are too small to cope with inference in time-series which is valid only asymptotically and discrimination between different economic explanations of hysteresis is not always possible. In the case of the non-rejection of the hysteresis hypothesis, the empirical results have, therefore, to be treated with appropriate care. As a further striking fact, which might prevent the labour market analyst from coming to premature conclusions, it has to be noted that for each European country there exists approving as well as disapproving empirical evidence concerning hysteresis in unemployment.

## Concluding Remarks

Many empirical studies as well as arguments in the theoretical explanations of European unemployment suggest that the hysteresis phenomenon is probably more relevant for Germany and the other European countries than for the USA. Some draw the conclusion from this that the probability of the existence of multiple equilibria is higher in Europe and that, therefore, a Keynesian type of employment policy, i.e. demand management is highly recommended here. Such a view, however, seems to be much too simple for several reasons. As we pointed out earlier the empirical evidence with respect to hysteresis in European and American unemployment is mixed. There are approving as well as disapproving results. In addition, the findings critically depend on the specification of the test equation. Furthermore, they are only valid if the empirical test procedures are such that they have sufficient power to discriminate between stationarity and non-stationarity. It is doubtful, however, whether this condition is given in reality. After a first phase in

which the power of the new methods to discriminate was estimated to be quite high critical views have become more frequent in the time-series literature recently.

It can be shown empirically that the detection of unit roots in unemployment time-series does not necessarily need to be attributed to a degeneration of the adjustment process, i.e. multiple equilibria. Instead, it might also be explained by a mis-specification of ADF-test equations. In these cases, a more comprehensive specification of hysteresis effects is suggested which goes beyond the maintenance of a mere degeneration of the adjustment process. A path dependence of the equilibrium relation itself (expressed by a shifting constant in an ADF-test equation) to which the system reverts after a shock, i.e. of the system properties, is indicated especially for West German employment data.

At the present state of empirical evidence on hysteresis in unemployment we therefore consider it highly advisable not to overinterpret the empirical results. As shown above, it is already very difficult to tell whether hysteresis and not just persistence of unemployment was present in a country. In addition to that, it is not easy to say what the economic implications of hysteresis are and what policy recommendations one should give in this case. Keynesian demand management as an adequate instrument of employment policy can only be taken into consideration if the shocks leading to hysteresis unemployment are exclusively endogenous in nature. Then multiple equilibria would result and by means of opposite shocks created by demand management it could be tried to push the economy to an equilibrium with full employment. Since the well-known and yet unsolved problems of diagnosis and implementation arise it is doubtful whether such a policy would be successful.<sup>48</sup>

Hysteresis can, however, also result from exogenous shocks. These can be caused by economic and social policy measures changing the incentive structure of an economy and, therefore, altering the quality and the properties of the economic system. In this case, a supply-side oriented policy to change the dynamics of the system would be advisable. Particularly investment in human capital, pruning the welfare state and making it work better are important measures which would then have to be discussed in more detail.<sup>49</sup> It may be obvious from the argumentation in this paper that we sympathise with the latter view.

<sup>48</sup> For a more recent critical discussion cf. e.g. C. R. Bean: The Role of Demand Management Policies in Reducing Unemployment, in: Reducing Unemployment: Current Issues and Policy Options – A Symposium Sponsored by The Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming 1994, pp. 99-132.

<sup>49</sup> Cf. W. Kösters, A. Belke, op. cit., pp. 30 f.; P. Krugman, op. cit.