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Small Economy Macroeconomics

The Economic Success of Ireland, Denmark, Austria and the Netherlands Compared

In recent years, four small European economies – Austria, Denmark, Ireland and the Netherlands – have attracted attention through their successful employment policies. Why did these countries, which are all typical European welfare states with high levels of social security, high tax rates and low inequality, perform so well? Can they serve as examples for the rest of unemployment-ridden Europe?

Europe has to adjust to the US model with its low-level welfare state, unregulated labour market and declining union influence or Europe will be competed away from the economic landscape.' This seemed to be common sense a few years ago when Europe was experiencing continually rising unemployment and falling employment-population ratios. Meanwhile, however, four small European economies – Austria, Denmark, Ireland and the Netherlands – have become shining examples of successful employment policies, and have been celebrated in academia, among politicians and in the business press in terms such as 'Celtic tiger', 'fully fledged tiger', 'Dutch Miracle', 'Northern Star' and 'European tigers'. The Netherlands experienced higher employment growth than the USA; Denmark had employment-population ratios in the 1970s which the USA did not reach until the 1990s; Austria looks back on a long period of exceptionally low unemployment; Ireland is a champion in GDP growth. Why did these four small European economies perform so well while the rest of Europe is suffering from employment stagnation or decline? It turns out that the 'European tigers' do not fit simplified hypotheses: all of them – although Ireland less so – are typical European welfare states with high levels of social security, high tax rates and low inequality. How is it possible that countries with such an institutional framework prosper? The four 'European tigers' may be an excellent learning source for other European economies but first it is necessary to understand the dimensions and causes of their success and only if common patterns can be identified can general conclusions be drawn which could be helpful for the formulation of economic policy in other countries.

This paper first gives a brief overview of some of the dimensions of economic success, including – in addition to employment and unemployment measures – GDP growth, productivity, income per capita, inflation and short-term and long-term interest rates. The theoretical macroeconomic policy options in small and truly open economies including the relevance of wage bargaining institutions for a consistent policy will be discussed. The later sections analyze actual fiscal and monetary policies, the components of economic growth and labour market trends. The concluding section argues that not individual policy measures but rather the combination of policies explains the success of the 'European tigers'.

Empirical Facts

Trends in employment and unemployment (cf. Figure 1) are the main reason why Austria, Denmark, Ireland and the Netherlands are admired. Austria is the only country which has suffered from rising unemployment, but the Austrian unemployment rate is still comparatively low. Measured by employment-population ratios Denmark certainly is the champion. Denmark's ratio actually exceeds that of the USA and has remained constant at a level of about 74% since the early 1970s. By contrast, the USA only reached this level in the 1990s and in the 1970s the US ratio

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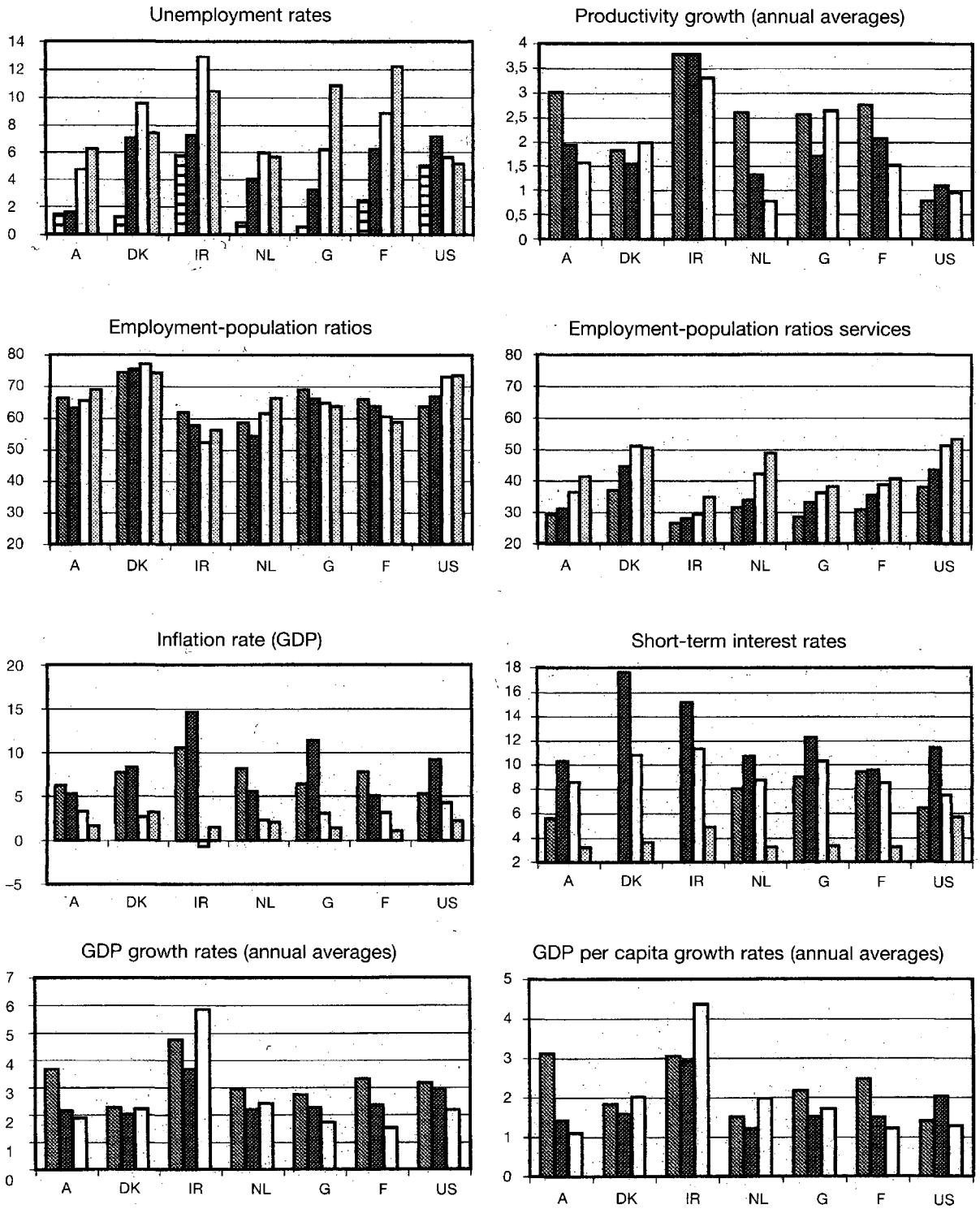
Figure 1
Key Economic Trends in Austria, Denmark, Ireland, and the Netherlands compared with Germany, France, and the US



Sources: OECD Labour Force Statistics, National accounts, Economic Outlook (CD-ROM). Values shown refer to 1970, 1980, 1990, and 1998 (or most recent available year), annual averages refer to the average rates of the 1970s (1971-1980), 1980s (1981-1990), 1990s (1991-most recent year).

was well below that of many European countries.[1] Austria's employment-population ratio comes close to 70%, and the Netherlands may also soon achieve this level. However, the most remarkable achievement of the Netherlands has been the reversal of the downward trend of the employment-population ratio which manifested itself in the 1980s. Except for Ireland (which gained some employment in manufacturing), all these economies achieved employment growth entirely through the expansion of service industries. The Netherlands had a service employment-population ratio close to that of Germany in 1980 (33.8% and 33.1% respectively) but in 1996 about 49% of the working-age population in the Netherlands was employed in services, whereas this ratio was still 38% in Germany. The employment 'take-off' in the Netherlands is thus clearly related to the expansion of service sector employment and, as in Denmark, service sector employment-population ratios are close to those of the USA. This is a remarkable difference to the other European countries which suffer from declining employment and obviously did not develop service sector employment (cf. Figure 1). Service sector employment in Germany, for example, lags behind the USA by about 20 years, and this difference is not due to measurement error or misclassification.[2] Another analysis[3] confirms that the expansion of service sector employment is mainly influenced by shifts in final demand rather than by the outsourcing of service activities from manufacturing industries.

Inflation rates narrowed substantially and even Ireland's rates, which were off the map in the 1970s, moved into the European range in the 1990s. Interests rates, both short-term and long-term, converged as well. The growth rates of GDP and GDP per capita of the working-age population (15-65 years) are somewhat higher in the 'European tiger' economies in the 1990s, but except for Ireland there is nothing like a 'take-off'. Differences are generally small and it will be difficult to explain differential employment performance by economic growth.

A brief investigation of institutional features and general policies in Austria, Denmark, Ireland and The Netherlands, summarized in Table 1, creates puzzles for many strong hypotheses. 'Excessive' welfare states and 'over-regulation' of labour markets are the top-ranking explanations for Europe's employment problems according to the neo-liberal model, which seems to be widely accepted among European governments. But at least three of the successful European economies hardly fit the requirements of that model. Instead they have well-developed welfare states with generous unemployment benefits (cf. Table 1), organized labour, corporatist wage-setting

Table 1
Institutional Characteristics and Major Policies of Austria, Denmark, Ireland and the Netherlands

	Austria	Denmark	Ireland	Netherlands
		Globalisation		
Share of exports in GDP (%)	43	39	77	61
		Welfare state		
Average tax rates (1993)	43.8	51.7	45.0	48.9
Total tax wedge (%)	43	39	35	45
Taxes and social security contributions as % of GDP (1995)	42.4	51.3	33.8	44.0
Unemployment replacement rate (%)				
Net (1995)	n.a.	81	37	69
Gross (1994/95)	26	71	26	46
Employment protection legislation (high values difficult to dismiss)	11	5	6	8
Wage bergaining system	Corporatist	Corporatist	Decentralized with coordination elements since 1987	Corporatist
		Monetary and fiscal policy		
Nominal exchange rates	'fixed to DM'	EMS	EMS	'fixed to DM'
Fiscal policy	Budget consolidation	Budget consolidation	Budget consolidation	Budget consolidation
		Inequality		
Proportion of labour force below 2/3 of the median wage (%)	13	n.a.	24	12
D9/D1 (1994, Denmark 1990)	3.7	2.2	4.9	2.6
		Labour market policy		
Expenditure on active labour market policy (% of GDP)	0.4	2.3	1.8	1.1
Share of long-term (> 12 months) unemployed (1997)	28.7	27.2	57.0	49.1

Sources: OECD Employment Outlook; ILO country reports; S. Walter: Taxation and the labour market, Mimeo, Geneva 1998; J. Visser: Industrial relations in Austria, Denmark, Ireland and the Netherlands, Amsterdam 1998.

[1] See R. B. Freeman, R. Schettkat: From McDonald's to McKinsey: Comparing German and US Employment and Wage Structures, Oxford, Institute of Economics and Statistics, Labour Markets: Stocks and Flows conference, 1998, for a discussion.

[2] See R. B. Freeman, R. Schettkat: Zwischen Fastfood und Excellence; Die Beschäftigungslücke in Deutschland im Vergleich zu den USA, in: Hamburger Jahrbuch für Wirtschafts- und Gesellschaftspolitik 1999 (forthcoming).

[3] G. Russo, R. Schettkat: Structural Economic Dynamics and Employment in Highly Industrialized Economies, in: P. Petit, L. Soete (eds.): Technological Change and Employment in Europe, Aldershot 1999 (forthcoming).

structures etc. Also, rising unemployment does not seem to be a precondition for a moderate wage policy in countries with strong unions and a high degree of social security. Rising employment and falling unemployment went hand in hand with moderate wage increases despite, or probably due to, the fact that these countries have corporatist wage setting systems.[4] With reference to the US 'job miracle', high wage inequality is often thought of as the key to employment expansion, but the four countries – although not a homogenous group – have low, European-style wage dispersion. Nor will advocates of active labour market policy find support in the policies of the 'European tigers': Denmark spends about 2.4% of its GDP on active labour market policies but Austria only 0.4%.

The 'European tigers' also do not fit well into the arguments of those who blame Europe's employment stagnation on overly tight monetary policy in general and Bundesbank (or ECB) policy in particular, because all four countries have pursued a tight monetary policy and two of them (Austria and the Netherlands) had actually linked their currencies directly to the DM and thus followed Bundesbank policy directly. The other two participated in the EMS and have therefore been at least indirectly linked to Bundesbank policy. 'Crowding-out' theorists, who believe that public sector activity can only exist at the expense of private economic activity, will at first glance find their view confirmed, since all four economies have pursued a policy of budget consolidation but, at the same time, all have average tax rates well above the 40% level and in all of them, with the exception of Ireland, social security contributions and taxes represent well above 40% of GDP (cf. Table 1).[5]

Those who blame the employment malaise of Europe on globalization are faced with the success of truly open and global economies. If the ratio of imports and exports to GDP is used as a measure of openness, small economies are certainly the leaders in the field. The ratio is around 40% in Denmark, 60% in the Netherlands and over 70% in Ireland, compared with only 15% in the USA. If globalization is harming the industrialized world so much, why are four small open economies doing so well? These are the most 'global' economies, which might be expected to be suffering most. 'Jobless growth' is another, less theoretically sound but certainly popular, explanation for stagnating employment. According to this view, economic growth does not lead to further employment growth because productivity growth is too high (in the left-wing version of the story because technology has reached a new quality; in the right-wing version because overly high wages spur capital-labour substitution). But productivity growth has actually slowed down since the early 1970s and today more employment is created with each per cent of economic growth than in the 1960s.

Macroeconomic Policy Options

What are the policy options for small, open economies? The abilities of monetary and fiscal policies change with the underlying structure of the economy. They differ between closed and open economies and they are very different with respect to whether exchange rates are fixed or floating. Small economies must fear that their currencies will be regarded as weak, requiring interest rates above the world market level to compensate for the perceived risk, i.e. expectations are an important part of policy credibility.

It has been argued on theoretical grounds (as in new classical economics) but also on pragmatic ones (the increasing openness of the industrialized economies) that Keynesian-type demand policies will fail to increase production and employment and that such policies will simply result in higher inflation. In other words, it is argued that the original Phillips curve describing a trade-off between unemployment and inflation has disappeared.[6] 'Before Keynes, it was commonplace that government spending and taxation were powerless to affect the aggregate level of spending and employment in the economy: they could only redirect resources from the private to the public sector. This, of course, is an immediate corollary of Say's Law. In a full-employment context, each dollar of additional government spending can only "crowd out" exactly one dollar of private spending; it cannot alter the overall level of aggregate spending.'[7] New classical macroeconomics, like economics before Keynes, is based on the assump-

[4] C. Teulings, J. Hartog: Corporatism or competition? Labour contracts, institutions and wage structures in international comparison, Cambridge 1998; J. Visser: Industrial relations in Austria, Denmark, Ireland and the Netherlands, Amsterdam 1998; E. Appelbaum, R. Schettkat: The Increasing Importance of Institutions for Employment Performance, in: G. Schmid, J. O'Reilly, K. Schoemann (eds.): International Handbook of Labour Market Policy and Policy Evaluation, London 1996, pp. 791-810.

[5] See S. Walter: Taxation and the labour market, Mimeo, Geneva 1998.

[6] A. S. Blinder: Central Banking in Theory and Practice, Cambridge, Mass. 1998, argues that the Phillips curve is very stable once external demand shocks are controlled for.

[7] A. Blinder, R. Solow: Does fiscal policy matter? in: Journal of Public Economics, No. 2, 1973, pp. 329-337.

tion that the economy is in equilibrium (in the sense that capacity is fully used, i.e. at full employment) and that quick price reactions will compensate exogenous shocks immediately. Unemployment is seen to be at its 'natural level' and in this situation demand stimulation can only cause inflation and no real effects.[8]

Although dominant in the 1970s and 1980s the perfect-market assumptions of new classical macroeconomics were too extreme to survive for long and in imperfect markets relationships are not as clear as in the 'perfect-market world'. Most economists probably agree that the macroeconomic policy effects summarized in Table 2 provide a good approximation, at least in the short run. It is clear that the move from models of closed to open economies and from fixed to floating exchange rates changes the effectiveness of monetary and fiscal policy. In open economies with fixed exchange rates monetary policy has to serve the exchange rates requirement and fiscal policy is most effective. But with floating exchange rates the effectiveness of the policies switches and now monetary policy is to be preferred.

Table 2
Effects of Expansionary Monetary and Fiscal Policies in Different Institutional Environments[1]

Monetary Policy	Fiscal Policy
Closed Economy	
Increase in money supply lowers the interest rate and thus stimulates investment and through the multiplier effect private consumption and production.	Higher public deficit raises the interest rate and thus crowds out some private investment but private consumption and production increase.
Aggregate demand, production and employment will be higher.	**Aggregate demand, production and employment will be higher.**
Open Economy – Fixed Exchange Rates	
Falling interest rate leads to a capital outflow, reducing money supply and thus neutralizing the expansionary effect of the initial expansion.	Higher public deficit leaves the interest rate virtually unchanged because of capital inflow, i.e. there will be crowding-out of private investment.
Aggregate demand, production and employment will be unchanged.	**Aggregate demand, production and employment will be higher.**
Open Economy – Floating Exchange Rates	
Increase in money supply lowers the interest rate and induces first a capital outflow and then currency depreciation resulting in rising net exports.	Higher public deficit induces a capital inflow and a currency appreciation, which then reduces net exports.
Aggregate demand, production and employment will be higher.	**Aggregate demand, production and employment will be unchanged.**

[1] If the economy is assumed to operate at full capacity utilization, price effects will dominate quantity effects (see the discussion in the text).

The 'crowding-out' argument is more relevant in a closed economy than in open economies, where a public deficit will not affect the interest rate because capital will flow into the economy. Open economies and global capital markets together with fixed exchange rates are therefore the institutional environments in which fiscal policy is most effective. Although floating exchange rates are dominant in the world economy, within Europe exchange rates have been fixed to a certain extent and may have opened up possibilities for short-run fiscal expansion. This however does not mean that economies – especially small economies – can run deficits for long. Long-run deficits may sooner or later affect expectations and may bring the economy under pressure to devalue its currency and will thus require interest-rate premiums. Expectations need to be taken into account, but a successful expansionary fiscal policy is a powerful short-term response to recessions.

The second condition for public spending's crowding-out private investment is that the latter is interest-elastic, i.e. higher interest rates should reduce private investment substantially. Private investment in housing is certainly sensitive to the interest rate but there are doubts that private investment for purposes of production depends strongly on the interest rate. Fazzari found, in a study based on company data, that the main determinant of investment decisions was expected sales rather than the interest rate.[9] This is not good news for 'crowding out theorists' but it also causes problems for 'demand-side' economists, who believe that lower interest rates can stimulate investment substantially.

If the influence of expectations is strong, even a policy of budget consolidation – surely classified as contractionary by 'old-Keynesians' – may show 'perverse effects',[10] i.e. may be expansionary. If public budget deficits become structural rather than fluctuating over the business cycle, economic agents may fear future tax increases and thus become reluctant to consume and invest. In this situation,

[8] For a summary see R. Schettkat: The Labor Market Dynamics of Economic Restructuring, The United States and Germany in Transition, New York 1992.

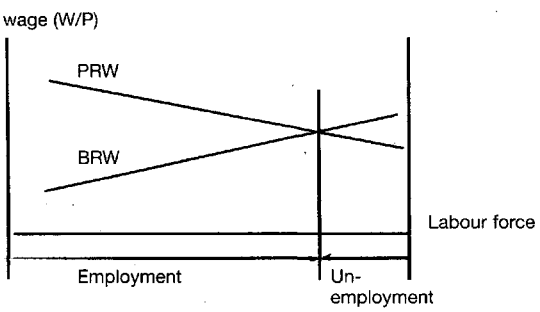
[9] S. M. Fazzari: Why doubt the effectiveness of Keynesian fiscal policy? in: Journal of Post Keynesian Economics, Vol. 17, No. 2, 1994, pp. 231-248.

[10] F. Giavazzi, M. Pagano: Can severe fiscal contraction be expansionary?: tales of two small European countries, in: NBER Macroeconomics Annual 1990, pp. 75-110.

consolidating public budgets can be expansionary if the expectations of economic agents are affected, i.e. if the policy is credible.[11] Aside from expectations, there are also fears that public spending (whether financed by debt or by taxes will make no difference according to the Ricardian equivalence) will crowd out private investment and consumption (the German position according to Giavazzi and Pagano).[12] This may be the case and the fears on this point make it worthwhile to investigate the relation between the growth of public spending and that of private spending. However, this relation turns out to be positive rather than negative (see below).

The increasing openness of the economies, it is argued, has destroyed – all other theoretical arguments aside – the ability of national governments to pursue demand-side policies because the gains of expansionary policy will spread to other countries whereas the costs will be contained at home. Flexible exchange rates would immediately compensate for the expansionary effect of such policies (assuming that exchange rates react to changes in the real economy). But even with fixed exchange rates – the regime otherwise most suitable for fiscal policy – the openness of economies will make expansionary policies too costly. It is the keystone of Keynesian theory that autonomous demand growth has an income effect, which – depending on the marginal rate of consumption – may be a multiple of the initial impulse (the multiplier). In open economies, however, a proportion of consumption affects imports and therefore reduces the multiplier. A 'back-of-an-envelopment calculation' for the consumption multiplier in a small open economy – where imports amount to about 50% of GDP – and marginal consumption is approximated by the average consumption rate (about 60%, which is surely a conservative estimate, shifting the odds in favour of a high multiplier) – would produce a multiplier of about 1.1.[13]

Figure 2
Wage Setting in the Imperfect Competition Model



In other words, in small open economies a demand impulse would roughly be limited to its initial value. Bad news for expansionary fiscal policy advocates but good news for a policy directed towards budget consolidation. Just as the expansionary effects spread to the rest of the world, so do the contractionary effects of budget consolidation. Therefore, it may well be the case that small open economies can consolidate their budgets without fully experiencing the contractionary effects. If nominal exchange rates are fixed at the same time, budget consolidation will stimulate optimistic views of the future and help to restrain wage increases, real exchange rates may depreciate and exports may consequently be boosted. This, however, brings another crucial variable into the picture, i.e. wage bargaining.

A labour market model developed by Layard and Nickell, in which both unions and employers operate in imperfect markets and both have wage and price setting power, has become widely accepted.[14] In this model the requested (real) wage (the Bargained Real Wage (BRW) in Figure 2)[15] depends on the unions' market power and is a negative function of unemployment. Employers also operate in imperfect markets and set prices with a mark-up over (wage) costs (the Price Determined Real Wage (PRW) in Figure 2, also known as the 'feasible real wage'). Thus the actual wage is the result of the bargaining process and actual price trends. One interpretation of this model is that both sides of the labour market claim a certain share of GDP and, of course, there is only one consistent distribution. Any institution which helps to shorten the search process and avoids struggle (i.e. inflationary pressure) improves the efficiency of the

[11] Another channel through which budget consolidation may be expansionary is the so-called 'wealth effect'. If budget consolidation leads to lower future interest rates, wealth will increase and according to the permanent income hypothesis consumption should rise. For example, rising house prices in the Netherlands are put forward as an explanation for consumption stimulation even with stagnating wages. The Dutch tax system accommodates such an effect (see J. Hartog: ILO Country Employment Policy Review: the Netherlands, Amsterdam 1998) but as long as there are sellers and buyers rising house prices have elements of zero sum games.

[12] F. Giavazzi, M. Pagano, op. cit.

[13] High taxes again reduce the consumption multiplier, which under budget consolidation is not compensated for by government spending.

[14] R. Layard, S. Nickell: The Labour Market, in: R. Dornbusch, R. Layard: The performance of the Britisch economy, New York 1987, pp. 131-179; see also W. Carlin, D. Soskice: Macroeceonomics and the wage bargain: a modern approach to employment, inflation and the exchange rate, New York 1990.

[15] It is traditionally argued that wage contracts are nominal contracts and that real wages are only determined after price setting. This is formally correct, but unions take expected inflation into account when they determine their wage requests.

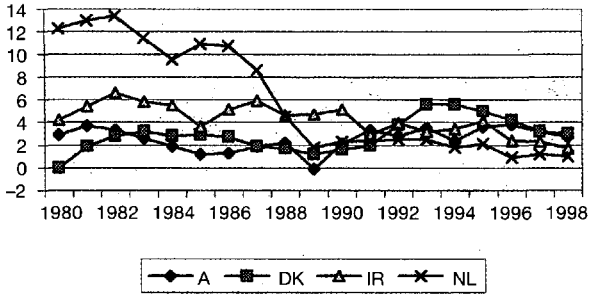
economy and wage bargaining institutions are therefore regarded as very important.

Both the wage setting and the price setting functions are strongly influenced by the institutional frameworks of the economies. Openness, for example, reduces the market power of firms and lowers the mark-ups (shifting PRW up to a higher real wage). Openness may also affect the BRW: if unions fear foreign competition they are likely to be more cautious in their wage demands, and this will shift the BRW curve downwards. Both will result in higher employment. However, it is not only openness but also the organizational structure of wage bargaining that is important. Traditionally, economists have favoured the decentralized model of wage bargaining because it is the one best suited to produce efficient allocation in perfect markets. But this may not be the case in imperfect markets where asymmetric information, transaction costs, uncertainty, interdependence of actions etc. exist and where both employers and unions have market power. Corporatist wage bargaining institutions may compensate better for external shocks[16] and they may actually help to internalize the negative effects occurring in decentralized bargaining systems when markets are imperfect.[17] Thus, the role which organized labour plays in such wage setting is more complex than the reduction of unions to monopolies would suggest. Organized labour can actually be a force for good in this model, rather than a force for evil. Thus the wage setting systems may be very important in a context of imperfect labour markets, and indeed three of the four countries – Austria, Denmark and the Netherlands – can be classified as 'corporatist' (cf. Table 1) while Ireland has also recently implemented a long-term wage agreement.

Monetary and Fiscal Policies

Public budget deficits became a major problem in all four economies in the late 1970s and early 1980s and governments subscribed to a policy of budget consolidation, as can clearly be seen in Figure 3. Except in Austria, public debt was lower in the mid-1990s in relation to GDP than in the early 1980s. Net public lending in the Netherlands reached double-digits in the late 1970s and early 1980s (one reason for the commitment to consolidation policy of the first Lubbers government and the famous Wassenaar agreement following in 1982).[18] Although Denmark has generally pursued a policy of budget consolidation, it nevertheless increased government net lending in 1993/94 to overcome the recession, which is seen as one reason for Denmark's successful employment record.[19] Also, Austria followed an anti-cyclical fiscal policy (austro-keynesianism[20]) but public deficits remained at fairly low levels. However, the general policy was clearly directed toward budget consoli-

Figure 3
Government Net Lending in % of GDP



Source: OECD Economic Outlook (CD-Rom).

Table 3
The Long-Term Structure of Interest
(yields, 10 years)

Year	Austria	Denmark	Ireland	Netherlands	Germany
1980	9.32		15.35		8.40
1985	7.77		12.64	7.34	7.00
1986	7.33		11.06	6.35	6.20
1987	6.94	11.34	11.27	6.38	6.20
1988	6.67	9.60	9.49	6.29	6.50
1989	7.14	9.78	8.95	7.21	7.00
1990	8.74	10.58	10.08	8.93	8.80
1991	8.62	9.25	9.17	8.74	8.50
1992	8.27	8.91	9.11	8.10	7.90
1993	6.64	7.19	7.72	6.69	6.50
1994	6.69	7.94	8.19	7.20	6.90
1995	6.47	8.28	8.29	7.20	6.80
1996	5.30	7.13	7.48	6.49	6.10

Source: OECD Statistical Compendium, Economic Outlook.

[16] M. Bruno, J. Sachs: The economics of worldwide stagflation, Cambridge, Mass. 1986.

[17] See E. Appelbaum, R. Schettkat, op. cit.; C. Teulings and J. Hartog, op. cit., find that the unexplained wage differential in regressions following the Krueger/ Summer approach are lower in 'corporatist' than in decentralized bargaining regimes, which may indicate the superior efficiency of the corporatist system.

[18] See R. Schettkat, J. Reijnders: The disease that became a model. The economics behind the employment trends in the Netherlands, Utrecht 1998.

[19] P. K. Madsen: ILO country employment policy review: Denmark, 1998; OECD: Economic Surveys Denmark 1996-1997, Paris 1997.

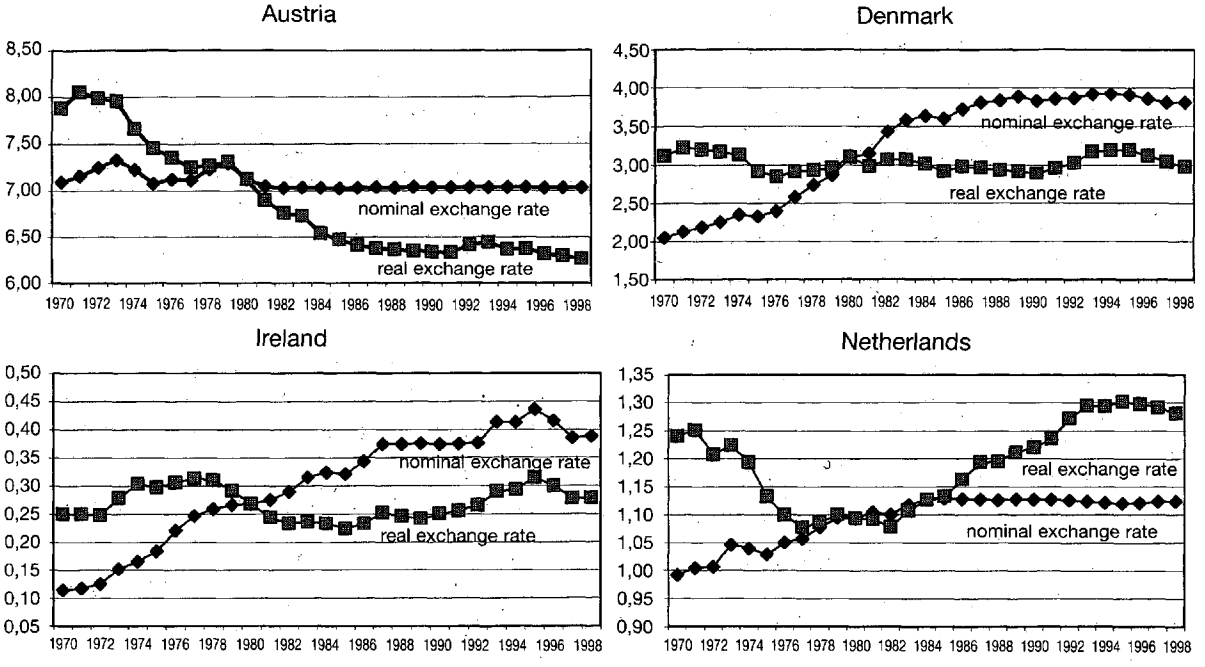
[20] See K. Pichelmann, H. Hofer: ILO Country Policy Review: Austria, 1998; E. Nowotny: The Role of Macroeconomic Policy in Overcoming Slow Economic Growth, in: W. Filc: Makrooekonomische Ursachen der Arbeitslosigkeit, Berlin 1999.

dation to support the stability-oriented monetary policy.

There is a clear trend towards convergence in capital markets as demonstrated by the short-term interest rates in Figure 1. However, central banks can directly influence only the short-term nominal interest rates but investment decisions are based on long-term real interest rates, which are heavily dependent on the expectations of economic agents. It is only if central banks (and/or governments) are credible that their policies are able to influence expectations concerning long-run interest rates. Therefore, the independence of central banks from government may be one necessary element to give monetary policy credibility[21] but the support of fiscal and wage policy may be needed to strongly influence expectations. All four economies have tried to give their stability-oriented policies credibility by pegging their currencies directly (Austria and The Netherlands) or indirectly (Denmark and Ireland) to the German Mark and thus delegating their monetary policies to the Bundesbank. But just following the Bundesbank is not sufficient to fix nominal exchange rates and to achieve convergence of long-term interest rates. If public budget deficits are high and rising and if wage pressure remains high most economic agents would expect future depreciation and thus require an interest premium for investments. If, on the other hand, fiscal and wage policies are supportive no interest premiums are required. The policy mix has clearly been successful as can be seen from the convergence in the long-term structure of interest (Table 3), which resembles that of the short-term interest rate. Austria and the Netherlands had yields roughly equal to Germany's for the entire period, but Denmark and Ireland also experienced a substantial relative decline in their yields. This demonstrates the successful integration of financial markets in the EU, culminating in the decision to introduce the Euro in 1999.

With central banks aiming to fix the Austrian Schilling and the Dutch Guilder against the DM, the nominal exchange rates (defined as local currency/foreign currency) against the Mark should have been stable. This is clearly shown in Figure 4 by the horizontal line for the Schilling (displayed over the entire period) and the Guilder (from 1983). By contrast, the Irish Pound and the Danish Kroner, which were only indirectly linked to the Mark through the EMS, experienced a substantial devaluation against the Mark over the entire period (i.e. the ratio of the national currency to the DM increased as one Mark could buy more national currency). But Ireland and

Figure 4
Nominal and Real Exchange Rates



Source: Computations based on OECD, Employment Outlook, CD-ROM. Real exchange rates are computed with GDP price deflator.

Denmark also achieved quite stable nominal exchange rates in the late 1980s and 1990s with the exception of the 1992 EMS turmoil.

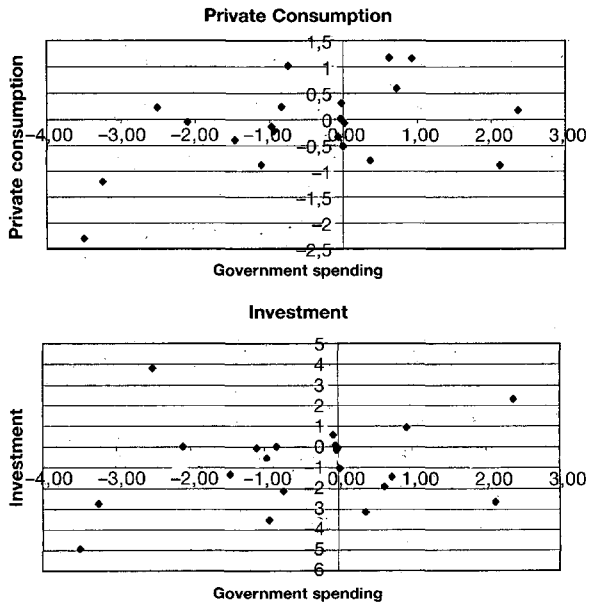
Real exchange rates take into account the purchasing power of currencies, which is compared here to the German price levels (which seems to suffice for an approximation, given the dominance of EU trade amounting to more than 60% of exports).[22] Denmark, for example, experienced a nominal depreciation of its currency against the DM although at the same time inflation was higher in Denmark than in Germany. That is to say, one DM could buy an increasing amount of Danish Kroner, but these represented a decreasing amount of Danish goods. The two countries with stable nominal exchange rates, Austria and the Netherlands experienced a real appreciation in the first case and depreciation in the second, i.e. one DM could buy fewer products in Austria but more in the Netherlands. Products from Austria became more expensive and products from the Netherlands became cheaper from the German perspective. Since most of the trade of all four countries is within the European Union, the real depreciation of the Dutch Guilder against the DM stimulated foreign demand and resulted in trade surpluses.[23] It was fixed nominal exchange rates together with lower rates of inflation that made the real depreciation of the Guilder possible. It is a wonder that the real depreciation of the Dutch Guilder, which opened up opportunities for speculation, went unnoticed even in the fixing of the currencies to the Euro.

Economic Growth, Employment and Wages

In Austria domestic demand developed roughly in line with GDP and remained around the 100% level but in Denmark and the Netherlands total domestic demand declined to a share of about 90% and in Ireland to only 80% of GDP. The latter countries obviously achieved their growth through rising competitiveness in international markets, a result which fits the exchange rate analysis. Ireland actually achieved spectacular export growth in the 1990s. The share of government consumption in GDP varies substantially among the four economies (from 12.7% and 13.8% in Ireland and the Netherlands respectively to 24.2% in Denmark; figures for 1995) but all four 'tigers' have reduced the share of government consumption in GDP since 1980.

If government consumption simply crowded out private expenditure, the data points in a graph displaying the growth of government consumption minus the growth of potential output on the horizontal axis and the growth of private spending categories (investment and private consumption) minus the growth of potential output on the vertical axis would be expected to be mainly in the north-west and in the south-east quadrants, i.e. negatively correlated (cf. Figure 5). In contrast, the data points of a pooled data set comprising the 'European tigers' plus Germany, France and the USA are mainly in the south-west and north-east quadrants, i.e. positively correlated. The

Figure 5
Growth in Government Consumption, Private Consumption and Investment
(Deviation of Growth Rates in the Variables from the Growth Rate of Potential Output



Source: Computations based on OECD National Accounts and Economic Outlook.

[21] A. Alesina, L. H. Summers: Central bank independence and macroeconomic performance: some comparative evidence, in: Journal of Money, Credit and Banking, Vol. 25, 1993, pp. 151-162.

[22] The real exchange rates (ε) are here defined as: ε = local currency/DM. P^G/P^{local}. Price levels used are GDP price deflators. Since GDP price trends are the weighted sum of industry-specific price trends (not only industries with traded products but also 'sheltered' industries), the real exchange rates probably underestimate actual depreciation since inflation in traded products can be expected to be lower.

[23] For a real depreciation to result in trade balance improvements, the Marshall-Lerner condition must hold, i.e. domestic demand for foreign goods (imports) and foreign demand for domestic goods (exports) must be price elastic. Net exports in the Netherlands have risen substantially but these are concentrated in manufacturing industries (see R. Schettkat, J. Reijnders, op. cit.), whereas the main employment gains have occurred in service industries.

correlation coefficients are .46 for the government consumption variable and private consumption but only .20 for investment. The correlation increases if the sample is restricted to the 'European tigers' with coefficients of .56 (private consumption) and .61 (investment). Leaving out the 1970s strengthens the correlation further to .72 and .87 respectively. Although a correlation is not a causal relationship, this is certainly not the pattern we would expect from theories which blame every economic malaise on public sector growth. The relationship between public expenditure and economic growth seem to be more complex than the simple crowding-out hypothesis suggests. For example it may make a big difference for growth whether government 'consumption' is spent on education or on other purposes.

The 'jobless growth' hypothesis suggests that employment is unaffected (or even negatively affected) by GDP growth, i.e. the employment elasticity of economic growth should be zero (or negative). Table 4 presents the employment elasticity of GDP growth for different sub-periods. Clearly there is no such thing as 'jobless growth': the coefficients are all positive and they seem to have increased in the 1990s. Especially high coefficients occur in the USA for persons employed and even higher coefficients for working volume, which might be expected from the increase in working hours in the USA (then, however, accepting that average number of hours worked affects the number of persons employed). However, the impact of average working hours on persons employed is not clear-cut, as the long-lasting discussion among economists about this issue shows. Hardly anybody will contest that shorter working hours will increase employment, given a set GDP growth rate, but GDP is endogenous and the positive effect of shorter working hours on persons employed may be compensated for or even over-compensated for by counter-effects such as higher wage costs, increasing non-wage labour costs, induced productivity growth, reductions in flexibility, increasing labour supply etc. With respect to the employment elasticity of economic growth the impact of shorter working hours is ambiguous. With rising employment and positive GDP growth rates, the employment elasticity of GDP will rise, assuming that shorter working hours require more persons to be employed. However, with falling employment, a reduction in hours worked will reduce the employment elasticity of GDP growth (again assuming that a reduction in hours worked has a positive effect on the number of employed persons). Any comprehensive evaluation of the impact of working hours on employment elasticity will therefore have to include a check for potential asymmetries.

There are a number of other reasons[24] why the employment elasticity of economic growth may vary

Table 4
Employment Elasticity and Normal Growth Rates and Wages

Period	Austria	Den-mark	Ire-land	Nether-lands	Ger-many[1]	France	USA
Employment elasticity of GDP growth (persons employed)							
1972-1998	.46	.78	.72	.59	.55	.45	.77
1970s	.29	.71	.65	.00	.62	.34	.81
1980s	.53	.84	.00	.70	.57	.67	.64
1990s	.80	.78	.62	.76	.40	.67	.90
Working volume (hours)							
1972-1998				.00		.38	.98
1970s				.67	.57	.34	.98
1980s				.74	.00	.00	.72
1990s				.70	.47	.56	.98
Average annual growth rates							
Actual GDP growth							
1970s	3.7	2.3	4.8	2.9	2.7	3.3	3.2
1980s	2.2	2.0	3.7	2.2	2.3	2.4	2.9
1990s	1.9	2.2	5.9	2.4	1.7	1.5	2.2
'Normal' rates of GDP growth							
1970s	3.5	2.3	5.4	4.0	3.1	3.6	2.5
1980s	2.7	2.0	4.5	2.3	2.4	2.9	2.0
1990s	2.4	2.2	4.7	1.2	2.7	1.8	1.8
Components of 'normal growth rates'							
Productivity growth							
1970s	3.0	1.8	3.8	2.6	2.6	2.8	0.8
1980s	1.9	1.5	3.8	1.3	1.7	2.1	1.1
1990s	1.6	2.0	3.3	0.8	2.7	1.5	0.9
Population growth							
1970s	0.5	0.4	1.6	1.4	0.6	0.8	1.7
1980s	0.7	0.4	0.7	1.0	0.7	0.9	0.9
1990s	0.8	0.2	1.4	0.5	0.0	0.3	0.9
Income trends							
Real hourly wage growth (business sector)							
1970s	3.7	1.8	–	2.8	2.6	3.0	–0.1
1980s	1.5	0.7	1.8	0.4	1.1	0.9	0.2
1990s	0.7	1.5	1.0	0.4	0.9	0.8	0.9
Real disposable household income							
1970s	3.7	1.3	2.7	3.1	3.2	3.3	3.2
1980s	2.8	0.9	1.6	2.0	2.2	1.9	2.9
1990s	1.5	3.0	4.1	1.6	1.3	1.5	2.4

[1] Due to unification the German data after 1991 are not always comparable with previous periods.

Source: Regressions based on OECD data (Economic Outlook); figures for 1998 are estimates. Working volume means average hours worked times employment (Employment Outlook, various years).
The reported employment elasticities are based on the model: $(\Delta \ln E_t - \text{mean}(\Delta \ln E)) = \alpha + \beta 1\,(\Delta \ln Y_t - \text{mean}(\Delta \ln Y)) + \beta 2\,(\Delta \ln Y_{t-1} - \text{mean}(\Delta \ln Y))$, reported coefficients are $\beta 1 + \beta 2$.
$\Delta \ln$ = first difference in logs, E = total employment, Y = GDP.

[24] If there is no variation around the trend the coefficients in the regression model of Table 4 will be zero.

between countries and over time. A weaker impact of economic growth on productivity growth would increase the employment elasticity. This may happen because service industries come to outweigh manufacturing industries, in which economic growth may have induced more investment and thus endogenous productivity growth (Kaldor's engine of growth). But also if labour markets become more flexible (i.e. if labour input can be adjusted more easily to match demand variations), the relationship between employment and economic growth may become stronger. This would fit the high coefficients found for the USA but also for Denmark, where firing constraints are low.[25] Dismissal laws may be a hiring constraint, but the comparative US-German analysis of employment reactions to negative demand shocks by Katherine Abraham and Susan Houseman showed roughly similar reactions in both countries.[26] Given the Abraham/Houseman result, low degrees of dismissal protection in the USA fail as an explanation for differences in employment elasticity in the annual time-frame applied here. Another explanation for the high US elasticity may therefore be long-lasting employment expansion. The USA experienced only 3 years of declining employment in the course of the 28 years of the analysis and employment elasticity may be high when employment is growing, especially if it is growing over long periods. In other words the employment elasticity may be endogenous to employment growth, which fits the observed rise in the coefficients of the 'European tigers', too. It is therefore necessary to investigate productivity trends as well.

Although the data clearly reject 'jobless growth' scenarios, another question is whether growth rates are high enough to stabilize or increase employment. Arthur Okun labelled GPD growth rates which keep unemployment constant as 'natural growth'. In analogy we define GDP growth rates which keep the employment-population ratios constant as 'normal growth'. In other words, GDP must grow with the combined rate of productivity and population growth. The pattern (cf. Table 4, middle panel) is quite uneven but high rates of productivity growth in Europe in contrast to the USA were already common in the 1970s, and although the Netherlands seem to have converged to the US pattern, the 'European tigers' do not form a homogenous group with respect to productivity growth. However, the Netherlands is the only country with spectacular employment growth (cf. Figure 1) but the interpretation must keep in mind that part-time employment rose enormously, lowering the average hours worked substantially. This creates a twofold bias in the Dutch data. It lowers productivity growth measured as output per person employed and it raises employment growth measured in persons employed.[27]

Wage increases were generally modest and exceptionally low only in the Netherlands (as in the USA) but wages grew less than productivity, thus shifting income shares to profits. This pattern, however, is not unique to the 'European tigers' but occurred in Germany and France as well. Wages rose quite substantially in Austria, Denmark and Ireland, and wage growth in Austria and Ireland actually exceeded that in France. Comparing wages growth and disposable household income (lower panel of Table 4) clearly shows that the successful European economies achieved a substantial part of their income growth through increasing labour input. Taking population growth into account (i.e. investigating real disposable household income per head of the working age population) brings the figures especially in Austria and the Netherlands to very modest levels but not so in Denmark and Ireland.

Summary

Although all four 'European tigers' achieved unemployment records remarkably different from other European countries they also differ substantially from one another: Austria is a long-running success story with low although rising unemployment rates and slightly rising employment. Employment-population ratios are quite high and the income record is comparatively good. Inflation is low and interest rates are virtually identical to those in Germany. Denmark is remarkable mainly for its employment-population ratios, which in the 1970s were already at levels which the USA reached only in the 1990s. Denmark has had periods of high unemployment but experienced falling unemployment rates in the 1990s. Ireland is a recent success. Many economic variables (inflation, unemployment, employment-population ratios) were previously out of the European range but in the 1980s, and more particularly in the 1990s, Ireland has

[25] P. K. Madsen, op. cit.

[26] K. Abraham, S. Houseman: Job Security in America: Lessons from Germany, Washington 1993.

[27] Employment growth in the Netherlands is not just a working-time effect because working volume grew as well (see R. Schettkat, J. Reijnders, op. cit.)