CENTER FOR INSTITUTIONAL REFORM AND THE INFORMAL SECTOR

University of Maryland at College Park

Center Office: IRIS Center, 2105 Morrill Hall, College Park, MD 20742
Telephone (301) 405-3110 • Fax (301) 405-3020

INSTITUTIONS AND ECONOMIC GROWTH: EVIDENCE FOR POSTWAR EUROPE

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Barry Eichengreen and Pablo Vaquez

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Authors: Barry Eichengreen, Department of Economics and Political Science, University of California, Berkeley, CA.
Pablo Vaquez, Department of Economics, University of Santander.

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Barry Eichengreen
Departments of Economics and Political Science
University of California, Berkeley

Pablo Vaquez
Department of Economics
University of Santander

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I. Introduction

The quarter century after World War II was a golden age of European economic growth. Between 1950 and 1973 Europe's real GDP rose nearly twice as fast as in either the two decades preceding or following.[1] In this paper we develop and test a series of hypotheses designed to explain this extraordinary performance.

Part of the explanation is surely "catch-up" (Abramovitz, 1986). Gaps had opened up vis-a-vis both the United States and Europe's own prewar trend, making room for a growth spurt after 1945. But there still appears to have been an acceleration in Europe's growth once catch-up effects are purged.[2] Even when the data are adjusted for catch up, European growth remains half again as fast as in the immediately preceding period.

Without question, one of the proximate causes of this acceleration was high investment. Net investment rates in Europe were nearly twice as high in the 1950s and 1960s as in the interwar period, and investment contributed importantly to economic

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[1] The unweighted average of the annualized growth rate of GDP per hour worked for 8 European countries was 4.4 per cent in 1950-73 but only 2.4 per cent in 1922-37 and 2.3 per cent in 1979-88. Calculated from Crafts (1992), Table 1 and Boltho (1982), Table 1.1. The contrast with recent years would be even more dramatic if the comparison was with 1973-88.

[2] Crafts (1992) presents calculations of the growth bonus due to catch-up vis-à-vis the U.S. and spring-back to prewar levels for the same 8 European countries, finding that growth rates, purged of catch-up and spring-back, decelerated from 3.1 per cent in 1950-73 to 1.9 per cent in 1979-88.

growth.[3] As Schonfield (1965, p.6) put it when describing the period, "The success of the modern capitalist society in reversing the pressures making for high consumption at the expense of investment is one of its outstanding achievements."

Two things thus remain to be understood: what made high investment possible, and what made it productive? This directs our attention to two further features of the postwar growth recipe: wage moderation and export growth Wage moderation stimulated investment by making it profitable and by making available the profits to finance it. The opening of the European economies, whose exports expanded in volume in the 1950s and 1960s by more than 8 per cent a year, allowed investment to be allocated to sectors where its contribution to productivity was greatest. Each nation could exploit its comparative advantage without being constrained by domestic demand.

What then must be explained is wage moderation and the growth of trade. Our hypothesis is that post-World War II growth benefited from institutions that solved commitment and coordination problems in whose presence neither wage moderation nor the expansion of trade would have taken place. On the domestic side, socioeconomic institutions disseminated information and monitored the compliance of economic interest groups with the terms of their agreement to moderate wage claims and boost investment. They helped to lock in the bargain by creating bonds that would be lost in the event that any party reneged. They coordinated the terms of the agreement across sectors of the economy.

[3] Maddison's (1976) estimates show the investment share in Western Europe rising from 9.6 per cent in 1920-38 to 16.8 per cent in 1950-70.

On the international side, institutions coordinated the restoration of currency convertibility across countries and cemented national governments' commitment to openness. This encouraged countries to restructure along export-oriented lines and to more fully exploit their comparative advantages, enhancing the productivity and profitability of investment.

Institutions were not equally well adapted to the needs of growth in all European countries. Some, notably the U.K. and Ireland, failed to develop the requisite institutions; others like France and Italy did so only with delay. In these cases, wage pressure remained intense, and investment lagged. Some countries were slow to restructure their economies along export-oriented lines and capitalized less completely on the opportunities afforded by export-led growth. We exploit the fact that institutional arrangements and growth performance varied across countries and over time to test our hypotheses about the institutional foundations of postwar growth.

Our emphasis on the postwar settlement and the institutions used to support it is not unprecedented.[4] The literature on corporatism (viz. Katzenstein 1985, Crouch 1990) has placed great weight on the role played by labor market institutions in mediating economic conflict. Other recent research has analyzed the role of the Bretton Woods institutions and the GATT in providing an international framework for postwar growth (Marglin and Schor 1990, Armstrong, Glyn and Harrison 1984). The contribution of this paper is to bring the domestic and international dimensions together and to provide new evidence on their

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[4] Indeed, since this paper was written we have come across a study (Landesmann and Vartiainen, 1993) that develops the argument along very similar lines to this paper.

importance.

Part of the difficulty of relating this paper to previous work is that similar concepts are often referred to by different names. For example, where we refer to "commitment and coordination problems," Hargreaves Heap (1994) uses the terms "prisoner's dilemma and coordination games." Przeworski and Wallerstein (1982) refer to domestic bargains between capital and labor as "class compromises" and stress the need for capitalists to "consent to institutions that would make it reasonably certain that wages would increase as a function of profits according to some rule...." (p.218). Boyer (1988) uses the term "Fordism" to refer to the cooperative structure of industrial relations and equitable division of productivity gains that existed in Europe after World War II. Each of these authors is concerned with related concepts, although their precise formulations differ from those developed here.

The remainder of this paper is organized as follows. Section II develops the hypotheses we use to structure our analysis of the mainsprings of Europe's postwar growth. Sections III through VI provide econometric evidence on the institutional arrangements that are the focus of our attention. Section VII concludes by drawing out the implications for the literature on economic performance in postwar Europe.

Part of the paper's contribution lies in the development of new measures of institutional arrangements and, in particular, of their evolution over time. The sources and techniques we employ in constructing these indices are described in the appendices that follow the conclusion.

II. The Role of Institutions[5]

Lancaster (1973), Grout (1984) and van der Ploeg (1987) model a dynamic game between capital and labor with a common general structure. Welfare is maximized when capitalists and workers agree to defer current compensation in return for future gains. Workers moderate their wage claims in order to make profits available for investment and to make profitable those investments in capacity modernization and expansion. Capitalists restrain dividend payout in order to reinvest. Investment stimulates growth, raising the future incomes of capitalists and workers alike. In the cooperative equilibrium in which both workers and capitalists exercise restraint, the costs of foregoing current consumption are dominated by the benefits of the future increase in incomes.

This cooperative equilibrium may be impossible to sustain, however, for the sequencing of events renders it time inconsistent. Consider the problem for labor created by uncertainty about subsequent investment. If investment requires liquidity and liquidity requires profits, then workers must restrain their wage demands now in order to make profits available to capitalists for investment later. But once the wage restraint has occurred, capitalists are even better off if they renege on their agreement to invest, paying out profits as dividends instead. Since investment is no higher than if they had failed to moderate their wage claims, workers have no incentive to exercise restraint. In this noncooperative equilibrium, workers pursue wage increases, management pays out profits as dividends, and investment and growth are depressed.

Even if workers can be assured of capital's willingness to invest, unions may be able

[5] This section draws on Eichengreen (1994).

to recontract after investment has taken place. Workers can renege on their agreement to restrain wages, seeking to appropriate the surplus created by the additional investment. Since profits are no higher than if management had failed to invest, management has no incentive to plow profits into investment. In the noncooperative equilibrium, workers pursue wage increases and management pays out profits, causing investment and growth to lag.

A contract that binds capitalists to invest and workers to restrain wages, by overcoming these problems of dynamic inconsistency, renders both groups better off. The social and economic institutions developed in Europe after World War II can be thought of as simulating the effects of such a contract.[6] Institutions worked to monitor the compliance of capitalists with their deferred contribution to the bargain and to disseminate evidence of noncooperation; by reducing the likelihood that shirking would go undetected, these mechanisms reduced the temptation to indulge in noncooperative behavior. Institutions were used to create bonds that would be lost in the event of reneging, increasing the stakes ("bonding" the participants) and providing a further deterrent to shirking. By committing capital to invest the profits made available by wage restraint, they provided labor the incentive to moderate their wage demands. By committing labor to continue to exercise restraint in the future rather than "scooping" profits, they provided capital the incentive to invest. Long-term contracts, pacts between the social partners and government, and statutory wage and price controls were three mechanisms that can be thought of as

[6] The notion that institutions can be used to enhance the credibility of commitments is prominent in the work of North and Weingast, among others. See North (1993) and North and Weingast (1989).

precommitting unions to wage moderation and thereby inducing management to invest. Unemployment, health and retirement programs -- the institutions of the welfare state, in other words -- served as bonds that would be jeopardized if labor reneged.

The centralization and concertation of sectoral wage negotiations further encouraged wage moderation. Insofar as one firm's earnings could pass through the capital market and finance another's investment, the benefits of wage moderation by any one group of workers accrued to other workers. Since the level of wages affected economy-wide determinants of investment like the interest rate, there was a need to coordinate wage demands across sectors to render a bargain to moderate wage claims attractive to each party to the accord.[7] Hence the need for institutions to centralize or concertize sectoral bargaining.

On the employer side, any one firm contemplating investment had reason to worry that the decision to invest would encourage its workers to raise their wage demands in order to appropriate the extra profits generated by the investment. But if wages were determined in economy-wide rather than enterprise-level or sectoral negotiations, an individual firm's investment decision would no longer affect the wages it had to pay. In these circumstances, centralized wage negotiations led to a higher level of investment and, insofar as productivity was raised, to higher wages in equilibrium.[8]

For deferring consumption to be worthwhile, investment had to be productive. For

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[7] Otherwise a prisoner's dilemma could arise in which any one sectoral bargaining unit wished to moderate its demands only if it expected others to do the same, but in the absence of an agreement to harmonize demands no one had an incentive to be moderate.

[8] These possibilities are modelled by Hoel (1990).

investment to stimulate growth, in other words, there had to be a market for the goods produced by industries whose capacity was augmented and whose efficiency was enhanced. Here the post-World War II expansion of trade was key. International trade -- and for European countries intra-European trade in particular -- allowed countries to specialize in the production of goods in which they had a comparative advantage without regard to limits on the demand for those products at home. It allowed them to rely on cheap foreign supplies of raw materials and on a range of intermediate inputs that were impractical to produce at home.

But the expansion of trade created further coordination and commitment problems. Restructuring along export-oriented lines was costly. Sinking the costs of reallocating resources along lines of comparative advantage could turn out to be an expensive mistake if one's trading partners reneged on their commitment to openness. Encouraging the expansion of steel production on the assumption that coal and iron ore could be imported from abroad could be a costly error if foreign supplies were not forthcoming. Augmenting the capacity of such industries would not pay if other countries refused to draw down their tariffs on imports of final goods. Before encouraging the rationalization of domestic production along lines of comparative advantage, governments therefore had to be convinced that their partners' turn to openness was permanent.

Here again institutions solved commitment and coordination problems. The European Coal and Steel Community created monitoring and surveillance technologies that guaranteed the French steel industry access to German coal and the German industry access to French iron ore. A Joint High Authority monitored the compliance of participating countries to the terms of their agreement. The European Payments Union (EPU) coordinated the simultaneous move of European countries to currency convertibility for intra-European current-account transactions and committed the participants to a sequence of trade liberalization measures. An EPU Managing Board was created to monitor the policies of member countries and to discourage them from reneging on their commitments. The participants contributed currency and credit to the EPU's central fund; access to these resources was contingent on their adherence to the EPU agreement, which thereby served as a bond. Compared to unilateral convertibility, then, the payments union was a more credible commitment mechanism.

To recapitulate, our thesis is that the institutions of European integration and industrial relations helped to solve commitment and coordination problems that otherwise would have prevented Europe from achieving the wage moderation, high investment and rapid export growth that were key ingredients of its postwar growth process.

It is worth asking how this perspective differs from previous work on corporatism and European integration. Most previous analyses of corporatist labor relations (e.g. Crouch 1985, Bruno and Sachs 1985) have concentrated on short-run wage and employment dynamics (the response of wages and unemployment to supply shocks in more and less corporatist economies, for example). Our focus, in contrast, is on wage, employment and output trends over a longer horizon. Similarly, previous work on regional trade arrangements has concentrated on trade creation and trade diversion at a point in time; our concern is rather with the implications of European integration for the medium-term export performance of nations.

III. The Determinants of Output Growth

In this and subsequent sections, we report statistical evidence on the mechanisms highlighted by the analytical framework set out above. We focus first on the role of investment and exports in economic growth before turning to the determinants of that investment and export behavior below.

A previous effort to analyze economic growth in the postwar period is Grier (1993), who reached generally negative conclusions about the importance of institutions.[9] To maximize comparability, we take his data and specification as our point of departure. Grier uses data for 24 OECD countries for the period 1950-88.[10] We follow him by drawing data from the Heston-Summers Penn World Tables (in our case, Version 5.5) and augmenting them as necessary with information from other sources.[11]

Grier's specification relates the rate of growth of real GDP to GDP per capita at the start of the period (in dollars at purchasing power parity), the rate of population growth, the standard deviation of inflation, and the ratio of government consumption to GDP. Fixed

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[9] Crafts (1992) reaches broadly similar conclusions.

[10] The 24 countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Japan, Iceland, Ireland, Italy, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the U.K. and the U.S. He takes five year averages of country data (except for a three year average for 1985-88) and pools the cross sections.

[11] Our data on the volume and value of exports (including re-exports), for example, are taken from the OECD's National Accounts Statistics and Statistical Bulletin. The share of exports destined for European and OECD countries is drawn from the Statistics of Foreign Trade of the OECD (Series A).

effects are included for each period.[12] Per capita GDP at the start of the period should enter with a negative sign if catch-up is important. Population growth should enter positively unless diminishing returns to labor dominate, since the dependent variable is the rate of growth of aggregate product. Theory and intuition suggest that growth should decline with the variability of inflation but do not provide clear predictions for the coefficient on the average inflation rate.[13] Government consumption should enter negatively if it crowds out more productive uses of resources.

Grier measures investment by its share of GDP. In most of our regressions we include both the investment/GDP ratio at the start of the period and the average rate of growth of investment, anticipating positive signs on both variables. We add analogous measures of exports: the export/GDP ratio at the beginning of the period and the average rate of growth of exports.[14] Including variables like the rates of growth of investment and exports in output equations raises obvious possibilities of simultaneity bias. We therefore treat all our investment and export variables as endogenous, as described below.

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[12] We include fixed effects for periods in each of the equations reported in Tables 1-7

[13] Motley (1994) suggests that inflation may depress growth by diverting resources into unproductive uses such as changing wages and prices more frequently, economizing on holdings of non-interest-bearing assets, etc. Grier measured average inflation as the first difference of the period average, on the grounds that first differences are more likely to isolate the unexpected changes in inflation that may be important for output. The results we report here take the more straightforward approach of using the period average rate of inflation.

[14] In some regressions we use the average value of the investment/GDP and export/GDP ratios over the period rather than their initial values.

The first equation in Table 1 is our version of Grier's basic result.[15] As in Grier's paper, the equation is estimated by ordinary least squares. Most of the variables enter with their expected signs and display coefficients that differ significantly from zero at standard confidence levels. Initial GDP per capita enters negatively as predicted by the catch-up hypothesis. Government consumption is negative and significant, as if it crowds out other more productive forms of spending. The investment ratio is positive and significant, as anticipated. The variance of inflation is negative and significant, population growth positive and significant. Average inflation is the one variable, aside from fixed effects which are not reported, whose coefficient does not differ from zero at standard confidence levels.[16]

One can argue that growth encouraged investment as well as that investment encouraged growth; hence, all subsequent equations are estimated using instrumental variables.[17] The results of reestimating Grier's basic equation are shown in the second column; they differ little from those of Equation 1; only the inflation term switches sign, but its coefficient remains indistinguishable from zero, as before.

Equation 3 adds our second measure of capital formation (the rate of growth of

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[15] t-statistics reported in this paper are calculated using heteroskedastic-consistent standard errors.

[16] Levine and Zervos (1994) and Motley (1994) similarly find little evidence that the average inflation rate is significantly related to growth. We measure this variable as the period average of the annual log difference of the purchasing-power-parity price level in each country plus the annual log difference in the U.S. GDP deflator, since the Heston-Summers PPP price level is measures relative to the U.S. price level.

[17] As instruments we use the exogenous variables employed in our investment, export and wage equations below.

investment at constant prices) and the two export variables. To minimize multicolinearity between our two investment and export variables, we measure the investment/GDP and export/GDP ratios at the start of the period rather than as period averages. This equation supports our hypothesis concerning the proximate sources of Europe's growth. While catch-up is important, as indicated by the continued significance of initial per capita GDP, investment and exports exert strong independent effects. Higher investment ratios and faster increases in investment are associated with more rapid growth. Faster increases in exports are similarly associated with faster growth. Despite the fact that we include two measures of both exports and investment, three of the four variables are statistically significant at the 95 per cent level. The initial export/GDP ratio is only one of this quartet that fails to achieve significance at this level. The insignificance of the export/GDP ratio turns out to hinge on the behavior of the U.K., a country which was relatively open but grew slowly over the postwar period. When we drop the U.K. from the sample, the coefficient and t-statistic on the export/GNP ratio double in size (without noticeably affecting the size or significance of the other variables).

Equation 4 substitutes alternative measures of the investment and export ratios, calculating these as period averages rather than initial-year values. The results are largely insensitive to the substitution, the only noticeable effect being a further decline in the significance of the export ratio due to the multicolinearity alluded to above. Omitting the U.K. again doubles the size of the coefficient and the t-statistic on this variable.

To examine the importance of exports destined for different markets, we added a measure of intra-European trade. We tested whether the growth of exports to the countries that committed to regional trade liberalization by forming the European Coal and Steel Community (ECSC) and the European Economic Community was more important than exports to the rest of the world. The relative importance of intra-European trade was measured as the percentage change in the value of exports to ECSC/EEC markets (EEC markets for short) relative to the percentage change in the value of total exports.[18] Our analytical framework does not point to a reason why intra-EEC exports rather than total exports should matter for output growth; exports to both EEC member countries and the rest of the world would have afforded opportunities to restructure along lines of competitive advantage and to exploit economies of scale and scope. ECSC and EEC members may have been willing to liberalize trade more quickly than other countries by virtue of the success of European institutions in solving commitment and coordination problems (in which case our measures of the effects of the ECSC and EEC in Section IV below should have a significant impact on the expansion of exports), but there is no obvious reason why exports to one market rather than another should have been particularly conducive to growth. The results are generally supportive of our priors. When the initial level and relative rate of growth of intra-EEC exports are added, as in Equation 5, it is total exports, not intra-EEC exports, that matter for output growth.[19]

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[18] We allowed the countries included in this subcategory to change with time as additional countries joined the EEC.

[19] We conducted a variety of sensitivity analyses of this result. Limiting the sample to European countries did not enhance the significance of intra-EEC exports. Nor did substituting exports to OECD markets or exports to European markets. Substituting intra-OECD exports reduced the size and t-statistic on the total export/GDP ratio, which might be expected since intra-OECD and total exports are relatively highly correlated for the countries in the sample. (Exports to European markets differed from exports to

IV. Determinants of Export Growth

The next stage in our analysis tests for links from domestic and international institutions to the export growth and high levels of investment that fueled the postwar growth miracle. We begin with the determinants of export growth.

Two institutional arrangements affecting exports were the European Payments Union which preceded the restoration of current account convertibility in Europe, and the European Coal and Steel Community (ECSC) which developed into the European Economic Community (EEC). We construct two measures of these arrangements. One is a dummy variable equalling one for countries which belonged to the ECSC or the EEC during the period. We denote this variable "EEC." The other is a dummy variable for countries which participated in the EPU or whose currencies were convertible for current account transactions; we denote this variable "EPU."[20]

Previous studies have tended to find some effect of both variables on the pattern of trade. Frankel (1991) included a dummy variable for EC member states in his gravity equations explaining the volume of bilateral trade flows in the 1980s, finding that membership encouraged intra-EC trade even after controlling for other determinants such as income, population, distance and contiguity, but without discouraging trade between EC members and the rest of the world. Eichengreen (1993) conducted an analogous exercise

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EEC markets by the inclusion of Austria, Finland, Norway, Sweden, Switzerland and Turkey and differed from the OECD by the exclusion of exports to the U.S., Canada, Australia, New Zealand and Japan.) We show this last specification as Equation 6.

[20] Information on the latter was drawn from the IMF's Exchange and Trade Restrictions Yearbooks.

for the EPU in the 1950s, obtaining a similar result. But, because both authors analyze data for developing as well as industrial countries, the Frankel and Eichengreen studies do not speak directly to the issues raised here. In a study closer in spirit to the present analysis, Aitken (1973) found that EEC membership had a significant effect on the volume of trade between member countries starting in the early 1960s. He turned up little evidence that membership in the European Coal and Steel Community stimulated trade in the 1950s, however. De Grauwe similarly considered bilateral trade flows among 10 industrial countries since the 1960s. He found that EC membership significantly increased trade among the six founding members in the 1960s but no longer had a discernible effect in the 1970s, a contrast which he attributed to increased trade diversion following the admission of three new members in 1973. He did, however, find a strong trade-stimulating effect of membership in the 1970s for the three new entrants themselves.

Table 2 summarizes the results of regressing the growth of export volumes on the growth of GDP, population growth and indices of the stance of domestic and international policies.[21] Given the importance of exports for GDP growth, the latter is treated as endogenous. A related issue is whether it is appropriate to also treat our EEC and EPU dummies as endogenous. There are good reasons to think so: the level of trade with other participants may well influence the attractiveness of joining a regional arrangement. Countries which trade more heavily with one another may want to establish institutional relations to lock in those benefits. How the growth rate of trade may affect the decision to

[21] We focus on total exports as our dependent variable, although in future work we plan to consider intra-European exports as well.

join is not entirely clear: rapid growth that foreshadows an even higher trade ratio in the future may magnify the benefits just described, but lagging trade growth may also heighten the perceived need to join in an institutional arrangement so as to reverse the slump in trade. While these arguments do not predict that endogeneity will bias OLS coefficients in any particular direction, they all suggest treating the EPU/convertibility variable as endogenous, as we do below.

Equation 1 confirms that "EEC" is consistently positive and significant at the 95 per cent level. This supports the notion that membership in the European Community helped to solve problems of commitment and coordination, thereby encouraging the expansion of trade. In addition, the growth of exports depends positively on GDP growth. We also include the average rate and variability of inflation as two measures of domestic economic policies which might have crowded out exports, but neither has a discernible effect.

Equation 2 adds a dummy variable for countries which were EPU members or whose currencies were convertible for current account transactions. (We identified the date when current-account convertibility was restored using information from the IMF's Exchange and Trade Restrictions volumes.) The coefficient on this variable is insignificantly different from zero at standard confidence levels.[22] In contrast, the coefficient for ECSC/EEC members retains its large size and statistical significance.

The insignificance of the EPU/convertibility measure could conceivably reflect imprecision in how we have dated the restoration of convertibility. In Equation 3 we

[22] The negative sign is eliminated, moreover, when EPU membership is treated as exogenous, as reported below.

therefore tried an alternative measure: the date when countries accepted Article VIII of the IMF Articles of Agreement. This only reinforced the finding. These results thus suggest that the ECSC and the EEC were more important than the EPU in boosting Europe's trade.

To test whether the effects of the EPU might have differed from those of the unilateral restoration of convertibility, in Equation 4 we enter EPU and convertibility measures separately. The results differ little from before: neither coefficient differs significantly from zero, and the importance of EEC membership is undiminished. Treating EEC and EPU membership and current account convertibility as exogenous in Equation 5 switches the signs on the last two of these variables and reduces the size of the coefficient on the first but otherwise leaves the results unchanged.

It is worth asking the analogous question about the relative importance of membership in the ECSC before 1959 and the EEC thereafter. Equation 6 therefore enters variables for the ECSC and the post-1958 EEC separately. Both variables have a positive impact on the volume of trade. The ECSC dummy is consistently larger; which coefficient differs from zero by a greater margin depends on the measure of convertibility used.[23]

Thus, the results of this section confirm the significance of the EEC and the ECSC in promoting the growth of Europe's trade without providing equally compelling evidence of the importance of the EPU.

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[23] Thus, when convertibility is measured as in Equation 1, only the Coal and Steel Community is significantly greater than zero at standard confidence levels. When convertibility is measured by acceptance of the IMF's Article VIII, in contrast, only post-1958 EEC membership is significant.

V. Determinants of Investment

The next step in our analysis considers the determinants of investment. We are especially interested in the relationship between labor's share of national income and the investment rate.

The specification of our investment equation follows Barro (1991) and Wolf (1993), both of whom analyze investment rates in a cross section of countries. Barro focuses on the effects of the initial level of GDP per capita, the stock of human capital, government consumption as a share of national income, and proxies for the severity of relative price distortions (the average price of investment goods relative to other goods and services, and the standard deviation of that ratio).[24] Wolf considers the effects of tax rates, interest rates, Tobin's q, and political conditions. We add labor's share of GDP as the (inverse of the) measure of profitability suggested by the neoclassical investment model.[25]

The estimates, shown in Table 3, support the emphasis placed in our analytical framework on labor's share of national income and the growth of labor costs as a determinant of investment.[26] Both variables have a negative impact on the rate of growth of investment, as shown in Table 3a. Labor's share is also negatively related to the investment ratio (investment as a share of GNP) when we control for the effects of the real interest rate

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[24] Barro also includes number of revolutions and assassinations per capita as measures of political instability; we exclude these on the grounds that they are mainly applicable to the developing countries in his sample.

[25] For discussion, see Clark (1979) and Kashyap, Stein and Wilcox (1993). We construct our labor income variable using the OECD National Accounts volumes and the International Labour Organisation's Yearbook of Labour Statistics (various years).

[26] Labor costs are computed as labor income per member of the labor force.

(Table 3b). This provides support for the link running from labor market outcomes to investment behavior pointed to by our theoretical framework.

The other variables generally affect investment in plausible ways. Investment is negatively associated with the share of government consumption and positively associated with average inflation. The positive effect of inflation remains even after we control for the real interest rate (the rate on government bonds adjusted for the change in the CPI deflator), where the latter variable has the predicted negative effect on investment; this suggests interpreting the positive effect of inflation on capital formation in terms of the Tobin effect. The change in Tobin's q (the market valuation of capital relative to its replacement cost, as measured by the percentage change in share prices relative to the percentage change in wholesale prices) has its predicted positive effect on investment, while the share of parliamentary seats held by Communists has a negative effect as long as we control for the real interest rate.[27] Per capita GDP, the variability of labor income, political instability (as measured by the frequency of significant cabinet changes) and the corporate tax rate have inconsistent and generally insignificant effects.[28]

Overall, the results support our emphasis on the importance of wage restraint for supporting the high levels of investment that were a crucial ingredient of Europe's postwar growth recipe.

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[27] We constructed real share prices from data in International Financial Statistics and the share of seats held by communists using data from U.S. Department of State (various years), Europa Publications (various years), and Rokkan and Meyriat (1969).

[28] The corporate tax rate is calculated as the ratio of corporate taxes to capital income using data from OECD (1993). The political instability variable is drawn from Taylor and Hudson (1983) and Europa Publications (various years).

VI. Domestic Institutions and Labor Market Outcomes

The preceding results on the connection between labor's share of national income and the investment rate underscore the need to analyze postwar labor market outcomes. A large literature focuses on the role played by labor-management relations in macroeconomic outcomes (see for example Bruno and Sachs 1985, Calmfors and Driffill 1988, Crouch 1985). Much of it focuses on the connection between corporatist governance and wage bargaining. Less frequently, authors focus on the connection between the centralization of bargaining and labor-market outcomes; recall that our analysis suggests that centralization can serve as an alternative to corporatism in solving coordination problems.

A limitation of much of this work, including historical studies like Crafts (1992), is that it uses snap-shots of corporatist structures drawn from one point in time, generally the late 1970s and early 1980s, to analyze the outcome of bargaining rounds stretching over several decades, when in fact the structure of the relevant institutions changed markedly over time.[29] For the present study, we therefore constructed indices of corporatism and the centralization of bargaining for each period we consider.

Our basic specification relates the rate of growth of money wages to the inflation rate, a measure of demand pressure (the deviation of log output from trend), the rate of growth of the labor force, and two measures of investment (the average investment/GDP ratio over the period and the average rate of growth of investment, where both measures are treated as endogenous). Variants of this equation are reported in Table 4. We find that wages grew more slowly where investment grew quickly, as predicted by our analytical

[29] The extent of this change is documented in Appendix 1.

framework. Wage growth was slower where the growth of the labor force was faster, consistent with Kindleberger's (1966) elastic-labor-supplies hypothesis. Neither demand pressure nor inflation appears to have been a significant determinant of the rate of change of wages.[30]

The first equation in Table 5 employs our attempt to quantify Crouch's (1990) description of changes in labor relations since the 1950s. The negative coefficient on the Crouch index differs significantly from zero at the 90 per cent level, consistent with the notion that more corporatist economies were characterized by lower wage inflation. The second equation utilizes the index of corporatism based on the evidence in Appendix 1. Again the coefficient is negative, although it does not differ significantly from zero. The third equation uses our measure of the centralization of wage bargaining, since Section 2 suggested that corporatism and centralization were alternative means of solving the commitment and coordination problems facing capital and labor. The coefficient on this index has the anticipated negative sign and differs significantly from zero at the 95 per cent level. When we include both centralization and corporatism in our wage equations, the former turns out to exercise the dominent effect.

In Table 5 we consider some alternative measures of corporatism and centralization. The first equation equation measures corporatism using a version of the Bruno and Sachs index (denoted "$Sachs_1$"). Corporatism is quantified as the sum of a vector of zero-one variables measuring union centralization, employer centralization, low shop floor

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[30] Thus, while the negative coefficient on demand pressure is counter-intuitive, it is insignificantly different from zero. Some of these results change when we substitute other measures of domestic institutional arrangements, as we show below.

autonomy, and works councils (normalized to range from zero to one).[31] "Sachs_1," enters with a negative sign, although it differs insignificantly from zero. The second equation measures corporatism as the product rather than the sum of the four constituents in an attempt to test the hypothesis that its effects hinge on the presence of all four components; this index, "Sachs_2," enters with a negative coefficient which differs significantly from zero at the 90 per cent confidence level. The third equation measures corporatism as the average of "Sachs_2" and the share of the labor force unionized. This measure, denoted "Sachs_3," is negative and significant at the 95 per cent level. Finally, the fourth equation measures corporatism as the average of "Sachs_1" and a measure of the stringency of incomes policies that ranges from zero to one; the results are little affected.

To explore what elements of labor-management arrangements were most important for restraining wage inflation, we entered the components of these indices separately in Table 6. The most important constituents appear to be union density, employer centralization, and incomes policy, all of which have negative impact on wage growth. A surprise is the positive effect of union centralization on wages, since it is contrary to the assumption that informs much of the literature on corporatism. But the absolute value of the coefficient on union density is consistently larger than that on union centralization; this suggests that an economy with high levels of both union membership and union centralization is likely to display more wage moderation than one from which unionism is

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[31] All of the other indices we construct below are also normalized to vary from zero to one.

absent.[32]

Another way of marshalling information on the role of institutional arrangements in shaping wage demands is to interact our institutional indices with a time trend. A negative coefficient on union density, for example, would suggest that a high level of unionization had wage-moderating effects throughout the period, whereas a negative coefficient on the interaction term would suggest that the moderating effect grew stronger as the period progressed (or, if the level of union density was insignificant, that it had wage moderating effects only toward the end of the period). When we add these interaction terms, we still find a significant effect of union density and employer centralization throughout the period; although both effects grow stronger with time, neither interaction term differs significantly from zero at standard confidence levels. Incomes policies appear to have exercised a stronger effect as the period progressed; this is plausible insofar as they were more intensively utilized in the 1960s and 1970s than previously.[33]

Thus, the bulk of the evidence, derived from analyses different measures of the institutionalization of labor-management relations, supports the hypothesis that centralization and corporatization played a significant role in moderating wage demands.

VII. Conclusion

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[32] Both variables are indices that vary between zero and one. This makes it possible to directly compare the effects of the highest possible levels of union density and centralization, for example.

[33] Two additional findings whose interpretation is not obvious are that that low shop floor autonomy mattered less over time, but that the presence of works councils was increasingly conducive to wage moderation.

This paper has elaborated an argument that institutional solutions to commitment and coordination problems were at the heart of Europe's postwar growth. Expansion was fueled by high investment and the rapid expansion of exports. Sustaining investment required the development of corporatist structures and centralized wage bargaining to secure the commitment of capital and labor to the terms of their agreement to moderate wages and reinvest profits. Promoting exports required establishing international institutions to coordinate national programs of economic restructuring along export-oriented lines and to lend credibility to European governments' commitment to openness. The results reported here confirm the importance of investment and exports for growth, of international institutions for the expansion of exports, and of corporatism and centralization for the wage moderation that supported the investment.

Two elements must be added before the tale is complete. One is that the institutions which are treated here as exogenous determinants of the rate of growth in fact responded endogenously to economic conditions, including the changes in living standards, cyclical fluctuations and income distribution produced by growth itself. One might argue that these institutions were themselves the products of deep-seated historical forces -- that they were inherited by the postwar economy from its economic and social past and can therefore be treated as predetermined. But it is hard to deny that further adaptation occurred in response to economic growth. Endogenizing these institutions is therefore an important direction for research.

The other obvious extension is to the productivity slowdown that set in around 1973. It is sometimes suggested that the same institutions which, according to the hypothesis of this paper, were conducive to growth in the first postwar quarter century posed obstacles to its persistence subsequently. One can imagine arguments that might render these observations compatible: postwar structures may have fallen prey to Olsonian capture (Olson, 1982), the productivity of investment may have been undermined by the two OPEC oil shocks, or the effectiveness of the bargain between capital and labor may have been eroded by the rise in international capital mobility.[34] The same institutional arrangements may have had decidedly different implications for growth depending on the wider social and economic context in which they operated. Systematically analyzing these interactions is the other obvious direction for future work.

[34] These and other hypotheses are considered in Eichengreen (1994).

Appendix 1. The Evolution of Domestic Institutions

This appendix documents in more depth the development of the institutions of European labor-management relations after World War II. It presents the information we use in Section VI to measure corporatism and the centralization of wage bargaining.

A. The Netherlands

By World War II the Netherlands had already travelled a good distance down the corporatist road. During World War I the government had become involved in union activities, subsidizing union unemployment funds as part of its wartime relief program. In 1919 a High Council of Labor, composed of representatives of the various federations of unions and employers, together with civil servants, had been created to advise the Minister of Social Affairs. Three national union federations (Socialist, Protestant and Catholic) emerged. On the employer side the Association of Dutch Employers had existed since 1899. In subsequent years a host of further employers associations emerged. After World War I these were consolidated into four national, nondenominational employers associations, the three most important of which merged to form the Federation of Dutch Employers in 1926.

Even after World War II, reflecting this state of affairs, the Dutch labor market remained incompletely centralized by the standards of countries like Austria and Sweden. Unionization rates hovered around 40 per cent of wage and salaried workers, with members divided among competing unions organized along political, religious and industrial lines. While the number of separate employers associations was greater, consolidation went further: after World War II it led to the incorporation of 80 per cent of all employers into one organization.

The distinguishing feature of Dutch institutions was not centralization but corporatism. Unions were affiliated into Protestant and Catholic Federations. During the country's World War II occupation the major federations agreed to coordinate their policies.[35] In 1945, less than a fortnight after the country's liberation, labor and management organized a bipartite council, the Foundation of Labor, comprised of employers' associations and union federations. In the summer of 1945 the Foundation received recognition by the government as an advisory board on social issues in return for the unions' commitment to refrain from striking. Recognition led to continuous contact between the Foundation and public officials on questions of wage policy.[36]

In 1945 the Government obtained passage of an Extraordinary Decree on Labor Relations, securing stringent powers of control over wage determination. It created an independent Board of Mediators, comprised of labor, management and government representatives, empowered to approve or disapprove collective contracts. Though wage guidelines were formally laid down by the government and administered by the Board of Mediators, in practice they were jointly determined by the government together with the Foundation and administered with the help of the latter.

In 1950, many of the functions of the Foundation of Labor were taken over by a

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[35] Further details on Dutch developments may be found in Peper and van Kooten (1983).

[36] Fortman (1960), p.66. The cabinet, returning from exile, was suspicious initially of these arrangements, but almost immediately recognized the Foundation of Labor and used it to administer wage controls. Wolinetz (1989), p.81.

Social and Economic Council comprised of 45 members, 15 nominated by employers organizations, 15 by the three trade union federations, and 15 by the government. This mode of organization, which remained in operation through 1959, provides perhaps the clearest example in postwar Europe of the operation of corporatist bargaining. Until the mid-1960s, all collective agreements were calibrated to national norms fixed by the authorities after consultation with the Social and Economic Council. Central agreements were effectively enforced: wage drift was 1-2 per cent per annum, and high investment rates were successfully sustained. That this arrangement facilitated adjustment to shocks is evident in the country's response to the Korean crisis and financial realignment in Western Europe at the end of the 1940s: due to devaluation and the Korean War the terms of trade deteriorated by more than 10 per cent between 1949 and 1951. The cost of living rose by fully 10 per cent between September 1950 and early 1951 alone. The government responded by seeking to gain the explicit cooperation of labor and management. The unions agreed to accept an increase in wages of only 5 per cent.[37] Thus, the corporatist arrangements of the Netherlands allowed real wages to fall significantly in response to the external shock. Again in 1957, a time of mounting balance-of-payments pressures, the unions accepted a policy of extreme restraint.

As a reward for prior restraint, workers demanded and were granted a growing share of national income in the second half of the 1950s. By the end of the decade, a

[37] The agreement was contingent on the decline in real wages not exceeding 5 per cent. When the cost of living rose by slightly more than the permissible limit, in November 1951 there was a small upward adjustment of nominal wages. Edelman and Fleming (1965), pp.242-243.

registered rate of unemployment below one per cent, the low rate of wage growth and the overwhelming extent of wage compression had bred new militancy on the part of the unions, especially in industries enjoying high profits and productivity growth. The more conservative government that took office in 1959 favored a more laissez faire labor market; it agreed to a revision of bargaining norms which provided greater scope for wage growth in high productivity industries. Previously employers breaching the wage guidelines were subject to prosecution; now this was no longer the case. With less government support and less cohesion among unions and employers, concertation proved difficult to sustain.[38]

The old framework then collapsed and was replaced with a less cohesive system of bargaining which attempted to link wages loosely to productivity.[39] Between 1963 and 1970 real wages rose by an annual average of 7.1 per cent, while labor productivity increased by 6.9 per cent in manufacturing and by 5.3 per cent in all enterprises.[40] Between 1953/62 and 1963-70 the ratio of the wage rate to the user cost of capital rose by nearly 40 per cent.[41] By the end of the 'sixties this new system had broken down as well, and with it a critical element of the postwar settlement.[42]

B. <u>Norway</u>

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[38] In 1963 the arrangements of the 1950s were salvaged only by granting unions an increase of 10 per cent, a step which was hardly consistent with the intent of the accord.

[39] For details see Klein (1980).

[40] de Wolff and Driehuis (1980), Table 2.7.

[41] de Wolff and Driehuis (198), Table 2.3.

[42] For details, see Kurzer (1993), p.48.

Norway too emerged from World War II with proto-corporatist institutions in place. The Norwegian Employers Confederation had been formed in 1900 and grown steadily, but for a setback in the 1920s. Norway had established sectoral bargaining before World War II and possessed a major labor confederation, the Norwegian Labor Organization, formed in 1899. "Even under the system of industry-wide collective bargaining that had been developed in prewar Norway," however, "individual national unions were not much concerned with the wider economic repercussions of their wage demands."[43] This changed with the 1944 London Agreements, when the state became a party to negotiations. Policy then passed through three phases.[44] Between 1945 and 1950 the government embarked on a program of concerted high investment. Labor-market outcomes were tightly regulated by the state, which set up a Public Wage Board tripartite in structure but dominated by public officials. Unions and employers agreed to abide by the guidelines set down by the Board, which could impose binding awards if the parties were unable to resolve their differences. With one exception, wage increases were limited to low-paid workers. By the standards of other Scandinavian countries, wage drift remained under control.

Following the 1949 devaluation and the outbreak of the Korean War, this rigid system of central controls was relaxed. The Wages Board was abolished in 1952, and the influence of government in labor-management negotiations diminished.[45] Norwegian

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[43] Galenson (1949), p.319.

[44] The following draws on Inman (1979) except where otherwise noted.

[45] In 1956 the government attempted for the first time to explicitly coordinate wage and price developments, trading a wage freeze for subsidies for food production. But negotiations with both the unions and farmers failed. Schwerin (1980), p.4.

negotiations nonetheless remained strongly centralized in the hands of the peak-level labor and employers confederations.[46] The LO had the authority to approve guidelines for trade union wage policy at the industry level. Individual unions were required to seek LO approval for a new wage agreement, to terminate an existing agreement, or to proceed to strike action.[47] The employers' side was similarly centralized. While individual contracts could be negotiated by constituent associations, the central board of the Employers Confederation could veto their provisions and was required to approve of any collective agreement entered into by an affiliate.

This system operated effectively in the 'fifties. Real wage increases consistently lagged productivity. Wage drift, while present, rarely reached Swedish levels.[48] Norwegian investment rates were high. Inflationary pressure grew, however, toward the decade's end; in response the government took on an increasingly activist role. This inaugurated the third phase in postwar policy, marked by the establishment in 1962 of the tripartite Contract Committee, presided over by the Prime Minister and including the Ministers of Finance and of Wages and Prices. "Although its effects cannot be precisely measured," as one author put it, the Contract Committee "had an important influence in harmonising wage settlements with other developments in the economy."[49]

C. Belgium

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[46] Esping-Andersen (1985), p.219.

[47] LO control was not complete, however; an LO-led agreement could still be rejected by a two-thirds vote of a union's members.

[48] For data see Schwerin (1980), Table 3.

[49] Inman (1979), p.349.

While similar tendencies were evident in Belgium, they operated more less powerfully there. The earliest employers organization, the Central Industrial Committee, dated from 1895. In the aftermath of World War I, the government had induced management to sit down with labor leaders on industry-wide joint commissions and to bargain over wages and work conditions.[50] Though Belgian labor was divided into Catholic, Socialist and Liberal federations, the centralized structure of each of the three organizations encouraged intra-union coordination. The country had a modest tradition of corporatism: the state had intervened to mediate the 1936 General Strike, establishing a National Labor Conference of government, employers and trade union representatives that convened sporadically for nearly two decades. During the Nazi occupation, secret contacts between leaders of industry and unions led to the negotiation of the social solidarity pact described in Section II above.[51] After the war the various employers associations were fused into the Confederation of Belgian Industry. Joint commissions, previously limited in coverage, were now extended to virtually every industry. But negotiations continued to take place at a variety of levels -- the firm, the industry and the nation -- and hence remained incompletely coordinated.

In the 1950s these arrangements worked imperfectly; the harmonization of wage negotiations across sectors was incomplete. A National Labour Council (Conseil National du Travail) was established to advise on wages and working conditions at the national level, but in the 1950s it concentrated on working conditions rather than wage. National

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[50] Janne and Spitaels (1975), p.164. Lorwin (1968), p.152.

[51] For details, see Lorwin (1966), pp.165-166.

consultations took place only in attempts to head off general strikes. Labor was less than fully prepared to moderate its wage demands because of the absence of adequate mechanisms to insure that restraint would translate into additional investment. As Dancet (1988, p.101) put it, there was no agreement on how "productivity gains should be measured, on what basis they should be divided...or by what means employees should get their share...trade unions were not prepared to accept wage reductions (in line with price falls) while profits were rising."

Only following a disruptive strike wave in the winter of 1960-61 and in response to the deteriorating competitiveness of the Belgian economy was centralized wage bargaining routinized. The two leading union federations, the CSC and the FGTB, combined forces in a union front commun, drawing up common demands and negotiating joint agreements.[52] National agreements (so-called "social programming agreements") set minimum wage increases which could be modified only to a limited extent in the sectoral negotiations that followed. The government established "Comparability Commissions" to insure that sectoral settlements were consistent with the national programming agreements. Along with wage harmonization across sectors, labor agreed to "a commitment to social peace" -- in other words, to strike only in the last resort.[53] Government and industry agreed to a program of capacity expansion and modernization to be financed with both domestic and foreign capital. The government both subsidized new investment and supported it with public

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[52] Molitor (1978), p.24.

[53] "Both sides seemed to find a common interest in sharing out the ever-increasing gains from growth in a way that benefited the most organized members of society." Dancet (1988),p.103 See also Janne and Spitaels (1975), p.163.

guarantees. These innovations seemed to have the desired effect: labor peace was restored, investment rose and growth accelerated.[54] But in the late 'sixties, labor demanded additional compensation and programmation sociale began to break down. The government responded by attempting to centralize pay bargaining even further by vesting additional authority in the National Labor Council, which was now empowered to impose binding inter-trade collective agreements.

D. Sweden

Sweden was one of the first European countries to acquire large labor unions and employers associations and to install proto-corporatist structures. At the beginning of the 20th century, employers formed a central organization, the SAF, with the capacity to impose binding agreements on its members. Following a series of lockouts in the years leading up to World War I, the country's craft-based engineering unions went into decline, and were replaced by a national Labor Organization. As early as 1906 the SAF and the Confederation of Swedish Trade Unions (Landsorganisationen, or LO) negotiated a pioneering central agreement.[55] Its binding nature was acknowledged by legislation in 1928. In 1932 the SAF and LO negotiated directly on the extent of wage reductions to be undertaken in response to the Great Depression. In December 1939, in response to the

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[54] Dancet (1988, p.103) concludes of this period as follows, "The link between economic expansion and an effective system of consultation between the two sides of industry is obvious. Long-term economic expansion requires social peace, which can be assured only by regular agreements between employers and employees at national or sectoral level. Acceptance of the 'peace clause' meant a corresponding acceptance of all points in the agreement for the period that it covered.

[55] Jackson and Sisson (1976), p.306.

outbreak of World War II, the SAF and the LO agreed to the adoption of economy-wide sliding-scale arrangements to minimize work stoppages.

Thus, when after World War II the LO explicitly endorsed the Rehn model whose elements included solidaristic wage bargaining across industries and regions, this was not a radical departure from prewar norms.[56] The LO possessed a strike fund which could be used to bring renegade unions into line. A new constitution adopted in the 1940s gave it greater control over the policies of member unions.[57] Similarly, the SAF possessed an indemnity fund to help defray strike-associated losses, but only for firms which hewed to the confederation's line.[58]

Sectoral negotiations in Sweden remained incompletely coordinated until the mid-1950s. Industrial unions opposed the idea of peak-level negotiations and enlisted the LO in their campaign of resistance. Given incomplete coordination, there was no way of internalizing the external effects of wage militancy; voluntary wage freezes between 1945 and 1950 succumbed to explosions of repressed wage pressure in 1947 and 1951. Only in 1952, following the second of these episodes, did the LO agree to a centralized wage round, which it presented to member unions as a one-time crisis-related exception. The SAF similarly had only loose control of the policies of individual employers. After 1952,

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[56] Labor relations were already relatively centralized and -- according to some (e.g. Ingham, 1974) -- admirably responsive to market conditions. See also Esping-Andersen (1985), p.230-231.

[57] Ingham (1974), pp.53-54.

[58] As Roberts (1958, p.84) put it, "This device [the lockout and indemnity fund] is an influential instrument for preventing an affiliated organization from pursuing a different policy from that of the SAF.

however, "it imposed an ever-tighter grip on industry-level wage negotiations," and the centralization of employer bargaining led the unions to respond in kind.[59]

The explanation for these developments lay in the growing role of government. The 1950s were not the first time the SAF and LO had come together, but, aside from the war, it was the first time they had negotiated under the watchful eye of a government concerned to limit wage growth and prepared to impose new taxes in the event of excessive increases.[60] Starting officially in 1956, the SAF and LO, with government guidance, negotiated a series of formal framework agreements establishing the size of the annual contractual wage increase for industrial workers and the allocation of this increase across industries. The government attempted to guide negotiations "both by publishing documents and economic studies and by public speeches" and intervened through the appointment of mediators and a conciliation commission.[61]

Despite the Swedish market's relative centralization, the outcome was less than entirely satisfactory. The framework agreements were keyed to the rate of productivity growth: in each case the rate of contractual wage increase was kept below the rate of productivity growth. However, except in 1947-48 and 1951-52, wage drift contributed more to wage inflation than increases in the contractual wage, and throughout the 'fifties the rate of growth of average nominal earnings outstripped that of productivity.

Why the Swedish system proved incapable of better restraining wages is the subject

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[59] Kurzer (1993), p.27 and passim.

[60] At least this was the attitude of the government prior to the bargaining rounds of 1956-57. See Jackson and Sisson (1976).

[61] Mouly (1967), p.177.

of a vast literature.[62] Full employment is part of the answer, although such conditions were by no means limited to Sweden. A more complete analysis would invoke also the inadequate provision of mechanisms to lock in the agreement. Agreements to moderate wages ex ante could not be enforced ex post because of the scope for wage drift.[63] Only in the 1960s, when the government took on an increasingly prominent role, was the tendency for wages to outstrip productivity effectively restrained.[64] The authorities turned to the active use of fiscal instruments, raising taxes when inflation was excessive, and intervened directly in negotiations, as when the minister of finance did so in public sector negotiations in 1969 and extraordinary legislation was passed in 1971 to suspend a public sector strike.[65] From the late 1950s the Social Democrats attached priority to stimulating productivity and economic growth, rendering their emphasis on wage restraint palatable to their constituency.

E. Austria

Postwar corporatism in Austria was highly articulated, reflecting the earlier development of proto-corporatist institutions. Chambers of Commerce and Labor had been

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[62] See for example Faxen (1959), Mouly (1967)

[63] The threat that access to strike and indemnity funds would be withheld from unions and firms failing to hold to the agreement was an inadequate sanction when the economy was being run so close to full employment.

[64] Mouly (1967), pp.182-184.

[65] By the mid-1970s these institutional arrangements had begun to break down. Labor manifested its growing militancy in strikes and demands to limit managerial prerogatives in the work place. The SAF adopted a confrontational stance, electing new, more aggressive chairmen. The Social Democrats who had helped to enforce the terms of the postwar settlement lost control of the government for the first time in four decades. In 1976 the historic Saltsjobaden Agreement of 1938 was terminated.

established by Acts of Parliament (in 1848-50 and 1920, respectively), requiring employers and workers to belong to one or the other organization. Though both chambers were organized at the regional level, there existed central or federal chambers to coordinate their activities. Unlike the Chamber of Commerce, the Chamber of Labor did not formally take part in collective bargaining, which remained fragmented along craft and political lines.

After World War II, trade unionists established an Austrian Trade Union Federation representing some two-thirds of employed workers. Bargaining and authority within the trade union movement was centralized within this new organization. Outcomes were moderately consensual in the first half of the 1950s, as unions and employers agreed to reconcile their demands with the Social Partnership. The government took on a more prominent role starting in 1957 through its presence on the tripartite Joint Commission for Prices and Wages. Contracts were renegotiated every 12 to 18 months by all unions. Though each of the major 16 unions negotiated its contract separately, there was a considerable degree of concertation through the agency of the Federation. Austria may have had the most centralized and corporatist arrangements of any European country in the first two postwar decades.[66]

In 1966 the Grand Coalition, the social partnership system's political counterpart, disintegrated. The partnership itself survived: the partners, the finance minister and the

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66 Flanagan, Soskice and Ulman (1974), pp 51-52. Only in 1956 was the first Joint Price and Wage Commission, which entailed growing government involvement, finally established. Kurzer (1993) argues that, notwithstanding the seemingly small role played by government intervention in wage negotiations, the relatively large size of the public sector, including nationalized industries, enabled it to play a significant standard-setting role.

central bank concluded a "social compact," agreeing to wage restraint, fiscal and monetary retrenchment and reinvestment, which ushered in seven years of growth at annual rates of nearly 6 per cent.

F. Germany

Germany did not possess a comparable legacy of prewar corporatism or centralization, although elements of the social market economy could be traced back to Bismarckian times, and cartelization was widespread. Weimar labor relations had been dominated by a myriad of small, plant-level, single-employer unions, whose sheer number complicated labor-management relations. To avoid a repetition of interwar problems, postwar movement toward centralization was pronounced. Firms were enlisted into 40 national and 400 state and regional employers' associations, which were in turn affiliated with the Central Federation of German Employers' Associations (BDA); the occupying authorities found such centralized associations easier to deal with than thousands of individual employers. BDA members accounted for nearly 90 per cent of all industrial employment. Coordination with smaller employers associations was achieved through their membership in the Joint Committee of German Business, which accumulated a strike fund to support member firms subject to labor action.

The Nazis had reorganized Weimar's craft-based, plant-level unions into a small number of industry organizations. This innovation was accepted by the occupation authorities, who saw the fragmentation of the Weimar labor movement as a weakness that the Nazis had effectively exploited and appreciated the advantages for managing the occupied Germany economy of dealing with a smaller number of labor organizations.[67] More than 200 unions were amalgamated into just half that number, and in 1949 the latter were merged into 16 large industrial unions, each of which contained the industry's salaried, production and maintenance workers. Reflecting resistance of the occupying authorities to even greater centralization (which was desired by the union movement itself), it was in these organizations that authority to bargain was vested. Though only half of workers belonged to these unions, the 1949 law on collective contracts allowed labor or management to petition the state or federal governments to make a contract legally applicable to all workers and all employers in that industry.[68]

Though this system was less centralized than those of Austria or Sweden, it was more centralized than those of France, Italy and Britain. It created unions of sufficient size that negotiators were encouraged to take the economy-wide repercussions of their wage negotiations into account.[69] Intra-union coordination proceeded on a follow-the-leader basis, with the world's single largest union, IG Metall, in the leadership role. A lower level of centralization than in Austria or Sweden delivered comparable wage moderation throughout the 1950s because persistent high unemployment associated with the influx of migrants from the East reigned in any aggressive tendencies of German unions. The effectiveness of the system is evident in the extraordinarily high profit rates that German

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[67] Weber (1993), p.131.

[68] That this new structure in fact disguised a considerable degree of continuity with prewar institutions is suggested by the fact that the postwar union movement was led by Weimar labor leaders who had gone underground during the Nazi period. See Paque (1993).

[69] Flanagan, Soskice and Ulman (1974), p.257.

manufacturing industry enjoyed in the 1950s (Carlin 1993).

This arrangement worked sufficient well for the government to keep to the background in the 1950s. In 1961 the erection of the Berlin Wall, curtailing the supply of Eastern immigrants only some of whom were replaced by guest workers from Southern Europe, led to tightening labor market conditions which augured a rise in union militancy. The institutional response was a series of corporatist initiatives to buttress the wage-restraint-for-investment bargain. In 1961 Bundesbank President Blessing issued a memorandum calling for wage increases to be linked to productivity. The government issued guideposts for wage increases and encouraged cooperation on the part of unions and employers. The second annual report of its Council of Economic Experts in 1965 called for "concerted action" -- cooperation between labor, employers and the state -- with the goal of coordinating adjustment. The SDP upon taking office implemented its recommendations. Wage restraint was renewed, and profits and investment rebounded (in 1968 for profits and 1969 for investment). Notwithstanding an outbreak of wildcat strikes in 1969, the German system staggered on into the 'seventies under the increasingly heavy-handed guidance of government.[70]

G. Portugal

The Portuguese case was different, since the maintenance of particular economic arrangements did not require social consensus, only Salazar's strong hand. Labor relations were modestly centralized, but the government followed policies of explicit corporatism to

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[70] The cohesiveness of the system at the end of the 'sixties was reflected in the minor extent of wage drift, which remained minuscule by the standards of Scandinavian countries. For data see Bergmann and Jentsch (1975), Table 3.

integrate various social and economic groups into encompassing organizations. Unions and employers confederations were part of the formal state structure (Cesar das Neves 1993).

H. Denmark

Denmark possessed a long history of proto-corporatist activity. The Danish Federation of Labor, with more than 70 constituent unions, was founded in 1898. The organization of the Danish Employers Association was completed that same year. But collective agreements continued to be negotiated at a variety of levels. In the 1930s, most industries operated under national agreements, while the service and transport industries largely remained under local agreements.[71]

Post-WWII movement toward corporatism and centralization was tentative. It proceeded further on the employer side, most leading employers affiliating with the Danish Employers Confederation. The union movement was divided and craft-based: negotiations took place at the enterprise level, and consensus within the labor movement proved difficult to achieve.[72] Although collective bargaining coverage of wage earners was almost complete, membership was divided between one large general union of unskilled workers (the DSF) and scores of craft unions for skilled workers. Some but not all of these were affiliated with the Danish Federation of Labor.[73] Government involvement in negotiations remained minimal, aside from mediation of individual labor-management negotiations.

For much of the 'fifties Denmark suffered from relatively high unemployment and

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[71] Galenson (1952), p.104.

[72] Esping-Andersen (1985), p.205.

[73] That at least some coordination of the collective agreements negotiated by craft unions was achieved is evident in their uniform expiration dates.

inflation. Growth rates lagged other European countries in the late 'forties and into the 'fifties. Only in the 1960s did the government attempt to negotiate something approaching a social pact or seek to coordinate negotiations by intervening and creating a central mechanism for coordinating changes in wages, prices and profits.[74] Parliament established an Economic Council with members representing unions, employers and the civil service, empowered to determine the terms of a "simultaneous solution" for wages, prices and profits. Union autonomy limited the success of these efforts: wage drift undermined the solidity of central agreements, accounting for a third or more of all wage increases in the 1960s. The government's failure to tie wage restraint to the establishment of "wage-earners' funds" to be devoted to industrial investment further undermined worker support for the effort.[75]

I. Italy

The Italian market was relatively decentralized in the aftermath of the war. Wartime collaboration had discredited employers as a group, leaving them hesitant to form strong employers associations and reinforcing labor's hesitancy to negotiate with those that existed. As management regained its legitimacy, the decentralized organization of the economy, based on small enterprises and abundant supplies of underemployed labor from the agricultural sector, undermined labor's ability to bargain collectively.

Divisions within management and labor and the ineffectiveness of government hindered cooperation along Northern European lines, despite the fact that Italy had shown

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[74] Flanagan, Soskice and Ulman (1974), p.447; Marks (1986), p.271.

[75] Ulman and Flanagan (1979), p.124; Valentin (1978), p.84.

some signs of proceeding down the corporatist path. Italian unions had long insisted on national bargaining, given their socialist origins and alienation from the labor aristocracy. Mussolini had replaced the democratic trade union movement with a syndicate structure on a national scale under control of the Fascist Party, and this centralized structure was found to be highly suited to coping with the exigencies of the immediate postwar years. The discrediting of fascist sympathizers within the labor movement cleared the way for the Communists, who by 1946 had gained control of the CGIL (Italian General Confederation of Labor).[76] But Communist strength jeopardized Italy's integration into the European economy and financial aid from the United States. 1949 saw the splintering of the Italian labor movement into three competing national labor confederations of different political stripe, some radical and others conservative, and a number of autonomous national unions.[77] Infighting between the Communists and other labor factions was intense, weakening national labor organizations. By the early 'fifties, unionization rates were barely 20 per cent, and unions had difficulties in collecting dues. Employers associations were no more cohesive, with cleavages even within industries between large and small firms. The state apparatus, modestly effective at best, made little attempt to coordinate negotiations.[78]

Throughout the 'fifties, wage minima were set in national negotiations conducted by peak organizations: Confindustria for industry, Confagricoltura for agriculture, and the

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[76] For details on these Italian developments, see Horowitz (1963).

[77] For more detail on what follows, see Merli Brandini (1983).

[78] As Martinelli and Treu (1984, p.267) put it, "the legislature refrained from intervening in industrial relations, a rather unusual restraint in view of the tradition of continental Europe."

General Trade Confederation for commercial enterprises. Hundreds of member associations then did the actual bargaining. In fact, the national negotiations bore little relationship to outcomes: actual wages exceeded negotiated ones by 26 per cent in 1954 and 33 per cent in 1961.[79] In the South, negative wage drift produced actual earnings below the minima. Employers were able to decouple wages from the national negotiations by eliminating union influence from the plants.[80] In some cases wages different from the national minima were simply announced by the employer; in others they were negotiated with shop committees, which were criticized by the workers as employer dominated. This, then, was one of Europe's most decentralized, atomistic labor markets.[81]

In the 1960s, this system began to change. Unionization rates rose. A check-off system increased the flow of dues into union coffers. Union strength undermined the ability of plant managers to set wages unilaterally. Movement in a more corporatist direction began. The three union federations learned to engage in technical and economic cooperation. In 1961 the government established a tripartite National Committee for Economic Planning, although this body was not reconvened after 1964.

J. France

The French market was relatively fragmented as well. The labor movement reached the apex of its membership, power and prestige in 1945-46. The traditional elites having

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[79] Edelman and Fleming (1965), p.36.

[80] Flanagan, Soskice and Ulman (1974), p. 509.

[81] Things were to change in the 'sixties, especially as the unions gained growing power; it may be no coincidence that these changes coincided with a wage explosion and the slowdown in growth.

been discredited, labor won concessions ranging from nationalization of industry to the expansion of social security. But the majority of workers in private industry remained unorganized; in the 1950s the unionization rate rarely exceeded 20 per cent. Reflecting the early inauguration and slow pace of French industrialization, enterprise remained small and unions craft based.[82] Post-World War I governments had been hostile to organized labor, and the gains of the Popular Front period were never institutionalized. After 1947 trade unionists were organized into four nationwide federations. The Communist Party was ejected from the government in 1947, coincident with the announcement of the Marshall Plan, and turned against cooperation. The CGT split into a wing of Soviet sympathizers and the reformist Force Ouvriere. The Confederation of French Catholic Workers remained a minority throughout. Relations among these organizations were rocky. No "dues checkoff" existed, and low levels of income limited the financial resources available to the unions.

French employers associations, though also discredited by collaboration, were significantly rebuilt by the mid-1950s. But they too were organized into multiple associations whose operation was far from cohesive. Throughout the 'fifties employers continued to bargain unilaterally or in small groups.[83]

When free collective bargaining was restored in 1950, the unions were "too weak to

[82] As late as 1962, more than 88 per cent of all firms employed fewer than ten people.

[83] Only in the 'sixties did these organizations gain cohesion and influence, with the larger employers bargaining on behalf of smaller ones. Bunel and Saglio (1984), p.238.

exercise any real control over wages or the conditions of employment" (Lorwin, 1954, p.302).[84] Only rarely were real wages negotiated collectively; they were set unilaterally by the employer on a worker-by-worker basis, or followed the branch minima negotiated at the branch or industry level between an employers' association and one of the union federations (Lorwin, 1954, p.203; Howell, 1992, p.59). "During most of this period...unilateral determination of wages and conditions was the jealously guarded prerogative of management."[85]

The French labor market thus lacked centralizing tendencies, due to the fragmentation of both the union movement and employers associations and the former's poor relations with the government. The unions lacked a close working relationship with social democratic political parties. The government's planning initiatives rarely encompassed labor relations, and when they did its conflictual relations with the unions prevented them from yielding fruit.[86]

Two obvious measures of the consequences are profitability and investment, both of which were disappointing in the 1950s relative to the experience of other countries and France's own subsequent performance (Sicsic and Wyplosz, 1993, Figure 5.2). Contemporary observers commonly referred to France in the 1950s as "the sick man of

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[84] "Collective bargaining was limited in both range and scope," as Howell (1992), p.210 puts it.

[85] Flanagan, Soskice and Ulman (1974), pp.573-574

[86] The government only brought together employers and labor representatives from different regions and industries in annual or bi-annual rendezvous, the main business of which was to decide whether or not a rise in the minimum wage was appropriate. Hayward (1966), pp.174-175; Ulman and Flanagan (1979), p.149.

Europe" (Baum, 1958, p.1).

With the rise of the profit share and the investment/GDP ratio in the 1960s came an acceleration of French economic growth (Adams, 1989). That the 'sixties were better than the 'fifties may be attributable in part to the growing cohesiveness of the peak associations and government's efforts at concertation. French unions gained financial resources and bargaining power. A network of regional inter-industry employers associations was superimposed on the system of national industrial associations, broadening the scope for coordination.

In March 1961 Prime Minister Debre wrote to employers to suggest a four per cent cap on wage increases (Howell, 1992, p.64). In 1963-64 the government attempted for the first time to achieve concertation between the leading employers' associations, union federations and farm organizations over the distribution of income, holding a Conference on Incomes at which all their representatives were present. Though the initiative proved unsuccessful, it was an important departure. Subsequently the government concentrated on dealings with employers rather than unions; in conjunction with the Fifth Economic Development Plan of 1966-70 it offered long-term planning contracts to employers who agreed to guidelines for the allocation of productivity gains between wages, dividends, investment and research, in return for which the industry would be free of price controls.[87] The plan included guidelines ("indicative norms") for wage increases.[88]

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[87] Ulman and Flanagan (1979), p.155.

[88] The guidelines nonetheless proved difficult to enforce. Thus, the events of May 1968 in Paris led to a wage explosion that disrupted the operation of this system.

K. Britain

The development of centralization and corporatism was feeble in Britain. There existed upwards of 2,000 employers associations. Three early federations, the National Union of Manufacturers (1915), the Federation of British Industries (1917), and the National Confederation of Employers' Organizations (1920), were designed to contain the inroads of the state into labor relations, not to provide venues for centralized negotiations, and they competed rather than cooperated with one another. World War II complicated matters by superimposing a new set of wartime associations. According to Barnett (1986), Britain's victory in the war led to a complacency about British systems of production and management that impeded consolidation and reform. The Confederation of British Industry, formed 20 years later, was Britain's first effective nationwide employers' association.

Having emerged during its early industrialization, British unions were craft-based and decentralized. Not only did enterprises in different sectors negotiate with different unions, but many firms had to negotiate with several unions representing different subgroups of workers. The sheer number of unions (upwards of 500) would have made coordination difficult under the best of circumstances. And shop stewards' autonomy and susceptibility to rank-and-file pressure (many plants had multiple shop stewards, since different unions represented the various crafts) were conducive to wage drift which undermined the enforceability of efforts at coordination.

Thus, the unions "stood aloof from corporatist arrangements."[89] They resisted the

[89] The quote is from Maier (1984). See also Schonfield (1965), p.114.

efforts of the Trades Union Congress to coordinate their negotiations. The development of a Communist opposition within the union leadership frustrated the efforts of the TUC's General Council to coordinate negotiations and support governments' efforts at securing wage moderation. Britain was insulated from the labor-supply pressures imparted by Eastern European immigrants, as in Germany, by Indonesian repatriates, as in Holland, and by workers escaping underemployment in the agricultural sector, as in Italy and France; it was protected from industrial-country competition on the scale experienced by the Continent's smaller, more open countries. None of the factors which worked to moderate unions' wage demands in these other countries were equally effective in Britain, in other words.

Having originated prior to the emergence of a parliamentary labor party, British unions remained detached from national politics. Union officials were not permitted to serve on both the General Council of the TUC and the Labour Party executive. The Beveridge Report, the 1944 White Paper committing the authorities to the pursuit of full employment, and the election of a majority Labour Government in 1945 may have raised hopes for closer corporatist links, but hopes that government-led concertation might substitute for strong centralization were disappointed.

Following a period of "directionless" bargaining in 1946-47, the Labour Prime Minister, Clement Atlee, called for wage restraint to promote economic recovery and growth, and asked employers to submit a plan for limiting profit margins.[90] The General Council of the Trades Union Congress, resigned to not undermining the first postwar

[90] Dorfman (1973), pp.52-53.

Labour Government, "undertook to examine the possibility of recommending a measure of 'wage restraint' upon its constituent unions," cautioning them that productivity increases should be a precondition for higher wage.[91] Though officially agreed to by member unions, the TUC's support of the 1948 wage freeze proved less than effective, reflecting both the General Council's own reservations and the TUC's weak hold over its members. The growth of unit labor costs continued to rise, albeit gradually, for the remainder of the 1940s, while profits increased only slightly in 1948 and fell in 1949.[92]

In 1949, following sterling's devaluation, the General Council was again asked, this time by the new Chancellor of the Exchequer, Sir Stafford Cripps, to urge upon its members a policy of wage restraint. Again it acceded, but again Britain's craft-based unions resisted pressure from above. The strength of shop-floor organization was growing, and the delegates dealt the General Council a bruising rejection of its participation in the tripartite wages policy at the 1950 Congress of Trades Unions. A wage explosion followed this "shop floor revolt," bringing the period of voluntary restraint to an end.[93]

Roberts (1958, pp.63-64 and passim) characterizes these events as a consequence of the fragmented nature of the labor market. In the presence of a multitude of specialized craft unions, a limited number inevitably benefited from exceptionally buoyant demand for the services of their members. These unions could not resist the temptation to push up

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[91] Pelling (1972), p.230.

[92] Roberts (21958), pp.58, 65.

[93] Crouch (1979), p.29. The government offered a statutory minimum wage as a "bonding" device, but the unions dismissed this as an inadequate quid pro quo. Roberts (1958), p.59.

wages. Other unions, seeing the competition leap forward, had to compete to maintain rank-and-file support. In the absence of centralization sufficient to enforce collective restraint, agreement broke down. Only "if it had been possible for the trade union movement to act as a single organization and for the employers to have done likewise, so that a comprehensive wage policy could have been forked out and enforced, then it might have been possible to control the movement of wages."[94] This idea was canvassed by the TUC but met with no enthusiasm from constituent unions. Even had their attitude been different, the absence of an effective employers' association to enforce the cooperation of member unions would have remained an obstacle.

Conservative Governments rebelled against anything that smacked of planning, limiting their involvement to safety regulation and fixing minimum wages.[95] The mediating role of government in corporatist arrangements evident in other countries was visibly absent in the U.K. until the mid-1960s. The TUC remained intransigent or impotent, reflecting its tenuous hold on its constituents. In 1952 the Chancellor of the Exchequer, R. A. Butler, approached the General Council of the TUC with a proposal that a joint committee representing the General Council, the British Employers' Confederation and the nationalized industries be set up to consider the possibility of developing methods of "relating wages more closely to productivity" (Wootton 1956, p.111). The Economic Committee of the TUC turned him down. Subsequent annual statements of the GC contained no reference to wages policy. Periodically the government requested wage

[94] Roberts (1958), p 64

[95] Goodman (1983), p 50.

restraint -- as when Eden replaced Churchill as Prime Minister and Macmillan replaced Butler as Chancellor of the Exchequer in 1955 -- but the unions refused to acquiesce.

Not until the early 1960s did the TUC again participate in such an initiative: the Tripartite National Economic Development Council established to construct an incomes policy.[96] In 1961 the government, faced by a balance of-payments crisis and slowing growth, had again requested a temporary wage freeze, which the TUC refused. This led the Conservative Government in 1962 to issue a White Paper setting out unilateral wage guidelines, to be pursued mainly through moral suasion. Starting in 1964, under the newly-installed Labour Government, limited tripartite agreements focusing on wage restraint were adopted, where responsibility for enforcement was delegated to the unions. When the unions proved less than successful in enforcing these agreements, they were superseded in 1966-70 by a unilateral government policy of freezing and then restraining wages, acquiesced in by the TUC and enforced by statute.[97]

One measure of the importance for British economic performance of the decentralized, conflictual state of British labor relations is the rate of capital formation, which between 1950 and 1973 was only two thirds as high in the UK as in other OECD countries. Bean and Crafts (1993), when reporting these figures, suggest that British growth was at least 0.8 per cent per annum slower as a result.

L. Ireland

The situation in Ireland was broadly similar to that in Britain. There existed more

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[96] Panitch (1979), p 140.

[97] For details, see Ulman and Flanagan (1971), chapter 2.

than 20 employers associations. Bargaining was carried out between the trade unions and individual firms whether the latter were federated with an employers organization or not. Scores of craft-based, fragmented unions persisted, many with closer links to their British affiliates than to one another. The unions had formed a loose federation, the Irish Trade Union Congress, in 1894. Since many of the member unions even had their headquarters in Britain, in 1945 ten unions headquartered in the Republic split off to form the Congress of Irish Unions. In the presence of competing organizations, efforts at concertation came to naught. There was no pattern setting like that led in Germany by IG Metall.

The growth of the Irish economy in the first postwar decade was disappointing.[98] A balance-of-payments crisis in 1951-52 forced the government to scale back investment plans. In 1957-59, in conjunction with the first Programme of Economic Expansion (involving R&D subsidies, export tax incentives, tariff reductions, and liberalization of restrictions on inward foreign investment), a non-binding "Joint Agreement of Guiding Principles," focusing mainly on wage restraint, was negotiated bilaterally between unions and employers. Most unions affiliated themselves to the Irish Congress of Trade Unions (ICTU) created in 1959. Efforts to coordinate the bargaining process to insure wage restraint remained largely unavailing, however, in part because of severe divisions among members of the ICTU.[99]

Starting in 1963, the government therefore threatened unilateral statutory

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[98] Between 1949 and 1956 real GNP rose by only 8 per cent, compared with 21 per cent in Britain. Browne (1965), p.47.

[99] Ross (1988), p 85.

intervention, which led to a bipartite wage agreement known as the National Wage Recommendation of 1964-66. Again, however, cooperation proved short-lived. This is not to say that the parties were unaware of its advantages, only that, as the 1973 Conference of the Irish T.U.C. put it, "workers must be guaranteed that their wage restraint will lead to productive and beneficial investment and not towards even further increases in the personal incomes of the privileged section of society..."[100] In other words, the institutional prerequisites remained underdeveloped.

[100] Cited in Przeworski and Wallerstein (1982), p.233.

Appendix 2. The Evolution of International Institutions

This appendix describes the structure of the international institutions whose effects we consider in Section IV. Where not otherwise noted, our discussion draws on Eichengreen (1994).

A. <u>The European Payments Union</u>

As members of the European Payments Union, participating countries were required to agree to a schedule of Intra-European trade liberalization. A Code of Liberalization formalized their commitment. Under its terms, all trade measures were to be applied equally to imports from all member countries no later than February 1951. Participants were required to reduce trade barriers by one half initially, and then by 60 and 75 per cent. The share of quota-free intra-European trade was to rise to 90 per cent by the beginning of 1955. Countries falling to comply with this schedule could expect to be denied access to EPU credits.

Operating the EPU required institutions (the Organization for European Economic Cooperation, which cooperated with the Bank for International Settlements) to monitor compliance and sanction objectionable behavior. Drawings on the system were embedded in a mechanism minimizing the likelihood that a country could use EPU credits to exploit its partners by remaining in deficit. No conditions were attached to a country's drawings on its quota of 15 per cent of its intra-EPU trade. But additional credits could be obtained only if a country agreed to conditions set down by the EPU Managing Board. Discussions were often initiated well before a country's quota was exhausted, and its was made clear that the provision of exceptional assistance was contingent on the country's early adoption of policies of adjustment. Officials of governments receiving exceptional credits were required to appear at meetings of the Board for questioning and to submit memoranda regarding their progress. Moreover, U.S. Marshall Plan administrators supported the EPU by providing $350 million of working capital to finance its operation. The fact that Europe and the EPU depended on Marshall aid reduced the likelihood that a debtor would renege on its agreement with the Managing Board and fail to take corrective action to eliminate its deficit.

For those concerned to construct a commitment technology, the EPU was preferable to unilateral current-account convertibility, the other basis on which postwar Europe's trade might have been rebuilt. Convertibility was not technically infeasible, but as a unilateral policy it was too easy to reverse. It lacked the multilateral surveillance and conditionality that rendered the EPU an effective institutional barrier to exit.

The EPU facilitated the coordination of macroeconomic policies among the participating countries and discouraged beggar-thy-neighbor initiatives. As Kaplan and Schleiminger (1989, p.326) put it, the EPU was "an unprecedented experiment in purposeful monetary cooperation. Member governments and central banks experienced working together on a broad range of specific policy problems, and they learned as they labored and profited from their successes."

B. <u>The European Coal and Steel Community</u>

The ECSC further enhanced the credibility of the six founding members' commitment to openness and nondiscriminatory trade. Germany's participation insured the French steel industry of access to the German coal that was indispensable to its survival and guaranteed German steel producers access to the French iron ore. Coal and steel were viewed as essential to national security and to the rehabilitation of Europe's industrial's base. As Pollard (1981, p.86) put it, "it had been precisely these industries which had become a focus of international hostility and national armaments and war-mongering." By 1950, that Allied control of Germany heavy industry would soon be terminated had come to be seen as inevitable. The question was whether Germany would use her industrial capacity benignly and allow other European nations free access to its products, or whether the rest of Europe would have to build up its self-sufficiency.

In response to these worries, the Schuman Plan proposed to create a common market in coal, iron and steel among the six member states. It proposed to ban price discrimination between domestic and foreign customers. A Joint High Authority was created to monitor compliance with the terms of the agreement. As Gillingham (1993) puts it, the ECSC "was based on a new idea, supranationality. Membership required transference of sovereign powers to a new European authority." It is hard to imagine a more effective barrier to exit.

C. Extra-European Institutions

The EPU and the ECSC were just two of the institutional arrangements committing countries to openness and nondiscriminatory trade. They were tailored to Europe's special economic and security needs, and they spoke to the particular fears aroused by the continent's experience in the post-WWI period, when the commitment to openness had proved ephemeral. But they were significantly buttressed by the global framework in which they were embedded.

The GATT was a prominent element of that global framework. In contrast to the ad hoc tariff truce conferences of the 1920s, the GATT developed into an ongoing process of trade liberalization in which reputation mattered. Before completing one round of negotiations, signatories agreed to another. The repeated game nature of their interaction discouraged noncooperative behavior. While the early rounds were less than a resounding success, the GATT nonetheless provided a framework to render trade liberalization on a regional basis in Europe consistent with broader international commitments.

The role in the early postwar years of the International Monetary Fund and the Bretton Woods System of pegged exchange rates should be not exaggerated. Efforts to have members establish par values and declare their currencies convertible produced little of more than symbolic value. Initially, foreign exchange rationing remained widespread. Countries like France experimented with multiple exchange rates. Devaluations were undertaken in 1949 and on other occasions without the prior consultation written into the IMF Articles of Agreement. Starting in 1950 Europe's international monetary relations were shaped by the EPU, not the Bretton Woods institutions.

The importance of the Bretton Woods System, first as a global structure into which the EPU fit and then as the framework for Europe's international monetary affairs, was in providing an anchor for price expectations. So long as the pegged exchange rates of the Bretton Woods System were credible, workers agreeing to a sequence of wage bargains did not have to worry that their nominal value would be inflated away. When governments used Keynesian demand stimulus to counter a recession, the pressure of demand was less likely to translate in a wage inflation and more likely to encourage production. This enhanced the effectiveness of Keynesian demand-management policy. The consequent absence of serious recessions sustained investment at high levels. Indeed, the main difference in investment behavior between the 1950s-60s and the interwar period was not that post-war investment rates were higher during expansions but the governments succeeded in preventing investment from collapsing in recessions. This encouraged firms to contemplate sequences of related investment projects which would yield high returns if not interrupted by recessions. And the high returns on investment improved the terms of tradeoff between current and future consumption for workers and capitalists contemplating policies of moderation.

Appendix 3. Constructing Indices of Domestic Institutions

This appendix describes the sources used to construct our indices of the centralization of wage bargaining and corporatization of labor-management relations since 1950. (The resulting indices are shown in Table 8.)

Sources of General Information

Romanis, A. (1967), "Cost Inflation and Incomes Policy in Industrial Countries," IMF Staff Papers 14, pp.169-206.

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Union Density

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Australia

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Austria

Traxler, F. (1992), "Austria: Still the Country of Corporatism," in A. Ferner and R. Hyman (eds.), Industrial Relations in the New Europe, Oxford: Blackwell Business.

Belgium

Dancet, G. (1988), "From a Workable Social Compromise to Conflict: The Case of Belgium," in R.Boyer (ed.), The Search for Labor Market Flexibility, Oxford: Clarendon Press.

Denmark

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Finland

Scheuer, S. (1992), "Finland: No Longer the Nordic Exception," in A. Ferner and R. Hyman (eds.), Industrial Relations in the New Europe, Oxford: Blackwell Business.

France

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Germany

Jacobi, O., Keller, B. and Muller-Jentsch, W. (1992), "Germany: Codetermining the Future," in A. Ferner and R. Hyman (eds.), Industrial Relations in the New Europe, Oxford: Blackwell Business.

Greece

Kritsantonis, N. (1992), "Greece: From State Authoritarianism to Modernization," in A. Ferner and R. Hyman (eds.), Industrial Relations in the New Europe, Oxford: Blackwell Business.

Iceland

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Ireland

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Japan

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Luxembourg

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The Netherlands

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Spain

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Turkey

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Table 1. Determinants of Output Growth

	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5	Eq.6
Constant	3.266	1.897	1.032	.998	1.624	1.550
	(5.532)	(2.611)	(1.319)	(1.296)	(1.829)	(1.729
Population Growth	0.807	0.650	0.717	0.722	0.734	0.938
	(4.963)	(3.894)	(4.326)	(4.558)	(3.421)	(3.522
GDP per capita	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(6.571)	(4.727)	(3.525)	(3.466)	(4.378)	(4.074
Inflation	0.013	-0.007	0.020	0.020	0.002	0.036
	(0.405)	(0.183)	(0.586)	(0.610)	(0.491)	(0.829
Inflation variability	-0.051	-0.085	-0.092	-0.091	-0.133	-0.135
	(6.571)	(2.384)	(2.917)	(2.914)	(3.901)	(3.987
Growth Gov. Cons./ GDP	-0.389	-0.519	-0.213	-0.222	-0.279	-0.270
	(5.899)	(7.603)	(2.734)	(2.808)	(3.053)	(2.864
Average Investment/ GDP	0.076	0.122		0.073	0.073	0.058
	(4.210)	(5.430)		(2.881)	(2.787)	(1.386
Initial Investment/ GDP			0.064			
			(2.681)			
Investment Growth			0.301	0.274	0.223	0.246
			(4.889)	(4.668)	(3.109)	(3.700)
Initial Exports/ GDP			0.005			
			(1.593)			
Export Growth			0.232	0.217	0.190	0.020
			(3.750)	(3.502)	(3.009)	(2.552)
Average Exports / GDP				0.005	0.053	0.014
				(1.480)	(0.992)	(0.263)
Init.Intra EEC-Growth					-0.003	
					(0.025)	
Growth of Intra-EEC Exports					0.1001	
					(1.540)	
Initial Intra-Europe Trade						0.055
						(0.726)
Growth Intra-Europe Trade						-1.010
						(1.613)
N	192	140	140	140	137	132
R2	0.644	0.728	0.799	0.806	0.747	0.74
s.e. of r	1.197	1.046	0.924	0.904	1.067	1.09

Time period dummies are estimated. but not reported. in each equation above. Numbers in parentheses are t-statistics. Method of estimation is OLS with White's (1980) heteroskedasticity-consistent covariance matrix.

Table 2. Determinants of Export Growth

VARIABLES	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5	Eq.6
Constant	2.53	11.87	8.78	12.7	2.53	1.08
	(1.08)	(1.60)	(2.18)	(1.72)	(0.61)	(0.40)
GDP Growth	1.15	0.60	0.70	0.71	1.14	1.07
	(2.82)	(1.24)	(1.87)	(1.38)	(2.80)	(2.34)
Population Growth	-0.001	0.001	0.001	0.001	-0.001	0.001
	(0.11)	(0.66)	(1.23)	(0.26)	(0.26)	(0.52)
Inflation	-0.21	-0.13	-0.12	-0.17	-0.20	-0.19
	(1.61)	(0.83)	(0.79)	(1.03)	(1.60)	(1.37)
Inflation Variability	0.02	0.13	-0.01	-0.93	0.02	0.06
	(0.35)	(0.80)	(0.18)	(0.56)	(0.39)	(0.75)
ECSC/EEC	2.04	3.27	3.73	3.18	0.91	
	(2.83)	(2.97)	(3.41)	(3.02)	(1.75)	
EPU/Conv.		-8.20				
		(1.26)				
ART.VIII			-6.45			
			(1.77)			
EPU (1951-57)				-10.48	0.35	
				(1.31)	(0.10)	
Conv. (1958-)				-6.37	0.46	
				(0.95)	(0.35)	
ECSC						10.21
						(1.04)
EEC (1958-)						1.40
						(1.53)
N	192	192	192	192	192	192
R^2	0.24	0.12	0.15	0.12	0.24	0.22
s.e.of reg.	4.48	5.18	4.95	5.15	4.48	4.61

Time period dummies are estimated, but not reported, in each equation above. Numbers in parentheses are t-statistics. Method of estimation is instrumental variables with White's (1980) heteroskedasticity-consistent covariance matrix.

Table 3a. Determinants of Investment

VARIABLES	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5
Constant	5.41 (2.41)	4.98 (1.92)	5.36 (2.08)	7.76 (2.23)	7.96 (2.31)
GDP per capita	0.21 (1.13)	0.20 (1.06)	0.22 (1.18)	0.21 (0.97)	0.17 (0.78)
ΔGov.con/GDP	-0.56 (4.24)	-0.56 (4.18)	-0.60 (4.23)	-0.54 (3.79)	-0.53 (3.77)
Labor's Share	-0.11 (2.04)	-0.10 (1.81)	-0.11 (1.83)	-0.13 (1.58)	-0.13 (1.51)
Growth of Labor Costs	-0.20 (1.27)	-0.20 (1.23)	-0.16 (1.01)	-0.27 (1.44)	-1.19 (0.95)
Inflation	0.14 (2.07)	0.14 (2.06)	0.14 (2.11)	0.16 (2.05)	0.16 (2.60)
ΔTobin's q	4.40 (1.82)	4.87 (2.05)	5.05 (2.06)	8.73 (2.78)	8.48 (2.78)
Communist Rep.	-0.03 (1.21)	-0.03 (1.34)	-0.03 (1.35)	-0.06 (2.98)	-0.06 (3.10)
Pol. Instability		0.27 (0.55)	0.20 (0.40)	-0.11 (0.20)	-0.16 (2.78)
Corp.Tax Rate			-4.13 (1.09)	-5.84 (1.41)	-5.34 (1.31)
Real Int. Rate				-0.19 (1.93)	-0.20 (2.05)
Variab. of Labor's Share					-0.31 (1.01)
N	156	156	148	127	127
R^2	0.45	0.45	0.46	0.45	0.45
s.e. of reg.	2.33	2.33	2.35	2.34	2.34

Time period dummies are estimated but not reported in each equation above. Numbers in parentheses are t-statistics. Method of estimation is OLS with White's (1980) heteroskedasticity-consistent covariance matrix.

Table 3b. Determinants of Investment Share

VARIABLES	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5
Constant	19.108 (4.90)	16.197 (4.04)	16.685 (4.05)	29.01 (5.554)	31.625 (5.941)
GDP per capita	0.001 (1.752)	0.001 (1.546)	0.001 (1.826)	0.001 (2.938)	0.001 (2.274)
Growth Gover. Co./GDP	0.417 (1.627)	0.371 (1.465)	0.283 (1.064)	0.175 (0.717)	0.167 (0.653)
Average Labor Share	-0.062 (0.785)	-0.017 (0.211)	-0.018 (0.217)	-0.254 (2.515)	-0.233 (2.241)
Variability of Labor Share	1.382 1.382	1.395 (2.797)	1.534 (2.911)	1.379 (2.391)	
Communist Seats	0.188 (3.469)	0.146 (2.963)	0.145 (2.876)	0.047 (0.994)	0.041 (0.862)
Change in q	7.464 (1.968)	7.796 (2.099)	8.797 (2.343)	11.749 (2.333)	11.202 (2.290)
Inflation	0.35 (2.578)	0.343 (2.743)	0.321 (2.498)	0.339 (2.698)	0.297 (2.605)
Political Instability		2.658 (2.814)	2.372 (2.190)	1.762 (1.558)	1.660 (1.469)
Corporate Tax Rate			-11.452 (1.473)	-12.052 (1.487)	-8.625 (1.053)
Real Interest Rate				-0.035 (0.229)	-0.078 -(0.532)
Growth Labor Cost					0.792 (2.432)
N	141	141	134	117	117
R^2	0.354	0.388	0.399	0.367	0.351
s.e. regression	4.236	4.137	4.215	4.018	4.068

Time period dummies are estimated, but not reported, in each equation above. Numbers in parentheses are t-statistics. Method of estimation is OLS with White's (1980) heteroskedasticity-consistent covarianc matrix.

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Table 4. Determinants of Wage Growth
(dependent variable is rate of growth of nominal wages)

VARIABLES	Eq.1	Eq.2	Eq.3	Eq.4
Constant	-0.03	-0.02	-0.03	-0.03
	(1.03)	(0.43)	(0.70)	(0.89)
Demand Presure	-0.005	-0.007	-0.007	-0.005
	(2.09)	(2.55)	(2.71)	(2.41)
Investment Growth	-0.005	-0.005	-0.005	-0.005
	(1.75)	(1.88)	(1.71)	(1.68)
Inflation Rate	-0.001	-0.001	-0.001	-0.001
	(0.43)	(0.12)	(0.07)	(0.21)
Labor Force Growth	-0.01	-0.01	-0.01	-0.01
	(2.74)	(2.66)	(2.80)	(2.82)
Aver. Invest.	0.004	0.003	0.004	0.004
	(2.86)	(2.40)	(2.79)	(2.94)
$Sachs_1$	-0.01			
	(0.86)			
$Sachs_2$		-0.04		
		(1.78)		
$Sachs_3$			-0.05	
			(2.18)	
$Sachs_4$				-0.05
				(2.18)
N	139	139	136	136
R^2	0.48	0.49	0.52	0.51
s.e. of reg.	0.03	0.03	0.03	0.03

Time period dummies are estimated, but not reported, in each equation above. Numbers in parentheses are t-statistics. Method of estimation is instrumental variables with White's (1980) heteroskedasticity-consistent covariance matrix.

Table 5. Determinants of Wage Growth

VARIABLES	Eq.1	Eq.2	Eq.3	Eq.4
Constant	-0.03 (0.89)	-0.05 (1.49)	-0.03 (0.96)	-0.03 (0.97)
Demand Pressure	-0.004 (0.16)	-0.004 (1.95)	-0.007 (3.15)	-0.007 (3.11)
Investment Growth	-0.003 (1.09)	-0.005 (1.57)	-0.005 (1.76)	-0.005 (1.73)
Inflation	-0.001 (0.36)	-0.001 (0.51)	-0.001 (0.13)	-0.001 (0.12)
Labor Force Growth	-0.02 (3.49)	-0.020 (3.34)	-0.020 (3.64)	-0.02 (3.55)
Aver. Invest.	0.004 (2.83)	0.004 (2.94)	0.004 (2.96)	0.004 (2.90)
Crouch	-0.03 (1.75)			
Corpor.Index		-0.73 (1.29)		-0.001 (0.27)
Centralization			-0.04 (3.66)	-0.04 (3.70)
N	105	144	144	144
R^2	0.60	0.50	0.54	0.54
s.e. of reg.	0.03	0.03	0.03	0.03

Time period dummies are estimated but not reported in each equation above. Numbers in parentheses are t-statistics. Method of estimation is instrumental variables with White's (1980) heteroskedasticity-consistent covariance matrix.

Table 6. Disaggregated Determinants of Wage Growth

VARIABLES	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5	Eq.6
Constant	-0.43	-0.16	-0.12	-0.01	0.02	0.01
	(0.09)	(0.03)	(0.02)	(0.39)	(0.37)	(0.37)
Demand Pressure	-0.008	-0.008	-0.010	-0.001	-0.001	-0.001
	(3.70)	(3.00)	(3.24)	(3.52)	(3.92)	(4.07)
Investment Growth	-0.006	-0.007	-0.006	-0.006	-0.006	-0.005
	(2.12)	(2.17)	(2.25)	(2.32)	(2.13)	(1.84)
Inflation	0.001	0.001	0.001	0.001	0.001	0.001
	(0.12)	(0.19)	(0.06)	(0.11)	(0.12)	(0.19)
Labor Force Growth	-0.C1	-0.01	-0.01	-0.01	-0.01	-0.16
	(2.54)	(2.45)	(2.63)	(2.59)	(2.90)	(3.14)
Investment	0.003	0.003	0.003	0.003	0.002	0.003
	(1.93)	(2.20)	(2.19)	(2.01)	(1.70)	(2.14)
Union Density	-0.04	-0.03	-0.05	-0.06	-0.06	-0.07
	(2.15)	(1.66)	(2.22)	(2.39)	(2.65)	(2.78)
Employer Centr.		-0.01	-0.04	-0.05	-0.06	-0.06
		(0.65)	(1.70)	(1.84)	(2.34)	(2.67)
Union Centr.			0.04	0.04	0.04	0.06
			(1.68)	(1.76)	(2.06)	(2.56)
Work Councils				0.004	0.01	0.01
				(1.68)	(1.76)	(2.06)
Shop Floor Avt.					0.11	0.01
					(1.36)	(1.42)
Income Policies						-0.03
						(2.36)
N	139	139	137	137	136	136
R^2	0.53	0.53	0.54	0.55	0.57	0.58
s.e. of reg.	0.03	0.03	0.03	0.03	0.03	0.03

Time period dummies are estimated but not reported in each equation above. Numbers in parentheses are t-statistics. Method of estimation is instrumental variables with White's (1980) heteroskedasticity-consistent covariance matrix.

Table 7. Determinants of Wage Growth: Changes Over Time

VARIABLES	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5	Eq.6
Constant	-0.03 (0.58)	-0.015 (0.36)	-0.010 (0.23)	-0.0035 (0.09)	0.03 (0.85)	-0.01 (0.48)
Demand Pressure	-0.0071 (2.56)	-0.006 (3.13)	-0.01 (3.55)	-0.01 (3.52)	-0.01 (3.87)	-0.01 (4.06)
Growth of Investment	-0.0058 (2.16)	-0.006 (2.22)	-0.0059 (2.20)	-0.0075 (2.64)	-0.006 (2.37)	-0.0055 (1.96)
Inflation	0.0001 (0.01)	0.0002 (0.26)	0.0001 (0.09)	0.0004 (0.38)	0.0003 (0.34)	0.0003 (0.42)
Labor Force Growth	-0.01 (2.49)	-0.01 (2.21)	-0.013 (2.60)	-0.012 (2.33)	-0.014 (2.76)	-0.15 (2.92)
Investment	0.003 (2.05)	0.003 (2.25)	0.003 (2.17)	0.0028 (2.23)	0.002 (1.84)	0.003 (2.30)
Union Density	0.006 (0.17)	-0.03 (1.66)	-0.051 (2.03)	-0.05 (2.13)	-0.06 (2.67)	-0.07 (2.25)
Employer Centr.		0.018 (0.91)	-0.04 (1.81)	-0.04 (1.86)	-0.059 (2.45)	-0.069 (2.71)
Union Centr.			0.06 (2.22)	0.033 (1.45)	0.048 (2.53)	0.056 (2.32)
Works Councils				0.032 (2.45)	0.011 (1.29)	0.014 (1.59)
Shop Floor Avt.					-0.01 (1.28)	0.01 (1.33)
Income Policies						-0.023 (0.69)
Union Dens * time	-0.82 (1.39)					
Emp. Centr * time		-0.006 (1.41)				
Union Cen * time			-0.006 (1.32)			
Work Councils * time				-0.0059 (2.13)		

Table 7. Determinants of Wage Growth: Changes Over Time
(Continued)

VARIABLES	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5	Eq.6
Shop Floor * time					0.0049	
					(2.34)	
Income Policies * time						-0.011
						(1.62)
N	139	139	137	137	136	136
R^2	0.54	0.53	0.55	0.53	0.57	0.57
s.e. of reg.	0.03	0.03	0.03	0.03	0.03	0.03

Time period dummies are estimated but not reported in each equation above. Numbers in parentheses are t-statistics. Method of estimation is instrumental variables with White's (1980) heteroskedasticity-consistent covariance matrix.

Table 8
Indices of Corporatism and Centralization

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Canada	1950-55	0.38	0.3	0.34	0.36	0.32	0.4	0	0.33	0.33	.	0.2	0.3	0
Canada	1956-60	0.38	0.31	0.35	0.44	0.35	0.47	0	0.33	0.5	.	0.2	0.3	0
Canada	1961-65	0.38	0.3	0.35	0.51	0.37	0.54	0	0.33	0.67	.	0.2	0.3	0
Canada	1966-70	0.43	0.34	0.39	0.53	0.41	0.57	0	0.33	0.33	.	0.4	0.3	0
Canada	1971-75	0.43	0.36	0.4	0.39	0.37	0.43	0	0.33	0.33	.	0.4	0.3	0
Canada	1976-80	0.43	0.37	0.4	0.36	0.37	0.39	0	0.33	0.33	.	0.4	0.3	0
Canada	1981-85	0.43	0.37	0.4	0.4	0.38	0.43	0	0.67	0.33	.	0.4	0.3	0
Canada	1986-88	0.43	0.37	0.4	0.4	0.38	0.43	0	0.33	0.33	.	0.4	0.3	0
USA	1950-55	0.43	0.37	0.4	0.47	0.41	0.5	0	0.33	0.67	.	0.4	0.3	0
USA	1956-60	0.45	0.38	0.42	0.47	0.41	0.51	0	0.33	0.67	.	0.6	0.2	0
USA	1961-65	0.4	0.35	0.38	0.39	0.36	0.41	0	0.33	0.33	.	0.4	0.2	0
USA	1966-70	0.38	0.33	0.36	0.31	0.33	0.33	0	0.33	0.33	.	0.3	0.2	0
USA	1971-75	0.38	0.33	0.36	0.31	0.32	0.33	0	0.33	0.33	.	0.3	0.2	0
USA	1976-80	0.38	0.31	0.35	0.3	0.31	0.33	0	0.33	0.33	.	0.3	0.2	0
USA	1981-85	0.33	0.27	0.3	0.35	0.3	0.38	0	0.33	0.33	.	0.1	0.2	0
USA	1986-88	0.33	0.23	0.29	0.33	0.27	0.38	0	0.33	0.33	.	0.1	0.2	0
Japan	1950-55	0.4	0.4	0.4	0.6	0.47	0.59	0	0.33	0.5	.	0.4	0.2	0
Japan	1956-60	0.41	0.38	0.4	0.58	0.44	0.6	0	0.33	0.5	.	0.45	0.2	1
Japan	1961-65	0.41	0.37	0.4	0.58	0.44	0.6	0	0.33	0.5	.	0.45	0.2	1
Japan	1966-70	0.41	0.38	0.4	0.58	0.45	0.6	0	0.33	0.5	.	0.45	0.2	1
Japan	1971-75	0.4	0.37	0.39	0.58	0.44	0.59	0	0.33	5	.	0.4	0.2	1
Japan	1976-80	0.4	0.36	0.38	0.57	0.43	0.59	0	0.5	0.5	.	0.4	0.2	1
Japan	1981-85	0.4	0.35	0.38	0.57	0.42	0.59	0	0.5	0.5	.	0.4	0.2	1
Japan	1986-88	0.38	0.33	0.36	0.56	0.4	0.58	0	0.5	0.5	.	0.3	0.2	1
Austria	1950-55	0.75	0.69	0.73	0.7	0.69	0.73	1	0.67	0.67	0.9	1	1	1
Austria	1956-60	0.75	0.69	0.73	0.76	0.71	0.79	1	1	1	0.9	1	1	1
Austria	1961-65	0.75	0.69	0.73	0.77	0.72	0.8	1	1	1	1	1	1	1
Austria	1966-70	0.7	0.66	0.69	0.76	0.7	0.78	0.8	1	1	1	1	0.8	1
Austria	1971-75	0.7	0.65	0.68	0.75	0.68	0.78	0.8	1	1	1	1	0.8	1
Austria	1976-80	0.7	0.64	0.63	0.75	0.68	0.78	0.8	1	1	1	1	0.8	1
Austria	1981-85	0.68	0.63	0.66	0.74	0.67	0.77	0.72	0.67	1	1	0.9	0.8	1
Austria	1986-88	0.68	0.62	0.65	0.74	0.66	0.77	0.72	1	1	1	0.9	0.8	1
Belgium	1950-55	0.55	0.58	0.56	0.5	0.55	0.49	0.36	0.67	0.67	0.8	0.6	0.6	1
Belgium	1956-60	0.55	0.58	0.56	0.5	0.55	0.49	0.36	0.67	0.5	0.8	0.6	0.6	1
Belgium	1961-65	0.6	0.6	0.6	0.51	0.57	0.51	0.48	0.83	0.83	0.8	0.8	0.6	1

Table 8
Indices of Corporatism and Centralization

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Belgium	1966-70	0.6	0.63	0.61	0.5	0.58	0.49	0.48	0.83	0.83	0.8	0.8	0.6	1
Belgium	1971-75	0.65	0.68	0.66	0.48	0.61	0.47	0.64	0.83	0.83	0.8	0.8	0.8	1
Belgium	1976-80	0.65	0.69	0.67	0.42	0.6	0.4	0.64	0.33	0.5	0.8	0.8	0.8	1
Belgium	1981-85	0.65	0.72	0.68	0.5	0.64	0.47	0.64	0.5	0.33	0.6	0.8	0.8	1
Belgium	1986-88	0.65	0.7	0.67	0.49	0.63	0.47	0.64	0.67	0.5	0.6	0.8	0.8	1
Denmark	1950-55	0.98	0.78	0.9	0.82	0.8	0.92	0.9	0.67	1	1	0.9	1	1
Denmark	1956-60	1	0.81	0.92	0.83	0.82	0.93	1	0.67	1	1	1	1	1
Denmark	1961-65	0.95	0.79	0.89	0.54	0.7	0.62	0.8	0.5	0.67	1	1	0.8	1
Denmark	1966-70	0.9	0.77	0.85	0.67	0.74	0.74	0.64	1	0.67	1	0.8	0.8	1
Denmark	1971-75	0.86	0.76	0.82	0.58	0.7	0.63	0.52	0.5	0.67	1	0.65	0.8	1
Denmark	1976-80	0.8	0.78	0.79	0.46	0.67	0.47	0.36	0.33	0.33	1	0.6	0.6	1
Denmark	1981-85	0.75	0.78	0.76	0.68	0.75	0.66	0.24	0.67	0.67	0.6	0.4	0.6	1
Denmark	1986-88	0.8	0.8	0.8	0.65	0.75	0.65	0	0.33	0.33	0.6	0.6	0.6	1
Finland	1950-55	0.45	0.4	0.43	0.49	0.43	0.51	0	0.33	0.5	0.3	0.4	0.4	0
Finland	1956-60	0.45	0.39	0.43	0.48	0.42	0.51	0	0.33	0.5	0.3	0.4	0.4	0
Finland	1961-65	0.5	0.42	0.47	0.5	0.45	0.54	0	0.33	0.5	0.4	0.4	0.6	0
Finland	1966-70	0.61	0.52	0.57	0.47	0.5	0.52	0	0.5	0.67	0.4	0.65	0.8	0
Finland	1971-75	0.66	0.62	0.64	0.52	0.59	0.55	0	0.67	0.67	0.6	0.65	0.8	0.2
Finland	1976-80	0.86	0.8	0.84	0.74	0.78	0.77	0	1	0.67	0.6	0.65	0.8	1
Finland	1981-85	0.86	0.84	0.85	0.78	0.82	0.79	0	1	0.67	1	0.65	0.8	1
Finland	1986-88	0.86	0.82	0.85	0.77	0.8	0.79	0.52	1	0.67	1	0.65	0.8	1
France	1950-55	0.7	.	.	.	.	0.46	0.12	0.33	0.33	0.2	0.6	0.2	1
France	1956-60	0.65	.	.	.	.	0.43	0.08	0.33	0.33	0.2	0.4	0.2	1
France	1961-65	0.63	0.41	0.54	0.49	0.44	0.6	0.06	0.33	0.5	0.4	0.2	0.3	1
France	1966-70	0.4	0.3	0.36	0.47	0.36	0.52	0	0.33	0.67	0.4	0.2	0.4	1
France	1971-75	0.45	0.33	0.4	0.38	0.35	0.44	0	0.33	0.5	0.4	0.4	0.4	1
France	1976-80	0.45	0.32	0.4	0.26	0.3	0.33	0	0.33	0.5	0.4	0.4	0.4	1
France	1981-85	0.4	0.28	0.35	0.17	0.24	0.24	0	0	0.5	0.4	0.2	0.4	1
France	1986-88	0.4	0.25	0.34	0.23	0.24	0.31	0	0	0.5	0.4	0.2	0.4	1
Germany	1950-55	0.95	0.66	0.84	0.73	0.68	0.87	0.8	0.67	0.83	0.7	1	0.8	1
Germany	1956-60	0.9	0.64	0.8	0.71	0.66	0.84	0.64	0.67	0.83	0.7	0.8	0.8	1
Germany	1961-65	0.9	0.64	0.8	0.71	0.66	0.84	0.64	0.83	0.83	0.8	0.8	0.8	1
Germany	1966-70	0.9	0.64	0.8	0.6	0.63	0.74	0.64	1	1	0.8	0.8	0.8	1
Germany	1971-75	0.9	0.64	0.8	0.57	0.62	0.7	0.64	1	1	0.8	0.8	0.8	1
Germany	1976-80	0.9	0.66	0.8	0.58	0.63	0.7	0.64	0.83	0.67	0.8	0.8	0.8	1

Table 8
Indices of Corporatism and Centralization

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Germany	1981-85	0.9	0.65	0.8	0.5	0.6	0.63	0.64	0.83	0.67	0.8	0.8	0.8	1
Germany	1986-88	0.85	0.61	0.75	0.48	0.56	0.6	0.48	0.83	0.67	0.8	0.6	0.8	1
Greece	1950-55	0.25	.	.	.	.	0.2	0	0.67	0.33	.	0.2	0.8	0
Greece	1956-60	0.25	0.24	0.25	0.19	0.22	0.2	0	0.67	0.33	.	0.2	0.8	0
Greece	1961-65	0.35	0.29	0.33	0.22	0.26	0.25	0	0.67	0.33	.	0.6	0.8	0
Greece	1966-70	.	.	.	.	.	.	.	0.67	0.33	.	.	0	0
Greece	1971-75	.	.	.	.	.	.	.	0.33	0.67	.	.	0	0
Greece	1976-80	0.3	0.33	0.31	0.24	0.3	0.22	0	0.33	0.33	.	0.6	0.6	0
Greece	1981-85	0.25	0.29	0.26	0.29	0.29	0.27	0	0.33	0.67	.	0.6	0.4	0
Greece	1986-88	0.5	0.4	0.46	0.35	0.38	0.39	0	0.33	0.33	.	0.6	0.4	1
Iceland	1950-55	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1956-60	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1961-65	.	.	.	.	.	.	.	.	.	.	.	.	.
Iceland	1966-70	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1971-75	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1976-80	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1981-85	.	.	.	.	.	.	0.64	1	0.83	.	0.8	0.8	1
Iceland	1986-88	.	.	.	.	.	.	0.64	1	0.83	.	0.8	0.8	1
Ireland	1950-55	0.5	.	.	.	.	0.61	0	0.33	0.5	0.6	0.6	0.4	1
Ireland	1956-60	0.48	0.46	0.47	0.59	0.5	0.59	0	0.5	0.5	0.6	0.5	0.4	0
Ireland	1961-65	0.5	0.48	0.49	0.6	0.52	0.61	0	0.33	0.33	0.6	0.6	0.4	0
Ireland	1966-70	0.56	0.53	0.55	0.41	0.49	0.42	0	0.33	0.33	0.6	0.65	0.6	0
Ireland	1971-75	0.56	0.55	0.56	0.49	0.53	0.5	0	0.67	0.67	0.6	0.65	0.6	0
Ireland	1976-80	0.55	0.55	0.55	0.56	0.55	0.56	0	0.67	0.83	0.6	0.6	0.6	0
Ireland	1981-85	0.43	0.46	0.44	0.45	0.46	0.43	0	0.67	0.83	0.4	0.6	0.6	0
Ireland	1986-88	0.43	0.45	0.43	0.44	0.44	0.43	0	0.5	0.67	0.4	0.6	0.6	0
Italy	1950-55	0.58	0.51	0.55	0.47	0.5	0.5	0.02	0.33	0.33	0.2	0.1	0.2	0
Italy	1956-60	0.48	0.4	0.45	0.42	0.41	0.45	0.03	0.33	0.67	0.2	0.1	0.3	1
Italy	1961-65	0.33	0.31	0.32	0.37	0.33	0.38	0	0.33	0.67	0.4	0.1	0.2	1
Italy	1966-70	0.33	0.33	0.33	0.31	0.32	0.31	0	0.33	0.5	0.4	0.1	0.2	1
Italy	1971-75	0.6	0.52	0.57	0.48	0.51	0.51	0	0.5	0.5	0.6	0.2	0.2	1
Italy	1976-80	0.65	0.59	0.63	0.58	0.59	0.61	0.08	0.5	0.67	0.6	0.4	0.2	1
Italy	1981-85	0.35	0.44	0.38	0.5	0.46	0.46	0	0.5	0.33	0.3	0.2	0.2	1
Italy	1986-88	0.35	0.45	0.39	0.51	0.47	0.46	0	0.5	0.33	0.5	0.2	0.2	1
Luxemb	1950-55	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 8
Indices of Corporatism and Centralization

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Luxemb	1956-60	.	.	.	.	.	.	.	1	0.33	.	0.2	0.2	.
Luxemb	1961-65	.	.	.	.	.	.	.	1	0.67	.	0.2	0.2	.
Luxemb	1966-70	.	.	.	.	.	.	.	1	0.67	.	0.2	0.2	.
Luxemb	1971-75	.	.	.	.	.	.	.	1	0.67	.	0.6	0.2	.
Luxemb	1976-80	.	.	.	.	.	.	.	1	0.67	.	0.6	0.2	.
Luxemb	1981-85	.	.	.	.	.	.	.	1	0.67	.	0.6	0.6	.
Luxemb	1986-88	.	.	.	.	.	.	.	0.67	0.67	.	0.6	0.6	.
Netherl	1950-55	1	0.71	0.88	0.78	0.73	0.93	1	1	0.67	0.8	1	1	1
Netherl	1956-60	1	0.71	0.88	0.78	0.73	0.93	1	1	0.67	0.8	1	1	1
Netherl	1961-65	0.65	0.53	0.6	0.51	0.52	0.58	0.64	0.67	0.5	0.8	0.8	0.8	1
Netherl	1966-70	0.63	0.51	0.58	0.41	0.48	0.47	0.56	0.67	0.5	0.8	0.7	0.8	1
Netherl	1971-75	0.65	0.52	0.6	0.51	0.52	0.58	0.64	0.67	0.5	0.8	0.8	0.8	1
Netherl	1976-80	0.5	0.44	0.48	0.33	0.41	0.36	0.24	0.33	0.33	0.8	0.4	0.6	1
Netherl	1981-85	0.55	0.43	0.5	0.32	0.39	0.38	0.32	0.33	0.33	0.6	0.4	0.8	1
Netherl	1986-88	0.6	0.42	0.53	0.32	0.38	0.41	0.4	0.33	0.33	0.6	0.4	1	1
Norway	1950-55	1	0.76	0.9	0.81	0.78	0.93	1	1	1	1	1	1	1
Norway	1956-60	1	0.81	0.93	0.8	0.81	0.89	1	1	1	1	1	1	1
Norway	1961-65	0.95	0.79	0.89	0.83	0.8	0.9	0.8	1	1	1	1	0.8	1
Norway	1966-70	0.8	0.71	0.77	0.75	0.73	0.79	0.36	1	0.67	1	0.9	0.8	1
Norway	1971-75	0.66	0.62	0.64	0.52	0.59	0.55	0	0.67	0.67	0.6	0.7	0.8	0.2
Norway	1976-80	0.61	0.61	0.61	0.45	0.55	0.45	0.56	1	0.67	1	0.8	0.7	1
Norway	1981-85	0.6	0.62	0.61	0.56	0.63	0.66	0.49	0.83	0.67	1	0.7	0.7	1
Norway	1986-88	0.6	0.63	0.61	0.6	0.62	0.59	0.49	0.83	0.67	1	0.7	0.7	1
Portugal	1950-55	0.9	.	.	.	.	0.52	0	1	1	0.2	1	0.6	1
Portugal	1956-60	0.9	.	.	.	.	0.52	0	1	1	0.2	1	0.6	1
Portugal	1961-65	1	.	.	.	.	0.57	0	1	1	0.2	1	1	1
Portugal	1966-70	1	.	.	.	.	0.64	0	1	1	0.2	1	1	1
Portugal	1971-75	1	.	.	.	.	0.71	0	0.67	0.67	0.2	1	1	1
Portugal	1976-80	0.48	0.5	0.48	0.36	0.45	0.34	0	0.33	0.33	0.2	0.7	0.2	1
Portugal	1981-85	0.5	0.54	0.52	0.49	0.52	0.46	0	0.33	0.33	0.3	0.4	0.6	1
Portugal	1986-88	0.45	0.45	0.45	0.51	0.47	0.51	0	0.33	0.33	0.3	0.2	0.6	1
Spain	1950-55	.	.	.	.	.	.	0	1	1	0.2	1	1	0
Spain	1956-60	.	.	.	.	.	.	0	0.67	1	0.2	1	1	1
Spain	1961-65	.	.	.	.	.	.	0	0.67	1	0.2	1	1	1
Spain	1966-70	.	.	.	.	.	.	0	0.67	1	0.2	1	1	1

Table 8
Indices of Corporatism and Centralization

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Spain	1971-75	.	.	.	.	.	.	0.5	0.67	0.83	0.2	1	1	1
Spain	1976-80	0.75	0.48	0.64	0.5	0.48	0.63	0.12	0.5	0.67	0.2	0.4	0.6	1
Spain	1981-85	0.75	0.44	0.63	0.58	0.49	0.73	0.12	0.5	0.67	0.4	0.4	0.6	1
Spain	1986-88	0.75	0.45	0.63	0.37	0.42	0.52	0.12	0.5	0.67	0.4	0.4	0.6	1
Sweden	1950-55	1	0.85	0.94	0.57	0.75	0.64	1	0.83	0.67	1	1	1	1
Sweden	1956-60	1	0.86	0.94	0.82	0.85	0.89	1	1	0.67	1	1	1	1
Sweden	1961-65	0.98	0.84	0.92	0.81	0.83	0.88	0.9	1	1	1	0.9	1	1
Sweden	1966-70	0.91	0.81	0.87	0.8	0.81	0.85	0.68	1	1	1	0.9	0.8	1
Sweden	1971-75	.	.	.	.	.	.	0.64	1	0.83	1	0.8	0.8	1
Sweden	1976-80	0.85	0.86	0.85	0.68	0.8	0.68	0.49	1	0.83	1	0.7	0.7	1
Sweden	1981-85	0.7	0.8	0.74	0.62	0.74	0.56	0.21	0.83	0.83	0.9	0.7	0.6	1
Sweden	1986-88	0.73	0.8	0.75	0.54	0.71	0.51	0.24	0.83	0.67	0.9	0.6	0.8	1
Switzerl	1950-55	0.55	0.46	0.52	0.59	0.5	0.63	0.36	0.5	1	0.9	0.6	0.8	1
Switzerl	1956-60	0.55	0.46	0.51	0.59	0.5	0.63	0.36	0.5	1	0.9	0.6	0.6	1
Switzerl	1961-65	0.55	0.45	0.51	0.58	0.49	0.63	0.36	1	0.67	0.8	0.6	0.6	1
Switzerl	1966-70	0.55	0.43	0.5	0.57	0.48	0.63	0.36	1	0.67	0.8	0.6	0.6	1
Switzerl	1971-75	0.53	0.42	0.48	0.57	0.47	0.62	0.3	1	0.67	0.8	0.5	0.6	1
Switzerl	1976-80	0.45	0.39	0.43	0.55	0.45	0.58	0.12	0.83	0.67	0.8	0.2	0.6	1
Switzerl	1981-85	0.35	0.33	0.34	0.52	0.4	0.53	0.04	0.83	0.67	0.8	0.2	0.2	1
Switzerl	1986-88	0.35	0.35	0.35	0.46	0.39	0.46	0.04	0.83	0.67	0.8	0.2	0.2	1
Turkey	1950-55	.	.	.	.	.	.	0	0.33	0.33	.	0.1	0	0
Turkey	1956-60	.	.	.	.	.	.	0	0.33	0.33	.	0.1	0	0
Turkey	1961-65	.	.	.	.	.	.	0	0.33	0.33	.	0.4	0.2	0
Turkey	1966-70	.	.	.	.	.	.	0	0.33	0.33	.	0.1	0.2	0
Turkey	1971-75	.	.	.	.	.	.	0	0.33	0.33	.	0.2	0.2	0
Turkey	1976-80	.	.	.	.	.	.	0	0.33	0.33	.	0.3	0.2	0
Turkey	1981-85	.	.	.	.	.	.	0	0.33	0.33	.	0.4	0.2	0
Turkey	1986-88	.	.	.	.	.	.	0	0.33	0.5	.	0.4	0.2	0
UK	1950-55	0.15	0.3	0.21	0.43	0.34	0.36	0	0.33	0.5	0.8	0.2	0.4	0
UK	1956-60	0.15	0.29	0.21	0.58	0.39	0.5	0	0.33	0.67	0.8	0.2	0.4	0
UK	1961-65	0.18	0.31	0.23	0.51	0.38	0.44	0	0.33	0.67	0.6	0.3	0.4	0
UK	1966-70	0.33	0.39	0.35	0.34	0.37	0.31	0.08	0.5	0.5	0.6	0.4	0.4	0.5
UK	1971-75	0.2	0.35	0.26	0.32	0.34	0.24	0	0.5	0.67	0.6	0.4	0.4	0
UK	1976-80	0.28	0.4	0.33	0.42	0.41	0.35	0	0.33	0.67	0.6	0.4	0.2	0.5
UK	1981-85	0.23	0.35	0.28	0.25	0.32	0.18	0	0.33	0.33	0.2	0.2	0.2	0.5

Table 8
Indices of Corporatism and Centralization

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
UK	1986-88	0.08	0.25	0.15	0.2	0.23	0.11	0	0.33	0.33	0.2	0.2	0.1	0
Australia	1950-55	0.46	0.53	0.49	0.41	0.49	0.37	0	0.5	0.33	.	0.5	0.4	0
Australia	1956-60	0.46	0.53	0.49	0.41	0.49	0.37	0	0.67	0.33	.	0.5	0.4	0
Australia	1961-65	0.51	0.54	0.52	0.41	0.5	0.4	0	0.67	0.33	.	0.6	0.5	0
Australia	1966-70	0.51	0.51	0.51	0.33	0.45	0.33	0	0.5	0.33	.	0.6	0.5	0
Australia	1971-75	0.55	0.55	0.55	0.35	0.48	0.35	0	0.5	0.33	.	0.6	0.6	0
Australia	1976-80	0.55	0.54	0.54	0.41	0.49	0.42	0	0.67	0.33	.	0.6	0.6	0
Australia	1981-85	0.51	0.51	0.51	0.4	0.47	0.4	0	0.83	0.83	.	0.7	0.4	0
Australia	1986-88	0.46	0.45	0.46	0.37	0.42	0.37	0	0.5	0.67	.	0.5	0.4	0
New Zea	1950-55	0.51	.	.	.	.	0.54	0	0.67	0.67	.	0.5	0.6	0
New Zea	1956-60	0.51	.	.	.	.	0.54	0	0.67	0.67	.	0.5	0.6	0
New Zea	1961-65	0.51	0.5	0.51	0.54	0.51	0.54	0	0.67	0.67	.	0.5	0.6	0
New Zea	1966-70	0.51	0.47	0.5	0.52	0.49	0.54	0	0.67	0.67	.	0.5	0.6	0
New Zea	1971-75	0.53	0.43	0.49	0.33	0.41	0.37	0	0.67	0.67	.	0.5	0.6	0
New Zea	1976-80	0.51	0.45	0.49	0.37	0.42	0.4	0	0.33	0.67	.	0.5	0.6	0
New Zea	1981-85	0.51	0.46	0.49	0.45	0.46	0.47	0	0.33	0.33	.	0.5	0.6	0
New Zea	1986-88	0.51	0.43	0.48	0.43	0.43	0.47	0	0.33	0.33	.	0.5	0.6	0

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Canada	1950-55	0.38	0.3	0.34	0.36	0.32	0.4	0	0.33	0.33	.	0.2	0.3	0
Canada	1956-60	0.38	0.31	0.35	0.44	0.35	0.47	0	0.33	0.5	.	0.2	0.3	0
Canada	1961-65	0.38	0.3	0.35	0.51	0.37	0.54	0	0.33	0.67	.	0.2	0.3	0
Canada	1966-70	0.43	0.34	0.39	0.53	0.41	0.57	0	0.33	0.33	.	0.4	0.3	0
Canada	1971-75	0.43	0.36	0.4	0.39	0.37	0.43	0	0.33	0.33	.	0.4	0.3	0
Canada	1976-80	0.43	0.37	0.4	0.36	0.37	0.39	0	0.33	0.33	.	0.4	0.3	0
Canada	1981-85	0.43	0.37	0.4	0.4	0.38	0.43	0	0.67	0.33	.	0.4	0.3	0
Canada	1986-88	0.43	0.37	0.4	0.4	0.38	0.43	0	0.33	0.33	.	0.4	0.3	0
USA	1950-55	0.43	0.37	0.4	0.47	0.41	0.5	0	0.33	0.67	.	0.4	0.3	0
USA	1956-60	0.45	0.38	0.42	0.47	0.41	0.51	0	0.33	0.67	.	0.6	0.2	0
USA	1961-65	0.4	0.35	0.38	0.39	0.36	0.41	0	0.33	0.33	.	0.4	0.2	0
USA	1966-70	0.38	0.33	0.36	0.31	0.33	0.33	0	0.33	0.33	.	0.3	0.2	0
USA	1971-75	0.38	0.33	0.36	0.31	0.32	0.33	0	0.33	0.33	.	0.3	0.2	0
USA	1976-80	0.38	0.31	0.35	0.3	0.31	0.33	0	0.33	0.33	.	0.3	0.2	0
USA	1981-85	0.33	0.27	0.3	0.35	0.3	0.38	0	0.33	0.33	.	0.1	0.2	0
USA	1986-88	0.33	0.23	0.29	0.33	0.27	0.38	0	0.33	0.33	.	0.1	0.2	0
Japan	1950-55	0.4	0.4	0.4	0.6	0.47	0.59	0	0.33	0.5	.	0.4	0.2	1
Japan	1956-60	0.41	0.38	0.4	0.58	0.44	0.6	0	0.33	0.5	.	0.45	0.2	1
Japan	1961-65	0.41	0.37	0.4	0.58	0.44	0.6	0	0.33	0.5	.	0.45	0.2	1
Japan	1966-70	0.41	0.38	0.4	0.58	0.45	0.6	0	0.33	0.5	.	0.45	0.2	1
Japan	1971-75	0.4	0.37	0.39	0.58	0.44	0.59	0	0.33	5	.	0.4	0.2	1
Japan	1976-80	0.4	0.36	0.38	0.57	0.43	0.59	0	0.5	0.5	.	0.4	0.2	1
Japan	1981-85	0.4	0.35	0.38	0.57	0.42	0.59	0	0.5	0.5	.	0.4	0.2	1
Japan	1986-88	0.38	0.33	0.36	0.56	0.4	0.58	0	0.5	0.5	.	0.3	0.2	1
Austria	1950-55	0.75	0.69	0.73	0.7	0.69	0.73	1	0.67	0.67	0.9	1	1	1
Austria	1956-60	0.75	0.69	0.73	0.76	0.71	0.79	1	1	1	0.9	1	1	1
Austria	1961-65	0.75	0.69	0.73	0.77	0.72	0.8	1	1	1	1	1	1	1
Austria	1966-70	0.7	0.66	0.69	0.76	0.7	0.78	0.8	1	1	1	1	0.8	1
Austria	1971-75	0.7	0.65	0.68	0.75	0.68	0.78	0.8	1	1	1	1	0.8	1
Austria	1976-80	0.7	0.64	0.68	0.75	0.68	0.78	0.8	1	1	1	1	0.8	1
Austria	1981-85	0.68	0.63	0.66	0.74	0.67	0.77	0.72	0.67	1	1	0.9	0.8	1
Austria	1986-88	0.68	0.62	0.65	0.74	0.66	0.77	0.72	1	1	1	0.9	0.8	1
Belgium	1950-55	0.55	0.58	0.56	0.5	0.55	0.49	0.36	0.67	0.67	0.8	0.6	0.6	1
Belgium	1956-50	0.55	0.58	0.56	0.5	0.55	0.49	0.36	0.67	0.5	0.8	0.6	0.6	1
Belgium	1961-65	0.6	0.6	0.6	0.51	0.57	0.51	0.48	0.83	0.83	0.8	0.8	0.6	1

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Belgium	1966-70	0.6	0.63	0.61	0.5	0.58	0.49	0.48	0.83	0.83	0.8	0.8	0.6	1
Belgium	1971-75	0.65	0.68	0.66	0.48	0.61	0.47	0.64	0.83	0.83	0.8	0.8	0.8	1
Belgium	1976-80	0.65	0.69	0.67	0.42	0.6	0.4	0.64	0.33	0.5	0.8	0.8	0.8	1
Belgium	1981-85	0.65	0.72	0.68	0.5	0.64	0.47	0.64	0.5	0.33	0.6	0.8	0.8	1
Belgium	1986-88	0.65	0.7	0.67	0.49	0.63	0.47	0.64	0.67	0.5	0.6	0.8	0.8	1
Denmark	1950-55	0.98	0.78	0.9	0.82	0.8	0.92	0.9	0.67	1	1	0.9	1	1
Denmark	1956-60	1	0.81	0.92	0.83	0.82	0.93	1	0.67	1	1	1	1	1
Denmark	1961-65	0.95	0.79	0.89	0.54	0.7	0.62	0.8	0.5	0.67	1	1	0.8	1
Denmark	1966-70	0.9	0.77	0.85	0.67	0.74	0.74	0.64	1	0.67	1	0.8	0.8	1
Denmark	1971-75	0.86	0.76	0.82	0.58	0.7	0.63	0.52	0.5	0.67	1	0.65	0.8	1
Denmark	1976-80	0.8	0.78	0.79	0.46	0.67	0.47	0.36	0.33	0.33	1	0.6	0.6	1
Denmark	1981-85	0.75	0.78	0.76	0.68	0.75	0.66	0.24	0.67	0.67	0.6	0.4	0.6	1
Denmark	1986-88	0.8	0.8	0.8	0.65	0.75	0.65	0	0.33	0.33	0.6	0.6	0.6	1
Finland	1950-55	0.45	0.4	0.43	0.49	0.43	0.51	0	0.33	0.5	0.3	0.4	0.4	0
Finland	1956-60	0.45	0.39	0.43	0.48	0.42	0.51	0	0.33	0.5	0.3	0.4	0.4	0
Finland	1961-65	0.5	0.42	0.47	0.5	0.45	0.54	0	0.33	0.5	0.4	0.4	0.6	0
Finland	1966-70	0.61	0.52	0.57	0.47	0.5	0.52	0	0.5	0.67	0.4	0.65	0.8	0
Finland	1971-75	0.66	0.62	0.64	0.52	0.59	0.55	0	0.67	0.67	0.6	0.65	0.8	0.2
Finland	1976-80	0.86	0.8	0.84	0.74	0.78	0.77	0	1	0.67	0.6	0.65	0.8	1
Finland	1981-85	0.86	0.84	0.85	0.78	0.82	0.79	0	1	0.67	1	0.65	0.8	1
Finland	1986-88	0.36	0.82	0.85	0.77	0.8	0.79	0.52	1	0.67	1	0.65	0.8	1
France	1950-55	0.7	.	.	.	.	0.46	0.12	0.33	0.33	0.2	0.6	0.2	1
France	1956-60	0.65	.	.	.	.	0.43	0.08	0.33	0.33	0.2	0.4	0.2	1
France	1961-65	0.63	0.41	0.54	0.49	0.44	0.6	0.06	0.33	0.5	0.4	0.2	0.3	1
France	1966-70	0.4	0.3	0.36	0.47	0.36	0.52	0	0.33	0.67	0.4	0.2	0.4	1
France	1971-75	0.45	0.33	0.4	0.38	0.35	0.44	0	0.33	0.5	0.4	0.4	0.4	1
France	1976-80	0.45	0.32	0.4	0.26	0.3	0.33	0	0.33	0.5	0.4	0.4	0.4	1
France	1981-85	0.4	0.28	0.35	0.17	0.24	0.24	0	0	0.5	0.4	0.2	0.4	1
France	1986-88	0.4	0.25	0.34	0.23	0.24	0.31	0	0	0.5	0.4	0.2	0.4	1
Germany	1950-55	0.95	0.66	0.84	0.73	0.68	0.87	0.8	0.67	0.83	0.7	1	0.8	1
Germany	1956-60	0.9	0.64	0.8	0.71	0.66	0.84	0.64	0.67	0.83	0.7	0.8	0.8	1
Germany	1961-65	0.9	0.64	0.8	0.71	0.66	0.84	0.64	0.83	0.83	0.8	0.8	0.8	1
Germany	1966-70	0.9	0.64	0.8	0.6	0.63	0.74	0.64	1	1	0.8	0.8	0.8	1
Germany	1971-75	0.9	0.64	0.8	0.57	0.62	0.7	0.64	1	1	0.8	0.8	0.8	1
Germany	1976-80	0.9	0.66	0.8	0.58	0.63	0.7	0.64	0.83	0.67	0.8	0.8	0.8	1

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Germany	1981-85	0.9	0.65	0.8	0.5	0.6	0.63	0.64	0.83	0.67	0.8	0.8	0.8	1
Germany	1986-88	0.85	0.61	0.75	0.48	0.56	0.6	0.48	0.83	0.67	0.8	0.6	0.8	1
Greece	1950-55	0.25	.	.	.	.	0.2	0	0.67	0.33	.	0.2	0.8	0
Greece	1956-60	0.25	0.24	0.25	0.19	0.22	0.2	0	0.67	0.33	.	0.2	0.8	0
Greece	1961-65	0.35	0.29	0.33	0.22	0.26	0.25	0	0.67	0.33	.	0.6	0.8	0
Greece	1966-70	.	.	.	.	.	.	.	0.67	0.33	.	.	0	0
Greece	1971-75	.	.	.	.	.	.	.	0.33	0.67	.	.	0	0
Greece	1976-80	0.3	0.33	0.31	0.24	0.3	0.22	0	0.33	0.33	.	0.6	0.6	0
Greece	1981-85	0.25	0.29	0.26	0.29	0.29	0.27	0	0.33	0.67	.	0.6	0.4	0
Greece	1986-88	0.5	0.4	0.46	0.35	0.38	0.39	0	0.33	0.33	.	0.6	0.4	1
Iceland	1950-55	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1956-60	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1961-65	.	.	.	.	.	.	.	.	.	.	.	.	.
Iceland	1966-70	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1971-75	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1976-80	.	.	.	.	.	.	.	1	0.83	.	.	.	1
Iceland	1981-85	.	.	.	.	.	.	0.64	1	0.83	.	0.8	0.8	1
Iceland	1986-88	.	.	.	.	.	.	0.64	1	0.83	.	0.8	0.8	1
Ireland	1950-55	0.5	.	.	.	.	0.61	0	0.33	0.5	0.6	0.6	0.4	0
Ireland	1956-60	0.48	0.46	0.47	0.59	0.5	0.59	0	0.5	0.5	0.6	0.5	0.4	0
Ireland	1961-65	0.5	0.48	0.49	0.6	0.52	0.61	0	0.33	0.33	0.6	0.6	0.4	0
Ireland	1966-70	0.56	0.53	0.55	0.41	0.49	0.42	0	0.33	0.33	0.6	0.65	0.6	0
Ireland	1971-75	0.56	0.55	0.56	0.49	0.53	0.5	0	0.67	0.67	0.6	0.65	0.6	0
Ireland	1976-80	0.55	0.55	0.55	0.56	0.55	0.56	0	0.67	0.83	0.6	0.6	0.6	0
Ireland	1981-85	0.43	0.46	0.44	0.45	0.46	0.43	0	0.67	0.83	0.4	0.6	0.6	0
Ireland	1986-88	0.43	0.45	0.43	0.44	0.44	0.43	0	0.5	0.67	0.4	0.6	0.6	0
Italy	1950-55	0.58	0.51	0.55	0.47	0.5	0.5	0.02	0.33	0.33	0.2	0.1	0.2	1
Italy	1956-60	0.48	0.4	0.45	0.42	0.41	0.45	0.03	0.33	0.67	0.2	0.1	0.3	1
Italy	1961-65	0.33	0.31	0.32	0.37	0.33	0.38	0	0.33	0.67	0.4	0.1	0.2	1
Italy	1966-70	0.33	0.33	0.33	0.31	0.32	0.31	0	0.33	0.5	0.4	0.1	0.2	1
Italy	1971-75	0.6	0.52	0.57	0.48	0.51	0.51	0	0.5	0.5	0.6	0.2	0.2	1
Italy	1976-80	0.65	0.59	0.63	0.58	0.59	0.61	0.08	0.5	0.67	0.6	0.4	0.2	1
Italy	1981-85	0.35	0.44	0.38	0.5	0.46	0.46	0	0.5	0.33	0.3	0.2	0.2	1
Italy	1986-88	0.35	0.45	0.39	0.51	0.47	0.46	0	0.5	0.33	0.5	0.2	0.2	1
Luxemb	1950-55	.	.	.	.	.	.	.	.	.	.	.	.	.

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Luxemb	1956-60	.	.	.	.	.	.	.	1	0.33	.	0.2	0.2	.
Luxemb	1961-65	.	.	.	.	.	.	.	1	0.67	.	0.2	0.2	.
Luxemb	1966-70	.	.	.	.	.	.	.	1	0.67	.	0.2	0.2	.
Luxemb	1971-75	.	.	.	.	.	.	.	1	0.67	.	0.6	0.2	.
Luxemb	1976-80	.	.	.	.	.	.	.	1	0.67	.	0.6	0.2	.
Luxemb	1981-85	.	.	.	.	.	.	.	1	0.67	.	0.6	0.6	.
Luxemb	1986-88	.	.	.	.	.	.	.	0.67	0.67	.	0.6	0.6	.
Netherl	1950-55	1	0.71	0.88	0.78	0.73	0.93	1	1	0.67	0.8	1	1	1
Netherl	1956-60	1	0.71	0.88	0.78	0.73	0.93	1	1	0.67	0.8	1	1	1
Netherl	1961-65	0.65	0.53	0.6	0.51	0.52	0.58	0.64	0.67	0.5	0.8	0.8	0.8	1
Netherl	1966-70	0.63	0.51	0.58	0.41	0.48	0.47	0.56	0.67	0.5	0.8	0.7	0.8	1
Netherl	1971-75	0.65	0.52	0.6	0.51	0.52	0.58	0.64	0.67	0.5	0.8	0.8	0.8	1
Netherl	1976-80	0.5	0.44	0.48	0.33	0.41	0.36	0.24	0.33	0.33	0.8	0.4	0.6	1
Netherl	1981-85	0.55	0.43	0.5	0.32	0.39	0.38	0.32	0.33	0.33	0.6	0.4	0.8	1
Netherl	1986-88	0.6	0.42	0.53	0.32	0.38	0.41	0.4	0.33	0.33	0.6	0.4	1	1
Norway	1950-55	1	0.76	0.9	0.81	0.78	0.93	1	1	1	1	1	1	1
Norway	1956-60	1	0.81	0.93	0.8	0.81	0.89	1	1	1	1	1	1	1
Norway	1961-65	0.95	0.79	0.89	0.83	0.8	0.9	0.8	1	1	1	1	0.8	1
Norway	1966-70	0.8	0.71	0.77	0.75	0.73	0.79	0.36	1	0.67	1	0.9	0.8	1
Norway	1971-75	0.66	0.62	0.64	0.52	0.59	0.55	0	0.67	0.67	0.6	0.7	0.8	0.2
Norway	1976-80	0.61	0.61	0.61	0.45	0.55	0.45	0.56	1	0.67	1	0.8	0.7	1
Norway	1981-85	0.6	0.62	0.61	0.66	0.63	0.66	0.49	0.83	0.67	1	0.7	0.7	1
Norway	1986-88	0.6	0.63	0.61	0.6	0.62	0.59	0.49	0.83	0.67	1	0.7	0.7	1
Portugal	1950-55	0.9	.	.	.	.	0.52	0	1	1	0.2	1	0.6	1
Portugal	1956-60	0.9	.	.	.	.	0.52	0	1	1	0.2	1	0.6	1
Portugal	1961-65	1	.	.	.	.	0.57	0	1	1	0.2	1	1	1
Portugal	1966-70	1	.	.	.	.	0.64	0	1	1	0.2	1	1	1
Portugal	1971-75	1	.	.	.	.	0.71	0	0.67	0.67	0.2	1	1	1
Portugal	1976-80	0.48	0.5	0.48	0.36	0.45	0.34	0	0.33	0.33	0.2	0.7	0.2	1
Portugal	1981-85	0.5	0.54	0.52	0.49	0.52	0.46	0	0.33	0.33	0.3	0.4	0.6	1
Portugal	1986-88	0.45	0.45	0.45	0.51	0.47	0.51	0	0.33	0.33	0.3	0.2	0.6	1
Spain	1950-55	.	.	.	.	.	.	0	1	1	0.2	1	1	0
Spain	1956-60	.	.	.	.	.	.	0	0.67	1	0.2	1	1	1
Spain	1961-65	.	.	.	.	.	.	0	0.67	1	0.2	1	1	1
Spain	1966-70	.	.	.	.	.	.	0	0.67	1	0.2	1	1	1

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
Spain	1971-75	.	.	.	.	.	.	0.5	0.67	0.83	0.2	1	1	1
Spain	1976-80	0.75	0.48	0.64	0.5	0.48	0.63	0.12	0.5	0.67	0.2	0.4	0.6	1
Spain	1981-85	0.75	0.44	0.63	0.58	0.49	0.73	0.12	0.5	0.67	0.4	0.4	0.6	1
Spain	1986-88	0.75	0.45	0.63	0.37	0.42	0.52	0.12	0.5	0.67	0.4	0.4	0.6	1
Sweden	1950-55	1	0.85	0.94	0.57	0.75	0.64	1	0.83	0.67	1	1	1	1
Sweden	1956-60	1	0.86	0.94	0.82	0.85	0.89	1	1	0.67	1	1	1	1
Sweden	1961-65	0.98	0.84	0.92	0.81	0.83	0.88	0.9	1	1	1	0.9	1	1
Sweden	1966-70	0.91	0.81	0.87	0.8	0.81	0.85	0.68	1	1	1	0.9	0.8	1
Sweden	1971-75	.	.	.	.	.	.	0.64	1	0.83	1	0.8	0.8	1
Sweden	1976-80	0.85	0.86	0.85	0.68	0.8	0.68	0.49	1	0.83	1	0.7	0.7	1
Sweden	1981-85	0.7	0.8	0.74	0.62	0.74	0.56	0.21	0.83	0.83	0.9	0.7	0.6	1
Sweden	1986-88	0.73	0.8	0.75	0.54	0.71	0.51	0.24	0.83	0.67	0.9	0.6	0.8	1
Switzerl	1950-55	0.55	0.46	0.52	0.59	0.5	0.63	0.36	0.5	1	0.9	0.6	0.6	1
Switzerl	1956-60	0.55	0.46	0.51	0.59	0.5	0.53	0.36	0.5	1	0.9	0.6	0.6	1
Switzerl	1961-65	0.55	0.45	0.51	0.58	0.49	0.63	0.36	1	0.67	0.8	0.6	0.6	1
Switzerl	1966-70	0.55	0.43	0.5	0.57	0.48	0.63	0.36	1	0.67	0.8	0.6	0.6	1
Switzerl	1971-75	0.53	0.42	0.48	0.57	0.47	0.62	0.3	1	0.67	0.8	0.5	0.6	1
Switzerl	1976-80	0.45	0.39	0.43	0.55	0.45	0.58	0.12	0.83	0.67	0.8	0.2	0.6	1
Switzerl	1981-85	0.35	0.33	0.34	0.52	0.4	0.53	0.04	0.83	0.67	0.8	0.2	0.2	1
Switzerl	1986-88	0.35	0.35	0.35	0.46	0.39	0.46	0.04	0.83	0.67	0.8	0.2	0.2	1
Turkey	1950-55	.	.	.	.	.	.	0	0.33	0.33	.	0.1	0	0
Turkey	1956-60	.	.	.	.	.	.	0	0.33	0.33	.	0.1	0	0
Turkey	1961-65	.	.	.	.	.	.	0	0.33	0.33	.	0.4	0.2	0
Turkey	1966-70	.	.	.	.	.	.	0	0.33	0.33	.	0.1	0.2	0
Turkey	1971-75	.	.	.	.	.	.	0	0.33	0.33	.	0.2	0.2	0
Turkey	1976-80	.	.	.	.	.	.	0	0.33	0.33	.	0.3	0.2	0
Turkey	1981-85	.	.	.	.	.	.	0	0.33	0.33	.	0.4	0.2	0
Turkey	1986-88	.	.	.	.	.	.	0	0.33	0.5	.	0.4	0.2	0
UK	1950-55	0.15	0.3	0.21	0.43	0.34	0.36	0	0.33	0.5	0.8	0.2	0.4	0
UK	1956-60	0.15	0.29	0.21	0.56	0.39	0.5	0	0.33	0.67	0.8	0.2	0.4	0
UK	1961-65	0.18	0.31	0.23	0.51	0.38	0.44	0	0.33	0.67	0.6	0.3	0.4	0
UK	1966-70	0.33	0.39	0.35	0.34	0.37	0.31	0.08	0.5	0.5	0.6	0.4	0.4	0.5
UK	1971-75	0.2	0.35	0.26	0.32	0.34	0.24	0	0.5	0.67	0.6	0.4	0.4	0
UK	1976-80	0.28	0.4	0.33	0.42	0.41	0.35	0	0.33	0.67	0.6	0.4	0.2	0.5
UK	1981-85	0.23	0.35	0.28	0.25	0.32	0.18	0	0.33	0.33	0.2	0.2	0.2	0.5

COUNTRY	YEAR	SACHS	SACHS1	SACHS11	SACHS2	SACHS21	SACHS3	SACHS4	NCEN	NCOR	NCROU	NUC	NEC	WC
UK	1966-88	0.08	0.25	0.15	0.2	0.23	0.11	0	0.33	0.33	0.2	0.2	0.1	0
Australia	1950-55	0.46	0.53	0.49	0.41	0.49	0.37	0	0.5	0.33	.	0.5	0.4	0
Australia	1956-60	0.46	0.53	0.49	0.41	0.49	0.37	0	0.67	0.33	.	0.5	0.4	0
Australia	1961-65	0.51	0.54	0.52	0.41	0.5	0.4	0	0.67	0.33	.	0.6	0.5	0
Australia	1966-70	0.51	0.51	0.51	0.33	0.45	0.33	0	0.5	0.33	.	0.6	0.5	0
Australia	1971-75	0.55	0.55	0.55	0.35	0.48	0.35	0	0.5	0.33	.	0.6	0.6	0
Australia	1976-80	0.55	0.54	0.54	0.41	0.49	0.42	0	0.67	0.33	.	0.6	0.6	0
Australia	1981-85	0.51	0.51	0.51	0.4	0.47	0.4	0	0.83	0.83	.	0.7	0.4	0
Australia	1986-88	0.46	0.45	0.46	0.37	0.42	0.37	0	0.5	0.67	.	0.5	0.4	0
New Zea	1950-55	0.51	.	.	.	.	0.54	0	0.67	0.67	.	0.5	0.6	0
New Zea	1956-60	0.51	.	.	.	.	0.54	0	0.67	0.67	.	0.5	0.6	0
New Zea	1961-65	0.51	0.5	0.51	0.54	0.51	0.54	0	0.67	0.67	.	0.5	0.6	0
New Zea	1966-70	0.51	0.47	0.5	0.52	0.49	0.54	0	0.67	0.67	.	0.5	0.6	0
New Zea	1971-75	0.53	0.45	0.49	0.33	0.41	0.37	0	0.67	0.67	.	0.5	0.6	0
New Zea	1976-80	0.51	0.45	0.49	0.37	0.42	0.4	0	0.33	0.67	.	0.5	0.6	0
New Zea	1981-85	0.51	0.46	0.49	0.45	0.46	0.47	0	0.33	0.33	.	0.5	0.6	0
New Zea	1986-88	0.51	0.43	0.48	0.43	0.43	0.47	0	0.33	0.33	.	0.5	0.6	0