Monetary Integration, Partisanship, and Macroeconomic Policy

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Abstract

Most of the current literature on macroeconomic policies focus on cyclical phenomena such as politically induced business cycles, and how short-sighted policies can be overcome through proper institutional design. This paper instead focuses on the lasting effects of macroeconomic policies on such “real” economic variables as unemployment and distribution, and we argue that traditional distributive politics is important for understanding the choice over policies and institutions. We derive our hypotheses from a rational expectations model of the choice over macroeconomic policies, wage bargaining institutions, and union wage strategies, and we present evidence from Europe that corroborates these hypotheses. The model helps us understand not only cross-national differences in macroeconomic policies, institutions and performance, but also the effects on these variables of international monetary integration.
I. Introduction

During the past two decades very little work in political science has been produced on the long-term effects of macroeconomic policies on income distribution and unemployment, or the role of partisan politics in the choice over these policies. Presumably this omission is justified by reference to the new classical concept of “policy neutrality” -- the thesis that fiscal and monetary policies cannot have any lasting effects on the “real” economy. Policy neutrality is in turn thought to rest on the widely accepted notion that people have rational expectations. In this paper we show that both views are incorrect, and that there are strong reasons to expect macroeconomic policies, and the institutions that support them, to be shaped by partisan conflicts over the real economy.

Understanding the effects of macroeconomic policy-making on the real economy was once an integral part of comparative political economy. Most notably, Hibbs’ seminal 1977 article on political parties and macroeconomic policies generated countless studies on the role of partisanship in explaining macroeconomic policies and outcomes. Hibbs argued that conflicting distributive interests of the core constituencies of left and right parties would lead these to choose different points on the Phillips curve trade-off between unemployment and inflation. But while Hibbs’ argument about the distributive interests of parties survived, the notion of an exploitable long-term Phillips curve did not. As shown by Friedman (1968), using an adaptive expectations framework, and by Lucas (1972), using a rational expectations framework, the Phillips curve was not consistent with rational behavior. And without this trade-off, Hibbs political explanation for enduring cross-national differences in policies and outcomes had no foundation in economics.

The only remnants of Hibbs’ argument are in Alesina’s rational partisan business cycle model, which hypothesizes that left and right governments create different post-election policy cycles, while leaving the real economy unaffected (Alesina 1988; Alesina, Cohen and Roubini 1992). Consistent with Alesina’s approach, as well as with non-partisan political business cycle models, much of the literature turned to the question of how to design macroeconomic
institutions that would overcome short-term incentives by governments to inflate (the time inconsistency problem). For example, a key question became how to write a central bank contract that would bind the government to a non-inflationary policy rule without simultaneously undermining its ability flexibly to adapt to the business cycle (see Rogoff 1985 and Lohmann 1992).

This paper instead revisits Hibbs’ original insight that the choice over macroeconomic regimes is motivated by partisan preferences and have lasting effects on real outcomes. Contrary to conventional wisdom, we show that the policy-neutrality thesis does not follow from rational expectations, but instead from the neo-classical assumption that labor markets are atomistic. Once we allow for the possibility of large price and wage setters, or coordinated wage bargaining, fiscal and monetary rules affect unions’ real wage demands as well as employers support for centralized and redistributive wage bargaining. Because coordinated bargaining is pervasive in Europe, and plays a role in most other regions of the world (see OECD 1997), this is an important insight for political economy.

The key to our argument is that the employment costs of militant union behavior, and hence the incentive to behave restrained, depends on the extent to which macroeconomic policies are accommodating. If macroeconomic authorities keep nominal spending and the money supply constant, the wage demands of large individual unions will have an effect of real demand and hence employment, thereby furnishing unions with an incentive to behave restrained. By contrast, if the government seeks to keep real spending and the real money supply constant, no individual union can affect demand or employment and will consequently have little incentive to exercise restraint. In this situation, the only way for employers to control wage costs may be to centralize wage bargaining to the peak level, although such centralization typically comes at the expense of severe constraints on firms’ ability to shape the wage structure.

Our model also helps us understand the consequences of international monetary integration. In a national economy with an autonomous central bank, large individual unions can
have significantly affect monetary policy if the central bank raises interest rates in response to inflationary wage claims. Rationally anticipating this, unions have an incentive to internalize the macroeconomic costs of militancy. But when interest rates are set for a whole region by a single central bank, the wage demands of any particular national union will not have much of an effect on these rates. The costs of militancy can therefore be externalized, and wage restraint and employment will fall.

This logic helps us understand why European labor markets are no longer functioning as well as they once did, and why equilibrium unemployment in Europe has been rising. But contrary to economists who predict that monetary union will force governments to deregulate labor markets, we argue that the single currency will restore fiscal policy autonomy and possibly lead to a proliferation of “social pacts” between governments and unions. Given the continued strength of unions, it is also politically more realistic to expect the formation of new forms of cross-national wage coordination than wholesale labor market deregulation.

The paper is organized into three main sections. Section II considers the interaction of monetary, fiscal, and wage policies in a before capital mobility world where governments enjoy fiscal and monetary policy autonomy. As we show theoretically, and illustrate empirically, this is a world where partisan politics is important and where countries cluster into a small set of distinct national models. Section III discusses what happens when economies integrate into a system of fixed-but-adjustable exchange rates with complete capital mobility. We explain why such integration have deleterious effects on employment and undermines national variation in institutions and policies. Finally, section IV considers the likely effects on macroeconomic coordination in a monetary union. While problematic for wage restraint and employment in the short run, such a union could reignite distinct national varieties of coordination and/or produce new forms of international coordination. Throughout we illustrate the key implications of the theoretical model with data from Europe.
II. National Varieties in a Before Capital Mobility World

In Mundell-Fleming’s well-known open-economy model it is only possible for governments to combine at most two of the following three objectives: monetary autonomy, capital mobility and fixed exchange rates. For our purposes, the model provides a useful typology of international monetary regimes, with two ideal types and one hybrid. The first ideal type refers to a situation with closed national capital markets, or what Frieden (1991) calls a before capital mobility (BCM) world. It does not matter for our argument whether exchange rates are fixed or flexible; the key is that the government enjoys monetary policy autonomy. In the European context this situation characterized the period from the Second World War until about the late 1970s or early 1980s.

The second ideal type is an after capital mobility (ACM) world with irrevocably fixed exchange rates. In fact, there are two sub-species of this regime type: one where monetary policy is determined by a national central bank (CB) targeting domestic prices, and one where a transnational CB targets prices in the whole currency area. The European Economic and Monetary Union (EMU), and the European Central Bank (ECB), are an example of the latter. The former situation is better exemplified by the Exchange Rate Mechanism (ERM) inside the European Monetary System, with the German CB setting monetary policy for all members. But like virtually all real-life examples of a fixed exchange rate systems, the ERM was in fact a system of capital mobility with fixed-but-adjustable exchange rates. If exchange rates are not irrevocably fixed it affects the analysis of fiscal policy as we discuss. Consequently, we consider this hybrid as a separate type of international monetary system.

With these distinctions in mind, the extensive form game in Figure 1 sets out the structure of our argument for the BCM world. As we switch the analysis to the other two regime types, we will show how the equilibrium of the game changes.

[Figure 1 about here]
The game has three principal actors -- the government, employers, and unions – and we focus on two different outcomes: unemployment and wage equality.¹ Both outcomes are central to comparative political economy, and of obvious interest to governments and labor market actors alike. In the first stage of the game, the government commits to a particular monetary and fiscal rule that is then implemented (by a central bank in the case of monetary policy). The monetary rule is given by:

\[ M = P^{1-\beta} \]  

where \( M \) is the nominal money supply, \( P \) is the aggregate price level, and \( \beta = [0,1] \) is a parameter measuring the degree to which the CB follows a non-accommodating policy rule. Note that if the CB rule is completely accommodating, \( \beta = 0 \), the CB fixes the real money supply by setting \( M \) equal to the price level, whereas if the CB is completely non-accommodating it fixes the nominal money supply and sets \( M \) equal to unity.²

The fiscal rule is defined in an analogous fashion:

\[ G = P^{1-\beta^F} \]

where \( G \) is nominal government spending, and \( \beta^F = [0,1] \) is the fiscal rule. If \( \beta^F = 0 \) it means that the government holds real expenditures constant, corresponding to an accommodating rule; if \( \beta^F = 1 \) it means that the government fixes nominal spending, corresponding to a non-accommodating rule.

For presentational ease Figure 1 assumes that governments pursue consistent monetary and fiscal policies. Although there is nothing inherent to our model that requires monetary and fiscal policies to move in tandem, this is in fact what we tend to observe in a BCM world. There are two principal reasons for this. If the government controls both monetary and fiscal policy it has an incentive to pursue consistent policies in order to maximize their effect. On the other hand, if the implementation of a non-accommodating policy rule is delegated to an independent central
bank, as is typically the case, then the CB can undermine accommodating fiscal policies by raising interest rates (Scharpf 1991; Tabellini 1990). This gives the government an incentive not to engage in accommodating policies.

Once the government is committed to a particular set of fiscal and monetary rules, unions and employers bargain wages. We distinguish between two types of bargaining systems: coordinated and uncoordinated. In uncoordinated systems wages are set at the plant or firm level, and there is no or little capacity for coordination of wages across firms or industries. In coordinated systems, by contrast, wages are bargained collectively at the industry- or peak-level. Furthermore, we assume that wage bargainers in coordinated systems, unlike bargainers in uncoordinated ones, have the capacity credibly to commit to centralized bargaining provided that employers (or their organizational representatives) are willing to go along. If not, bargaining will occur at the industry (or sectoral) level.

The reason that we need to include a separate note for employers’ choice over centralization is that centralized bargaining may or may not be in their interest. The benefits of centralized bargaining are described well in the neo-corporatist literature, and concerns the capacity of employers to control average wage costs (e.g., Cameron 1984; Lange 1984; Crouch 1985). But is it is now also widely acknowledged that there may be costs to employers of centralization. In particular, centralization can interfere with employers’ ability to design a wage structure that maximize shop-floor cooperation and employee investment in skills. As more and more wages are subjected to the same collective agreement, low wage unions are likely to gain in bargaining power and call for a more egalitarian distribution of wages (Iversen 1996; Pontusson and Swenson 1996). This makes it harder for employers to create a desired wage differentiation between skilled and unskilled workers. For this reason, whether employers will consent to peak-level bargaining depends on whether their increased capacity to control wage costs will outweigh their reduced capacity to control the wage structure.
At the last stage of the game monopoly unions choose a wage strategy that can be either militant (m) or restrained (r). Strictly speaking, the game does not end here because once wages have been bargained, firms must set prices, and the macroeconomic authorities must then choose a particular fiscal and monetary policy. Two simplifying assumptions, however, allows us to effectively treat the choice of unions as the last stage in the game. The first assumption is that firms behave as Bertrand competitors and apply a constant markup to the money wage. The second assumption is that the government, or its agent (the CB), is credibly committed to implementing its policy rules.

The first assumption is “technical” and for convenience only. Other pricing rules could be assumed without affecting our results. The second assumption is substantive and implies that how the government can credible commit to a particular rule is exogenous to the model. While the topic of commitment is important, and has attracted much attention in the central bank independence literature, it is not one that we address in this paper. What matters to our argument is that governments can and do adhere different policy rules, not how these rules are institutionalized.

In determining unions’ choice of wage strategy we assume that the economy has a fixed number of identical sectors, \( i \), and that wages are bargained simultaneously and independently by one monopoly union in each sector. The \( i \)th union is concerned with real wages and employment among its members and maximizes the following utility function:

\[
U_i = w_i^\alpha \cdot e_i ,
\]

(3)

where \( w_i^\alpha \) is the average real wage rate for union \( i \)'s members, and \( e_i \) is the employment rate among union \( i \)'s members. The marginal utility of higher wages is assumed to be declining in \( w_i \) \((0<\alpha<1)\).

Finally, we define the following aggregate demand function for sector \( i \):

\[
q_i = e_i = m / N - \eta_i \cdot p_i = m / N - \eta_i \cdot w_i ,
\]

(4)
where $m$ is the aggregate real money supply, and $p_i = P_i/P$ ($P_i$ is the price in the $i$th sector, and $P$ is the aggregate price level for the economy). Since $W_i = P_i$ with Bertrand pricing, and normalizing labor supply to unity, this expression implies the standard trade-off between the employment rate, $e$, and the real wage, $w$.

With these assumptions in mind, the game can now be solved through backward induction. To derive the equilibrium real wage and employment rate we find the maximum of union $i$’s utility function subject to the demand function in (4). Substituting (4) into (3), differentiating by $w_i$, and rearranging gives

\begin{equation}
\alpha \cdot \left[ \frac{m}{N} - \eta \cdot w_i \right] + \frac{m}{N} \cdot \frac{w_i}{m} \cdot \frac{\partial m}{\partial w_i} = \eta \cdot w_i. \tag{2}
\end{equation}

The bracketed expression is equal to $e_i$, and $m/N$ can be expressed in terms of $e_i$ and $w_i$ using (4):

\begin{equation}
\alpha \cdot e_i + (e_i + \eta \cdot w_i) \cdot \frac{\partial \ln m}{\partial \ln w_i} = \eta \cdot w_i. \tag{3}
\end{equation}

This gives the following expression for $w_i$:

\begin{equation}
w_i = \left( \frac{\alpha + \frac{\partial \ln m}{\alpha \ln w_i}}{\eta \cdot \left( 1 - \frac{\partial \ln m}{\partial \ln w_i} \right)} \right) \cdot e_i. \tag{4}
\end{equation}

The term $\frac{\partial \ln m}{\partial \ln w_i}$ is crucial, and we need to evaluate it:

\begin{equation}
\frac{\partial \ln m}{\partial \ln w_i} = \left( \frac{\partial \ln m}{\partial \ln P} \right) \cdot \left( \frac{\partial \ln P_i}{\partial \ln P} \right) \cdot \left( \frac{\partial \ln P_i}{\partial \ln W_i} \right) \cdot \left( \frac{\partial \ln W_i - \partial \ln P}{\partial \ln W_i} \right)^{-1}. \tag{8}
\end{equation}
Given the monetary rule defined in (1), and given a geometric price index \( P = \prod P_i^{1/N} \), equation (8) can be reformulated as

\[
\frac{\partial \ln m}{\partial \ln w_i} = -\frac{\beta}{N} \left( 1 - \frac{1}{N} \right)^{-1} = -\frac{\beta}{N - 1}.
\]

Substituting (9) into (7) yields the following expression for the real wage chosen by union \( i \):

\[
w_i = \frac{\alpha - \frac{\beta}{N - 1}}{\eta \left( 1 + \frac{\beta}{N - 1} \right)} e_i.
\]

We can now derive the equilibrium level of employment since the real wage must be equal to unity in equilibrium:

\[
e^* = \frac{\eta \left( 1 + \frac{\beta}{N - 1} \right)}{\alpha - \frac{\beta}{N - 1}}.
\]

Equations (10) and (11) give the basic results for our model of monetary policy. Two obvious and standard results follow from equation (11): The less the importance attached by the union to increased real wages (i.e., the lower is \( \alpha \)), the greater will be the equilibrium employment rate; similarly, the more elastic is product market demand (\( \zeta \)) the greater will be the equilibrium employment rate.

The theoretically interesting results, however, are those related to \( \alpha \) (how non-accommodating the monetary rule is) and \( N \) (the number of unions). There are two special cases. If \( N = 1 \) the real wage is fixed at whatever money wage the encompassing union chooses. The
union then decides on a money wage, say $W^*$ (and hence price level) to secure the real money supply (hence aggregate demand) which produces the union’s desired rate of employment, say $e^*_e$. If $N$ is very large, $e^* = \zeta / \alpha$, with higher unemployment than in the encompassing case. Although all unions know that if they were to coordinate their bargaining perfectly, they would choose the same money wage as the encompassing union and get an employment rate of $e^*_e$, they are in a Prisoner’s Dilemma: Each union faces a trade-off between the real wage and employment, since if the sectoral money wage, $W_i$, is increased, given money wages in the other sectors, the sectoral real wage rises and the union moves up the sectoral demand curve for labor. This makes it impossible to sustain $e^*_e$ in equilibrium – a central result that is reflected in virtually all neocorporatist interpretations of collective wage bargaining (see Lange 1984).

Neither of these special cases leaves any role for monetary policy, which is consistent with both neo-corporatist and new classical analyses. For $N=1$ and $N=\infty$ monetary rules are “neutral” with respect to unemployment. But this is not the case when $N$ is finite or “small”. Specifically, as we go from a situation with many unions to a situation with few, the positive effect on employment is greater when the monetary rule is non-accommodating than when it is accommodating. The reason for this central result is that when there is a small number of unions, whether each of these unions will have an appreciable effect on the real money supply, and hence real demand and employment, depends on the monetary rule. The more non-accommodating this rule, the greater the effect of each union’s wage demands on the real money supply. And the more each union’s behavior affects employment, the greater the incentive to be restrained.

Exactly the same logic applies in the case of fiscal policy. To see this we need to reformulate the aggregate demand function so that it includes government spending:

$$q_i = a / N + g / N + (c / N) \cdot q^d + \eta - \eta w_i,$$

(12)
where $a$ is real autonomous demand (e.g., investment) in the economy as a whole (with $a/N$ demanded in each sector); $g$ is real government spending on goods and services (with $g/N$ spent in each sector), and $q^d$ is disposable income, out of which a proportion $c$ (propensity to consume) is consumed (with $1/N$ spent in each sector).

Assume now that $g = \tau$ where $\delta$ is real tax receipts. In other words, we assume that budgets are balanced (although the model can easily be modified to allow for surpluses and deficits). Assume further that government revenues are raised from a poll tax to avoid the complications of distortionary taxation. Now sum (12) over the $N$ sectors and assume that $\sum w_i = N$ (an assumptions that is always true in equilibrium since $w_i = 1$, as noted above). Given that $q^d = q - \tau$ we can write the aggregate demand function as

$$q = a + g + c(q - g) = g + a / (1 - c). \quad (13)$$

Noting that $a / N + \frac{ca}{N \cdot (1 - c)} = \frac{a}{N \cdot (1 - c)}$, and rearranging, we have the following expression for the sectoral demand function:

$$e_i = q_i = \frac{a}{N \cdot (1 - c)} + g / N + \eta - \eta \cdot w_i. \quad (14)$$

As before, union $i$ maximizes its utility function (3) subject to the sectoral demand function, which produces:

$$\alpha \cdot \left[ \frac{a}{N \cdot (1 - c)} + g / N + \eta - \eta \cdot w_i \right] + \frac{g}{N} \cdot \frac{w_i}{g} \cdot \frac{\partial g}{\partial w_i} = \eta \cdot w_i \quad \text{(Similar to (5))}, \quad (15)$$

or, in terms of $w_i$:
(16) \[ w_i = \left( \alpha + \left( \frac{g}{Nq_i} \right) \frac{\partial \ln g}{\partial \ln w_i} \right) \cdot e_i. \]

Using an identical logic as in (7) and (8), we can now establish that

(17) \[ \frac{\partial \ln g}{\partial \ln w_i} = - \frac{\beta F}{N - 1}. \]

Substituting (17) into (16) and defining \( \sigma_{g,i} = \frac{g}{Nq_i} \) -- i.e., the share of government expenditure in the output of sector \( i \) -- we get

(18) \[ w_i = \left( \alpha - \sigma_{g,i} \right) \frac{\beta F}{N - 1} \cdot e_i \]

where the degree of restraint depends inversely on the number of sectors and positively on the share of government expenditure in the sector. Finally, the equilibrium employment rate is

(19) \[ e^* = \frac{\eta}{\alpha - \sigma_g \cdot \frac{\beta F}{N - 1}}. \]

As in the case of monetary policy, employment is rising in \( \delta^c \) and falling in \( N \), and the reason is exactly the same as before: Individual unions have a greater effect on real sectoral demand, and hence a greater incentive to behave restrained, when the fiscal rule is non-accommodating than when it is accommodating. If we allowed for unbalanced budgets by holding \( \delta \) constant, there would be an even bigger incentive for unions to be restrained since the effect on \( q_i \) of a non-accommodating policy rule would then also operate through \( q^d \). 9

These predictions are borne out by data from Europe in the 1973–81 period (see Table 1). Britain, France are here treated as examples of economies with uncoordinated wage bargaining in
this period, while those countries widely regarded as having coordinated bargaining was divided into one group with predominantly industry-level bargaining (Austria, Belgium, Germany, Netherlands, and Switzerland) and one group with predominantly peak-level bargaining (Finland, Denmark, Norway, and Sweden). Finally we split the sample into one half with below-median, and one half with above-median, scores on two variables designed to measure fiscal and monetary non-accommodation (discussed below). Although this division is really only relevant for the coordinated cases, we retained it across the cases for consistency.

Note that unemployment is significantly lower in the coordinated than in the uncoordinated European economies, and that wage equality increases with centralization. The simple correlation between centralization and OECD’s measure of earnings equality (d1/d9 ratios) is 0.72 for all 12 countries and 0.90 if we exclude Austria (an oft-noted outlier). This pattern is echoed in empirical studies using more sophisticated statistical techniques (see Rowthorn 1992, Wallerstein 1999, and Rueda and Pontusson 1998). The relationship between coordination and unemployment also receives strong support in the empirical literature (see Layard et al. 1991; Hall and Franzese 1998; and Iversen 1999).

[Table 1 about here]

An important implication of these results is that employers can elicit the same degree of wage restraint from unions at a lower level of centralization when monetary and fiscal policy rules are non-accommodating than when they are accommodating. All else being equal, employers therefore have less incentive to agree to peak-level bargaining when policies are non-accommodating than when they are accommodating. In the game tree (Figure 1) we have illustrated this by employers consenting to peak-level bargaining only when rules are accommodating; otherwise they will prefer industry-level bargaining.
Obviously, if we conceive of both centralization ($1/N$) and non-accommodation ($\bar{a}$) as continuous variables, the prediction is simply that centralization will be greater the more accommodating the macroeconomic rules. This is precisely what we observe in Europe for those countries that are widely considered to be characterized by coordinated bargaining systems (see Figure 2).\textsuperscript{11} Monetary rules are proxied here by an index (standardized to vary between 0 and 1) tracking relative exchange rate movements (appreciation equals non-accommodation), but the pattern is the same if we instead use an index of central bank independence (widely considered an indicator for the “conservativeness” or non-accommodation of the central bank). Centralization is an index of the predominant level of bargaining and the concentration of union membership at that level (see Iversen 1999, ch. 3). Both variables are averages for the 1973-81 period. The simple correlation between the two variables is -0.85.

[Figure 2 about here]

The relationship is the same, and equally strong, if we consider fiscal rules ($r=-0.86$). Fiscal rules are here proxied by the inverse of government consumption, and to see that this is a sensible operationalization of the theoretical variable, note that $\bar{a}^F$ in the formal model is given by

\begin{equation}
\beta^F = \frac{\alpha - \eta / \sigma^*}{\sigma_g} \cdot \left( \frac{1}{N - 1} \right)^{-1}
\end{equation}

If we assume that $\alpha$ and $\zeta$ do not vary across countries, and if we define centralization of wage bargaining as $1/N-1$, then a good operational measure of fiscal non-accommodation would be:

\begin{equation}
Fiscal \ non-accommodation = \frac{e}{N-1} \cdot \delta_g
\end{equation}

\begin{equation}
= (1 - \text{unemployment rate})/(\text{centralization} \cdot \text{spending}).
\end{equation}
Since numbers are readily available for these variables, it is straightforward to measure fiscal non-accommodation empirically. In practice, however, it turns out that this measure is highly correlated with government consumption ($0.94$) ($\hat{o}_g$). This is fortunate because if we want to examine the relationship between fiscal non-accommodation and centralization, we need a measure of the former that does not contain the latter as a component. We have therefore simply used the following measure for fiscal non-accommodation based on a standardized government consumption rates:

$$1 - \frac{\sigma_g^{\max} - \sigma_g}{\sigma_g^{\max} - \sigma_g^{\min}}$$

The relationship between non-accommodation and centralization becomes even stronger if we use the mean of fiscal and monetary non-accommodation as a proxy for the overall orientation of the macroeconomic regime. The only slightly deviant case is Norway, which was able to rapidly expand government spending without significantly increasing the share of spending in GDP because of huge oil revenues. The simple correlation is $-0.91$ including Norway, and $-0.98$ excluding Norway. For coordinated market economies in Europe there is thus no question that a close empirical association exists between macroeconomic accommodation and centralization.

Having considered the choices of unions and employers, and the outcomes associated with these choices, we are now at the first stage in the game: The choice of a monetary and fiscal policy rule. To explain this choice we propose a very simple hypothesis: It depends on the historical strength of the political left. If left parties are concerned with equality and the interests of low-paid workers -- a core constituency for the traditional left -- these parties should favor accommodating policies. Because accommodating monetary policies induce employers to consent to more centralized institutions, and because such institutions are associated with wage compression, it is in the interest left parties concerned with the welfare of their core constituencies to pursue such policies. In addition, government spending on goods and services – which are
closely linked to our conception of accommodating fiscal policies – have direct redistributive
effects because citizens are given equal access to free or low-priced services. Such access will be
more valuable to low-income people than to high-income people. Again, this makes
accommodating fiscal policies in the interest of traditional left parties. By contrast, since right
parties cater less to the interests of low-paid workers, and since they are presumably more
concerned with the interests of employers, these parties are expected to pursue more non-
accommodating monetary and fiscal policies.

To test this simple conjecture we looked at the association between the left government
partisanship and our measures for fiscal and monetary non-accommodation. Since partisanship is
only likely to have an appreciable effect on rules through a slow process of institution- and
reputation-building, we have here used a historical average (1951-81) of the partisan complexion
of the government.12 As expected there is a strong association between partisanship and non-
accommodating policies. For fiscal policy the simple correlation is 0.87. For monetary policy it is
0.86 The former result is confirmed by a number of detailed empirical studies showing left
governments to spend considerably more than right ones on goods and services (see Cusack 1997;
Boix 1998; Iversen and Wren 1998). The relationship for monetary policy often acknowledged,
but rarely explained. From a new classical perspective, since accommodating rules leads to
unnecessary inflation only short-termism could explain the adherence to such rules.13 But left
governments are scarcely more short-sighted than right governments.

[Figure 3 about here]

A systematic attempt to explain the role of partisan politics for macroeconomic policies is
Hibbs’ seminal 1977 article which argues that because of the political left’s greater concern for
equality and full employment, left governments will pursue more accommodating macroeconomic
policies. However, Hibbs’ conclusions were derived under the assumption of an exploitable and
long-term trade-off between inflation and unemployment (the Phillips curve); an assumption that has been discarded in modern economics because it is incompatible with rational expectations. Our model restores Hibbs’ basic insight that partisanship is important for explaining macroeconomic policy-making and outcomes, but does so under the assumption of rational expectations. The new classical policy neutrality thesis is not implied by the rational expectations assumption, as widely believed, but by the assumption that labor markets are atomistic. Once we allow for strategic players in the labor market, which is essential for any understanding of European economies, macroeconomic policy making has lasting effects on the real economy that are bound to divide partisan politicians.

III. The perils of monetary integration

Consider now a system of open economies operating inside a system of fixed-but-adjustable (FBA) exchange rates with complete capital mobility (see Figure 4). This approximates the situation for members of the Exchange Rate mechanism of the European Monetary System from the mid-1980s until the launch of the euro in 1999. It is close to the experience of most other European economies from the early 1990s when most governments pursued fixed exchange rate policies.

[Figure 4 about here]

As is well understood, most countries in a FBA exchange rate system will enjoy only limited monetary and fiscal policy autonomy (see Frieden 1991; Gross and Thygesen 1992; and Andrews 1994). In the case of monetary policy the reason is straightforward. If exchange rates are truly fixed, any interest rate above the level in the system will cause capital inflows until the differential is eliminated; if interest rates in an economy are below the level in the system, capital will leave until domestic rates are brought back to the common level.
When exchange rates are not irrevocably fixed, governments could in principle pursue autonomous monetary policies by allowing occasional exchange rate adjustments. But such policies are unlikely to be very effective. The reason is that currency traders will demand an interest rate premium to hold a currency that is likely to devalue in the future as a result of inflationary policies. Such risk premiums obviously defeat the objective of an expansionary policy, and makes it less attractive to engage in such a policy. This argument also applies to fiscal policy. Thus, any fiscal policy that is perceived to be inflationary will lead to capital outflows and hence the need for the CB to raise interest rates. Anticipating this, the government will have less of an incentive to engage in expansionary policies.

So long as governments align their fiscal and monetary policies to the requirements of a fixed exchange rate, monetary policy will therefore be the same for all countries inside the fixed exchange rate system. Of course, someone in the system must set interest rates for the whole system, and this privilege usually befalls a large country committed to price stability. The reason is that if there is even the slightest uncertainty about future exchange rates, currency traders would prefer to hold the currency within the system that is least inflationary (as a hedge against devaluations). This makes it very difficult for any country to deviate much from the policy of the most deflationary country, while imposing no constrains on the leading country to pursue deflationary policies (Gross and Thygesen 1992). Although never designed to produce such an outcome, the ERM created a single dominant monetary policy-setter: Germany.

The development of monetary and fiscal policies in European countries since the 1980s clearly bear the marks of integration into a common deflationary monetary regime. Along with growing capital mobility and the transition to a more stable exchange rate system, especially within the ERM, came a significant reduction in the variability of inflation and interest rates, as well as a slowdown in the growth of government consumption coupled with fiscal consolidation (see Table 2). Comparing the 1973-81 period to the 1982-93 period, average inflation rates were cut in half from 9.8 to 4.7 and so was the standard deviation in these rates. In the same period,
real interest rates rose from 0.3 to 5.0 percent while the standard deviation in these rates dropped from 2.2 to 1.2. In terms of government spending on goods and services, it went up by an average of 3 percent during the first period, but only by 0.8 percent in the second period. And while government deficits increased everywhere in the first period, most countries experienced retrenchment in the second period.

In terms of our game in Figure 2, the accommodating policy branch was effectively blocked off by monetary integration. But this is not the only, or even the most important, consequence of moving from a BCM to an ACM world. It also had the effect of eliminating coordinated bargaining for all but the dominant country within the currency area. The reason for this important effect is that unions in these countries can no longer exert any influence on the real money supply within the hard currency area. Because the number of unions is defined relative to the size of the currency area, the number of unions in effect increases from a few national unions to a large number of regional ones. Assuming that \( N \) is very high within the region, real wages and equilibrium employment are therefore given by the following modified versions of equations (10) and (11):

\[
(21) \quad w_i = \frac{\alpha}{\eta} \cdot e_i,
\]

and

\[
(22) \quad e^* = \frac{\alpha}{\eta}.
\]
Everything else being equal, both real wages and unemployment will thus be higher in a FBA exchange rate system compared to a BCM world with monetary policy autonomy.

An alternative way to explain this effect of integration is to think of the aggregate demand effects of wage increases as a cost that is increasingly externalized when moving from a system of several national CBs to a system with only one CB. In the former case, if a large union raises wages, a non-accommodating CB would respond by increasing interest rates (which is in practice how the CB affects the money supply). Because this raises unemployment, the union has an incentive to internalize this cost. In the latter case, by contrast, unless the policy-setting CB is the national CB (a case we consider below), the same union would have no effect on interest rates because its wages do not have much impact on the prices that the foreign CB cares about. The aggregate demand cost of militancy would therefore be externalized, undermining the incentive for unions to exercise restraint.  

Hence, when we move from an autonomous financial system to an integrated one, we expect equilibrium unemployment to rise. This is indeed the pattern we observe among the countries participating in the ERM and its predecessor, the European currency snake (launched in 1973), and it helps account for the rise in equilibrium unemployment in other European countries since the early 1990s (see Figure 5). The figure shows the evolution of standardized unemployment rates in Germany compared to two sets of countries: the regular EMS/snake countries (minus Germany), and the regular non-EMS/snake countries. Notice that until the early 1990s the rise in unemployment among the EMS countries far exceeded the rise among the non-EMS countries. By the early 1990s, however, most non-EMS countries had abandoned any attempts to pursue autonomous monetary policies. Sweden, one of the holdouts for monetary policy independence, for example, made a clear break with past policies in 1991 when the krona was pegged to the ecu (a peg that soon had to be abandoned, but without a return to past policies).
We have kept the data for Germany separate in the figure because it was the dominant country in the ERM, and this makes an important difference to the analysis. Because the monetary authority in the dominant country will continue to target the domestic price level, while simultaneously setting policies for other countries, unions in the dominant country will exert the same effect on the real money supply (through the interest rate) as they did before the exchange rate system was put in place. Thus, under ERM the trend-setting metalworker’s union in Germany had to anticipate the reaction of the Bundesbank in exactly the same manner as before the ERM; that is, it had to consider the impact of its own wages on the German real money supply \( m = m(w_G) \). As explained in the previous section, the German real wage bargaining schedule would therefore be:

\[
(23) \quad w_G = \frac{\alpha - \frac{\beta}{N-1} \cdot e_G}{\eta \cdot \left(1 + \frac{\beta}{N-1}\right)},
\]

where \( w_G \) and \( e_G \) are the German real wage and employment rates, respectively. This implies more restraint than in the rest of the ERM member countries (compare to equation 21).

Germany is still negatively affected by the economic slowdown caused by unemployment in its main trading partners, which were primarily ERM members, but because macroeconomic coordination continues to function well within Germany itself, we should expect unemployment performance to be better in Germany than in the ERM. This is by and large also what we observe. Once the Germany adapts to the 1979 oil shock, unemployment starts to revert to its original level. Not surprisingly, unemployment shoots up again after unification in 1991, which reflected not only the collapse of inefficient east German firms, but also very deflationary policies by a CB responding to deficit-financed government transfers to the east. Yet, once the main economic
actors in the German economy had time to adapt to the new situation, wage and fiscal policy restraint returned just as it did after the second oil shock. Indeed, several bargaining rounds since 1994 were on average very moderate.

For the centralized coordinated economies in Europe, monetary integration was not only bad for unemployment, but involved broader institutional changes. As we saw in the previous section, Northern Europe in the early 1980s could be divided into a Scandinavian cluster with centralized egalitarian bargaining systems and accommodating full employment policies, and a Germanic cluster in which there was neither compression of differentials, nor full employment guarantees, nor centralized bargaining. A decade later most of the former (minus Norway) had moved considerably closer to the latter (Iversen and Pontusson 2000). This poses the question of why some governments that had adhered to accommodating policies in the past took part in this integration process.

Answering this question requires us to endogenize the choice over international monetary system – a task that is well beyond the scope of this paper. However, we can point to two forces of change that almost certainly played a role -- one is international, the other technological. As described by Scharpf (1991), Helleiner (1994), and Soskice (1999), once financial market liberalization got underway in important countries like the UK and the United States, and once the U.S. Federal Reserve embarked on a radically deflationary strategy, the German Bundesbank was compelled to follow suit. This pulled those countries in Europe that did not have very elaborate capital controls down a deflationary monetary path. In turn, we know from the analysis in the previous section that when macroeconomic policies turn non-accommodating, there is less of a wage-cost rationale for having highly centralized wage bargaining systems. In part, therefore, the abandonment of encompassing peak-level bargaining in countries such as Belgium, the Netherlands, Denmark and Sweden can be seen as a natural response to the reduced capacity of governments to engage in accommodating national fiscal and monetary policies.
In part, however, we must also see the move towards more restrictive macroeconomic regimes as a response to growing pressures for decentralization. These pressures could not be efficiently addressed within the confines of accommodating policy regimes for reasons have been elaborated in Pontusson and Swenson (1996, 1999) and Iversen (1996). With the transition to more skill-intensive production technologies based on a committed workforce with extensive firm and industry specific skills, narrow wage differentials became a barrier to competitiveness. Firms were impaired in their ability to reward employees for investing in specific skills and for taking on more responsibilities at the shop floor, and full employment exacerbated these problems because it increased the bargaining power of the unions representing the lower paid relative to that of skilled workers’ unions. Opting out of centralized bargaining, however, required alternative means to control wage pressures, and non-accommodating macroeconomic policies were the solution. Although the immediate effect of opting out of centralized bargaining was to increase inflationary pressures, which undermined competitiveness, the threat of massive capital flight made it nearly impossible for governments to maintain an accommodating policy stance.

**IV. The promises of monetary union: Restoration of policy autonomy?**

Now consider the case where countries abandon their national currencies and become part of a currency union with a single transnational monetary authority. This is the EMU scenario illustrated in Figure 6. Since there are a large number of unions within the common currency area, and assuming that these bargain wages simultaneously and independently, the effect of any individual money wage increase on the European price level will be small. In this case the situation for *all* economies in the union are similar to the non-dominant economies in the fixed exchange rate system described in the previous section. Hence *all* economies will now be described by the following employment equation

\[
\hat{e}^* = \frac{\alpha}{\eta}.
\]
As far as monetary policies are concerned, therefore, the what is new compared to the fixed exchange rate system is bad news: Wage restraint and employment will be falling in the dominant economy. In fact, it will also be falling in other member countries, but by a smaller amount.

[Figure 6 about here]

To see this, consider Figure 7, which summarizes the results until now. The bottom upwards-sloping line is the wage equation (10), which shows the bargained real wage schedule when countries have their own independent monetary systems. With coordinated bargaining, unions have an incentive to take into account their own effect on the real money supply, and therefore to act with greater restraint than if bargaining was uncoordinated. The employment rate in this case is determined by the intersection of the bargained real wage schedule and the feasible or price-determined real wage which is unity in equilibrium (the horizontal \( w=1 \) line). The labor demand schedule \( e(m,w) \) will also pass through this point. This is the scenario that was discussed in section II.

[Figure 7 about here]

With the move to a fixed exchange rate system like the ERM, unions in the non-dominant economies can no longer exert any affect the real money supply, and they have no incentive to take into account their effect on the aggregate price level. The real wage schedule for these countries is given by equation (21), and represented by the steeply upwards-sloping line in Figure 7. However, the dominant country in the fixed exchange rate system -- Germany in the case of the ERM -- will still be characterized by the old bargaining schedule. Since \( m_{erm} \) is the same for all ERM members, the wage-employment combination \((w, e)\) of the ERM members excluding Germany must be on the same labor demand schedule, \( e(m_{erm}, w) \) as the German wage.
employment combination \((w_G, e_G)\). To satisfy the condition that the geometric average of the real wages of the ERM members is unity, the German real wage must be below and the real wage of the other members above unity. As can be seen from Figure 7, that implies that employment both in Germany and in the other member states is lower than in the case where countries have independent monetary systems, but the fall in employment is greater in the non-German ERM countries. This is the scenario considered in section III.

Finally, in the case of a monetary union (EMU), unions in all countries – if they bargain independently and the monetary authority (the ECB) targets the average price level – will be characterized by the steeply upwards-sloping bargaining schedule, with a correspondingly lower rate of employment. As can be seen from the figure, all countries will experience a reduction in employment, but the drop will be greater in Germany where unions no longer face a central bank targeting German inflation. The militant demands of IG Metall, the pace-setting union in Germany, in the past couple of wage bargaining rounds, with the Bundesbank on its deathbed or actually dead (as a policy-making entity), appear to bear this out. For the first time since European monetary integration was initiated, German unemployment is now higher than in the former “regular” ERM countries.

The monetary union case also differ from the fixed-but-adjustable exchange rate case in terms of fiscal policy. But whereas monetary union implies the loss of national monetary policy autonomy, the exact opposite is the case for fiscal policies. Without exchange rate risks and with fully mobile capital, governments are no longer limited to pursuing non-accommodating policies. Of course, an interest premium will still be assessed against profligate governments as a hedge against default, but that is also the case in the BCM world. Furthermore, unlike independent national CBs a transnational central bank such as the ECB cannot punish individual countries for expansionary policies no more than it can punish individual national unions for militant behavior.

In terms of fiscal policy, therefore, we are returned to the analysis of autonomous monetary systems in section II, and all the conclusions about fiscal policy from this section now
applies again. Indeed it takes on added importance because monetary policy is now ineffective as a deterrence against both wage militancy and expansionary fiscal policies. Hence, there is a real possibility that the macroeconomic regime could once again turn accommodating in some countries.

This raises the important possibility that the variation in macroeconomic coordination that we observed across countries in the BCM world, which vanished during the fixed exchange rate phase, will reemerge. Recall that accommodating fiscal policies will, ceteris paribus, lead to more centralized bargaining. If monetary policies are no longer effective, some form of centralized bargaining involving fiscal policies may therefore (re-)surface in some countries. It is possible, for example, that left governments, as part of a broader fiscal strategy, will bargain wage restraint with the unions in return for fiscal activism.

Employers may have few options but to go along with such a strategy. However, it is unlikely that we will see a return to Swedish-style solidaristic and centralized bargaining. There are several reasons for this. First, as we already noted, the bargaining position of employers has probably increased with the transition to more knowledge-intensive forms of production. Employers are willing to incur a higher cost to avoid highly intrusive centralized regulation of local employment and wage conditions. Secondly, the traditional core constituency of left parties – semi-skilled blue-collar workers – has been in decline and are no longer essential for electoral success (Kitschelt 1994). To the extent this is the case, left governments will be less insisting on redistributive wage policies, but no less concerned with full employment.

Indeed, rather than being simple political vehicles for redistribution, it seems quite plausible that social contracts involving fiscal policy will also have provisions for increases in the flexibility of work and wages, as well as tax reforms and subsidies to encourage the employment or education of low-skilled workers. The Dutch Wassenaar accord is perhaps the best example of a negotiated reform of labor markets and social policies, and is widely credited for the improvements in Dutch labor market performance since the mid-1980s (see Visser and Hemerijk
Similar experiments have seen the light of day in countries as diverse as the Netherlands, Italy, Spain, Portugal and Ireland (see Regini 1997 and Rhodes 1998).

The neo-liberal alternative to more coordination is wholesale deregulation of labor markets. Advocates of such a solution can appeal to a strong sense among many policy-makers that labor markets in Europe are no longer working as well as they once did. In the neo liberal interpretation this is because unions have become too strong, and markets too regulated, to produce full employment. But strong unions and labor market regulation have always characterized the European economies. If our argument is correct, at least part of the explanation for the lack of and wage restraint is that monetary integration has caused a breakdown of coordinated bargaining. If this diagnosis is correct then restoration of coordination, not deregulation, may not be answer.

In part such coordination may come at the national level in the form of social pacts. But coordinated bargaining may also re-emerge in various forms at the European level. For example German unions could emerge as wage leaders for the rest of Europe, especially if the ECB targets German rather than European inflation and thereby provides German unions with a greater incentive to exercise restraint. More ambitious plans of explicit coordination between national unions and employers associations, even European-wide bargaining, are clearly also being contemplated by unions.15

But whether deregulation of labor markets or new forms of macroeconomic coordination ultimately prevails is not our main concern here. The important point is that after a phase of convergence in macroeconomic policies and institutions, there is once again scope for real political contestation over macroeconomic policies, and such contestation could lead to renewed national divergence and institutional innovation at the European level. Theoretically, and such contestation analysis shows that although the transition from a BCM world with separate currencies to an ACM world with single currency can be seen as a process leading to ever higher levels of monetary integration, the effects of this process are non-linear and can only be
understood in the intersection of macroeconomic policy-making and strategic choices of organized interests in the labor market.

V. Conclusion

During the past two decades, the unemployment rate in European countries has doubled, tripled, or even quadrupled. At the same time unemployment performance continue to vary across countries, and divergence has been on the rise recently with some countries, such as the Netherlands and Denmark, doing better, and others, such as Germany and Sweden, doing worse. Similar stories could be told for other regions of the world. Curiously enough while these major, and politically highly sensitive, changes unfolded, political economists increasingly turned their attention to explaining short-term fluctuations in nominal variables. This paper is intended to redirect some of the energies in political economy to understand changes in the real economic variables, and to revive the study of macroeconomic policies and institutions.

Contrary to wide held beliefs, economic theory does not imply that macroeconomic policies and institutions are unimportant for variables like unemployment and earnings equality. Once we introduce large organized players into the economy, such as industry unions and employers associations, macroeconomic policies do affect real economic behavior and help us understand both cross national differences and changes over time. For example, the theory we have presented suggests that monetary integration in Europe has been a main cause of the rise in European unemployment. Because monetary integration causes the macroeconomic costs of militant union behavior to be increasingly externalized, real wages and unemployment will rise. Although many believe that monetary integration has such effects, the mechanism is rarely identified.

Finally, our model revitalizes Hibbs thesis that long-term differences in macroeconomic policies, distribution, and unemployment are due in part to partisan politics. Thus, prior to the early 1980s differences in the historical strength of the left has been a major cause behind the
cross-national divergence in policies, institutions, and performance. After a subsequent period of
convergence, associated with monetary integration, such divergence is bound to resurface as
governments experiment with their newfound autonomic over fiscal policy. We may well be
entering an exciting new phase of institutional development at the European level as unions and
employers adapt to a new macroeconomic environment. Our model provides a framework for
understanding these developments.
Notes

1. Our model could also be used to explain inflation, but this is not our concern in this paper.

2. The relationship in (1) could be scaled up or down by any constant without altering any of our conclusions. Here we have implicitly chosen a scale parameter of 1 to keep the presentation as simple as possible.

3. Alternatively, one can think of the issue in terms of a median voter model where centralization creates stronger incentives on the part of the median voter to redistribute.

4. We will consider the simple case of market-determined wages later.

5. A linear demand curve, and a Cobb-Douglas objective function are used to simplify the model.

6. This is sometimes referred to as the price-determined real wage or feasible real wage; see Layard et al. (1991).

7. A more rigorous derivation of these results in a general equilibrium model can be found in Soskice and Iversen (1999).

8. Technically, this is where the union’s indifference curve sits on the constant real wage line.

9. In this case there is a bigger incentive for unions to be restrained with a non-accommodating policy rule since the effect on $q_i$ also operates through $q^d$. Specifically the wage curve becomes

$$w_i = \frac{\alpha - \frac{\sigma_{x^d}}{(1-c)} \frac{\beta^f}{N-1} \eta}{1/(1-c)},$$

which is more restrained than the balanced budget case in (18) because of the multiplier $1/(1-c)$.

10. Strictly speaking this result depends on a particular shape of employers’ utility function. Yet, even if employers’ utility function was such they would choose higher centralization under non-accommodating rules than under accommodating ones, the basic result would still hold. The reason is that in this situation the government could adopt a non-accommodating policy that would simultaneously increase centralization (and thereby equality), reduce unemployment, and make employers better off. Clearly a dominant strategy. We should therefore never observe accommodating regimes. Since we do, this is prima facie evidence that employer’s utility function is not shaped in this way. In any case, in equilibrium it must be true that centralization is always higher under accommodating than non-accommodating rules.

11. For a classifications dividing countries into coordinated and uncoordinated systems, see Soskice 1990; OECD 1997; and Iversen et al. 2000. The countries are Austria, Belgium, Denmark, Finland, Germany, Netherlands, Norway, Sweden, and Switzerland. Italy may have moved into this group by the early 1980s.
12. Specifically, the measure is an average for the period 1950-1981 of an index of the partisan left “center of gravity” developed by Cusack (1997).

13. In Alesina’s rational partisan political business cycle model, for example, left governments accomplishes nothing from pursuing their policy-preferences except inflation.

14. If the exchange rate is not credibly fixed, however, higher prices and wages would affect the domestic interest rate and therefore furnish unions with an incentive to be more restrained. Again, FBA system is not quite the same as having a single currency.

15. For a detailed discussion of different scenarios, see Soskice and Iversen 1998.
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Figure 1. Macroeconomic rules and wage bargaining in a BCM world
Figure 2. The relationship between non-accommodation and centralization (1973-81).

Notes: The measurement of centralization is an index of the predominant level of bargaining and the concentration of union membership at that level (source: Iversen 1999); monetary non-accommodation is measured by an hard currency index (squares) based on relative nominal exchange rate movements (appreciation = non-accommodation) (source: Iversen 1999); fiscal non-accommodation (triangles) is 1 minus government spending on goods and services as a share of GDP (source: Cusack 1991). Both indexes of non-accommodation have been normalized to vary between 0 and 1.
Figure 3. Left government partisanship and non-accommodation (1973-81).

Notes: Left government partisanship is an average for the period 1950-1981 of an index of the partisan left “center of gravity” of government portfolios developed by Cusack (1997). Monetary non-accommodation is measured by an hard currency index (squares) based on relative nominal exchange rate movements (appreciation = non-accommodation) (source: Iversen 1999); fiscal non-accommodation (triangles) is 1 minus government spending on goods and services as a share of GDP (source: Cusack 1991). Both indexes of non-accommodation have been normalized to vary between 0 and 1.
Figure 4. Macroeconomic rules and wage bargaining in a ACM world

* Exception: Coordinated bargaining is possible in dominant country (because the CB in this country sets monetary policy for the entire currency area)
Figure 5. Changes in unemployment rates in selected European countries (1973-94)

Notes: Unemployment refers to standardized rates. The index of capital market openness is the inverse of the number of national restrictions on capital flows.

Sources: OECD Economic Outlook, various years; Quinn and Inclan (1997).
Figure 6. Macroeconomic rules and wage bargaining in a currency union
**Figure 7. Real wages and employment under different European monetary systems**

- **a**: Decrease in $e$ for Germany when going to erm
- **b**: Decrease in $e$ for rest when going to erm
- **c**: Decrease in $e$ for Germany when going to emu
- **d**: Decrease in $e$ for rest when going to emu

The diagram illustrates the relationship between $w$, $e$, and employment under different monetary systems. The equations for the real wage $w_i$ in the new system are:

$$w_i = \frac{\alpha}{\eta} \cdot e_i$$

and

$$w_i = \frac{\alpha - \frac{\beta}{N-1}}{\eta \left(1 + \frac{\beta}{N-1}\right)} \cdot e_i$$
<table>
<thead>
<tr>
<th>Bargaining system</th>
<th>Uncoordinated</th>
<th>Coordinated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Industry-level</td>
<td>Peak-level</td>
</tr>
<tr>
<td><strong>Accommodating</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monetary and fiscal rules</td>
<td>Un: 6.20</td>
<td>Un: 3.46</td>
</tr>
<tr>
<td></td>
<td>Eq: 0.36</td>
<td>Eq: 0.46</td>
</tr>
<tr>
<td><strong>Non-accommodating</strong></td>
<td>Un: 4.81</td>
<td>Un: 3.69</td>
</tr>
<tr>
<td></td>
<td>Eq: 0.31</td>
<td>Eq: 0.37</td>
</tr>
</tbody>
</table>

N=3 N=5 N=4

Notes: Un: Standardized unemployment rates (source: OECD Economic Outlook, various years); Eq: Wage equality measured as d1/d9 earnings ratios (source: OECD Employment Outlook, 1996). The countries are: Italy and United Kingdom (accommodating/uncoordinated); Denmark, Finland, Norway, and Sweden (accommodating/peak-level); France (non-accommodating/uncoordinated); Austria, Belgium, Germany, Netherlands, and Switzerland (non-accommodating/industry-level).
Table 2. Monetary and fiscal policy indicators for selected European countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Inflation a)</th>
<th>Real interest rates b)</th>
<th>Change in government consumption c)</th>
<th>Average yearly change in budget surplus d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>6.5</td>
<td>3.3</td>
<td>2.5</td>
<td>4.6</td>
</tr>
<tr>
<td>Belgium</td>
<td>8.0</td>
<td>3.9</td>
<td>1.6</td>
<td>5.7</td>
</tr>
<tr>
<td>Denmark</td>
<td>10.9</td>
<td>4.5</td>
<td>3.8</td>
<td>7.0</td>
</tr>
<tr>
<td>Finland</td>
<td>12.4</td>
<td>5.4</td>
<td>-2.6</td>
<td>5.3</td>
</tr>
<tr>
<td>Germany</td>
<td>5.2</td>
<td>2.8</td>
<td>3.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Netherlands</td>
<td>7.2</td>
<td>2.2</td>
<td>1.9</td>
<td>5.5</td>
</tr>
<tr>
<td>Norway</td>
<td>9.4</td>
<td>5.9</td>
<td>-1.1</td>
<td>5.6</td>
</tr>
<tr>
<td>Sweden</td>
<td>10.1</td>
<td>6.8</td>
<td>-0.2</td>
<td>4.7</td>
</tr>
<tr>
<td>Switzerland</td>
<td>4.8</td>
<td>3.4</td>
<td>0.2</td>
<td>1.5</td>
</tr>
<tr>
<td>France</td>
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<td>-0.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Italy</td>
<td>16.8</td>
<td>7.9</td>
<td>-3.4</td>
<td>5.2</td>
</tr>
<tr>
<td>Mean</td>
<td>9.3</td>
<td>4.6</td>
<td>0.5</td>
<td>5.0</td>
</tr>
<tr>
<td>St. dev.</td>
<td>3.3</td>
<td>1.7</td>
<td>2.2</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Notes: a) Average yearly increase in consumer prices; b) average interest rates on long-term government bonds minus inflation; c) change government purchases of goods and services; d) average annual change in primary government balance as percent of GDP.

Source: OECD Economic Outlook, various years.