

Partisanship, *Corporatism* and Macroeconomic Performance*

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Abstract

This article investigates the consequences of institutional setting on economic performance. Our aim is to link the Alesina-Hibbs' partisan approach to the recent economic theory of trade unions. First, we are looking for the condition that allows a left wing government to obtain a better economic result than that of a right wing government. Then, we analyse the relationship between this condition and different structures of labour market (*e.g.* by considering corporatist and non-corporatist systems). An important finding of our article is a theoretical explanation of the empirical hump-shaped curve between the centralisation of wage-setting and economic performance. Our explanation is based on the preferences of institutional agents. Therefore, it is different from the standard one proposed in the literature. We open an interesting new angle by analysing the interaction between the effects of partisan behaviour and labour market institutions on economic performance.

JEL: E00, E58, E61 and J50.

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1 Introduction

The aim of this article is to build a general model compatible with some economic and political stylized facts shown by Calmfors, Driffill (1988); Alvarez, Garrett, Lange (1991); Gilles Saint-Paul (1996); and Oatley (1999) (see next Section for a closer description).

We will build a model which represent a generalisation of the models that have investigated the following aspects in a non-atomistic wage-setters' labour market. These model are:

(i) The recent papers that have tried to lay macroeconomic foundations of the function of unions' preference (Gylfason, Lindbeck, 1994; Acocella and Ciccarone, 1997). These models explain inflation bias and neutrality/nonneutrality of monetary policy in a unionised economy.

(ii) The role of *corporatism* in explaining economic performance. Following Cubitt (1995) we will analyse different aspect of *corporatism*. In particular, the effects related to the objective of unions (*i.e.* unions takes into account the macroeconomic effect of their policy) and the effects related to the co-operation between unions and the government.

(iii) The links between political parties and trade unions (Detken and Gärtner, 1994) that show the best (worst) economic performance of a left (right) wing government in a unionised economy.

(iv) The models of partisan theory (Alesina 1988; Hibbs 1977, 1992 and 1993) that explain the best short/long term economic performances in terms of the preferred objective of right or left wing governments.

Our model represents a generalisation of the previous ones in the following sense. All the original results of kind (i), (ii), (iii) and (iv) models can be achieved by introducing the original models' main assumptions. Moreover, by considering (i), (ii), (iii) and (iv), we achieve more results than in the original models. These extra result are compatible with the stylized facts which remain unexplained in the original models.

The article is organised as follows. Section 2 outlines the stylized facts. Section 3 outlines the model. Section 4 closely examines and discusses the institutional setting structure. Section 5 solves the model. Section 6 analyses partisanship. Section 7 analyses *corporatism*. Section 8 analyses various reverse hump-shaped relationships among industrial relation variables. Section 9 provides concluding remarks.

2 Stylized Facts and Related Literature

The wage bargaining systems of OECD countries exhibit great differences. The Nordic countries and Austria traditionally represent one extreme case with highly centralised bargaining procedures, high level of *corporatism* and social consensus. The United States and Canada represent the other extreme with wage setting at the level of the firm and weak workers' associations. The other countries (such as Germany, France, Italy, Spain and the Netherlands) are in between these two extreme cases with wage setting at industry level and different degree of unionisation, *corporatism* and political organisation. Analysing the inflation-employment performance in this context, the recent economic literature emphasizes the role of four elements: labour market structure; reciprocal influence between political parties and unions; effects of political parties' ideology on economic policies' priorities determination; and *corporatism*.

Corporatism is an ambiguous concept. it has been defined in a variety of ways. We will here define *corporatism* as 'institutional arrangements that involve negotiation, bargaining, collaboration and accord between major economic groupings in the society, and especially, for our present interests, between unions and governments' (Acocella and Di Bartolomeo, 2000:

1)¹.

Our stylized facts can be grouped in three categories: labour market structure, political effects and *corporatism*. We will put more emphasis on *corporatism*, because co-operation between governments and trade unions is a reality in a number of European countries, in particular those with a tradition of social-democratic government. The richness of practical cases of co-operation is however in sharp contrast to the reduced number of theoretical analyses aimed at checking its benefits².

First, a large amount of research is based on the observation that highly centralized and decentralized wage-systems seem to have been consistent with good macroeconomic performance (e.g., Calmfors and Driffill, 1988; Rowthorn, 1992; Cukierman and Lippi, 1999). The humped-shaped relationship between the degree of centralisation and the indicators of macroeconomic performance was originally presented by Calmfors and Driffill (1988). On the base of this relationship, the indicators of macroeconomic performance turn out to be higher at both high and low levels of centralisation of wage bargaining. Moving towards intermediate levels - that is, towards sectorial bargaining unco-ordinated at the national level - macroeconomic indicators worsen (see Calmfors, 1993). Recent contributions place the Calmfors and Driffill's relationship in an analytical context which is coherent with the microeconomic theory of trade unions and with its policy games extensions (Skott 1997; Cukierman and Lippi, 1999; Velasco and Guzzo, 1999). In particular, Cukierman and Lippi (1999) present a policy game between a central bank controlling inflation and several unions setting the wage premium, i.e. the gap between the average wage and the equilibrium competitive wage. This setting allows an analysis of the relationships between the degree of centralisation and macroeconomic performance, and between the Calmfors and Driffill's curve, on the one side, and the degree of inflation aversion by both the central bank and the unions, on the other. If unions are sufficiently inflation averse, the relationship between the degree of centralisation and macroeconomic performance is of the Calmfors and Driffill's type. If unions are not concerned with inflation, that relationship increases monotonically and the decentralized arrangement turns out to be the best one.

Second, empirical studies³ also show different partisan alternatives leading, under different setting of the domestic economy, to a different performance. In other words, left wing governments achieve a better performance in terms of growth, inflation and unemployment in countries where there are strong and centralised unions. Right wing governments achieve a better result when there is a weak labour movement. However, the economic performance is worse in countries where there is a divergence between winning parties and labour market structures. The strong link between policy objectives and government ideologies is stressed by Gilles Saint-Paul (1998) who analyzed 40 changes in European employment-protection legislation since 1960. He classified each one according to whether it was a step towards or away from more job protection; and according to whether it affected all workers or just a specific group. Not at all surprising, ideology played a part: across-the-board reforms tended to happen under right-wing governments just as targeted increases in protection were associated with left-wing governments. Similar studies are collected in Alesina, Roubini and Cohen (1997).

¹This largely corresponds to definitions of *corporatism* in Cameron (1984) and Bruno, Sachs (1985) and is the same as the definition of the term given by Burda (1997). However, see also Tarantelli (1986); Cubitt (1995); Hemerijck and Visser (1997); or Visser (1998).

²The 'formal reticence' of researchers to develop models of *corporatism* is noticed also by Burda (1997), who relates it to the remarkable imprecision with which the concept is defined. The reticence is even more accentuated with reference to the kind of *corporatism* we are interested in this paper.

³See, among others, Alvarez, Garrett and Lange (1991); Alesina, Roubini and Cohen (1997).

Third, the recent policies of some European countries demonstrate the prevailing trend for the social partners to become more actively involved in the formulation of policy both at the national and at the European level. At the national, regional and company levels social partner organizations have become more and more involved in drawing up *employment pacts* aimed at safeguarding or creating employment.

The new Social Democrat/Green German government, for example, was able to revive the idea of an employment pact leading to a new national *alliance for jobs* which includes the formation of a tripartite body. Similar pacts and labour market policy reform agreements have also been reached at national and regional levels in countries such as Denmark, Belgium, Portugal and Italy.

In the 1990s Italy experienced the growth of *concertation* between government and the social partners on such matters as the reform of the welfare state, income policy and employment creation. The *Social Pact for Economic Growth and Employment*⁴ paid particular attention to the consequences of monetary union on economic policy choices and industrial relations. The government and the social partners have pledged to pursue consistent economic policies with the goal of maintaining economic convergence with the other countries of the European Union as required by monetary unification. The Pact contains specific provisions regarding income policy. On the basis of the model introduced by the agreement of 23 July 1993 - which defined a two-tier bargaining structure comprising a national level (at which pay increases are fixed according to the planned inflation rate) and a company level (at which pay increases are linked to corporate performance) - the *Social Pact* stipulates that when the planned inflation rate is defined, reference should be made to the average European inflation rate. Therefore, wage increases should move more closely into line with those taking place in the rest of Europe. Finally, *concertation* between the government and the social partners will be extended to ratification of EU Directives, in particular those arising from discussions between the social partners at the EU level.

Another important example of corporatist policies is represented by the Netherlands⁵. Since 1983 the government, with the support of employers and unions, has cut public spending as a share of GDP from 60% to 50%. Some of the money saved has been used to reduce employers' social-security contributions to only 7.9% from almost 20% in 1989 in order to help job-creation. With the same goal, the bottom rate of income tax was halved to 7% in 1994 while top marginal income-tax rates remained at 60%. In the labour market, the Dutch have tried to combine the flexibility of North America with the security of Germany. They have made part-time work easier by permitting part-timers to be paid less than full-timers for the same job. This has helped Dutch companies to adjust their work force to the demand for labour and has helped unemployed people to get back into work. At the same time, centralized wage bargaining has helped to build a consensus in favor of wage restraint. Dutch wages in manufacturing have been moderate compared to Germany and France, where bargaining occurs sector by sector.

The negative impact of a lack of consultation with social partner organizations was arguably demonstrated when a number of national-level policy reforms ran into trouble. In Denmark, for example, there was significant disagreement over the reform of pensions legislation which had been drawn up prior to consultation. Similarly, in Greece unilateral decisions about labour market flexibility measures instituted by the government caused significant unrest in

⁴Signed on 22 December 1998 by the government and 32 interest organisations.

⁵Hemerijck and Visser (1997) underline that consensus lies at the heart of the Dutch success. See also Visser (1998).

the industrial relations sphere.

Summarising, the recent empirical and theoretic literature has studied macroeconomic performance by analysing: labour market structure; political parties and labour market actors; political parties and political economic objective; and *corporatism*. Our claim is that these aspects cannot be separately analysed.

3 The Basic Model

Four agents (central bank, government, unions and firms) operate in a closed economy⁶. The central bank sets nominal money supply. Firms are profit maximisers. Unions and government can bargain over the nominal wage. We introduce this latter assumption to analyse the effects of a *social pact* implementation⁷. Nevertheless, it is always possible to set the bargaining power of government equal to zero and, therefore, assume the monopoly union model which characterizes the standard games (*e.g.*, Cubitt, 1995; Detken and Gärtner, 1994; Gylfason and Lindbeck, 1994; Acocella and Ciccarone, 1997; Cukierman and Lippi, 1999).

The preference functions of the central bank, government and unions are the following.

$$V = -\beta (\pi - \pi_B)^2 - (y - y_B)^2 \quad (1)$$

$$G = -\gamma (\pi - \pi_G)^2 - (y - y_G)^2 \quad (2)$$

$$U = \alpha (w - p) - (y - y_U)^2 \quad (3)$$

where π is the inflation rate, defined as $(p - p_{-1})$; y is the real output level; π_B and π_G are the inflation rates desired by the central bank and by the government; $(w - p)$ represents the real wage (equal to the nominal wage less the price level); y_B , y_U and y_G are the central bank's unions' and government's desired real output levels. In the literature β is often called the central bank's degree of conservativeness, which can be considered a central bank's independence index (see Rogoff, 1985).

Justifications for the use of these preference functions can be found in the literature (see, among others, Gylfason and Lindbeck, 1994; Acocella and Ciccarone, 1997). All variables are in logs.

The economy is synthesized in equations (5) and (4)⁸.

$$p = w + \frac{y}{K} \quad (4)$$

$$p = m + Z - y \quad (5)$$

Equation (4) represents the aggregate supply with real wage elasticity equal to K . Equation (5) represents the aggregate demand where the real money supply elasticity equals to one; Z is a white noise term (i.e. the velocity shock).

We obtain the following reduced form from equations (4) and (5).

⁶See Acocella and Di Bartolomeo (2001) for an analysis of unions and governments inter-relations in a monetary union. See also Iversen, Soskice (1998); Grüner and Hefeker (1999).

⁷On the importance of including the government in wage negotiation, see Bruno, Sachs (1985); Calmfors, Driffill (1988); Pekkarinen, Pohjola and Rowthorn (1992). Furthermore, consider the influence of industrial policies and taxation on wages.

⁸The economic structure is derived from Cubitt (1992) and (1995).

$$y = \frac{m - w}{2} \quad (6)$$

$$p = \frac{m + w}{2} \quad (7)$$

where we assume without loss of generality that K is equal to one and Z is equal to zero. Since we are solving an LQ game with perfect information the assumption $Z = 0$ is straightforward. The assumption $K = 1$ is common in this kind of game (see, among others, Gylfason and Lindbeck, 1994; Acocella and Ciccarone, 1997). However, we have checked that our results do not qualitatively change by assuming $K = 1$. Therefore, this assumption runs out as an exposition simplification (see also Acocella and Di Bartolomeo, 2000).

Our objective is to analyse the effects on economic performance of the bargaining power distribution between institutions. Therefore, to obtain an easier model and to compare our results with those of the model mentioned in the first Section, we restrict the nominal wage bargaining between government and unions. Furthermore, we confine firms to a passive role determined by the profit maximization constraint, but actions of *lobbies* (e.g., firms' associations) can be easily included in the players' preference function⁹.

The only complexity of the model is in the endogenous activities of the players. However, it is easy to verify that the results are consistent with all the principal labour market macroeconomic descriptions as insider-outsider, efficiency wages or price expectations AS-AD.

4 Institutional Settings

In Section 2 we have described the *social pact*, *corporatism* and political arguments, but representing the interaction between government and unions is difficult. To model these concepts, we have to introduce a *bargaining technology* and define a set of parameters that determine the bargaining power of the agents involved in the bargaining procedure.

We assume that government and unions bargain over nominal wage¹⁰. The bargaining process is usually complex. Nevertheless, its results can be easily by-passed by assuming that the two players maximise a common utility function which is a linear convex combination of their respective utility functions (*bargaining technology*¹¹). The central bank can play at the same time as the two other players (i.e. *Nash equilibrium*). The central bank may also play before or after than (i.e. *Stackelberg equilibrium*). In this paper, we assume a *Nash equilibrium*, because we are focusing on the institutional relationship between the government and unions. Di Bartolomeo (1998) analyses the institutional role of the central bank by considering *Nash*

⁹See Pecchi and Piga (1999) for an exercise of this kind.

¹⁰Government can influence nominal wage through labor market legislation, fiscal and industrial policy (see, among others, Cubitt, 1995; Pekkarinen, Pohjola, Rowthorn, 1992; Saint-Paul, 1996 and 1997). A next task of our research will be to formalize the wage bargaining between the government and unions introducing taxation.

¹¹However, the reader should note that, if the government has a bargaining power, players are forced to maximise a common utility function since they control the same instrument. This derives from our assumption that government has a role in bargaining process. A full disagreement equilibrium is also possible in this case the Nash equilibrium does not exist and the solution of the game is determined by assuming w equal to $w_u - w_g$ where w_u and w_g are the exogenous limit values for the unions and government's controls, respectively (for a similar approach in a different context, see Andersen and Schneider, 1985). In this paper we do not focus on this "limit solution" since we do not consider it realistic for the actual economic contest. However, it can be interesting in analysing the earlier 70s wages explosion or some recent tendencies observed in some less developed countries (e.g. Korea).

and *Stackelberg equilibria* (see also Cuckierman and Lippi 1999; Acocella and Di Bartolomeo, 2000).

After introducing the *bargaining technology*, we bring out and explain some parameters determining the players' bargaining powers: the degree of unionisation, the political influence of political system over unions, and the degree of *corporatism*.

The degree of unionisation varies across countries and time. It depends on historical, social, and cultural factors that are reflected in the economic conditions under which unions operate. We capture the degree of unionisation by an exogenous parameter σ . According to Naylor and Raaum (1993) and Corneo (1993, 1997) unions' bargaining power is an increasing function of the membership. Therefore, a possible economic interpretation of σ is to consider it as an element of centralisation of wages bargaining. However, we will return to this point later.

Then we can synthesize the bargaining power of the government as follows.

$$\delta = 1 - (1 - \Sigma)(1 - \Phi)\sigma \quad \sigma \in (0, 1], \delta, \Sigma \text{ and } \Phi \in [0, 1] \quad (8)$$

Equation (8) means that the bargaining power of the government is the complement to the degree of unionisation discounted by the two factors Σ and Φ . We use different discount factors because they capture, as will be clear later, different aspects of the bargain process and, therefore, imply different consequences¹².

i) Σ represents the degree of *corporatism*. It is an index of co-operation in line with Cubitt's CORP1-3 definitions (see Cubitt, 1995: 249)¹³.

ii) Φ represents the political influence of the government on unions, which is, according to Detken and Gärtner (1994), linked to the *ideological animosity* of the unions. The underlined assumption is that unions' members, or their leaders, can be left wing government's supporters¹⁴. When a right wing party wins the election, we set the political influence parameter equal to zero.

The degree of *corporatism* can also be interpreted as the cost of an agreement with the government (i.e. *political exchange*). We can see *corporatism* as a *do ut des* that implies compensation from the government. The compensation may be low inflation since union members consider prices and/or political stability as a public good (a classic definition of *corporatism*) or redistribution in a context of income policy (closer to the *political exchange*). *Political exchange* and *corporatism* are inter-connected concepts. If low inflation is considered a public good, the compensation will be lower than the compensation in a system indifferent to the cost of inflation (see, Tarantelli, 1986).

Corporatism, *political exchange*, and government's political influence on unions are closely connected matters. We will investigate these connections in the next Sections.

¹²To avoid confusion, it should be noted that, in this paper, the discount factors are not inter-temporal discounts, but static discounts, i.e. *x-discount* indicates the percentage reduction (increase) in unions' (government's) bargaining power according to *x-reason*.

¹³In other words, we first introduce the *bargaining technology* that is linked to the Cubitt's CORP4 definition, then we explore in the interrelation between this kind of co-operation and Cubitt's CORP1-3 (which is captured by the parameter Σ).

¹⁴The reader should note that, removing perfect information assumption between union members and union leader, the hypothesis that union leaders are supporters of left wing government have a strong implication on preference function of the unions. This assumption implies a classic representation problem which is that the preference function of unions does not represent workers' interest, but it represents the own interest of unions' leaders.

5 Game Solution

The bargaining between unions and the government is expressed by a maximization of a linear convex combination of the preference functions of the government and unions subject to the reduced form¹⁵:

$$\begin{aligned} \max_w \quad & \delta [-\beta (\pi - \pi_G)^2 - (y - y_G)^2] + (1 - \delta) [\alpha (w - p) - (y - y_U)^2] \\ \text{s.t.} \quad & (6) \text{ and } (7) \end{aligned} \quad (9)$$

From the above expression, the nominal wage for any given m can be obtained as:

$$w = \frac{(1 - \delta\gamma) m - 2\delta (y_G - \gamma p_G) + (1 - \delta) (\alpha - 2y_U)}{1 + \delta\gamma} \quad (10)$$

The monetary authority plays at the same time as the government and unions. We regard government and unions as a single macro player whose reaction function is represented by equation (10)¹⁶. Preference function of the central bank (1) is maximized with respect to the nominal money supply subject to the equation (6) and (7):

$$\max_m \quad -\beta (\pi - \pi_B)^2 - (y - y_B)^2 \quad (11)$$

$$\text{s.t.} \quad (6) \text{ and } (7) \quad (12)$$

By solving the (11) we achieve the central bank's reaction function.

$$m = \frac{w(1 - \beta) + 2(y_B + \beta p_B)}{1 + \beta} \quad (13)$$

We achieve the nominal equilibrium wage by substituting equation (13) into equation (10).

$$w^N = (1 - \delta\gamma) \frac{y_B + \beta p_B}{\beta + \delta\gamma} - (1 + \beta) \frac{\delta (y_G - \gamma p_G) + (1 - \delta) (y_U - \alpha/2)}{\beta + \delta\gamma} \quad (14)$$

By substituting equation (10) into equation (13) we achieve. the equilibrium money supply:

$$m^N = (1 + \delta\gamma) \frac{y_B + \beta p_B}{\beta + \delta\gamma} - (1 - \beta) \frac{\delta (y_G - \gamma p_G) + (1 - \delta) (y_U - \alpha/2)}{\beta + \delta\gamma} \quad (15)$$

Finally, we derive the equilibrium values for output and inflation by substituting equations (14) and (15) in the reduced form.

$$y^N = \frac{\delta\gamma y_B + \beta [\delta y_G + (1 - \delta) (y_U - \alpha/2)]}{\beta + \delta\gamma} + \frac{\beta\delta\gamma}{\beta + \delta\gamma} (\pi_B - \pi_G) \quad (16)$$

¹⁵The two players determine nominal wage that is a common control variable. Possible losses in the bargain (*e.g.*, due to the duration of workers' strikes) are implicitly discounted in the power market index.

¹⁶This occurs because the unions and the government control the same instrument.

$$\pi^N = \frac{\beta\pi_B + \delta\gamma\pi_G}{\beta + \delta\gamma} + \frac{y_B - [\delta(y_G) + (1 - \delta)(y_U - \alpha/2)]}{\beta + \delta\gamma} \quad (17)$$

The Nash equilibrium employment (16) is equal to the sum of two terms. The first term is the weighted average between the two players' *ex-ante* optimal levels of output¹⁷, where the weights are the players' inflation-aversions (notice that the government's aversion is always discounted by its bargaining power). The second term is the desired inflation differential between the central bank and the government multiplied by a factor which is a measure of the inflation-aversions of the players. Similarly, equilibrium inflation is equal to the sum of two terms: the weighted average between the desired inflation levels and the difference between the optimal output levels multiplied by a inflation-aversions factor. The more the players are inflation-averse, the less relevant in inflation determination the second term of (17) is.¹⁸

The results meaning is clear. When government is introduced in a unions-central bank game, unions are still not able to impose their optimal output level as it occurs in the standard games (for a discussion on this point, see Acocella and Ciccarone, 1997; Acocella and Di Bartolomeo, 2000). Therefore, the final equilibrium will depend on all the players bargaining powers and desired targets. We will closely analyse the economic sense of our results in the following Sections.

6 Partisanship and Economic Performance

Now let us introduce the Alesina-Hibbs' partisanship hypothesis, which implies that the orientation of governments may be different. They can have a right or left wing attitude in the sense we are going to specify.

We introduce the following assumptions:

(a) Right and left wing parties have different opportunity costs of low inflation in terms of employment. We suppose that a left wing government is more averse to the utility losses caused by unemployment. We suppose that a right wing government is more averse to the utility losses caused by an inflation rise. This is the basic assumption of the partisan theory models first introduced by Hibbs (1977) in a very influential paper (see also Alesina 1988; Hibbs, 1992, 1993; and Alesina, Roubini and Cohen, 1997: chapter 3).

(b) The central bank is more averse to the utility losses caused by inflation than the government (right or left wing) (see Rogoff, 1985; and Svensson, 1997).

¹⁷The reader should note two fact. First, the optimal output for the macro-player government-unions is an average between their single *ex-ante* optimal outputs weighted by their bargaining powers. Second, the concept of *ex-ante* optimal value is different from the concept of desired level: the former is the value whose the player will choose given the structural form of the model (when other players do not act), whereas the latter is exogenously given. For the government its desired level of output is also optimal since there is not an *ex-ante* trade-off between output and inflation. While for the unions the optimal output is $y_u - \alpha/2$, which is the output that maximized the unions' utility given the labor demand constraint. In other word, the objectives of government's (unions') preference function are (not) each other *ex-ante* independent.

¹⁸Notice that without unions ($\delta = 1$) the game collapses in a traditional co-ordination problem between the central bank and government (see Andersen and Schneider, 1985). Whereas when the unions are really monopolist ($\delta = 0$) the game is the same presented by Acocella and Ciccarone (1997). As said in the introduction and as will be clearer later, by setting different the values of the exogenous parameters different models can be reproduced.

(c) The bliss points of the central bank and of the government (right or left wing) are full employment and zero inflation; unions care about real wage and desire full employment¹⁹.

(d) *Corporatism* or *political exchange* are not considered. This implies $\Sigma = 0$. We will remove this assumption in the next Section.

Given the above assumptions, the preference functions of the central bank, and right (left) wing government only diverge in the values of the marginal substitution rate between inflation and unemployment. From assumptions (a) and (b) we obtain that the central bank is more inflation-averse than the right wing government, and that the right wing government is more inflation-averse than the left wing government. Therefore, $\beta > \gamma^R > \gamma^L$ holds (superscripts indicate whatever is left or right wing government). Moreover, equations (16) and (17) becomes:

$$y_i^N = \bar{y} - \frac{\alpha\beta/2}{\beta + \delta\gamma^i} \quad i \in \{R, L\} \quad (18)$$

$$\pi_i^N = \frac{\alpha/2}{\beta + \delta\gamma^i} \quad i \in \{R, L\} \quad (19)$$

where \bar{y} is the full employment output. Equations (18) and (19) give output and inflation under two political alternatives.

First, notice that, when a non-partisan monopolist union is assumed (i.e. the government has not any bargaining power), we obtain the standard result of policy neutrality which is already largely discussed and considered in Gylfason and Lindbeck (1994) and Acocella and Ciccarone (1997). However, when according to Detken and Gärtner (1994) rational-partisan monopolist unions are assumed (i.e. $\sigma = 1$, but $\Phi \neq 0$) the monetary policy is no longer neutral since $\delta \neq 0$.

Second, when unions are not monopolist, neutrality vanishes. In general terms (i.e. without specifying the government identity), if the bargaining power of the government *ceteris paribus* increases, employment raises and inflation decreases. The positive effect on employment occurs because the optimal level of the government is higher than that of unions, therefore, when unions bargaining power is low, employment is high. The positive effect on inflation occurs because the higher the employment level that government-unions follows, the lower the inflation bias is. This is because the inflation bias is the cost that unions impose on the central bank's willingness to reach full employment by an inflationary policy. Then, the more the economy nears full employment, the lower the central bank's willingness to inflate the real wage becomes. The same holds when government's inflation-aversion and/or central bank's conservativeness rise. A rise in the unions' preference for the real wage has the negative effect on inflation and employment. All these results can be easily derived by using standard differential calculus.

In comparative statics analysis, since the effects of preference parameters are always clear and opposite in inflation and output determination, we can generally speak of performance or social performance in the sense of maximisation of any social loss function which is any decreases in unemployment and inflation (see Cubitt, 1995: 249-50; Acocella and Di Bartolomeo, 2000). Therefore, we can state that, *ceteris paribus*, the higher the players' inflation-aversions are, the higher the performance is; the higher the unionisation degree and unions' preference for real wage are, the lower the performance is. However, without our *ceteris paribus* assumption the results can be different.

¹⁹We introduce these assumptions only as exposition devices. A general proof. is available from the author on request.

When government's identity is introduced, by comparing both (18) and (19) for $i \in \{R, L\}$ (i.e. $y_L^N - y_R^N > 0$ and $\pi_L^N - \pi_R^N < 0$) it is easy to check that the best (worst) performance of a left (right) wing governments is driven by the following condition (crossing condition, henceforth)²⁰:

$$\sigma > \frac{\Phi(\beta - \gamma^R) - (\gamma^R - \gamma^L)}{(1 - \Phi)(\gamma^R - \gamma^L)} \quad (20)$$

Since the condition is the same for the best (worst) performance in terms of both employment and inflation, we can again speak of a general social performance.

The crossing condition synthesised the action of two different effects.

i) The left wing government tends to achieve a better performance since its bargaining power is always higher than that of a right wing government because of the partisanship of the unions. Therefore, this effect depends the existence of a positive bargaining powers difference between left and right wing governments (i.e. $\delta^L - \delta^R > 0$). We refer to this effect as left wing effect (LWE, henceforth).

ii) The right wing government tends to achieve a better performance since its inflation-aversion is higher than that of the left wing government. Therefore, this effect depends the existence of a positive inflation-aversions difference between right and left wing governments (i.e. $\gamma^R - \gamma^L > 0$). We refer to this effect as right wing effect (RWE, henceforth).

However, while the RWE is constant, the LWE is decreasing in the bargaining power of the union since the governments' bargaining powers difference is a constant fraction of the unions' bargaining power. Therefore, the crossing condition will be more likely to be satisfied when the unions' bargaining power is high.

We can draw a generic performance curve by considering different degree of unionisation for both left and right wing governments. Both curves will be decreasing in the degree of unionisation, but with different shapes. The performance curve of the right wing government will tend to be steeper than that of the left wing government. Moreover, the higher the aversion-inflations difference will be, the higher the right wing initial performance will be. The higher the unions' partisanship will be, the higher the left wing final performance will be.

In graphical terms, the above sentence is represented in figure 1 where the AC and AD curves represent the performance curves of left wing and right wing governments, respectively. Curves are convex because as the degree of unionisation decreases, the preference of central bank (zero inflation and full employment) becomes more important than the preference of unions and government over output determination. However, this assumption is not relevant since curves can be also linear or concave depending on the unknown function of welfare, but for any welfare function equation (20) holds with equality in point E; on the left of point E the right wing performance is higher than that of the left wing government; and on the right of E the contrary occurs.

Around here Figure 1

In other words, the left wing governments will achieve a better economic performance than right wing governments in countries where large workers' associations are present. The right

²⁰We derive the condition of a the best (worst) performance for a left (right) wing government just for an expositional reason. It is clear that is exactly equivalent to derive the best (worst) performance condition for a right (left) wing government by reverting the following inequality.

wing governments will obtain better results than the left wing governments in countries with weak unions. Notice two additional remarks. First, performance curves are not defined in $\delta = 1$ (see footnote, 18). Second, the performance curve of the left wing government could cross the performance curve of the right wing government outside of the domain of δ . Then, if the curves cross for a value of δ greater than one, a right wing government could never achieve a better economic performance than a left wing government²¹.

7 Corporatism

Let us insert *corporatism* into our model by removing assumption (d). We show the effect of *corporatism* on crossing condition in Figure 2 and 3. An increase in the degree of *corporatism* shifts the performance curves of both parties up, leading the superiority condition far from the y-axis. The performance curve of the left wing government shifts from AD to AC while the right wing one moves from AG to AF. Hence, point B represents the new overtaking point where the degree of unionisation is higher than that at the initial point E.

Around here Figure 2

The crossing condition then becomes:

$$\sigma > \frac{\Phi(\beta - \gamma^R) - (\gamma^R - \gamma^L)}{(1 - \Phi)(1 - \Sigma)(\gamma^R - \gamma^L)} \quad (21)$$

It is clear that now, equation (21) is, for a left wing government, more restrictive than (20). Therefore, in a corporatist system, a left wing government needs a higher degree of unionisation to achieve a better economic performance than in a non-corporatist one. This occurs because a rise in the degree of *corporatism* has the same effect of as a reduction in the degree of unionisation²². Therefore, it is positive for both left and right governments, but the government, with a preference function closest to that of the central bank (which is the right government by assumption), tends to gain more.

In Figure 3 we show the relationship between *corporatism* and the performance of government. An increase in the degree of *corporatism* allows, *ceteris paribus*, the government (right or left) to achieve a better performance. However, a right wing government will gain more than a left wing government. The right wing government's performance curve DA grows faster than the performance curve of the left wing government CB for the reasons discussed above.

Around here Figure 3

Notice again that the performance curve of the right wing party could cross the performance curve of the left wing party outside of the domain of Σ . If the curves cross for a value of Σ greater than one, a right wing government could never achieve a better economic performance than a left wing government, but our propositions still hold.

The results of this Section show that *corporatism* can be very important in the interpretation of economic performance. However, it is not correct to reckon that the government can fine-tune performance by varying the degree of *corporatism* for the following reasons.

²¹The reverse case, curves cross for a negative value of δ , is also possible, but this is an unrealistic case.

²²Because it affects the differential of right-left wing governments' power markets ($\delta^R - \delta^L$) and not the differential of right-left wing governments' anti-inflationary preferences ($\gamma^R - \gamma^L$).

i) No precise account of the determination of the *corporatism* has been given here. There is no suggestion that the degree of *corporatism* is a policy variable under the control of the government.

ii) In addition, if we suppose that the government can influence the degree of *corporatism* by law, this policy will be strongly opposed by a non-government party, or by the same government when it allows the opposition-party to achieve a possible future better performance.

iii) Like most policy games, our investigation is based on a static model. It contains no account of disequilibrium dynamics that might be important in the short run analysis.

However, our aim is different. We want to underline the complexity of the institutional analysis. This will be more clear in the next Section.

8 Hump-Shaped Relationships

Our result can be interpreted in various ways. Up to now our implicit interpretation was to see them as a prediction of difference in performance of a given country under a different government and/or labour market structure. However, the results can be also seen as a prediction of difference in countries in which the degree of corporatism, unionisation, partisanship and the *colour* of the government varies exogenously. In this context of multi-country comparison, a left wing government is just a government supported by a partisan union, whereas a right wing government is one with an high degree of inflation-aversion. In Figure 4 and 5, we draw two *hump-shaped* relationship derived from our model²³.

Figure 4 emphasizes the difference in the unions' power analysing the influence of institutional setting on *corporatism*. Segment AD is the performance curve associated with a low degree of unionisation (σ_1) and BC is the performance curve associated with a high degree of unionisation (σ_2)²⁴. Therefore, points A, B, C and D represent an example of different combinations between the degrees of *corporatism* and of unionisation on economic performance.

Around here Figure 4

A high corporatist system (point D) can achieve a better performance than a low corporatist and less unionised systems (point B and C). In addition, a weakly unionised and corporatist system (point A) may obtain better economic performance than a more corporatist and unionised systems (point B and C).

Figure 4 is close to the classic view of Calmfors and Driffill (1988). Different degrees of unionisation allow a *hump-shaped* relationship between *corporatism* and economic performance. Observe, however, that Calmfors and Driffill (1988) consider centralisation instead of *corporatism*. The centralisation of wage bargaining does not necessarily imply co-operation. However, the adoption of a high employment target, or the consideration of inflationary consequences of their action by the representatives of organised labour, are sometimes seen as implications of centralisation (see Cubitt, 1995). Therefore, using the definition of *corporatism* adopted in this paper²⁵, we can consider point A as a system with weak unco-ordinated unions

²³See Soskice (1990) for the standard interpretation of the *hump-shaped* curve. See Cukierman and Lippi (1999) for an alternative interpretation closer to our view.

²⁴The reader should note that here we are considering two performance curves without introducing any hypothesis on the government political side.

²⁵Recall that here *corporatism* can be seen as a measure of how much unions take into account full employment and low inflation (Cubitt's CORP 1-3 definitions).

(fully decentralised). Point B represents a system with strong unco-ordinated unions (medium centralised); and point c represents a system of strong co-ordinated unions (centralised).

This view of Calmfors and Driffill's hump-shaped is in line with that of Layard *et.al.* (1991) and Bleaney (1996). These authors, among others, argue that the Calmfors and Driffill's hump-shaped relationship may derive from two separate factors: co-ordination and unions' strength, with negative and positive effect on performance, respectively. These factor are generally, but not always, correlated with centralisation.

Figure 5 shows the difference in the government *colour*. It represents an alternative interpretation of Calmfors and Driffill's relationship. High corporatist systems (point d and c) achieve a better economic result (point b). However, a low corporatist system (point a) can also achieve a better economic result than a more corporatist system (point b).

Around here Figure 4

This result occurs subject to two conditions: i) in the low corporatist system the government is a left wing government and in the high corporatist system the government is a right wing government; ii) in the high corporatist system, the positive effect of *corporatism* does not compensate for the positive that left wing government has on unions in the low corporatist system²⁶. However, a higher degree of *corporatism* always allows the government to achieve a better economic performance. The analysis of Figure 5 is not in contrast to the interpretation of Figure 4, but is an extension of that traditional interpretation. Figure 5 is compatible with the OECD's (1997) study that point out the instability of the Calmfors and Driffill's relationship.

Other linear or hump-shaped relationships can be easily derived. According to Tarantelli (1986) and Calmfors (1993) several facets of a bargaining system may not easily be synthesised by a single index meant to measure the degree of centralisation. Our model, in its own simplicity, shows how the effects of the bargaining system on aggregate wage formation and macroeconomic performance are more complex than originally acknowledged. The factors that influence economic performance are many and inter-related. Different political environments, labour market structures, degree of co-operation and social preference contribute to achieve a better or worse economic performance.

9 Conclusions

In this article, we have exhibited how a left wing government can achieve a better economic performance than that of a right wing government in large unionised economies. On the contrary, we have shown how a right wing government can achieve a better economic performance in weak unionised countries. We have also found an innovative point of view: the possible better economic performance of right wing governments when *corporatism* increases.

Different results of different government are linked to two different effects: the LWE and RWE. The former supports a left wing government's performance through unions' partisan action. The latter supports a right wing government's performance under the assumption that its aversion to inflation is larger than that of the left wing government's. Both of these effects are strictly dependent on the degree of unionisation, the corporatist level of the economy and the central bank's degree of conservativeness. We identify the condition that allows the

²⁶It is obvious that if the unionization degree is high, this situation is possible. This occurs because the political influence is expressed in terms of the market power of the unions.

left wing government to achieve a better (or worse) performance than that of the right wing government.

In the analysis of the effects of the degree of *corporatism* and partisan-preferences, we achieve an innovative conclusion. The economic performance of a right wing government improves when the degree of *corporatism* increases. The more workers perceive low inflation as a public good, the higher are the chances for a right wing government to obtain better performance than a left wing government. This occurs because an increase in the degree of *corporatism* reduces the LWE, but it does not affect the RWE. The increase of the degree of *corporatism* supports the right government under the condition that the preferences of the right government are the closest to the preferences of the central bank.

Finally, we have analysed Calmfors and Driffill's hump-shaped relationship between *corporatism* and economic performance showing how a high corporatist system can achieve a better economic result than a less corporatist system, and also how a low corporatist system can achieve a better economic result than a more corporatist one. Moreover, we also find an alternative view to the previous one. We find this alternative interpretation of the hump-shaped relationship by using the Alesina-Hibbs' assumption of partisanship.

We shown how it is possible to derive an empirical hump-shaped performance curve *à la* Calmfors and Driffill in various ways. For example, in our model, a low corporatist system can achieve a better economic performance than a more corporatist system, when two conditions apply. First, in low corporatist systems the government is a left wing government, and in high corporatist system the government is a right wing government. Second, in the high corporatist system the positive effect of *corporatism* does not compensate the positive effect for the left wing government of political influence (that the left party has on unions) in the low corporatist system. The reader should note the relevance of our finding which open an interesting new angle in the analysis of the Calmfors and Driffill's hump-shaped relationship and the analysis of labour market performance. However, it should be also noted that our interpretation is based on players' different preferences. Hence, it is an alternative to the traditional interpretation proposed in the literature, but it is not incompatible with this as we have shown.

We can conclude by asserting that the factors that influence the economic performance through industrial relations are many and inter-related. Different political environments, labour market structures, degrees of co-operation and social preferences contribute to achieve a better or worse economic performance. Any analysis which takes them into account only partially might lead to a misunderstanding the complex inter-relations among these concepts.

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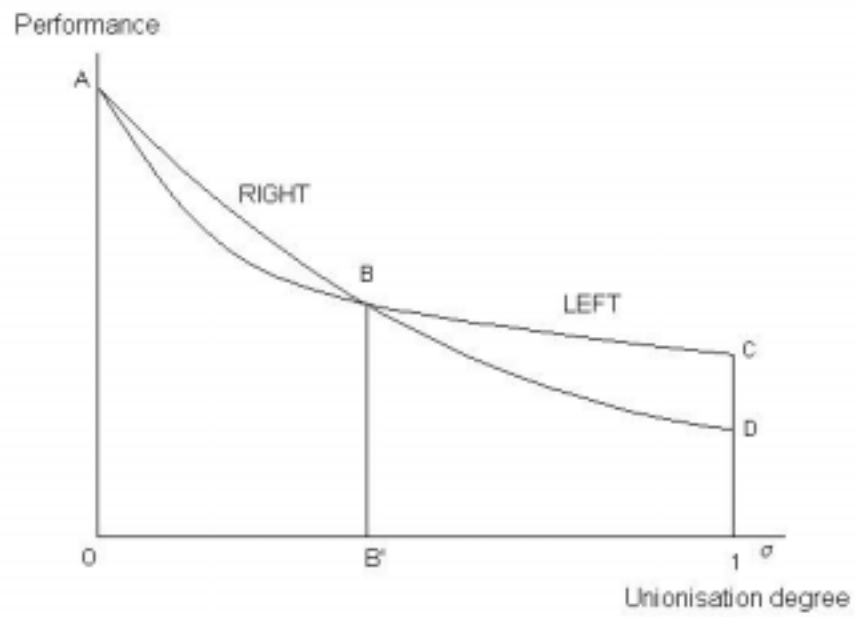


Figure 1

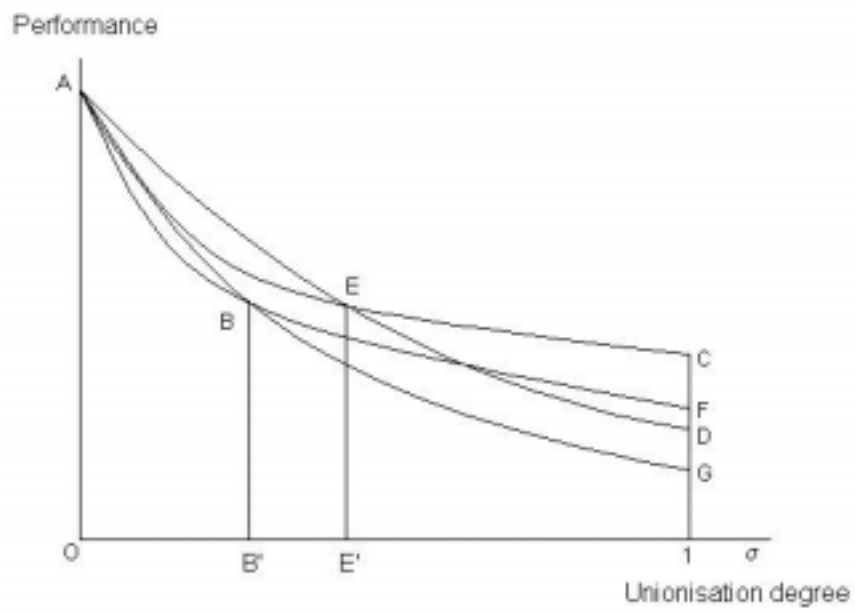


Figure 2

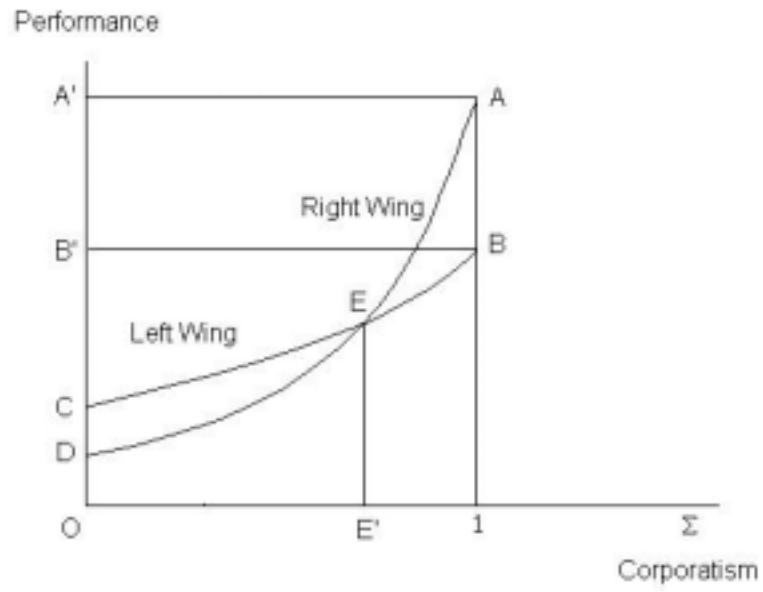


Figure 3

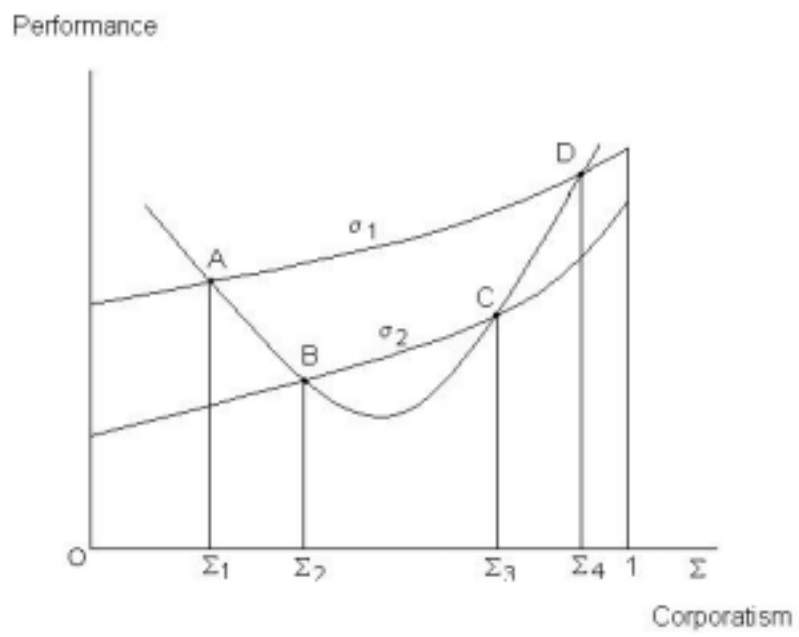


Figure 4

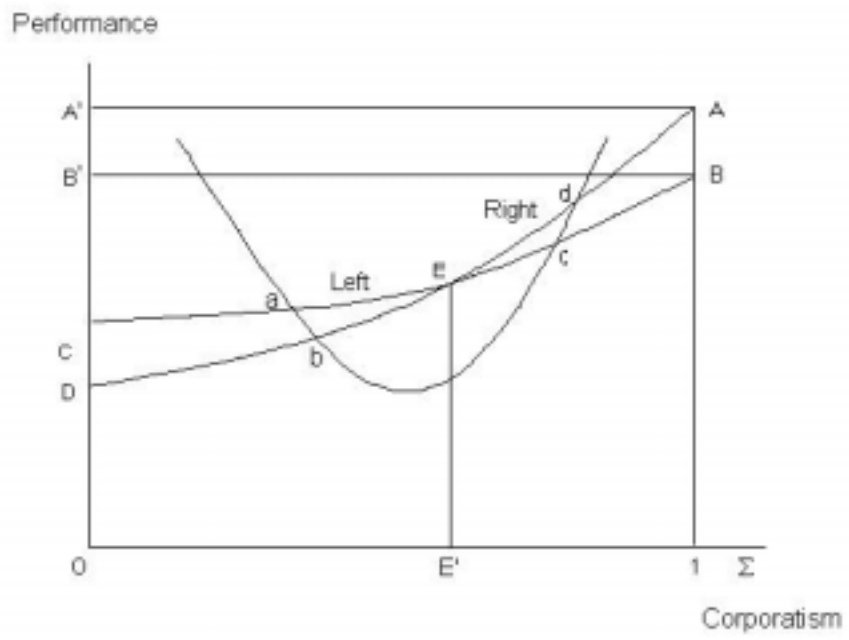


Figure 5