

# Centralised vs. Decentralised Wage-Setting Systems and Capital Accumulation – Evidence from OECD Countries, 1960-1990

Anis Chowdhury\*

## Abstract

*There has recently been intense debate about the relative merits of a centralised wage-setting system vis-a-vis a decentralised system. Most of the theoretical and empirical works on this issue focus on the static or current macroeconomic performance in terms of employment and inflation and microeconomic efficiency resulting from enhanced labour market flexibility. Following Lancaster's work and subsequent extensions by Schott and Vartiainen, this paper regards wage bargaining as a dynamic game involving conflict over the distribution of current and future income. It is argued that the intertemporal decision makings of both workers and employers are influenced by so-called prisoners' dilemma. In such situations, it is claimed that centralised or corporatist wage negotiations system leads to higher investment rates. This claim is corroborated with evidence from selected OECD countries.*

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## 1. Introduction

The radical industrial relations legislation of the Kennett government designed to curb union power and the industrial relations policy contained in the now discarded Fightback package of the Federal Opposition have generated intense debate about the relative merits of centralised versus decentralised wage bargaining systems. These developments have received added impetus from New Zealand's tough industrial relations legislation which has its antecedent in the Thatcher experiments of the 1980s.

Critics of the centralised wage-fixing mechanism argue that it introduces rigidity in the labour market. In short, by emphasising uniformity and across the board wage increases, it reduces the dispersion in relative wages and hence leads to resource misallocation. A corollary of across the board wage decision is that it disregards productivity differentials and thus is more inflationary. The arguments against centralised wage-fixing mechanisms have also encompassed the question of unionisation. Strong union power is seen as an impediment for enterprise (decentralised) bargaining and hence for all the woes associated with centralised bargaining. Furthermore, according to the insider-outsider theory, the exercise of union power can add to the woes by preventing the wage rate from adjusting downward at the time of recession as unemployed (outsiders) become irrelevant in the wage setting process.

However, these arguments are countered by making a distinction between the ways in which union power is used. It is claimed that high unionisation combined with high coordination can be a good mix. The argument goes as follows: the greater the 'consensus' between labour and firms with shared perspective on the goals of economic activity, the greater is the likelihood that highly coordinated and centralised wage negotiations will generate more disciplined and responsible behaviour. What follows is that centralised wage-fixing system leads to better macroeconomic performance both in terms of inflation rates and unemployment.

Most of the theoretical and empirical works on this debate concentrated on current macroeconomic performance in terms of employment and inflation. There are, however, a few works which regard wage bargaining as a dynamic game. They extend the conflict over the distribution of current income to incorporate intertemporal decisions by both workers and capitalists. Following the lead from this literature this paper shows that the countries with consensus based centralised or 'corporatist' wage negotiations system perform better in terms of the investment rate. The paper begins with a brief survey of cross-country evidence on centralised wage bargaining and macroeconomic performance in Section II. Section III provides theoretical arguments. The empirical supporting evidence from the OECD

countries are summarised in Section IV. Section V contains the concluding remarks.

## **2. Corporatism and Macroeconomic Performance**

Reflecting on the current debate on industrial relations, Victor Argy (1992, pp 239-40) notes that '[o]ne of the most perplexing aspects of the debate over enterprise bargaining is its disregard of overseas experience ... It is almost as if Australia had invented the term enterprise bargaining; yet ... enterprise bargaining has been in place for some time in France, the United Kingdom, Italy, Switzerland, the United States, Canada and Japan, a group of countries with widely divergent macroeconomic performances. Can we learn anything from this experience?'

The past studies of wage bargaining systems and macroeconomic performance show that in general the more corporatist economies perform better (Barber and McCallum, 1982; McCallum, 1983, 1986; Schott, 1984; Bean, Layard and Nickell, 1986; Bruno and Sachs, 1985; OECD, 1979a, 1988; Metcalf, 1987; Newell and Symons, 1987). The OECD which has been often highly critical of the Swedish style centralised wage-setting system did not hesitate to point out that 'responsible trade union behaviour has been a decisive factor' for a 'marked improvement in economic performance' (OECD, 1979b, p. 4). After analysing the experience of Norway, Sweden and Japan, Barber and McCallum (1982, p. 83) conclude that a combination of ... [consensus, responsiveness to company performance, and synchronized wage contracts] ... has allowed the three countries to achieve substantial reductions in inflation without the need for high unemployment' Based on her study of major industrialised countries, Schott (1986:48) arrives at a very similar conclusion that in none of the countries with bad inflation and unemployment records, 'is corporatism ... practised. ... On the other hand, where corporatism is strong and established, ... the inflation and unemployment rates have been far more favourable' The general conclusion of these studies is that the employment performance of the more corporatist countries has been superior, and smaller increases of unemployment have been required under corporatism in order to achieve a given reduction in nominal wages and hence inflation. Metcalf (1987) summarises the results by noting that 'there is strong evidence, both across countries and over time that corporatism, consensus and superior macroeconomic performance go hand in hand'.

However, in a major study, Calmfors and Driffill (1988) question these findings of a monotonic relation between corporatism and macroeconomic

performance. Contrary to the conventional wisdom, they find evidence of a hump-shaped relationship: the best performers are to be found among the centralised and decentralised economies, the worst performers are the intermediate economies. Table 1 reproduces Calmfors and Driffill's findings. Calmfors and Driffill also provide a theoretical framework to support their empirical findings. According to them, unions are concerned with both 'price' and 'employment' effects of wage outcomes. In a decentralised firm-based system, the individual union will disregard the price effect as the increase in product price following higher wage outcomes would have negligible impact on the overall price level. However, the individual firm granting higher wages will be disadvantaged as it will lose market share and this may cause unemployment for the union members. Thus, in such a system, wage claims will be restrained by adverse employment effect resulting in better macroeconomic outcomes. On the other hand, in the intermediate cases where wage negotiations are conducted at the industry level, all firms within the industry will have to pass higher wages on to prices and hence the employment effect will be negligible. Thus there will be no restraining factor in the wage claim, resulting in inferior macroeconomic performance. When wage negotiation is conducted by a national union or a centralised body, it has to take into account of an economy-wide price effect of higher wages and will, therefore, be restrained by a large negative price effect.

The hump-shaped hypothesis can also be rationalised using the Olsonian (Olson, 1982) argument. That is, if a distributional coalition is all-encompassing then it will coincide with the national interest and enhance economic growth. On the other hand, narrowly formed distributional coalitions engage in wasteful 'rent-seeking' activities which reduce efficient allocation of resources.

Among the later works that found supports for the Calmfors-Driffill hypothesis is that of Dowrick (1993) on productivity growth in the OECD countries. He finds higher contributions of total factor productivity growth in countries with both decentralised and highly centralised wage-setting systems and poor performers among countries with intermediate systems. However, as noted by Dowrick himself, his findings are sensitive to sample selection. For example, if Canada and the USA are omitted from the sample, no discernible relationship between centralisation and productivity growth can be found.

Even Calmfors and Driffill's (op. cit) empirical findings are sensitive to their classifications. As pointed out by Dowrick (op. cit) and Soskice (1991), the hump-shaped result is due entirely to two countries – Japan and Switzerland. When Japan and Switzerland are excluded from the sample, the

**Table 1** Macroeconomic Performance of OECD Countries (1974-85)

Country	Unemployment Rate		Okun Index		Alternative Index	
	Level	Change	Level	Change	Level	Change
<b>Centralised</b>						
Austria	2.5	0.8	8.2	2.9	3.6	2.3
Norway	2.2	0.6	11.2	4.3	5.0	1.8
Sweden	2.4	0.4	12.2	5.3	4.1	2.3
Denmark	7.9	6.9	17.6	10.4	11.3	8.4
Finland	5.0	3.8	16.0	7.6	7.0	3.3
<i>Average</i>	<i>4.0</i>	<i>2.3</i>	<i>13.0</i>	<i>6.1</i>	<i>6.2</i>	<i>3.6</i>
<b>Intermediate</b>						
Germany	4.8	4.0	9.2	4.8	4.3	4.2
Netherlands	8.0	6.8	13.9	7.0	6.4	5.4
Belgium	9.3	7.1	17.0	10.7	11.0	10.0
New Zealand	2.2	2.0	15.6	10.1	7.5	6.9
Australia	6.3	4.4	16.7	10.8	9.3	5.7
<i>Average</i>	<i>6.1</i>	<i>4.8</i>	<i>14.5</i>	<i>8.7</i>	<i>7.7</i>	<i>6.5</i>
<b>Decentralised</b>						
France	6.4	4.3	16.9	10.8	7.5	5.4
UK	8.1	5.4	20.5	12.3	8.2	5.2
Italy	7.9	2.8	23.5	15.5	8.6	5.1
Japan	2.2	1.0	9.1	1.7	1.6	1.2
Switzerland	0.5	0.3	4.6	0.1	-3.1	-2.7
US	7.3	2.8	15.0	6.9	7.6	3.4
Canada	8.5	3.7	17.1	8.6	9.9	4.4
<i>Average</i>	<i>5.8</i>	<i>2.9</i>	<i>15.2</i>	<i>7.7</i>	<i>5.8</i>	<i>3.1</i>
<i>Average</i>	<i>7.6</i>	<i>3.8</i>	<i>18.6</i>	<i>10.8</i>	<i>8.4</i>	<i>4.7</i>
Excluding Japan and Switzerland						

Source: Calmfors and Driffill, 1988, Table 2

Notes: Level = 1974-85 average. Change = 1974-85 average less 1963-73 average.  
Okun index = Rate of unemployment + Rate of Inflation. Alternative index = Rate of unemployment + Current account deficit in per cent of GDP.

monotonic relationship between macroeconomic performance and corporatism reappears. The authors themselves are sceptical about the comparability of Switzerland's performance as it is heavily influenced by its policy towards foreign workers who act as a buffer. Even though wage negotiations in Japan are conducted at the enterprise level and union density is low and declining, it is questionable whether one can classify Japan with Canada and USA. There is a general agreement that industrial relations in Japan are

unique. Japanese industrial relations are characterised by a 'corporatist-loyalist spirit' not found anywhere else in the capitalist western countries and certainly not in the USA, Canada and the UK. It is argued by many influential Japan commentators that Japanese firms seek to maximise income per employee rather than profit (Komiya, 1989, p. 115, quoted in Aoki, 1990) and are in effect managed on behalf of their employees (Aoki, *op. cit.*, p. 19). In the 'life-time' employment system of Japan, workers' careers are tightly linked with the performance of the individual firm, and Aoki (*ibid.*, pp. 13, 19) observes that

'it is not accidental that unions take an enterprise-based form ... rather than that of industrial or craft unionism as in those economies where workers' careers are more linked to a broader market... The performance of employees of the Japanese firm are evaluated and rewarded in the long run by the elaborate and admittedly impartial personnel administration system crystallized in the hierarchy of ranks, and this may provide to workers the long-run security and the sense of fair treatment they desire.'

In Japan, the enterprise union is an institution through which employees voice their grievances and is developed as a counterpart to the personnel department. The theoretical position of Calmfors-Driffill can also be questioned as they ignore the industrial structure and labour market segmentation. In particular, Chowdhury (1983) has demonstrated within a dual labour market paradigm that if the core was characterised by oligopolistic industrial structure and the periphery was competitive in nature, the decentralised wage-setting system would be more inflationary when workers within the core were concerned with wage relativities. Consider a situation where a worker has a choice between making and not making a wage claim. Since the workers in the core enjoy some monopoly power due to their possession of industry-specific skills, they normally choose to make a wage claim. In such a situation, if a worker wins a wage claim, he/she is better off in relation to others. Recognising the possible deterioration of their relative position, if others too make a wage claim, the upshot will be inflation.<sup>1</sup> Similar arguments can also be found in Tobin (1972) and Soskice (*op. cit.*).

### **3. Centralised Wage-Setting and Capital Accumulation**

In a seminal work on the dynamic inefficiency of capitalism, Lancaster (1973) summarised the workers' and capitalists' dilemma in the following words

'The workers' dilemma : Should they forgo present consumption by handing over part of total income to the capitalists? If they do not, they will obtain no higher consumption in the future. If they do, they have no guarantee that the capitalists will actually invest sufficient of this income to bring about the desired level of increase.

The capitalists' dilemma : Should they spend now, or accumulate in order to spend later? If they spend now, they know what they have available. If they accumulate, they may fail to obtain their expected share of the increased output when they come to spend.'

Thus, putting together the workers' and capitalists' dilemmas, capitalism is perceived as a dynamic conflict over future as well as current levels of consumption for both workers and capitalists. If workers moderate their present wage demands, they expect that the increased profit be invested so that they can enjoy higher consumption in the future. Therefore, in moderating their wage demand, workers would want some guarantee that increased profit would not be used for higher capitalist consumption. On the other hand, if increased profit is invested and new machines are installed, the distribution of increased output (or rent) will depend on the *ex post* bargaining power of the workers. Foreseeing this, capitalists will invest less. Therefore, since the future returns on today's investment require the cooperation of other agents, in the absence of coordination and trust, the level of investment and the capital stock will not correspond to a socially optimal one.<sup>2</sup> Thus, externalities in time can be removed if the agents stick to each other, monitor each other and trust each other as in the case of Japanese model of industrial relations.

There are, however, other externalities. They arise from agents' mobility and change of identity (Vartiainen, 1992). A dynamic economy undergoes structural changes continuously and workers move and change occupations. If a worker knows that he/she is likely to move to another firm, he/she is less likely to sacrifice some of his/her current welfare for the benefit of his/her current employer (firm). This not only results in lower investment, foreseeing the possibility of workers moving elsewhere, firms are likely to invest less in on-the-job training (Soskice, *op. cit.*). A centralised trade union can alleviate this externality by pursuing a 'credible' policy of wage moderation which leads to higher capital stock and on-the-job training everywhere. Vartiainen (*op. cit.*) has shown in a game-theoretic framework that a centralised trade union may successfully sustain a better solution by building a reputation of wage moderation. In such a framework, the central union acts as a leader and the atomistic firms take its actions as given. If the central union can succeed in convincing the firms to believe in a future path of wages, it can also induce a path of the representative capital stocks that



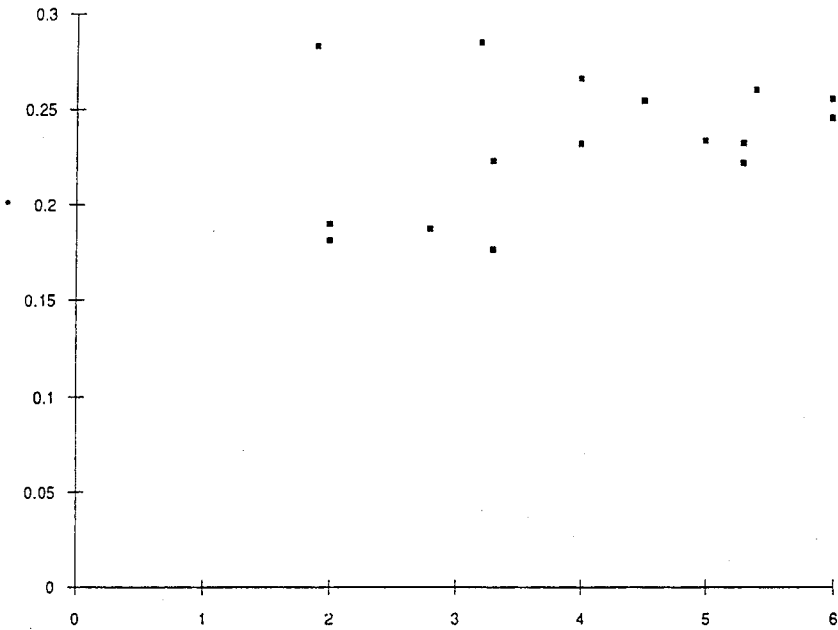
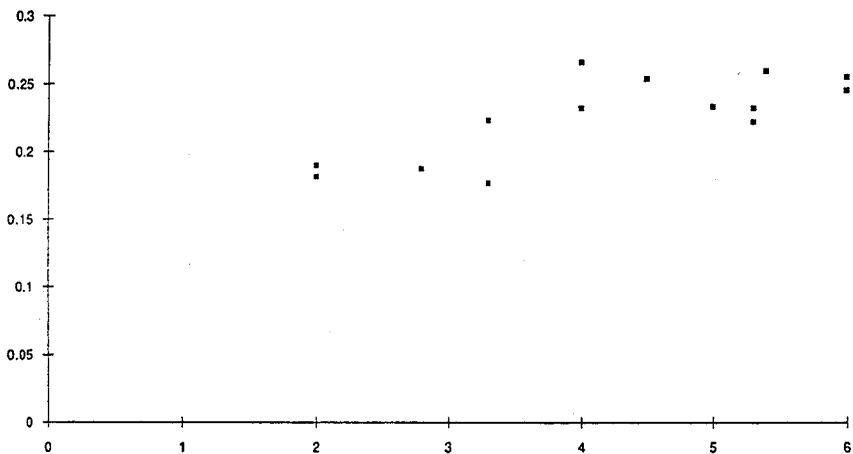
is more advantageous to its members than the myopic path. It can do even better if it can bargain about both wages and investment with the firms – more can be achieved if lower wages and additional investment are traded for each other. One can think of the ACTU's role in recent enterprise agreements and award restructuring in SPC, Pacific Dunlop and Dulux involving wage-investment trade-offs as empirical verifications of these theoretical results.

#### **4. Evidence from OECD Countries**

As can be seen from Table 2, countries, like, Australia, Austria, Japan, Germany, Netherlands, Norway and Sweden with some sort of centralised wage-setting system perform better in capital accumulation.<sup>3</sup> The UK, USA and Canada with the most decentralised systems have the lowest investment/GDP ratios during the entire period 1960-90. It is interesting to note that in the 1980s with the Accord in place, Australia whose rate of capital accumulation is just below that of Japan has outperformed Austria which has the most centralised system. Japan outperforms all other countries and according to Dorwick's revised index, Japan has the most centralised/corporatist wage-setting system. As mentioned earlier, Japan's case is unique. The Japanese firms have internalised the time and space related externalities by instituting a industrial relations system which values highly long-term relationships between employers and employees. Many authors (e.g. Morishima, 1982) have emphasised the loyalty of Japanese workers towards their employees and the length of the employment relationships in explaining the success of Japan as a modern nation. Aoki (op. cit) maintains that the management of a Japanese firm depends substantially on horizontal coordination and employees as a group become assets specific to the internal network. The rewards for them are internally determined and paid out of the value generated by the network net of costs due to training of employees, the sacrifice of economies of specialisation, etc. Furthermore, employees are willing to trade off current earnings and expend more effort for higher job security as they can trust the management corporate policy making to be fair. Such mutual commitments by management and employees yield a Pareto superior outcome. The Japanese firm pursues a higher growth rate in investment decision making because it takes into account employees' extra benefits from the growth of the firm in the form of enhanced future promotions possibilities.

Based on the foregoing discussion, one can hypothesise a monotonic relationship between centralised wage-setting system and capital accumu-



**Chart A** Investment Ratio & Corporatism, 1960–1960**Chart A1** Investment Ratio & Corporatism, 1960–69 (excluding Italy & Finland)

lation that the greater is the degree of centralisation, the higher is the rate of capital accumulation. Charts A–E plot investment-GDP ratios against the index of corporatism in wage-setting, developed by Dowrick (op. cit)<sup>4</sup> and

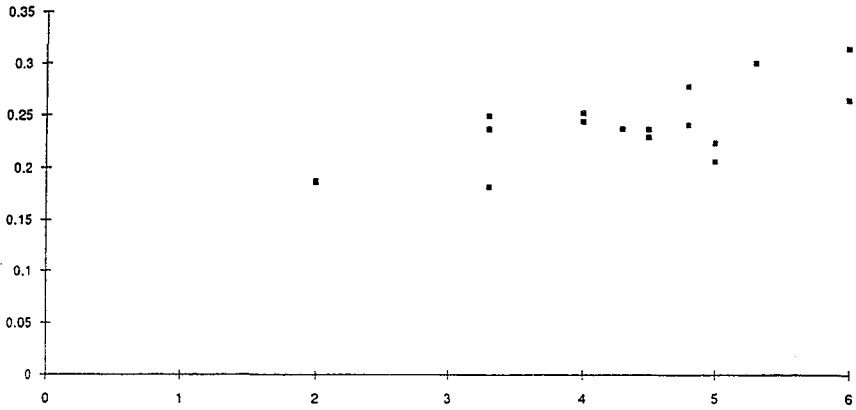
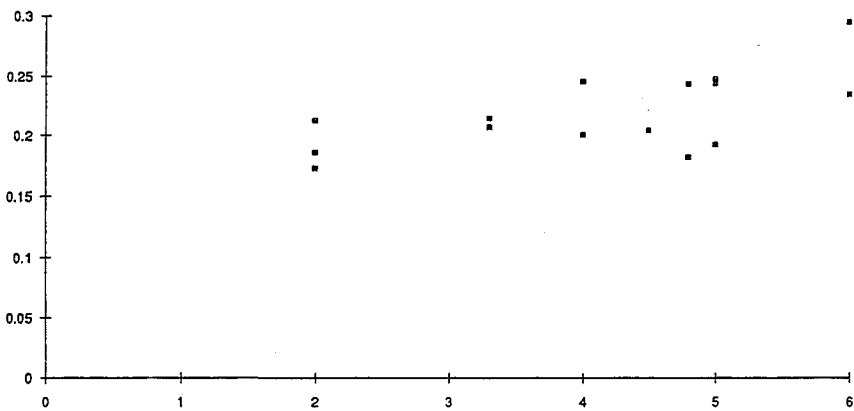
**Table 2** Average Investment-GDP Ratio in Selected OECD Countries, 1960-90

Country	1960-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990
Australia	0.261	0.275	0.258	0.241	0.244	0.244
Austria	0.241	0.253	0.276	0.255	0.227	0.239
Canada	0.178	0.185	0.185	0.192	0.203	0.223
Denmark	0.223	0.250	0.249	0.219	0.168	0.194
Finland	0.289	0.281	0.293	0.255	0.246	0.249
France	0.214	0.239	0.248	0.221	0.200	0.210
Germany	0.260	0.247	0.238	0.213	0.201	0.204
Ireland	0.171	0.215	0.235	0.243	0.229	0.177
Italy	0.294	0.269	0.263	0.228	0.212	0.213
Japan	0.237	0.293	0.326	0.301	0.279	0.310
Netherlands	0.247	0.279	0.246	0.215	0.189	0.210
New Zealand	0.236	0.228	0.265	0.216	0.242	0.259
Norway	0.265	0.269	0.304	0.293	0.257	0.238
Sweden	0.218	0.226	0.211	0.194	0.180	0.204
Switzerland	0.238	0.228	0.238	0.207	0.230	0.268
UK	0.167	0.192	0.186	0.172	0.161	0.185
USA	0.189	0.191	0.188	0.183	0.179	0.194

Source: OECD, *National Accounts – Main Aggregates, 196-91, Vol. 1*

presented in Table 3. For each period, there is a clear discernible linear relationship between the investment ratio and the degree of corporatism. The correlation coefficients are 0.33, 0.72 and 0.63, respectively for the 1960s, 1970s and 1980s. As one can see from Chart A, two countries (Italy and Finland) are out of line with the rest of the countries in the 1960s. If we drop these two outlying observation, the correlation coefficient between the investment rate and the degree of corporatism rises to 0.71 (Chart A1). The positive relationship remains unaffected for the entire sample period, 1960-90 (Chart D) – the correlation coefficient being 0.64. When the countries are pooled for the entire time series (Chart E), the correlation coefficient between the investment ratio and the index of corporatism is found to be 0.54 (0.67 without Italy and Finland in the 1960s).

The relationship between the investment ratio and the degree of corporatism is tested by regressing a simple investment function. It hypothesises investment as a negative function of long-term real interest rate and a positive function of the degree of corporatism. Thus, the model to be estimated can be written as :

**Chart B** Investment & Corporatism, 1970–79**Chart C** Investment & Corporatism, 1980–90

**Table 3** Index of Corporatism in Selected OECD Countries

Country	1960s	1970s	1980s
Australia	4.0	4.0	5.0
Austria	6.0	6.0	6.0
Canada	2.0	2.0	2.0
Denmark	5.3	4.8	4.8
Finland	3.2	4.8	4.8
France	3.3	3.3	3.3
Germany	4.5	4.5	4.5
Ireland	2.8	4.5	3.3
Italy	1.9	3.3	3.3
Japan	6.0	6.0	6.0
Netherlands	5.4	4.3	4.0
New Zealand	4.0	4.0	4.0
Norway	5.3	5.0	4.4
Sweden	5.3	5.0	5.0
Switzerland	5.0	5.0	5.0
UK	3.3	3.3	2.0
USA	2.0	2.0	2.0

Source: Dorwick (op. cit), Table 3.3

$$\hat{I}_t^i = a_0 + a_1 IR_t^i + a_2 INDEX_t^i + e_t \dots (1)$$

where  $\hat{I}_t^i$  = average investment/GDP ratio in country  $i$  during the period

$t = 1960-69, 1970-79$  and  $1980-90$

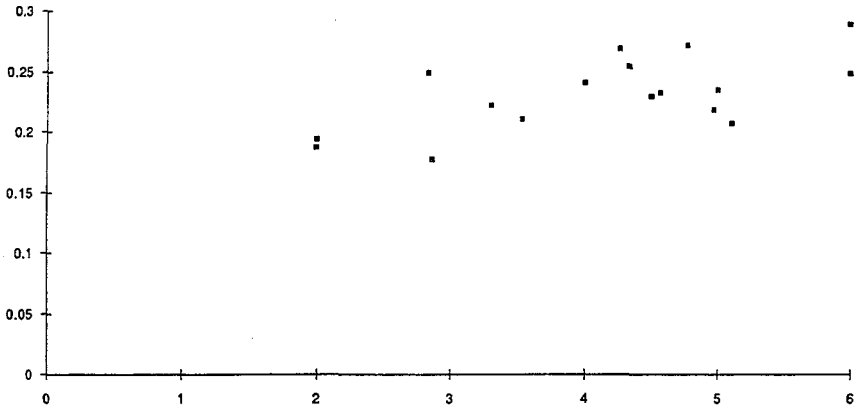
$IR_t^i$  = average real long-term interest rate in country  $i$  during the period  $t$

$INDEX$  = degree of corporatism in country  $i$  during the period  $t$

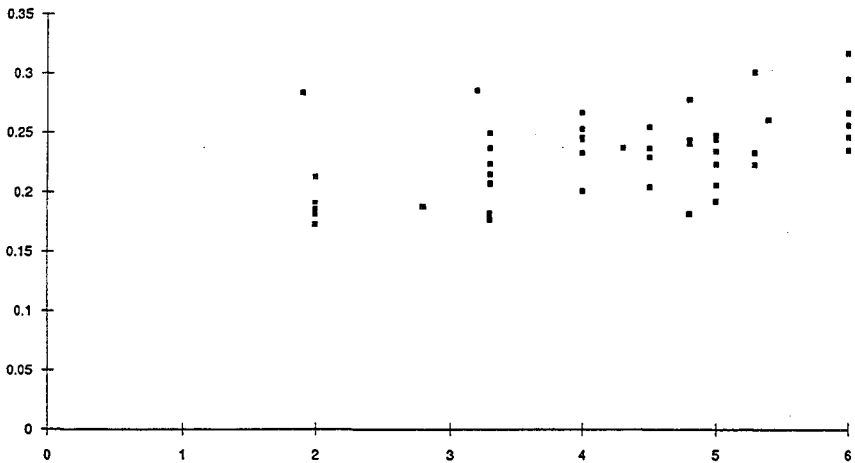
$e_t$  = randomly distributed error term, with standard properties.

The investment, GDP and long-term real interest rates data are obtained from the OECD, National Accounts – Main Aggregates, Vol. 1 and the index for the degree of corporatism is obtained from Dorwick (op. cit). Equation (1) is estimated for each period (1960s, 1970s and 1980s) and for the entire period (1960-1990) by pooling time series across countries. Table 4 presents the summary regression results. Although the long-term real interest rate (IR) variable has the expected signs in all sub periods, it is significant (at 10% significance level) only in the 1970s. The index of corporatism (INDEX2) has the right sign and is significant in all sub-periods. When the data for the three decades are pooled for the cross-section of seventeen countries, both the variables come with expected signs and are found significant<sup>5</sup>.

**Chart D** Investment & Corporatism, 1960–90 (Average)



**Chart E** Investment & Corporatism, 1960–90 (Cross-country pooled)



**Table 4** Regression Results (Dependent variable: Investment-GDP ratio)

Period	Constant	IR	Index	R2-adjusted
1960-69	.207 (6.470)	-.003 (-.280)	.008 (1.311)	.14
1970-79	0.133 (5.345)	-.005 (-1.454)	.025 (4.390)	.52
1980-90	0.178 (5.800)	-.005 (-.987)	.015 (3.023)	.35
1960-90	0.178 (12.429)	-.008 (-2.272)	.015 (4.626)	.33

t-values are in parenthesis

IR = Real long-term interest rate

Index = Index of corporatism

Sources: OECD, *National Accounts: Main Aggregates*, Vol. 1, 1960-91; Dowrick (op. cit), Table 3.3.

These results are consistent with the finding that a centralised wage-setting system leads to higher employment as the demand for labour increases with capital accumulation. This happens as the central union can internalise the impact of its actions on employment, prices and capital investment.<sup>6</sup> Thus, the centralised and corporatist wage-setting system not only produces higher total factor productivity (as demonstrated by Dowrick), it also enhances the growth of factors. This implies that in a country with a coordinated and centralised wage-setting system, the growth rate is likely to be higher both due to higher total factor productivity growth as well as the growth of factors.

## 5. What Have We Learned?

Those who support decentralised bargaining (or individual employment contracts) have an idealised vision of the world where the labour market works like a 'fish' market and unemployment and excess supply of labour drive real wages down to clear the market. Unfortunately, the labour market does not quite behave in this way. Withers, Pitman and Whittingham (1986) in a significant work have found that rates of change of relative wages are determined independently of the microeconomic market balance. By studying Australia, the U.K. and the U.S.A which have different wage-setting



systems, they conclude that their result holds irrespective of the institutional form of the wage-fixing system.

Because of the fact that investment takes time and it is costly to change once new machines are installed, the capital market, too, does not operate in a perfectly competitive manner. As long as there is a possibility that workers can use their bargaining power to extract the quasi-rent, capital stock will not correspond to a socially optimal one.

Perhaps the best statement in relation to labour market policy is made by Argy (1992, pp. 103-4) that one cannot be dogmatic. Furthermore, as the variation within each group shows, it is not at all clear that a policy which appears to improve the macroeconomic performance in one economy can be transplanted to another economy with similar effectiveness. Yet based on the findings of section IV, one can make some tentative judgements. Both the UK and the USA are among the worst performers (in terms of investment/GDP ratio) despite the fact that union density in the two countries is significantly different. Both, however, share the characteristics of the absence of a corporatist spirit. On the other hand, the corporatist spirit is very much alive in the best performer, Japan. Therefore, corporatism and not union bashing, appears to be the driving force.

As the Japanese and Swedish experience shows, corporatism does not necessarily imply that the government should play a big-brotherly role. Perhaps, there is a lot of advantage in the so-called new culture of production and industrial relations whereby a centralised trade union and a centralised employers confederation come together and work out wage-investment profile on the basis of some shared vision for the economy. The role of the government should be confined to the enforcement of any mutually agreed contract between the ACTU and CAI (or BCA or NFF).

However, the government has to assume a greater role when the economy needs restructuring. As Schott's (op. cit: 174-179) extension of Lancaster's (op. cit) model shows, the co-operation between the union and employers breaks down when the returns to investment fall to a 'non-viable level' and the economy reaches a point of stagnation. Such a situation can only be avoided through restructuring into more technologically advanced and emerging activities. Here one can envisage two major roles for the government. One is to ensure the workers of the benefits of restructuring by providing a safety-net for those who temporarily lose out in the process. The second is to embark on investment in infrastructure and social capital and maintain a conducive macroeconomic environment so as to raise returns to private investment. In fact, social investment and stable macroeconomic environment have the potential to postpone the arrival of a 'crisis' point indefinitely.

## Notes

- 1 Of course, this has to be validated by an expansionary monetary policy.
- 2 The problem arises from the 'isolation paradox'. Let the preference ordering of individuals in a society be such that (1) given the set of actions of the others (no matter what they are), an individual is better off doing A rather than B and (2) given the choice between doing A and everyone doing B, each individual prefers the latter to the former. In the absence of collusion, each individual will prefer to do A rather than B, for no matter what the others do each is himself better off doing A. Yet the outcome, A, will be regarded as strictly worse off by each than the alternative B, and hence the outcome is Pareto-inferior. Applying the isolation paradox Sen has shown that when saving decisions are decentralised but the return on savings of an individual agent depends on the savings decisions of others, the actual level of savings is suboptimal. See Sen, A.K. (1961, 1967).
- 3 Schott (op. cit: 52) has found a similar pattern which has led her to conclude 'those countries where strong corporatism was the practice tended to have a high proportion of resources devoted to investment'
- 4 Dowrick's index is obtained by extrapolating (backward and forward) Calmfors-Driffill's (C-D) index. The method involves multiplying the base C-D index for the 1970s with the ratios of Crouch (1990) index for the 1980s and 1960s to the 1970s values. This has been rationalised on the basis of high correlation (0.90) between the C-D and Crouch indices for the 1970s. Dowrick then modified the index by giving higher values for Japan and Switzerland. Given our discussions on Japan, this paper uses Dowrick's second index. It should be mentioned here that one could have used Crouch index without going through the trouble of extrapolating the C-D index. The problem with the Crouch index, however, is that Crouch's definition of centralisation is narrower than that of C-D in the sense that he is concerned principally with the level of centralisation of the main union confederation. On the other hand, the C-D index incorporates both central unions and centralised employer bodies. Nonetheless, the advantage of the Crouch index is that it allows variation between decades. Thus, the Dowrick index introduces time variation to the much broader C-D index which is constructed for only 1973-85.
- 5 Index1 performed poorly in all regressions.
- 6 McDonald and Solow (1981) have shown that a centralised trade union can take into consideration the problem of outsiders and trade lower wages for higher employment. This implies a movement along the labour demand curve. However, this paper argues that with capital accumulation, there will be a shift in the labour demand curve and in the long-run it will be possible to sustain both higher wages and employment.

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