Social Partnership, Competitiveness and Exit from Fiscal Crisis

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Abstract: The contribution of social partnership to Ireland's economic boom remains the subject of controversy. This paper analyses at a theoretical level how a multi-period deal on wages and taxation of the type struck in the late 1980s could enhance competitiveness and facilitate an economy in escaping from fiscal crisis. Such a deal would not be possible in a spot labour market. The high unemployment rates of the late 1980s suggest that the Irish labour market of the time cannot be characterised as a spot labour market, however, and such a deal could be struck under these circumstances. Short-term tax reductions would have worsened the short-term budgetary position and hence would have been politically unacceptable. An agreement entailing a commitment by government to future tax reductions in exchange for current wage moderation on the part of organised labour imparts a supply-side stimulus to the economy and improves the immediate fiscal position. The concluding comments provide a gloomy assessment of whether partnership could play an equivalent role in the current recessionary environment.

I INTRODUCTION

Of all the factors commonly cited as having contributed to Ireland's dramatically improved economic performance of the last two decades, social partnership remains the most controversial. Teahon (1997/98) – one of the civil servants involved in the development of the process – argues that partnership promoted a shared understanding of key economic mechanisms and relationships, while MacSharry (2000, page 62) – the Finance Minister who presided over the expenditure cuts of the 1987-89 period – credits the

partnership process with providing political cover for the implementation of the fiscal consolidation.

Prior to the emergence of partnership, as described by Hardiman (1994), no single bargaining group believed it had to pay attention to the impact of its activities on the overall state of economic performance. Divisions within the trade union movement contributed to the extent of wage inflation and the scale of industrial conflict. This closely conforms to the type of industrial relations system identified by Calmfors and Driffill (1988) as associated with the poorest macroeconomic outcomes. Citing Olson (1982), they note that organised interests are most harmful when they are strong enough to cause major disruptions but not sufficiently encompassing to bear a significant fraction of the societal costs associated with pressing their own claims. Partnership, according to this perspective, was sufficiently encompassing that participants were forced to take into account the macroeconomic consequences of the pay deals struck.[1]

In terms of possible impacts on wage formation and unemployment, however, Fitz Gerald (1999) draws on econometric modelling of the Irish labour market to argue that partnership merely validated the results which market forces made inevitable. O'Leary (2006) is more hostile still. Extrapolating from Fitz Gerald's "open labour market" model, he contends that tax changes would be fully passed through to wages, with no need for partnership as a conduit. If the partnership process raised public-sector pay at the time – as he suggests – this would have reduced the potential for tax reductions and impacted adversely on competitiveness.[2]

One problem with these accounts however relates to timing. Figure 1 shows that Irish unemployment began to fall towards UK levels well before the labour-market tax wedge began its secular decline.[3,4] A more fundamental problem is that the underlying assumption of a "spot labour market" in these analyses precludes any possibility that the offer of future tax cuts could induce

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[1] Generally, beneficial institutional innovations might be thought to have as their purpose the resolution of prisoners' dilemmas.

[2] He also disputes Fitz Gerald's suggestion that the process may have helped to bring about a more orderly labour market, arguing that the concurrent decline in strike activity in Ireland merely reflected broader international trends.

[3] The tax wedge in the figure is defined as (1+ RGTYSE)/(1- RTYPTOT), where RGTYSE is the average rate of employer social insurance contributions and RTYPTOT is the average rate of personal taxation, including social insurance paid by employees. I am grateful to John Fitz Gerald for providing these data. Nickell (2003) sums the payroll tax, income tax and consumption tax rates to yield another measure of the wedge. For Ireland, this measure stood at 23 per cent for the period 1960-64, 30 per cent for 1965-79, 37 per cent for 1980-87, 41 per cent for 1988-95, and fell to 33 per cent for 1996-2000.

[4] It is recognised of course that a range of other factors besides the tax wedge would have impacted on unemployment.

wage moderation; i.e. that the changing tax wedge could have been part of a politically negotiated process.[5] Yet this was a key element of the agreements. The first partnership agreement, the Programme for National Recovery (1987), stated for example that "… an appropriate pattern of pay developments has an essential part to play in the success of this Programme. Lower income taxation and a low level of inflation can help to bring about more moderate pay expectations. It is for this reason that this Government as part of tax reform under the Programme intend to make the income tax reductions outlined in Section 3."

The open-labour-market model furthermore, at least in O'Leary's interpretation, posits a more or less perfectly elastic supply of labour as the mechanism by which tax reductions can generate substantial improvements in wage competitiveness. Yet labour supply could not have been perfectly elastic, given that unemployment in Ireland at the time of the first partnership agreement in 1987 stood at almost 17 per cent.[6] A comprehensive account of

Figure 1: *Unemployment and the Irish Labour-Market Tax Wedge*
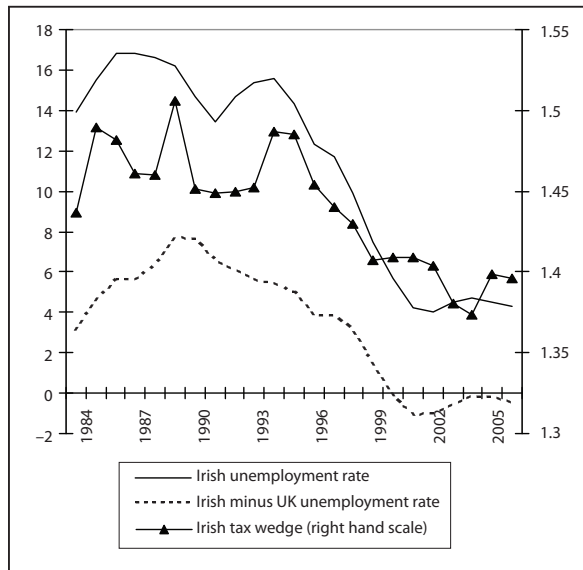
Sources: Unemployment rates from Eurostat; tax wedge from ESRI databank.

[5] Walsh (2004), on the other hand, accepts that partnership could have paid dividends "… by facilitating reductions in taxes on wage earners, and the backward shifting (of these reductions) to employers".

[6] Unlike Fitz Gerald, O'Leary does not distinguish between the markets for skilled and unskilled labour.

labour-market developments over the partnership period must presumably include a theory of how the long-standing excess of Irish over UK unemployment shown in Figure 1 came to be reversed.

In contrast to Fitz Gerald and O'Leary, Barry (2004) suggests that partnership may have functioned – in its early stages at least – as a delivery mechanism for *future* tax cuts offered in exchange for *current* wage moderation. Barry and Devereux (1995) suggest that such a process could have played a part in the supposed episode of "expansionary fiscal contraction" (EFC) that some analysts argue to have characterised the response of the economy to the fiscal consolidation of 1987. EFC is typically modelled as a demand-side phenomenon. Regardless of the demand-side response, Barry and Devereux speculate that a partnership deal of the type modelled here could have given rise to a supply-side expansion.

The aim of the present paper is to present a formal model of the process by which a partnership-type agreement could have stimulated the economy and to explore the extent to which it could have helped the economy emerge from fiscal crisis. The focus is solely on the supply side (fiscal expenditure changes are not considered) and the model is constructed to apply to the labour-market conditions that prevailed in the early years of partnership. The paper has nothing to say about the consequences of partnership under full employment conditions, though there is some speculation towards the end of the paper as to why partnership may not be able to generate an equivalent response under the recessionary conditions prevailing in the Ireland of 2008/09. Our definition of "fiscal crisis" draws on the EFC literature (e.g. Miller, Skidelsky and Weller, 1990; Bertola and Drazen, 1993; and Sutherland, 1997). It refers to a situation where government debt is close to some critical level that will trigger a dramatic increase in the risk premium on government bonds.

The next section of the paper introduces the monopoly union model underlying the analysis. Section III presents the model in a two-period setting in which future tax cuts are offered in exchange for current wage moderation. Finally, since the model in the main section of the paper assumes a closed labour market in order to keep the presentation as simple as possible, an Appendix shows how the model can be extended to take international migration into account.

II A ONE-PERIOD MONOPOLY UNION MODEL

A single sector economy is assumed, with output produced via a Cobb-Douglas production function.

$$Y = AK^{\alpha}L^{1-\alpha} \qquad (1)$$

Prices are exogenous in line with the small open economy assumption, and are set equal to one. K represents the economy's stock of capital and L the level of employment. The elasticity of labour demand associated with Cobb-Douglas production is:

$$\varepsilon_{LD} = -1/\alpha \qquad (2)$$

The monopoly union chooses a wage w to maximise its objective function Ω, taking into account the impact of wages on labour demand.

$$\Omega = w(1 - t)L + b(N - L) \qquad (3)$$

where t is the rate of income tax, b the utility of leisure and N the size of the labour force.[7]

The resulting wage is

$$w = b/[(1 - \alpha)(1 - t)] \qquad (4)$$

This union-determined wage exceeds the opportunity cost of labour b, yielding initial unemployment of N − L. The logic of the model is that the union behaves like any monopolist, essentially restricting supply in order to drive up the price received (which is the wage rate in the present case). The impact on wages of a change in the tax rate is given by

$$dw/dt = b(1 - \alpha) / [(1 - \alpha)(1 - t)]^2 > 0 \qquad (5)$$

A reduction in the tax rate reduces wage demands, leading to an increase in employment and a corresponding reduction in unemployment. Government tax revenues T are given by

$$T = twL \qquad (6)$$

The impact of a tax change on tax revenue is:

$$dT/dt = [bL/\alpha(1 - \alpha)(1 - t)^2] \, (\alpha - t) \qquad (7)$$

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[7] A standard work week is assumed, with workers either employed or unemployed. For more on the monopoly union model see Oswald (1985). Oswald's use of a general functional form and assumption of risk aversion on the part of the union makes it impossible to sign some of the competing substitution and income effects of interest.

This has the same sign as $\alpha - t$, i.e. capital's share in income minus the income-tax rate. By coincidence, the OECD Economic Outlook database records a value of 25 per cent for the profit share in the business sector in Ireland in 1987 while the ESRI database records a value of 25 per cent for the average rate of personal taxation (including the social insurance contribution of employees) for that year.[8] Hence, in this basic model the impact on tax revenues is close to zero. The determinants of the sign of this derivative will be different in the two-period model presented in the next section of the paper. This is important as we will impose a political restriction on fiscal-crisis policies such that they must not reduce current tax revenues.

III THE TWO-PERIOD SOCIAL PARTNERSHIP MODEL

We add subscripts 1 and 2 to distinguish between first-period (short-run) and second-period (long-run) values. Production in each period is given by

$$Y_1 = AK_1^{\alpha}L_1^{1-\alpha} \quad \text{and} \quad Y_2 = AK_2^{\alpha}L_2^{1-\alpha} \tag{8}$$

The short-run capital stock is fixed while period-one investment, I, (where $I = K_2 - K_1$) allows the long-run capital stock to vary.

The firm chooses labour inputs in each period, alongside period-one investment, to maximise its discounted stream of net revenues:

$$\Pi = Y_1 - I - c[I^2/2K_1] - w_1L_1 + R[Y_2 - w_2L_2] \tag{9}$$

The term $c[I^2/2K_1]$ represents capital-adjustment costs where the internal marginal adjustment cost is an increasing function of investment relative to the initial capital stock, as is common in the theory of the firm.[9] The time preference rate is set equal to the fixed foreign interest rate, which enters the analysis through the assumption of international capital mobility. The interest factor R is one divided by one plus the foreign interest rate.

First and second-period employment levels are determined by

$$w_1 = A (L_1/K_1)^{-\alpha} \tag{10}$$

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[8] Lane (1997/8) discusses the evolution of capital's share in Ireland employing the OECD Economic Outlook database.

[9] This formulation is equivalent to Tobin's q theory of investment; see e.g. Hayashi (1982). Without adjustment costs the model would be overdetermined since the international rate of return on capital (which is internationally traded) would tie down the capital-labour ratio and hence the wage.

and

$$w_2 = A\,(L_2/K_2)^{-\alpha} \tag{11}$$

and the optimal level of investment is:

$$I = K_1[R_\alpha\,(L_2/K_2)^{1-\alpha} - 1]/c \tag{12}$$

The structure of the model is quite simple. The first-period wage – however determined – yields first-period employment via Equation (10) since first-period capital is fixed. The second-period wage then ties down the second-period capital-labour ratio via Equation (11), which then yields the level of investment via Equation 12, and hence the second-period capital stock. This in turn yields the long-run employment level.

The partnership process entails a multi-period wage agreement such that $w_1 = w_2$. Hence the wage subscripts can be dropped. The union now maximises the intertemporal version of its objective function Ω, as given in Equation (13), again taking into account the impact of wages on labour demand (via the Cobb-Douglas production functions).

$$\Omega = w(1 - t_1)L_1 + b(N - L_1) + R[w(1 - t_2)L_2 + b(N - L_2)] \tag{13}$$

The union-determined wage that maximises Ω is:

$$w = [b/[(1 - \alpha)]\ [1 + R(L_2/L_1)] / [(1 - t_1) + R(L_2/\,L_1)(1 - t_2)] \tag{14}$$

The rate of income tax in both periods, t_1 and t_2, affects the wage outcome. Hence the model allows for the possibility of the government offering future tax cuts in exchange for wage moderation. Such an agreement would not be possible in the unorganised ("spot") labour markets assumed by Fitz Gerald and O'Leary. The logic of the process as modelled here is that the government can use the fact that the labour market is organised (which is what generates excess unemployment in the first place) to secure an intertemporal agreement of this nature. The impact on wages of an increase in the first-period income-tax rate is:

$$dw/dt_1 = [b/(1 - \alpha)]\ [1 + R(L_2/\,L_1)] / [(1 - t_1) + R(L_2/\,L_1)(1 - t_2)]^2\ > \ 0 \tag{15}$$

Hence a reduction in the tax rate reduces wage demands, leading to an increase in employment and a corresponding reduction in unemployment. First-period government tax revenues T_1 are given by

$$T_1 = t_1 w L_1 \qquad (16)$$

The impact of a change in the first-period tax rate on first-period tax revenues is given by:

$$dT_1/dt_1 = [dw/dt_1] \ [(1 - t_1) - \{t_1 \ (1 - \alpha) / \alpha\} + R(L_2/ L_1)(1 - t_2)] \ L_1 \qquad (17)$$

We saw in the earlier one-period model that the equivalent expression had the same sign as $\alpha - t$, i.e. as capital's share in income minus the income-tax rate, and that these terms recorded the same values for 1987. In the present two-period model we see that for $\alpha = t$, the overall impact of an increase in the first-period tax rate on first-period tax revenues is positive. *Hence a first-period tax reduction would reduce first-period tax revenues and move the economy closer to or beyond the catastrophic "trigger point". This violates the policy constraint that we impose in situations of fiscal crisis.*

We now wish to explore the consequences of reducing second-period rather than first-period taxes, where the union again maximises Equation (13).

$$dw/dt_2 = [b/(1 - \alpha)] \ [1 + R(L_2/L_1)] \ R(L_2/L_1) \ / \ [(1 - t_1)$$
$$+ R(L_2/L_1)(1 - t_2)]^2 \ > \ 0 \qquad (18)$$

As in the case of a first-period tax cut, a second-period tax cut also reduces the multi-period wage, stimulating investment and both first-period and second-period employment levels.

First-period tax revenues are as in Equation (16), generating:

$$dT_1/dt_2 = [dw/dt_2] \ t_1 \ L_1 \ [(\alpha - 1)/\alpha)] < 0 \qquad (19)$$

Since capital's share in income is less than unity, a second-period tax cut under social partnership raises employment in both periods, while the growth in first-period tax revenues might be thought to assist the economy in escaping from fiscal crisis.

We now need to reflect a little more, however, on the exact meaning of this last phrase. The discounted sum of tax revenues (DSTR) in the two-period model is given by:

$$DSTR = T_1 + R.T_2$$

It transpires in our highly stylised model, however, that the impact of both first-period and second-period tax reductions on the discounted sum of tax revenues is zero when the income-tax rate (t_1, t_2) has the same value as capital's share in income (α).

$$\text{d DSTR/dt}_1 = B^{-1} [wL_1 (1 - t_1/\alpha) + wRL_2 (1 - t_2/\alpha)] = 0 \text{ for } t = \alpha$$

and

$$\text{d DSTR/dt}_2 = B^{-1} wRL_2 [(1 - t_1/\alpha) + R(L_2/L_1) (1 - t_2/\alpha)] = 0 \text{ for } t = \alpha$$

where

$$B = [(1 - t_1) + R(L_2/L_1)(1 - t_2)]$$

This means that the first-period and discounted second-period effects on tax revenues are of equal and opposite sign.[10]

This last set of results suggests that partnership would have facilitated exit from fiscal crisis only in a narrowly restricted sense. By moving the economy away from the potentially catastrophic trigger point for a limited period of time, it would have served as a holding action until fiscal expenditure cuts were implemented and/or other exogenous tax receipts came on stream. In the late 1980s, as Barry and Devereux (1995) have noted, Single Market-related FDI inflows and buoyant world demand, particularly from the UK, would have combined with the competitiveness gains analysed here to draw in such further tax revenues. Taking these factors into account would require a more complicated model, which is left for future research.

IV CONCLUDING COMMENTS

The contribution of social partnership to Ireland's economic boom remains controversial. This paper presents a theoretical model of a small open economy that analyses the contribution that a multi-period deal on wages and taxation can make in stimulating competitiveness and maintaining the economy's distance from the critical debt level that can trigger a dramatic increase in the risk premium payable on government debt.

Such a deal would not be possible in a spot labour market. Under the non-spot labour market structures suggested by the high unemployment rates of the late 1980s, such a deal can be struck. Short-term tax reductions would have worsened the short-term fiscal position. An agreement offering future tax reductions in exchange for current wage moderation, on the other hand, imparts a supply-side stimulus to the economy *and* improves the immediate fiscal position.

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[10] This means of course that the tax reductions considered are consistent with an unchanged pattern of fiscal expenditures, highlighting the fact that the present paper deals with a different set of issues from those explored in the "expansionary fiscal contraction" literature.

The question might be asked as to why government action is required to secure an outcome that is preferred by both unions and employers.[11] The answer relates to the Coase Theorem, which states that, in the absence of transactions costs, interested parties will be able to bargain privately to correct many types of market failure. As the monopoly-union equilibrium is Pareto sub-optimal, the business sector – which stands to gain from a move to a competitive labour-market equilibrium – should be able to compensate or bribe the union to allow such an outcome. The underlying presumption then is that transactions costs prevent the business sector from organising to secure such a deal. On a practical level, this recognises that some of the firms that would benefit would have gone out of business or would not even have come into existence under the adverse competitiveness conditions associated with the pre-partnership equilibrium, making it virtually impossible to secure their contributions to the necessary compensation payment. The government, however, as shown here, can co-ordinate such a Pareto-improving adjustment via tax policy.

Tax policy alone, however, cannot secure full employment while the monopoly-union model holds sway.[12] Full employment can emerge only through a change in labour-market regime. Such a regime change could possibly have come about in Ireland through former labour-market "outsiders" attaining the status of "insiders" (Blanchard and Summers, 1987) or through changes in the characteristics of the median voter who determines the behaviour of organised labour. This is a process, and a modelling challenge, that appears worthy of exploration.[13]

Finally, one might wish to speculate as to whether partnership might be able to play an equivalent role in the current recessionary environment. Let us consider this in terms of the demand for further income tax reductions and the willingness or ability of the government to provide them. On the demand side, the first point to note is that tax reductions are likely to have had a higher priority for the electorate at the higher levels of public debt prevailing in the late 1980s, since high debt-service payments obscure the relationship between public service provision and the level of taxes paid. A related point is that the perceived marginal benefit of income tax reductions has arguably declined in recent years as attention has shifted to apparent deficiencies in the level of public services provided. On the supply side, since the income tax

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[11] Recall that fiscal expenditures remain constant throughout the analysis.
[12] Note that even for $t_1 = t_2 = 0$ in Equation (14), the union-determined wage exceeds the opportunity cost of labour, b.
[13] Since it is not addressed here, the paper has nothing to say about the consequences of partnership under full employment conditions.

reductions of the last two decades shifted the tax burden onto less stable sources of revenue such as stamp duty, the recent collapse in these revenue streams would seem to leave little room for further income tax reductions.

It can only be hoped that Teahon's view, as quoted at the outset, might prove more accurate than this much gloomier assessment and that partnership might have more than the one string to its bow that is the focus of the present paper.

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APPENDIX
EXTENDING THE MODEL TO ALLOW FOR MIGRATION

There are a number of ways in which international migration can be modelled. Faini (1996) and Andersson and Forslid (2004) assume population heterogeneity, where agents have varying preferences as to location. The greater the utility difference across locations, the greater the proportion of the population that migrates. The heterogeneity assumption makes welfare analysis difficult however. Barry (2002) surmounts this by using a "taste for variety" approach, in which the proportion of their lives that individuals choose to spend at home and abroad is determined by the relative attractiveness of each location. As in the population-heterogeneity approach, this yields a type of imperfect labour mobility.

The basic Harris-Todaro (1970) model, by contrast, assumes perfect factor mobility, though the transition to full equilibrium will not be immediate if there are rising marginal costs of migration, as assumed by Barro and Sala-i-Martin (1995, chapter 9) for example. For illustrative purposes, we derive results for a perfect-foresight version of the Harris-Todaro model without migration costs.[14] Fitz Gerald (1999) and O'Rourke (1995) both propose the Harris-Todaro model as a way of incorporating traditionally high Irish unemployment.

The model postulates an exogenous wage (w*) or exogenous labour-market conditions in the external (i.e. UK) labour market, where the exogeneity derives from the "small economy" assumption applying to Ireland. The migration equilibrium is established by higher Irish unemployment, yielding:

$$w^* = wL/N \qquad\qquad (A1)$$

where w* is the exogenous UK wage, w is the Irish wage, and L/N is the Irish *employment* rate.[15]

Amending the conventional model to allow for the monopoly-union formulation, and assuming that perfect-foresight migration takes place at the beginning of period 2, we have:

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[14] Migration decisions can also be modelled as backward looking, as in Djajic and Purvis, 1987.

[15] Equation (A1) is consistent with high Irish unemployment only if Irish wages exceed those in the UK. O'Rourke (1995) cites ILO data from the 1920s onwards that suggest that real wages (adjusted for Ireland-UK purchasing power differences) were higher in Dublin than in London for most years and most occupations. Fitz Gerald (1999, Figure 7.30) shows that non-PPP-adjusted Irish hourly earnings fluctuated between 70 per cent and 90 per cent of UK levels over the course of the 1980s and 1990s; in the presence of migration costs, Irish wages need not exceed those of the UK even if Irish unemployment is higher.

$$w^* = w(1 - t_2)(L_2/N_2) + b(N_2 - L_2)/N_2 \qquad (A2)$$

This yields:

$$N_2 = \{[w(1\text{-}t_2) - b]/(w^* - b)\}\, L_2 \qquad (A3)$$

The union-determined wage in this formulation is given by:

$$w = [b/[(1 - \alpha)]\,[1 + R(L_2/L_1)Z]\,/\,[(1 - t_1) + R(L_2/L_1)Z(1 - t_2)] \qquad (A4)$$

where the new term $Z = w^*/(w^* - b)$ distinguishes this expression from the "closed labour market" Equation (14) in the text.

All the main qualitative results derived earlier go through under this formulation. A first-period tax cut reduces the multi-period wage and stimulates employment in both periods. The policy constraint is violated however; the tax cut dominates the increase in the first-period wage bill so that first-period tax revenues decline. A second-period tax cut also stimulates the economy in both periods, with first-period tax revenues rising because of the expanded wage bill. Hence, this latter policy satisfies the policy constraint.

A perhaps surprising result of the restrictive Harris-Todaro formulation is that, as seen from Equation (A3), the labour-force response to an improvement in Irish labour-market conditions is so strong that it dominates the second-period employment response – a result of the extremely high elasticity of labour supply in the Harris-Todaro model. This suggests that one or other of the various formulations offering a less than perfect degree of labour mobility may be more appropriate in modelling the Irish conditions of the early partnership period.