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1. THE CAUSES OF INFLATION

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Inflation is widely regarded as the major problem facing the world economy. After more than a decade of relatively slow growth in wage and price levels, following the inflation associated with the Korean war, wages and prices began to rise sharply in the late 1960s. By 1970, Korean war levels of inflation had been surpassed in some countries, a decline in 1971-72 was not sustained and there was further acceleration from late 1972. By 1973 wage and price inflation were running at the highest levels of the post-war period.

The international character of the current inflation has attracted much attention. The similarity of the experiences of many countries in the past few years is evident and the dispersion of their rates of inflation seems to have fallen. This is confirmed in a recent OECD study [6] of the coefficient of variation (the ratio of the standard deviation to the mean) of GNP deflators of seventeen member countries for the period 1956-1972, which exhibited a strong downward trend.

These developments appear to have caught economists, both academics and those in government, by surprise. Their reaction was to produce a large volume of theoretical and empirical research on the determinants of inflation. But a state of agreement has not been reached comparable to that which obtained in the mid 1960s. We now examine the views which were held at the time about the causes of inflation and show why they have since been rejected. This is followed by an outline of the views currently held as to the causes of inflation and the evidence to support them. Finally the particular nature of inflation in Ireland is discussed in the light of the foregoing discussion.

The mainstream view of the causes of inflation from the late 1950s to the mid 1960s was based on the pioneering work of Phillips and Lipsey. This view was, in its original and simplest form, that the rate of money wage inflation varies inversely with the level of unemployment, which may be regarded as a proxy for the level of excess-demand in the economy as a whole. Prices were assumed to be determined on the basis of a mark-up over costs, which included not only wages but usually import prices and allowed for the effects of productivity change. The policy implications of this position were clear: understand the process of wage inflation; by controlling it price inflation will be controlled. Thus the trade-off between inflation and unemployment, believed to exist in short and long run, dominated policy thinking. Monetary and fiscal policy, by affecting the level of excess-demand in the economy (and hence unemployment) affected the rate of inflation. Import prices, of course, were not under the direct control of the policy makers but their effects could still be modified by domestic demand management. The introduction of a price inflation variable into the wage equations was a complication, but since it usually entered with a coefficient of less than one, it did not destroy the long run trade-off relationship.

The extent of agreement on this position was substantial, though by no means total; it is not intended to exaggerate it. However, since the mid 1960s developments have occurred which called the validity of the position into question. The first of these was the general breakdown of the inverse relationship between inflation and unemployment. The rapid rise of wages and prices was, in many cases, accompanied by increases in unemployment. This development appeared to some to be inconsistent with the workings of a market economy and provided the impetus to the growth of socio-economic and sociological explanations of inflation and the prescription of wage and price controls as the remedy. These views are discussed below. Economists' reactions were of two main types.

The first of these involved an attack on the Phillips hypothesis itself and originated with Friedman and Phelps. Their models were similar; Friedman's, as the simpler of the two, is outlined. He argued that the labour market behaves competitively and adjusts *real* wages to remove excess-demand. Alternatively, in bargaining between unions and employers, the real wage is the concern of workers. Since it is money wages which are set in labour markets, not real ones, money wages will be responsive not merely to excess demand for labour, but also to *the expected rate of price inflation,* which should enter the wage equation with a coefficient of unity. Thus, the Friedman/Phelps attack on the simple Phillips hypothesis is that by concentrating on *money* wages, it assumes the existence of money illusion on the part of the workers. In the words of Professor David Laidler, "what has broken down is a body of doctrine that tried to explain inflation while simultaneously assuming that economic agents were incapable of noticing it."

If the Friedman/Phelps view is supported by the evidence, it has important policy implications. The first is the existence of an equilibrium unemployment rate, sometimes referred to as the "natural rate of unemployment." This is the rate at which excess-demand for labour in the aggregate is zero; all unemployment is either voluntary e.g. workers moving between jobs, or 'structural' in the sense of arising from monopolistic factors or other rigidities in the labour market. The second implication is that only at the natural rate is the inflation rate constant. There is no presumption, of course, that the equilibrium rate of unemployment is a constant that cannot be influenced by specific policies. If the economy is operated at less than the equilibrium rate of unemployment i.e. with permanent excess-demand, "not merely will inflation be persistent, *it will persistently accelerate.*"[1] The reason for this is that if excess-demand is maintained, the rate of inflation becomes expected. But because of the excess-demand, actual wages and prices will be marked up to exceed the expected rate; when this higher rate becomes expected the same procedure follows and so the system spirals. Thus

1. See Parkin, [1] p. 39.

the choice that exists for the policy maker, in this view of the world, is not between higher inflation and lower unemployment, but between an unemployment rate consistent with steady inflation rates or a lower one consistent with accelerating inflation. If the inflation rate is to be reduced, the unemployment rate must rise temporarily above the equilibrium rate. In short, there is no long-run trade off between inflation and unemployment.

To complete this model, which has become known as the "expectations Phillips curve Model" or the "expectations-excess demand hypothesis", models of the formation of expectations and of the generation of excess demand are required. Expectations formation is most commonly seen as an error learning process i.e. current expectations are adjusted by some fraction of the error in previous expectations. Thus current expectations are generated by past inflation rates. The level of excess demand is seen as being determined by fiscal and monetary policy. The ability of fiscal policy to affect excess demand is rarely denied; the influence of monetary policy, however, is disputed. A substantial body of economic opinion accepts that the current inflation is based on government generated excess demand financed by monetary expansion; for this reason they have become known as "monetarists". Thus the "monetarist" view is basically that the expectations excess demand hypothesis holds and that the excess demand is fuelled by monetary expansion.

The second economically based reaction to the breakdown of the Phillips hypothesis has much in common with the sociological theories of inflation. It has taken a number of forms. One group, emphasising the institutional *naïveté* of the Phillips Model i.e. its disregard for the bargaining process which appears to determine wages in most countries, developed explicit wage bargaining models.[2] Although the starting point is very different, some of their predictions are close to those of the expectations-excess demand model e.g. the wage determined by the bargaining process is a relative wage and is homogeneous of degree one in all other wages and prices. In other words, it is the *real* wage that matters. However, other variables such as the propensity to strike feature in these models and could provide an additional explanation for wage change. A more *ad hoc* approach has been to include in wage equations a variable to measure the bargaining strength of unions - a popular one has been the change in the percentage of the labour force unionised[3] - or their militancy e.g. the number of strikes.

Another hypothesis is that wage increases and hence inflation are caused by frustration. It is argued that workers' aspirations for real income and consumption growth are pursued by demanding money wage increases independently on the economy's ability to meet them. The more the aspirations exceed productivity growth the greater the resulting inflation. Wage leadership models have also been advanced as explanations of inflation. One version proposed in the UK is that wages rise in the fastest growing industries at a rate approximating to the rate of growth of productivity. Rigid differentials are preserved by workers elsewhere, thus leading to wage increases in excess of productivity growth. This means a rise in unit costs and hence prices.[4] What these and similar models have in common is that they see inflation being generated by a process of wage push; trade unions become the driving force behind inflation and price controls become the policy prescriptions. Proponents of these views have become known as "Keynesians"; they see monetary expansion either as irrelevant or as 'validating' wage increases won by aggressive unions. The sociological nature of these views is obvious. Inflation may be seen as resulting from conflict between groups in society, either on a class basis or within classes.

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2. For references and a discussion of these models, see Parkin [1] or [2]

3. The main proponent of this view and A. G. Hines; see Parkin [1] or [2].

4. This model was proposed by Turner and Jackson and espoused by Aubrey Jones: See Parkin [1] or [2].

Thus if all groups attempt to raise their incomes above the average they will generate pressure on prices; since they cannot all succeed, frustration will ensue which may lead to further pressure and so on. Clearly many variants of this idea are possible, but are not pursued here. It is not intended to suggest that social and political influences on the rate of inflation are only of the type just discussed. Some writers have suggested that prices are raised by the behaviour patterns usually associated with the permissive society; price explosions are a consequence of moral collapse. Neither do economic theories of inflation deny the relevance of social and political factors. For example, the expectation-excess demand model in no way suggests that the level of excess demand is not influenced by social and political factors; quite the contrary. The objectives of the United States Government in the 1960s - the space programme, the Great Society programme, the Vietnam War - are seen as the originators of the current inflation; in the UK the policy of maintaining low interest rates because of social and political attitudes to housing and because of a desire to increase the share of the Government sector in GNP is seen as a contributing factor.

There has been extensive testing of the expectations - excess demand hypothesis in the United States, Canada and more recently in the United Kingdom. The evidence for the US and Canada strongly supports the hypothesis. UK studies by Solow and Parkin had suggested that the coefficient of the price expectations term was less than one. However, Parkin, Summer and Ward extended the expectations variable to include taxes, foreign prices and exchange rates, and this extended version was supported by the evidence. It is worth noting that the income tax expectation variable provided evidence that take-home pay rather than the gross real wage is the concern of labour and thus the tax structure may affect the rate of inflation. Another study emanating from the Manchester Inflation Workshop, by Duck *et al*, tested the expectation-excess demand model (in its closed economy form) for the Group of Ten *in aggregate* and found further support for it.

The world- wide nature of the current inflation provides no problem for the hypothesis. As has already been stated, the US Government generated a substantial increase in demand in the mid 1960s through Vietnam War and other expenditures, which were financed, not by tax increases - in fact tax cuts occurred at this time - but by monetary expansion. Under the fixed exchange rate system, the demand pressure spread to other countries and generated inflation there (the mechanisms whereby this occurs are discussed below). This led to increased inflationary expectations, and hence wage increases, on a world-wide basis.

Wage-push theories, on the other hand, fare less well when subjected to empirical test. The union strength hypothesis, while apparently adding to the wage inflation up to 1961, has on re-examination failed to account for the accelerated wage inflation since the late 1960s.[5] Strike activity appeared to be confirmed as a cause of wage inflation in Britain in some recent studies[6] but they have been subjected to criticisms which raise doubts about the validity of the finding.[7] The frustration hypothesis in a simple form is completely unsupported wherever it has been tested;[8] a more sophisticated version of it appears to work for Britain, but the statistical results are open to ambiguous interpretation. The wage leadership model cannot account for the developments since the late 1960s. The international aspects of the current inflation are accounted for by the sociological theories in terms of international demonstration effects, which lead to a co-ordination of real income aspirations in different countries.

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5. See paper by Purdy and Zis, cited in Parkin [1] or [2].
6. See paper by Taylor, cited in Parkin [1] or [2].
7. See paper by Ward and Zis, cited in Parkin [1] or [2].
8. See paper by Nordhaus, cited in Parkin [1] or [2].

This evidence appears to question the validity of wage-push theories as explanations of the inflation of the last eight years, while lending support to the expectations-excess demand model. This is not to say that trade unions *could not* generate inflation, given a passive monetary policy by government; it merely states that the hypotheses incorporating union power etc. are not in accord with the evidence to date. From the viewpoint of the expectations model, strikes and other manifestations of labour unrest are seen as *consequences* of inflation. When inflation is accelerating, expectations are unfulfilled; the greater the acceleration the greater the disappointment and hence the unrest. Indifference to inflation arises when the inflation is fully anticipated or, what amounts to the same thing, when earnings etc. are insulated from its effects.

The discussion up to this point has made almost only passing reference to the issues raised by the openness of the economy - it could apply *in toto* to the case of a closed economy. But Ireland is a small open economy, which has always maintained a fixed exchange rate with its major trading partner and, until 1972, operated under a fixed exchange rate system with all its trading partners. Does the preceding discussion then have any relevance to inflation in Ireland? The answer is yes, and for the following reason. Despite the varied opinions encountered above, there is near unanimity among the proponents of economic theories of inflation that an open economy which maintains fixed exchange rates with its main trading partners will in the long run inflate at a rate determined by their rates of inflation; *a fortiori* is this the case if the economy is small, with a large trading sector? In other words, in the long run its inflation is imported, only in the short run can the domestic rate diverge from that of its trading partners. Richard Caves has written as follows: "Given a fixed exchange rate and inflation abroad, (a small open economy with a fixed exchange rate) will suffer increases in domestic prices through *some* mechanism, the particular sequence of events depending on the country's internal economic structure. Alternatively, one can say that the timing of important inflation, although not the ultimate equilibrium, depends on economic structure."[9] Hence the relevance of the earlier discussion: whatever determines the rate of inflation in the countries with whom Ireland maintains a fixed exchange rate (for practical purposes, in the United Kingdom) becomes the determinant of the long run rate of inflation in Ireland.

The channels whereby inflation is imported are classified by Caves under two headings, macroeconomic and microeconomic. Suppose prices rise faster in the UK than Ireland. This will tend to improve our balance of trade *vis-à-vis* the UK. The macro channels through which inflation might travel are two. One, the improved trade balance increases aggregate demand through the foreign trade multiplier. Eventually this puts pressure on productive capacity and the labour market and drives up wages and prices. This mechanism is obviously self equilibrating. Two, the improved trade balance forces the Central Bank to purchase £ sterling to protect the exchange rate and increases the domestic money supply. Even if attempts are made to neutralise this increase they will fail, since interest rates will be increased thereby attracting a capital inflow. Again the Central Bank has to buy £ sterling so that the increase in the money supply is restored, thereby transmitting the inflation. The micro channels are the prices of traded goods and factors. Import prices are a widely recognised channel of transmitting inflation; inflation due to the higher prices that exporters can obtain is less well recognised, although it should be obvious in a country which exports agricultural products. The factor market link could obviously operate between Ireland and Britain, given the labour mobility between the two countries.

Discussions of inflation in Ireland rarely take place in this type of framework. Instead of viewing the rate of inflation as dominated by external factors and amenable to only small and short term divergences from world levels, policy makers appear to view it as fundamentally

9. A model which examines the effects of the domestic economic structure on the level of inflation in an open economy has been developed in Scandinavia; see Aukrust [3], and Caves [4].

domestically determined with external influences arising through import prices. Thus Ireland is viewed more as a lesser Germany than a greater Northern Ireland. The following is a quotation from the Annual Report of the Central Bank 1973-74: "It is a fallacy, even for the open Irish economy, that inflation is due more to external than to internal causes and that it is beyond our power to curb or control it ... The fact is ... that even during 1973 when basic commodity and energy prices soared spectacularly and food prices continued to rise, imported inflation accounted directly for no more than half the rise in Irish retail prices." Statements similar to this have since been made by the Taoiseach and some Ministers. The Spring 1974 issue of the Central Bank Quarterly Bulletin contains an article entitled "Inflation and Money Incomes" in which a table entitled "Sources of Increases in Consumer Prices" is presented. This table purports to show the percentage contribution to consumer price increases of various cost items, listed as import prices, employee incomes, agricultural incomes, profits etc., and indirect taxes less subsidies. The method of calculation is presented in an ESRI Paper by R.C. Geary and John Pratschke; it applies the weightings in the input-output table to the price index for each cost item. It is on the basis of this calculation that statements such as that above quoted are made; unfortunately such statements are unwarranted. The error lies in the assumption that imported inflation is fully accounted for by import prices and perhaps externally determined food prices and that employees' incomes and the profits etc. of firms are somehow determined independently of the world at large. The fallacy of this view is obvious from the discussion of the channels of transmission of inflation. It might be argued, though, that wages and profits can be influenced by domestic policies whereas import prices cannot. In other words, by the implementation of some kind of wage and price controls the Irish rate of inflation could be reduced. For the sake of argument suppose this were true. Then the result would be a balance of trade improvement, with the consequences already outlined viz. the restoration of the rate of inflation to the appropriately defined world rate. The OECD recognises the point: "it is clear that no open economy can in the long run maintain a lower inflation rate than its trading partners under conditions of fixed exchange rates."[10] Not even Ireland, one is tempted to add.

It is worth emphasising that short run divergences from the world rate of inflation, especially in the upward direction, can be achieved by the exercise of domestic policy. Further, the inability of domestic policy, in a fixed exchange rate environment, to raise or lower the inflation rate in the long run does not mean that other economic magnitudes such as the level of employment or balance of payments cannot be influenced, far from it. But if the main causes of inflation in Ireland are required to be domestic, the maintenance of fixed exchange rates with the UK and every other country must end.

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10. See OECD [6].

The following are not:

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2. THE EFFECTS OF INFLATION

Dara McCormack

In the early 1960s, when inflation rates at least in industrial countries were low, there was substantial agreement between economists, policy makers and the voter about the effects of inflation. Such a consensus no longer exists, the economist having become more cautious and qualified in his analysis. Some economists have even seemed to imply that inflation, since it will be largely anticipated over time, involves little more than "changing the unit of account". This may have bred an element of complacency.

The view prevailing about 15 years ago can, without undue distortion, be summarised as follows:

Inflation has a number of systematic redistributive effects. It redistributes income from creditors to debtors, among various categories of asset holders and, a major source of social concern, from those whose incomes are either fixed in nominal money terms or which typically lag behind inflation (pensioners, annuity holders) to those whose incomes are more easily adjustable to inflation such as unionised wage earners and owners of capital. Apart from judgements on equity grounds, inflation produces distortions as resources are shifted into less inflation-prone activities. In open economies, operating with fixed exchange rates, the effects on domestic activity of a deterioration in price-competitiveness relative to the rest of the world would have been emphasised. However, assessment of the net costs and benefits of inflation was dominated by the Phillips-curve approach which postulated the existence, in both the short - and long-run, of a fundamental trade-off between inflation and unemployment. The real cost of inflation could be measured by the volume of unemployment and output foregone which its reduction entailed.

The ruling paradigm among present-day economists, the chief architect of which is Friedman, has sharply contrasting implications. The modern analysis builds on a central distinction between inflation which is anticipated and that which is unanticipated or which comes as a "surprise" [4]. There is no permanent trade-off between inflation and unemployment. Moreover, there is only one rate of unemployment (the 'natural' rate) which is consistent with a steady rate of inflation; attempts to achieve a lower rate of unemployment over the long-run will result in a persistent acceleration of inflation. Finally, the main welfare costs, associated with redistribution of income, arise only when inflation is not fully anticipated. These effects would disappear if inflation were to continue at a steady rate which the public would learn to anticipate and when institutions have adapted to this anticipation. In connection with this adaptation, many proponents of this view of inflation have advocated the widespread use of indexation, or 'monetary correction' as a means of alleviating the main distortions arising from unanticipated inflation.

Perfectly anticipated inflation is clearly a limiting case. By looking at the theoretical assumptions underlying it, and progressively relaxing them, light is thrown on the more fundamental effects of inflation. This, in turn, suggests the nature of the real resource cost involved in a society accommodating itself to persistent high rates of inflation.

Perfectly Anticipated Inflation

Inflation is fully anticipated when each and every transactor correctly forecasts what the rate of inflation turns out to be and can adjust appropriately to the anticipated inflation. There are thus two main elements involved: first, correct expectations and second, the absence of any rigidities which would limit the ability to allow for inflation. The latter would include any degree of official or unofficial price controls, ceilings on interest rates as well as institutional conventions and rigidities such as contracting in fixed nominal amounts (insurance policies) In brief, all prices for goods and services, including labour services, are perfectly flexible. This is what Hicks has called the "flexprice" economy [1]. In such an economy, when inflation is accurately anticipated there is only one welfare cost to inflation and this arises from the nature of money itself.

Cash balances yield an implicit social return by virtue of the convenience they afford in making transactions. Now, inflation can be regarded as a tax on cash balances; the negative yield on cash balances is equal to the rate of inflation. The higher the rate of inflation, the larger is this negative yield and the opportunity cost of holding cash. Holders of cash balances will, therefore shift into less liquid and convenient but income-yielding assets. This involves a loss of efficiency in so far as resources are reallocated from cash balances, which are virtually costless to produce, to scarce substitutes.

However, apart from very rapid inflation (even if anticipated) this loss is unlikely to be quantitatively very significant and would be reduced even further if banks directly paid interest on current accounts. The point to emphasise is that, even under the ideal conditions assumed, there are welfare costs which increase with increases in the rate of inflation.

Accurate Expectations with Rigidities

In the theoretical long-run, it is certainly inconceivable that in the face of accurately predicted inflation, rigidities would survive unless one was prepared to accept that "money illusion" was widespread. However, if inflation were to proceed at, say, 3 per cent per annum over a number of years, this rate would come to be expected without there being any radical restructuring of payments habits, financial conventions, contract periods and so on. The reason for this inertia lies in the nature of most markets, other than some foreign exchange and commodities markets, where prices are not determined on a day-to-day basis by demand and supply. Most markets, notably labour markets, are what Hicks calls "fixprice" markets where prices have to be 'made'.

In such markets, it is easier to 'make' prices if, as Hicks puts it "substantial use can be made of precedent; if one can at least start the bargaining from some presumption that what has been acceptable before will be acceptable again. When prices in general are fairly stable, that is often rather easy. The particular prices which result from such bargains may not be ideal from the point of the economist; but the time and trouble which would be involved in improving them is simply not worth the candle. To be obliged to make them anew, and to go on making them anew, as one is obliged to do in continuous inflation, involves direct economic loss and (very often) loss of temper as well!" [1]

When inflation proceeds faster than some fairly low rate, which will vary from country to country, fundamental changes will become unavoidable. There will thus be a loss arising from foregoing the convenience of arrangements which are implicitly based on the assumption of stable prices. Moreover, this process may have unfortunate political and social side-effects by calling into question fundamental social conventions and relationships. There is, therefore, a germ of truth in the contention that beyond some rate (on which opinions will differ) inflation may involve a threat to democratic institutions.

Unexpected Inflation

Actual experience in recent years is of inflation which is both historically high and extremely variable from year to year. The sharp acceleration in the rate of price increase in the late 1960s and early 1970s could not have been anticipated correctly by extrapolating past experience. Moreover, international comparisons suggest that since the early 1950s Ireland has recorded both a higher and more variable rate of inflation than in most other OECD countries. The effects of such unanticipated inflation cover the whole range of arbitrary redistributions of income referred to earlier. Most involve either a complete inability to adjust to a higher rate of inflation or, more likely, a lag in adjustment. In addition, there are distortions arising from attempts to shift into patterns of asset holding or activities which seem to promise an effective 'hedge' against inflation. A few illustrative examples may be given; the extent to which they have been significant in Ireland in recent years can only be guessed at until detailed empirical studies are available.

Because expectations do not adjust quickly, nominal interest rates have lagged behind real rates. Real rates remain low and in some cases negative. Even allowing for income tax allowances, the interest rates on traditional small savings media (Post Office Savings Accounts, Building Society shares) have fallen behind rates of return on other assets. There will be, therefore, a substitution effect operating against both saving in general and small savings in particular.

There are complex effects on business behaviour because of current accounting procedures which often result in overstatement of the true profits of companies after adjustment for replacing stocks, depreciation and corporate taxation. Inventory valuation on the 'first in, first out' principle charges the replacement of raw materials on historic rather than current cost against current revenues. During the past year there has been a gradual acceptance of an alternative valuation formula (LIFO) in the US and increasingly in Europe. Depreciation poses even more complex problems. The result of inflation is that balance sheets provide inadequate guidance as to true financial conditions of companies [3]. Further effects include a tendency to minimise "financial exposure": that is, to minimise net financial asset holdings. This takes the form of reducing cash holdings (and accounts receivable) while increasing bank financing (and accounts payable). There is an increased tendency to move into real assets with the possible result of serious misallocation of resources. A related aspect is that inflation has a tendency to shorten time horizons, thus creating a disincentive for long-lived investment projects.

Government receipts and expenditure are also distorted. With progressive income taxes there is a tendency for governments through inflation to absorb resources from the private sector. The fact that income tax allowances are not adjusted sufficiently to offset inflation is one of the major redistributive effects of unexpected inflation. Similarly, there is generally a lag in the adjustment of social welfare payments with significant regressive effects on the distribution of income.

In brief, the redistributive and allocational effects of unanticipated inflation are pervasive and, at the rates experienced in recent years, involve significant welfare costs.

Conclusion

A number of conclusions can be drawn from this brief examination of the effects of inflation. First, even anticipated inflation has adverse implications for economic welfare. Second, welfare losses are most serious in the case of unanticipated inflation which, in practical terms, is almost inevitably present and certainly was over the last several years. Third, people seem to prefer no inflation to inflation; zero inflation has a positive utility. Therefore, any inflation must reduce welfare. This widespread aversion to inflation can probably be accounted for by the sheer convenience of conducting day-to-day affairs on the basis of precedent and using stability in the value of money as a normal working hypothesis.

These welfare losses imply the desirability of reducing the level of inflation from its present levels. Just as inflation inevitably has costs, so will any attempt to reduce it; the implications of the natural rate hypothesis are particularly disturbing in this regard. A primary task for economists, whether involved directly in policy making or not, is to discover what is the least painful method of moderating inflation.

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3. THE CURE FOR INFLATION

Terence Ryan

Introduction

I would like to begin by saying that I agree substantially with the analysis of the underlying sources of inflation made by Mr Paddy Geary in the opening section. Consequently, the views expressed here as to the appropriate remedies implicitly rest upon the same theoretical model as that developed in that section.

Before going ahead to examine the policy options which have, from time to time, been proposed to counter inflation, there are two points of a general nature which I would like to make here.

The first is that I shall deliberately avoid discussing the recent increases in oil prices as a source of inflation. This is not to imply that they have had a negligible effect on the domestic price level; but rather that the problem of higher oil prices, while it has attracted a lot of attention as a source of inflation, constitutes essentially a once-for-all impact on the price level (admittedly with some considerable adjustment lags), - whereas the essence of a truly inflationary source is that it exerts a *continuing* upward pressure on prices.

The second general point that I would like to make here is that I found it very difficult, in drafting this contribution, to confine myself solely to the topic in the title, namely the cure for inflation. The source of this difficulty was that whenever one discusses matters of economic policy, one is generally involved in trading off mutually conflicting objectives, - one against the other. Nowhere is this more true than in discussing anti-inflationary policies. To treat the subject matter of this section in such a manner, however, would involve a wide-ranging discussion of economic policy in general, - such as would be quite infeasible within the limited framework of this symposium.

I have felt it necessary then, to stick rather closely to the examination of the likely impact of the major anti-inflationary policies on the phenomenon of inflation itself. I make this point in order to excuse the fact that I shall not be discussing the consequences on employment, balance of payments, economic growth, etc. of the various policy alternatives examined.

Of all the currently controversial issues in economics, I think it must be fair to say that the choice of correct policies for the control of inflation is one which causes most heated arguments, not only among economists, but also among businessmen, trade unionists, housewives, not to mention politicians.

Despite the intensity of the arguments, the range of available policy options is fairly limited however, and what I propose to do for the next few minutes is to look briefly at each of the major policies which have at one time or another been espoused, and to assess the validity of their individual claims to controlling inflation.

The major counter-inflationary policies can be broadly classified under three headings: Fiscal, Monetary, and Direct Controls (on prices and incomes).

Fiscal Policy

The use of fiscal policy to counter inflation stems directly from the acceptance of a "Keynesian" theory of inflation. That is to say it stems from a belief that the underlying malady is that aggregate real demand in the economy exceeds aggregate supply, thus exerting an upward pressure on the price level. If this interpretation is accepted then the appropriate counter-inflationary policy follows directly: aggregate demand has to be reduced to the level of aggregate supply at the existing price level. The major relevant components of aggregate demand being consumption demand and Government expenditure, this objective may then be pursued either by increasing taxation or by cutting Government expenditure; in short, by running a deflationary budget.

Although it is not obvious from the above discussion, the effects of a deflationary budget on inflation are not independent of the manner in which the deflationary pressure is brought about. Any attempt to reduce aggregate demand through increased taxation may well have the effect, in practice, of encouraging workers to pursue compensatory wage claims. Consequently, if there is any element of cost-push inflation at work in the economy, such a deflationary policy would very likely result in aggravating rather than alleviating the problem.

If, on the other hand, the deflationary pressure is brought about by a cut in public expenditure, the above dilemma will not arise; but here too fiscal policy may be a double-edged weapon. To the extent that cuts in Government projects achieve their deflationary impetus through increased unemployment, the existence of redundancy payments and of income-related social welfare payments implies that aggregate demand, at least in the short run, will not fall by as great an amount as aggregate supply. Since the purpose of the exercise (given the Keynesian demand-full framework) is to close the gap between the two, it is clear that the consequences of adopting such policies is far from unambiguous.

I have not discussed under this heading any attempt to cut back on the third component of aggregate demand, namely, investment expenditure, for the very simple reason that such a policy is rarely if ever seriously considered, because of the high priority attached to the maintenance of satisfactory levels of investment as a course of future growth. It is worth noting in passing, however, that cuts in the Government programme which generally have detrimental effects on the infrastructure of the economy are open to precisely the same objections as cuts in private investment expenditure.

The final point I would like to make about fiscal policy, in a way, leads directly to the discussion of monetary policy, and it is the following. If a cutback in government expenditure (due to a deflationary fiscal policy) results in a decrease in the public sector's demand for domestic credit, - leaving more to be taken up by the private sector, - then there is no reason to assume that there will be any reduction in aggregate demand. If, on the other hand, the deflationary fiscal programme results in a reduced supply of domestic credit (through a decrease in the amount of government debt outstanding), then the use of a deflationary fiscal policy is formally identical to a reduction in the rate of growth of the money supply, which is the cornerstone of the monetarist school.

Monetary Policy

I would like to turn next to the use of monetary policy as a counter-inflationary weapon. Monetarists purport to attack inflation at its root cause, namely, the excessive expansion of credit.

Formally, the essential difference between Keynesian and monetarist models of inflation is that Keynesians attribute the phenomenon to excessive aggregate *real* demand, whereas the monetarists attribute it to excessive nominal demand. This distinction may seem somewhat obscurantist. The point I am attempting to make is that, to the monetarist, it is the validation of the latent inflationary pressure through credit expansion which is ultimately responsible for turning an ever-present potential inflation into an actual inflation; whereas the Keynesian relegates the financing of inflationary demand to a role of secondary importance. It is this distinction which underpins the difference in policy prescriptions of both schools. Monetarists believe that only by keeping a tight rein on the rate of credit expansion within the economy can inflation be curbed.

The adoption of monetary policy has not in the past been widely advocated in Ireland. The reason is that monetary policy has not until recently been a realistic option in Ireland. This was due firstly, to the autonomy which the Irish commercial banks have in the past enjoyed, and secondly, to the freedom of capital movements between Ireland and the United Kingdom, and the ease with which any Irish citizen can open a British bank account. However, the Central Bank has recently taken a more positive approach towards controlling the domestic credit supply, and while such control may be far from complete, it is certainly true to say that monetary policy is much more viable today as a counter-inflationary policy than it was several years ago.

Monetarism has, by and large, developed in the United States and has gained a large measure of popular support both there and in the UK. However, the United States is essentially a closed economy and the implications of this fact are often overlooked by economists who espouse the monetarist view and incorrectly infer that any country which has an inflation problem can eliminate it by appropriate domestic monetary policy.

The fallacy lies in failing to identify the source of inflation in an open economy. The fallacy lies in erroneously assuming that inflation, even in an open economy, is a symptom excessive *domestic* credit expansion, and in adopting the implied policy prescription, i.e. that the way to stabilize the price level is through exercising a firm control over the rate of increase of the domestic supply of credit.

However, if one is willing to accept the validity of the analysis in part one of this paper, it is quite evident that the forces responsible for the Irish inflation are excess demand pressures originating ultimately in the United States, and more proximately in the United Kingdom, and validated by an inordinate expansion of the American money supply (which increased by over 50 per cent between 1968 and 1973).

While neither the Irish government nor the Central Bank have any direct influence on the rate of expansion of the supply of American dollars, or of sterling, it is nevertheless clearly in the interest of the Irish economy that both the US and the UK adopt more stringent controls over domestic supply. There are at present certain straws in the wind that the US at least is committed to such a policy, if only in answer to the continuing lack of confidence with which the US dollar is viewed on world currency markets.

The corollary however is worth emphasising; which is that in analysing the problem of inflation in a small open economy, such as Ireland, the adoption of a monetarist viewpoint does *not* imply that inflation can be cured by domestic monetary policy. This point is often forgotten or ignored by people who adopt a doctrinaire monetarist stance on the issue.

Direct Controls

Lastly, I would like to turn to the issue of direct controls on prices and/or incomes as a counter-inflationary policy. For some years this has been a popular policy, both in the United Kingdom and in Ireland (and indeed more recently in the United States).

I must confess, at the outset, to an innate aversion to interfering with the price mechanism in what is essentially a market economy. Direct controls, however, have an obvious political appeal, in that consumers are made conscious of the fact that some concrete attempt is being made to stem the rise in prices. If the object of the exercise is to influence the public's expectation of future inflation rates, then direct controls may have a once-for-all salutory impact, when first introduced. However, this is merely a method of buying time, and it must, I think, be conceded that there is no evidence that the continuing use of direct price controls as an anti-inflationary policy has ever contributed substantially to a reduction in the rate of inflation.

This is not to dispute the fact that in a completely centralized economy direct controls could possibly be used to great effect. However, in a market economy, such as Ireland, any attempt to impose a price on a commodity which is below the market clearing price will *inevitably* result in shortages. One only has to look at the current sugar shortage as a topical example among many of this phenomenon. There are all sorts of hidden costs, of which shortages and quality deterioration are but examples, connected with the use of direct controls.

Conclusion

I am afraid that the analysis which I have proposed may seem somewhat nihilistic. And in one sense it is. The reason why it is so is that I believe that the source of the Irish inflation is predominantly external. I believe that whenever one considers a small open economy with a fixed exchange rate, one must inevitably accept the fact that the price level in such an economy is determined by that of its major trading partners.

To elaborate on this point, consider the following possibility. Suppose that the Irish Government succeeded in putting together an anti-inflation package which was totally successful, and that the price level in Ireland stabilized, while that in the rest of the world continued rising at, let us say, 15 per cent, per annum. It is reasonable to assume that, no matter what the nature of the anti-inflation package, Irish goods would become increasingly competitive in the rest of the world and that the Irish balance of payments would improve. Net external reserves would accumulate. The continued success of such a policy would depend on the ability of the Central Bank to effectively freeze this increase in reserves. Operating under a fixed exchange rate and with free capital movements, such as we do, such an objective is wholly unattainable, and the domestic money supply, in such situations, must increase; - thus undermining the initial anti-inflationary policy.

The implication to be drawn from the above analysis is that the most constructive approach that we can adopt to the current inflation is to deliberately avoid the pitfall of adopting a Don Quixote attitude, - which is to say that we must not fool ourselves into thinking that we can achieve more than we can in fact; but confine our attentions to alleviating some of the more blatant welfare costs which inflation imposes on Irish society, - costs which have already been spelt out very clearly by Mr McCormack, earlier this evening.

DISCUSSION

Dr. K.A Kennedy I would like to congratulate the three contributors on their excellent addresses. I agree with a lot of what they say. They have, however, still left me with some things to say that may be different - at least in emphasis.

In regard to inflation, the two central questions to which economists and policy-makers in Ireland should address themselves are, in my view, as follows: what degree of autonomy do we have in controlling inflation? and what are the costs and benefits to other major economic and social objectives of using that degree of autonomy? I, therefore, do not see the issue as one of no inflation in Ireland while rapid inflation proceeds abroad. Rather, it is a matter of how far, and for how long, we could hold our inflation rate below that of other countries. Moreover, I do not see it as a question of less inflation at any cost. Rather, it is a matter of the degree to which less inflation, and the manner in which we achieve it, will help or hinder our other economic concerns. The discussion should, therefore, be set in the context of Ireland's central economic and social problem, namely, that since Independence there have been insufficient job opportunities for the natural increase in the labour force.

Potentially, the most dangerous fallacy in Irish economic thinking is that, because we have only limited autonomy, we can do nothing at all, or that the little we can do is of no consequence. I do not think any of the contributors would be guilty of such a fallacy, but Mr Ryan comes dangerously close to it, and even Mr Geary's exposition could mislead the unwary. I would like to emphasise that we have *some* independence in regard to inflation - and particularly in regard to wage inflation as distinct from price inflation - and that this degree of independence may be of considerable importance for employment. Even, if, as Mr Geary suggests - and I largely agree with him - that under fixed exchange rates our inflation rate can deviate only temporarily from abroad, that temporary deviation may be of consequence. In each of the past three years the rate of increase in consumer prices in Ireland has been higher than in the United Kingdom: in 1972 the figures were a rise of 8.7 per cent in Ireland as against 6.8 per cent in the UK; in 1973, 11.4 per cent in Ireland and 8.3 per cent in the UK; and in 1974, 17.0 per cent in Ireland and 16.0 per cent in the UK. These differences may be small and may be reversed over the next few years: yet I feel the economic situation in Ireland, particularly in regard to employment, would be better now had our inflation rate been as much below, as it was, in fact, above, the UK rate.

Regarding the effect on other economic objectives of achieving - even temporarily - a lower rate of inflation in Ireland, I think the answer depends a great deal on how it would be achieved. If it were done by deflating demand, then the cost would be very high, since it would further reduce jobs. On the other hand, if it came about due to voluntary restraint in incomes, the effect would surely be beneficial for employment. Mr Geary argues that if prices rose more slowly in Ireland than in the UK, then, through increased pressure on capacity and monetary expansion in Ireland, prices would quickly move back into line with the UK. I think he does not pay adequate regard to the fact that Ireland is nowhere near a fully employed economy. A high rate of growth of aggregate demand is exactly what we need to move towards full employment. Given appropriate management of the composition of demand - a point to which I shall return - it is then possible that prices would not move back into line with UK prices until we had moved nearer to full employment.

Even if prices of goods here were totally determined by external factors, there is another important reason why the authorities would still rightly be concerned about money wages. As pointed out by Mr Durkan of the ESRI in the latest *Quarterly Economic Commentary*, if prices are entirely determined abroad, there is a direct trade-off between the level of wages and the level of employment. In other words, lower wages means higher employment. I infer from Mr Geary's paper that he would dispute this view on the grounds that workers would then emigrate. I would not go very far with him along that road, though I recognise that the evidence is open to different interpretations. What is indisputable, however, I think, is that workers will not emigrate, no matter what the difference in incomes, if job opportunities are scarce in Britain. That, in fact, is the situation there now, and probably for the next year or two.

Hence, the message I would like to get across is that we do have need to be concerned about inflation in Ireland, over and above the reasons cited by Mr McCormack in his excellent contribution, which applied mainly to a closed economy. I would further maintain that we have some room for manoeuvre, and that the manner in which we use this room for manoeuvre is of great consequence. Hence, if I had to choose between the jaw-boning of the authorities and the inertia suggested by Mr Ryan, I would favour the former. But I feel that the authorities *can* do more than jaw-boning by using instruments at their disposal. A problem as complex as inflation is unlikely to have a monocausal explanation. In this regard, I would like to refer to one source of inflation discussed a lot when I was a student - namely, one of the many ideas that were put forward by Charles Schultze in his excellent 1959 study, *Recent Inflation in the United States*. This idea was that inflation could arise even if demand in the aggregate was not excessive, if there were substantial excess demand in particular sectors, due, for example, to a shortage of skilled workers. The wage increase would then be generalised because of the sanctity attached by trade unions to wage differentials, a process underpinned by the monetary and fiscal authorities in their desire to maintain the overall level of employment. Mr Geary refers briefly to this idea, but he seems to regard it as pure cost-push, whereas the initial thrust is from excess sectoral demand.[1] I do not know how well this theory has fared in relation to the evidence - it stood up to a rather inadequate test by Mulvey and Trevithick when the rate of inflation was much lower in Ireland, but I would not lean too heavily on that. We know, however, that wage increases tend to be generalised, and sectoral

1. The oil and fertilizer price increases provide an example of sectorally generated inflation on a world scale, but here the basic thrust arises from the exercise of monopoly power.

imbalances in demand can all too easily recur. I do not advance this factor as the sole cause of inflation - inflation probably does not have a sole cause and I would accept that at present external factors are the major influence on the Irish inflation rate - but it may help to explain *deviations* in the Irish inflation rate from the British.

If there is anything in this idea, then expansion of aggregate demand in Ireland - and I hope, given our employment problems, that we would normally be thinking of expansion in Ireland - must pay careful regard to the composition of demand as a contribution to limiting inflationary pressures. Thus, in the longer run, manpower policy could play a role. In the shorter run, selective demand increases aimed at the categories of workers, and the regions, where the greatest excess labour supply exists would make good sense.

There are other instruments available. It is possible that the government could give some teeth to an incomes policy, without provoking a confrontation with workers *en masse*, by adopting the kind of approach suggested by Michael Fogarty in his ESRI Broadsheet, *We Can Stop Rising Prices*. The Central Bank itself could stiffen the back of the commercial banks to resist pay claims from their employees by reducing the margin between borrowing and lending rates.

I would like to conclude with a few remarks about research on inflation. If economists knew more about the facts of inflation, and in particular *how* it is transmitted, they would be much nearer to understanding *why* it happens. Too little attention has been given to agricultural prices, to professional earnings and rents. Even the basic price series used in testing the models have had little critical examination. What do we mean, for example, when we say that prices here are determined by those in the UK? Which prices are we talking about? Do we mean the level or the rate of change? Are there any differences between traded and non-traded goods and services? Why only UK prices, given that we also have significant trade with other countries? How long is the "long-run" until Irish prices are brought into conformity with British prices? These and many other basic questions of fact receive far less attention than the theories imported from other countries. With such inadequate investigation of the facts, is it any wonder that we find so much difficulty in distinguishing between the many competing theories?

Economists might also consider whether they could not get help from other social scientists. For example, expectations are now given an important role in many of the theories. Economists' treatment of the matter is generally based on *a priori* reasoning, or the most casual observation. The assumptions made seem to be determined much more by mathematical convenience than by hard information. We could probably enrich our knowledge of expectations by drawing on the skills of the applied social psychologist.

Dr. Eugene McCarthy I would like to join with Dr. Kennedy in congratulating each of the speakers on their incisive papers. In relation to those points to which I felt a little might have been added - Dr. Kennedy has in large measure stolen my clothes. However, I would like to put some views for consideration.

Accepting that the majority of the causes of the current level of inflation in Ireland are outside of our control, we should devote our energies to examine those aspects of inflation that are within our control. Excessive increases in money incomes, unmatched by increases in productivity and Gross National Product, contribute about a quarter of the increase in prices in recent times. In times past, the rogue-elephant unions were the craft unions - we recall the maintenance craftsmen's dispute in early 1969. Now, however the larger general unions have been flexing their bargaining power in a none-too-democratic fashion. The current National Wage Agreement is, on the face of it, a charter for industrial peace for its duration. In practice, however, two of the major general unions have paid scant regard to the agreed procedures for the resolution of disputes, as provided for in the National Agreement.

The abuses of the Anomalies Clause of the current Agreement by both the major general unions can be quantified to the extent of a 3 - 4 per cent increase in the national pay bill over the next twelve months. In many individual cases, increases in the range 10-15 per cent have been secured under the heading of Anomalies.

Moderation in money incomes will not be secured unless the socially disadvantaged are seen to be catered for. National Wage Agreements cannot deal with poverty, inequality and changing wage differentials. The Government, in both its expenditure programmes and tax policies, must be seen to be committed to a more equitable distribution of the available finances. There is need of involvement of both unions and employers in considerations relative to tax adjustments.

There is need for greater co-ordination on the incomes front between the public services and the State bodies. Many major settlements in these sectors leave one questioning the sincerity of Government in its efforts to combat inflation domestic in origin. I instance the ESB, Aer Lingus, Nitrigin Eireann Teo. - in each case, major pay settlements for amounts in excess of the basic provisions of the National Wage Agreement have been secured.

I would like to refer to the role of new industry in the context of inflation domestic in origin. New industry, amply supported by grants and many other attractive incentives, pay wage rates (particularly to skilled and other technical categories) considerably in excess of local market rates. These pay levels, in themselves, generate demands for increases in pay within established industry.

In conclusion, I should mention that certain statements made by economic commentators can, of themselves, give rise to excessive expectations. I refer particularly to the Autumn Report of the Central Bank. The effect of their statement on indexation is to provide trade unions with their minimum bargaining platform when the discussions on a new Wage Agreement commence January next. Many companies in Ireland could not realistically consider increases in money incomes based on adjustments in the Consumer Price Index and still continue in business. A greater awareness by economic commentators of the possible effects of their statements on either of the social partners would be welcomed.

Professor Louis Smith: I heard these three papers with pleasure and agreement. They are important. The Central Bank has, it seems to many of us, ignored the small, open nature of the economy in which we live. By doing so it has diverted attention from the research and action which could be usefully followed. These are areas in which prices can be raised autonomously in Ireland, e.g. indirect taxation was researched and proved (Geary and Pratschke) direct taxation has not been adequately examined but the indication is that it is inflationary.

During an inflation, especially when devaluation of the currency occurs, the small open economy having fixed exchange rate with its main trading partner will have a tendency to more rapid price rises than the large country:

(a) Price controls have some effect in delaying price increases for goods manufactured for the home market, but such controls do not affect exports. The goods we buy from Britain are not necessarily at the British price, but are likely to be dearer. So it is with our exports.

(b) In general external inflation penetrates more rapidly in proportion to the openness of the economy (Exports and imports are almost equally important). The stimulation of devaluation to exports is similarly short-lived and our balance of payments advantage slight or negative.

It is observable that Irish prices have tended to outrun British.

British currency is about 10 per cent of that circulating in the Republic and we hold large sterling reserves. It has been pointed out that inflation is a tax on cash and liquid assests, a fact of some importance for our policy.

Finally, the papers presume a fixed exchange rate. This is not a law of nature. Disadvantages arise from changing our system. Our economists are at fault that no adequate examination of the balance of advantage exists. To me the arguments for change seem stronger.

Dr Dermot McAleese: I would like to comment briefly on the situation, referred to in the penultimate paragraph of Terence Ryan's contribution, where Ireland enjoys a zero rate of inflation despite rapidly rising prices elsewhere in the world.

First, the income-distribution effects of such an anti-inflationary policy on the part of the Irish government would be no less strong than had we taken the line of least resistance and inflated at the same rate as our neighbours. Prices of exports and imports would rise relative to non-traded goods or to goods whose domestic price was being officially controlled. Those involved in the direct export of goods would gain at the expense of the rest of the community, particularly those whose consumption was heavily import-intensive. Thus, inflation has income redistributive effects, regardless of whether it is we who are doing the inflating or the rest of the world (given fixed exchange rates).

Second, the income-group most heavily hit in such a situation would be wage-earners. Average real wages would fall. This point is seen clearly by Dr. Kennedy who stresses the advantages that such a decline would bring with it. Export demand would be stimulated, the erosion of import-substitution industries would be slowed down and foreign investment attracted. Orthodox models of international trade assume that the small country is a price taker. This may be true of Ireland's import prices but it obviously does not apply to a substantial section of our export trade, particularly on the industrial side. Thus, it is possible for the level of Irish export prices to diverge from those obtaining abroad. In the short-run, therefore, we do have some leeway and I agree with those who urge us to put more effort into discovering the exact dimensions of this leeway and how it might be put to practical use by Irish policy-makers.

Third, there is no doubt that, after a certain lapse of time, excessive demand pressures would appear and prices would be forced up. But Messrs. Ryan and Geary are careful to underline that this assures *fixed exchange rates.* If exchange rates were allowed to vary, the implications of their analysis are completely changed. Thus, in the situation of zero inflation in Ireland and 15 per cent inflation elsewhere, the obvious solution for the Irish government, once demand pressures look like undermining domestic anti-inflationary policy, would be to revalue. Regular periodic *re*valuations of the Irish pound, analogous to the type of *de*valuations we observe in Latin America, would ensure that Ireland did not have to import inflation.

Once we relax the assumption of fixed exchange rates, therefore, the picture of Ireland as the helpless victim of foreign inflationary forces ceases to have validity. Anti-inflationary policy *can* work and *does* make economic sense. In the happy event of such a policy being successful, exchange rate policy could be employed to ensure that it remains so. But the chronological order is very important. Inflation must be brought under control first. Only then can revaluation be used as a means of insulating the economy from excessive foreign demand pressures which would tend to wreck even the best domestic anti-inflationary policy in the long run.

Mr Brendan R. Dowling: I should like to congratulate all three speakers on their stimulating papers which should go a long way in clearing the fog of bad economic rhetoric which surrounds the discussion of inflation in Ireland today.

I must, however, state that I do not find Dara McCormack's argument that there are welfare costs even when inflation is fully anticipated very convincing. It seems to me that he has ignored the effect of economising on cash balances on the rate of investment in real assets. Given that inflation is a tax on interest-free cash balances, there will be a tendency to invest in real capital when anticipated inflation increases. The welfare gains or losses must then be considered in an inter-temporal context and my view would be that the welfare loss, due to the divergence of the price of money balances from their marginal cost, would be outweighed by the gain from increased real capital formation.

While I agree with the basic analysis of the contribution by Paddy Geary, I would suggest that he has somewhat exaggerated the position by concentrating on equilibrium conditions. Although the Irish economy is very open, by international standards, it is not completely so. We know from the work on non-traded goods, by Dornbusch and others, that divergences between internal and external prices and costs of production may have important economic effects and affect the nature of the ultimate equilibrium position of the economy.

My own view, which is similar to that expressed here by Dr Kieran Kennedy, is that the ability to diverge from international inflation rates in the short-run is of considerable importance and may also have important longer-run consequences.

For example, let us assume that a successful incomes policy is implemented in Ireland such that unit wage and salary costs rise less than in the UK or other EEC countries. Given the world rate of inflation, the consequences of such an incomes policy are that profits of exporters would increase substantially and there would probably be an increased volume demand for Irish exports. Similarly, producers of import substitutes for the home market would probably experience an increased demand for their output. Overall we would expect an increase in real aggregate domestic demand and in employment.

Since the main beneficiaries of a domestic incomes policy would be exporters, one might anticipate an expansion of this sector relative to the rest of the economy. Since, by and large, the export sector tends to have a higher average, and one might suppose marginal level of productivity, a diversion of resources to this sector might well raise aggregate productivity levels. And if productivity growth is related to output growth, we might reasonably expect that the increase in aggregate demand, induced by the incomes policy, would yield substantial productivity gains. Thus even if, over time, money wage increases approached those in the UK and elsewhere, the economy would reach equilibrium at a higher level of productivity and employment.

But what of the other equilibrating mechanisms outlined by Mr Geary? The Central Bank, by varying its reserve requirements, could neutralise the effects on the credit base of the export surplus even under fixed exchange rates. And by permitting an expansion in credit only, in line with the export-induced rise in aggregate demand, it need not affect interest rates. I think also that Mr Geary would agree that there is little evidence to show that labour migration to the UK is infinitely elastic with respect to money-wage differentials so that adjustment through factor movements is likely to be quite slow.

Thus I would be far more optimistic about the advantages to be gained from exploiting the ability of the open economy like Ireland, operating under fixed exchange rates, to diverge in the short-run from world inflation rates. Although to be fair to Mr Geary, a reading of his last paragraph makes it clear that he would not deny the existence of possible advantages from domestic policy actions.

On a quite unrelated point, I noted recently that Hilda Behrend's 1973 study of workers' attitudes in the UK, which has just been released, showed that workers felt their real wages had declined in spite of the fact that, even after tax, they had increased substantially. Thus while the assumption of money illusion on the part of workers may be unsustainable, it does not follow that they necessarily see through the veil of money. There may well be real wage illusion.

In conclusion, I feel that the main advantage of this symposium was that it spelt out clearly the limits to any counter-inflationary policy in Ireland. Further, I think it stressed the futility of using aggregate demand measures to combat inflation. One can only hope that it can influence those in the Central Bank and the Department of Finance who are responsible for the claims that our inflation is due to excess aggregate demand and that we can, by domestic measures, reduce inflation in half. After this perhaps the Central Bank might bury its claim that the last Budget was inflationary - a claim made without any supporting evidence, it might be added. To be fair I note that their latest report merely chides the Budget for not doing anything positive towards inflation. A step, albeit a small one, in the right direction.

Rev. Fr. John Brady, S.J.: I think there is an opportunity to do something effective to reduce the rate of inflation in the fact that the Budget of 1975 will occur before the terms of whatever form of agreement succeeds the Third National Agreement are finalised. Workers have become very conscious in recent years that income tax bites deeply into the benefits of each successive pay rise, and the increasing size of each successive settlement may be partly due to an effort to offset the effects of tax. If a generous tax cut were to be given to those with incomes below £2,000 a year there is a good prospect that this would be taken into account in the negotiations and that the settlement would be at a moderate level. This would help towards breaking the spiral of rising costs, rising prices, and renewed demands for wage and salary increases. In fact it would seem to offer the only change of breaking the spiral.

Since there is a marked reluctance by many to accept the idea of allowing tax levels to become the subject of negotiations between the Government and the parties involved in wage bargains some form of unilateral action on the part of the Government seems the only alternative. There is some risk in this course, which may present problems for decision-makers who by temperament and training are very little inclined to take risks, but I would urge that this risk be taken, and feel that the response from the trade union movement in this difficult period would be good. The existence of VAT ensures that a significant portion of any excess spending power that might develop will in any event come to the Exchequer.

I would agree strongly with Dr. Kennedy that more attention must be given to the possibilities of raising the level of demand in particular sectors of the economy without adding to the rate of inflation. Economists tend to talk too easily about excess demand, when its existence is less than obvious. However, one sector in which excess demand is plainly a cause of inflation is housing, especially in the Dublin area. This is due mainly to a decision in effect (though unannounced) by senior civil servants to do nothing beyond purely token gestures in the matter of office decentralisation. This has meant an excessive concentration of office jobs in Dublin which has pushed the cost of housing up sharply. Thus those responsible for this policy must accept part of the blame for our present rate of inflation.