Monetary Union and Stabilization Policy in the European Community*

European Monetary Union (EMU) has never been an enthusiastically supported cause either by academic economists, civil servants or politicians. Two central considerations dominate the debate and lead the majority to an anti-monetary union conclusion. The first is that because inflation rates have been different across the nine separate countries of the European Community (EC), any attempt to enforce monetary union would lead to an unnaturally enforced equalization of inflation rates and thereby make "inflation prone" countries suffer additional amounts of unemployment, especially in the transition phase (which may last a long time) but also even in the long run. This argument has become even more strongly and widely embraced as a consequence of the recent wave of inflation which has been associated with a large increase in the spread of inflation rates — the United Kingdom hitting a 26% per annum peak and West Germany's peak reaching only 7% at the two extremes. The second anti-union argument is that monetary union would pose a threat to political freedom and necessitate the abandonment of democratic control over monetary policy.

In contrast to the majority view, nine European economists recently proposed a plan[1] for EMU based on the issue of a parallel European currency (the Europa), the acceptance of which would be

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1 "A Currency for Europe: The All Saints Day Manifesto for European Monetary Union", *The Economist*, November 1st, 1975, pp. 33-38, by Basevi, Giorgio *et al.*

established by a market process, not by official edicts and which would be managed to achieve stable European-wide prices in terms of Europa.

This paper represents a yet further attempt to show that, popular though they are, the anti-union arguments are either wrong or they are *positive*, not *normative* propositions which lead to the *prediction* that union *will not* occur (or will be long delayed) and do not lead to the *prescription* that union *ought not* to occur.

The various alternative detailed proposals for EMU are not considered.[2] The paper takes as a premise, the market process parallel currency approach to EMU set out in *The Economist* manifesto and examines the desirability of, and problems associated with, that particular approach.

In Part I the inflation records of the individual countries are examined and the reasons for national differences in that rate are analyzed. Specifically, it is sought here to establish whether there are factors making some countries inherently more "inflation prone" than others such that a persistently higher unemployment rate would emerge in such countries as a result of union. In Part II the implications of monetary union are analyzed. Three separate issues are taken up here. First, the likelihood of a stabilization crisis is examined. Secondly, the factors which would determine inflation during the period that the Europa and the national currencies circulate alongside each other and after the national currencies have been replaced by Europa are analyzed. Thirdly, the factors which would determine national inflation rates and unemployment rates after full union is achieved are examined. Finally, in Part III the political objections to monetary union are considered.

The broad conclusions reached are that there is no coherent case against EMU: that inflation and unemployment would be easier, not harder to control; that there would be no serious stabilization crisis resulting from the adoption of EMU. In short, EMU is a highly attractive monetary reform which should be implemented as early as possible.

2 For a review of some of the alternatives, see Coffey and Presley (1971). Also, see Parkin (1972). The reader will notice that the present author's detailed views on the best approach towards EMU have changed between 1972 and the present time.

I. The Causes of Inflation in the EC

The inflation of prices and wages in six[3] of the EC countries is shown in Tables 1 and 2. Several well-known patterns are illustrated by these tables and are worth emphasizing. They are: first, the tendency for price inflation to increase in all countries, especially since the late 1960's; secondly the tendency for Germany to have the lowest inflation rate and the United Kingdom the highest; thirdly, the tendency for inflation rates to become more unequal, especially in the 1970's; fourthly, the more erratic behavior of wages than of prices, with wages displaying "explosions" in the Netherlands in 1964, in France in 1968, and in the remaining countries in 1970. What are the alternative explanations for these phenomena, what are their implications for EMU and which explanation is correct? These are the questions addressed in this section.

Although there are numerous detailed alternative hypotheses concerning the determinants of inflation, it is only necessary, for present purposes, to distinguish three broad groups: they may be labelled (i) Wage Push; (ii) Phillips Curve; (iii) Expectations Augmented Phillips Curve — Natural Rate-Monetarist (or more simply, "Monetarist").

The wage push hypotheses are all variants of the propositions that: (a) the rate of price inflation is determined by the rate of cost inflation; (b) the rate of cost inflation is determined by the rate of wage inflation (and in an open economy, the rate of inflation of import prices); and (c) the rate of wage inflation is largely independent of market forces. Many alternative wage push factors are suggested to have an influence on money wages such as frustration, relative deprivation and militancy. The wage push hypothesis, if correct, clearly constitutes a strong case against EMU and, at the same time, a strong case for greater proliferation of currencies for individual labour markets. With EMU, a rise in wages *and prices* in one country, out of line with those in the rest of the EC, would lead to a permanent fall in demand for the output of that country and a rise in its unemployment rate. The latter could only be

3 The six countries are Belgium, France, West Germany, Italy, Netherlands and United Kingdom. The three countries omitted can each be thought of as being represented, in an inflationary and monetary sense by its close neighbour, i.e., Denmark by West Germany, Ireland by the U.K. and Luxembourg by Belgium.

TABLE 1

PRICE INFLATION IN SIX EC COUNTRIES 1961-1974

Year	Belgium	France	Germany	Italy	Nether-lands	United Kingdom
1961	0.98	3.57	2.92	2.94	2.92	3.92
1962	0.97	4.31	1.88	5.72	1.89	3.77
1963	3.85	4.96	3.70	7.21	4.62	1.82
1964	3.70	2.36	2.68	6.73	6.19	4.46
1965	4.47	2.31	3.48	3.15	5.84	4.28
1966	3.42	3.01	2.52	2.29	4.72	4.09
1967	3.20	3.56	0.81	3.47	3.23	2.48
1968	2.38	5.37	2.44	0.68	3.95	5.68
1969	4.23	5.69	2.82	3.94	6.81	4.56
1970	3.34	5.46	4.37	5.32	6.00	8.26
1971	5.31	5.85	5.83	4.75	8.11	9.21
1972	6.11	6.51	6.18	7.22	8.07	7.71
1973	6.91	8.65	7.32	11.63	8.05	10.26
1974	11.48	13.62	7.11	15.79	8.89	16.01

SOURCE: *International Financial Statistics*, IMF. Consumer Price Indices, percentage change fourth quarter to fourth quarter (average of monthly figures).

TABLE 2

WAGE INFLATION IN SIX EC COUNTRIES, 1961-1974

(Percentage Change Per Year) *

Year	Belgium	France	Germany	Italy	Nether-lands	United Kingdom
1961	6.1	7.8	11.6	6.1	13.8	7.8
1962	7.6	9.8	13.0	16.3	6.3	5.2
1963	10.4	10.9	6.9	19.0	9.6	4.7
1964	13.4	6.7	7.8	12.5	16.9	7.2
1965	10.4	6.0	9.9	5.9	12.0	9.4
1966	10.9	6.8	9.0	2.3	11.8	8.4
1967	9.3	7.8	5.8	10.5	11.1	2.9
1968	6.3	11.4	5.9	4.6	10.3	7.2
1969	9.4	13.3	9.1	10.8	13.2	8.0
1970	13.3	13.1	15.2	22.0	15.5	14.7
1971	14.7	11.7	14.0	18.1	14.4	14.1
1972	15.8	11.3	11.7	13.3	15.3	13.1
1973	17.7	13.5	13.2	21.4	14.8	13.3
1974	21.2	19.2	14.8	19.1	18.0	20.1

* Wages are compensation per manhour for all manufacturing workers except for France and Italy where they are compensation of production workers only.
SOURCE: Bureau of Labor Statistics, Office of Productivity and Technology.

corrected by an outward migration of population. With its own currency, the over-inflating country could devalue (or more generally continuously depreciate) so as to preserve full employment equilibrium international relative prices and thereby avoid the unemployment consequences of more rapidly rising wages and prices.

The Phillips Curve hypothesis is also generally unfavorable to monetary union. The centre piece of that hypothesis is the notion that there is a stable long-run trade-off between inflation (both of wages and, via a markup hypothesis, of prices) and unemployment. Countries may (and in general will) differ in two relevant respects. First, their inflation-unemployment trade-offs have different locations; secondly, they have different preferences concerning the appropriate point to choose on those trade offs. Thus, for example, to pick the two extremes, the United Kingdom, with little temporary migration of labor and generous unemployment compensation has an unfavorable trade-off compared with Germany who can send her unemployed back to (for example) Spain and Yugoslavia when labor markets are slack. To make matters worse, German "preferences" in ranking alternative inflation-unemployment options are dominated by memories of a hyper-inflation and hence favor stable prices, whilst British "preferences" are dominated by memories of the Great Depression (which for Britain essentially lasted for the entire inter-war period) and hence favor low unemployment even at the expense of some inflation.[4] If the above picture is a correct characterization of the situation then monetary union would require Germany to accept more inflation (and less unemployment) than she would freely choose, or Britain to accept more unemployment (and less inflation) than she would freely choose, or some combination of the two. Regardless of the solution adopted, one or both of the countries would be worse off (in their own judgements) with monetary union than without it.

Only the monetarist hypothesis is favorable to EMU. Indeed a central proposition of monetarism is that the behavior of, and the factors which determine, a country's inflation rate depend crucially on the nature of the international monetary system and exchange rate regime in operation.[5] Under a regime of fixed exchange rates or,

4 Recent policy moves in the U.K. may raise questions as to whether this "national character" picture is still correct. More time must pass before this will be clear.

5 For a survey of the relevant analysis, see JOHNSON (1972) and PARKIN and ZIS (1976).

more strongly, a monetary union, the rate of inflation is determined (with time lags) by the rate of monetary expansion in the aggregate of countries whose rates are fixed or who form a union.[6] National differences in monetary expansion rates result in Balance of Payments deficits or surpluses and not in inflation rate differences.[7] Under flexible exchange rates, each country's inflation rate is determined by its own rate of monetary expansion and the rate of change of the exchange rate moves to keep international relative prices in equilibrium.

The most commonly postulated mechanism whereby monetary expansion generates inflation is an expectations augmented excess demand (or Phillips Curve) process. An increase in monetary expansion first generates an increase in nominal demand which, at given prices, implies an increase in real demand. This then leads to a faster actual and expected rate of inflation. A rise in the expected rate of inflation raises the actual rate *ceteris paribus* by an equal amount. Equilibrium prevails when the actual and expected inflation rates are equal and when there is no excess demand. With positive excess demand the inflation rate increases; with excess supply the inflation rate decreases and with zero excess demand, the inflation rate is constant. The unemployment rate associated with zero excess demand is the socalled "natural rate" and depends on the structural characteristics of the labour market, i.e., on such factors as minimum wage regulations, unemployment compensation rates and the age composition of the labour force.

If this view of the world is correct then whether or not a country (or a region) is a part of a monetary union, its unemployment rate must settle down (on the average) at the "natural rate", otherwise the rate of inflation will rise (or fall) without limit. Being a member of a monetary union denies a country the freedom to choose its own inflation rate but that is all.[8] It does not affect that country's average unemployment rate.

However, a country's unemployment rate *might* rise sharply,

6 National price indices may grow at different rates because of differential productivity growth even in this case. This point is taken up and developed more fully in the next section.

7 Although the relative prices of tradeable and non-tradeable goods may change as a result of a change in the rate of domestic credit expansion in one country. [See especially PARKIN (1974)].

8 For a persuasive analysis of the unimportance of this loss, see SUMNER (1976).

but temporarily, on *joining* a union whose rate of inflation is lower than that of the individual country. The extent and duration of any such rise in unemployment would depend on the speed with which inflation expectations adjusted in the country in question. This is taken up and developed more fully in Part II.

In view of the crucial differences in their implications for the behavior of inflation and unemployment in a monetary union it is of some importance to assess which of the above conflicting hypotheses (if any) can be rejected by the evidence. Fortunately, during the past few years, there has been a great deal of empirical research activity which makes this task both feasible and relatively clear cut.

First, those studies which have examined the power of wage push hypotheses to explain inflation are reviewed. Two studies are relevant to an important subset of the countries of the EC, those by Nordhaus (1972) and by Ward and Zis (1974). Nordhaus tests a variant of the "frustration" hypothesis of wage push.[9] Specifically, he tests the hypothesis that wages rise faster the more workers expectations concerning real consumption growth are frustrated. The hypothesis is decisively rejected for all the countries in his study.[10] Ward and Zis test the hypothesis that inflation is caused by militancy where the latter is proxied by four alternative measures of strike activity and, for one country, the change in trade union density. For Belgium, France, Germany, the Netherlands and the United Kingdom, the hypothesis is decisively rejected. However, wage equations for Italy show a significant and correctly signed coefficient on three of the four "strikes" variables employed. This suggests that Italian inflation at least, may in part be determined by wage push. However, although *wage* inflation in that country is significantly correlated with strikes, *price* inflation is not. Indeed, Ward and Zis go on to show that all through the 1960's there was no strong systematic tendency for price inflation in Italy to depart from the average inflation rate in the rest of the world. Thus, although the hypothesis that militancy (as proxied by strikes) had an effect on money *wages* in Italy cannot be rejected, the hypothesis that it affected Italian *prices* can be rejected. Its effects (if indeed they have been correctly identified as affecting money wages), were on *real*

9 Actually he tests five hypotheses and some of the other tests will be referred to where appropriate, below.

10 Nordhaus' countries are: Canada, France, West Germany, Japan, Sweden, United Kingdom and United States.

wages, the distribution of income and on the equilibrium unemployment rate and such effects being *real*, not monetary, would be present whether or not Italy formed part of a monetary union.

Taken as a whole, the empirical studies which have directly tested wage push hypotheses lead to a clear rejection of those hypotheses.

The Phillips Curve hypothesis, at least in its "naive" form[11] does not need much discussion. Casual empiricism suggests that, even if it used to exist, the Phillips Curve does not look very robust in the 1970's. Nordhaus explicitly tested this hypothesis on his group of countries and found it badly lacking in explanatory power in all cases.

It is more useful to examine the literature on the Phillips Curve which has "augmented" the "naive" relationship with inflation expectations and, in some cases, with other factors. Of central interest and importance in these studies is the size of the parameter on the expected rate of inflation. If that coefficient is less than unity, then there will exist a long-run trade off between inflation and unemployment and a potentially good reason for resisting monetary union. If, however, that coefficient is unity, then no long-run trade off exists and the case against monetary union based on persistent unemployment collapses. Factors other than unemployment (as a proxy for excess demand) and inflation expectations may affect the rate of wage change. If they do, then they will affect the position of the long-run trade off, if one exists, or the size of the natural unemployment rate in the no-long-run trade off case.

Several studies shed light on these matters, although some of them require careful interpretation. To enable a correct interpretation to be made, it is first necessary to examine how an appropriate expectations augmented Phillips Curve for an *open* economy operating on fixed exchange rates should be specified, for it is from such economies which most of the available evidence is derived. Because, in such an economy, domestic firms sell their output in both domestic and foreign markets, and households buy their consumption goods from both domestic and foreign sources, and further because foreign currency prices are translated into domestic currency prices at an exchange rate which is pegged, the *real* wage will depend on both the

11 The term was used by Nordhaus (1972) for the relationship between only the two variables; wage inflation and unemployment.

domestic and world price level. Hence, in adjusting *money* wages, expectations will have to be formed on both the rate of domestic inflation and the rate of world inflation and the combined effects of these two expectations will sum to unity if there is no long-run trade off between wage change and unemployment.[12] Wage equations which employ only a domestic inflation variable would thus be predicted to have a coefficient of less than unity on that variable even if the "natural rate" hypothesis was true.

With these preliminaries in mind, empirical studies on the expectations augmented Phillips Curve may be examined. The Nordhaus study already referred to provides a set of estimates of such a relationship which, in the light of the above remarks, are of little help on the crucial question of the long-run trade off. Instead of incorporating both domestic and foreign price expectations in the same relationship, Nordhaus separately tests a domestic inflation only version of the expectations augmented Phillips Curve and a foreign inflation only transmission hypothesis. The latter wins in a straight race but, since they are not mutually exclusive but rather essentially complementary hypotheses, these results are of no help in the present task.

A more relevant study is what may be regarded as an updating of Nordhaus by Perry (1975). Perry explains the rate of wage change in the six EC countries of Tables 1 and 2 [13] as depending on labor market demand pressure domestic and foreign (variously export and import) prices (with a short lag) and a "wage explosion" dummy variable. The latter will be discussed below. Labor market demand pressure is a significant determinant of wage change in all cases except for France. The sums of coefficients on lagged inflation (interpretable in the light of the above remarks as the correct indicator of the effects of inflation expectations) are as follows: Belgium 1.46; France 0.976; Germany 0.926; Italy 0.750; Netherlands 1.256; United Kingdom 1.273.[14] Unfortunately, because these are sums of reported coefficients and because covariance estimates are not reported, it is not possible to perform significance tests on these estimates. However,

12 This is more fully developed in Parkin, Sumner and Ward (1973), Cross and Laidler (1976) and Parkin and Smith (1976). The latter shows how a systematic bias will arise in the estimation of the effects of expectations if these considerations are ignored.

13 In addition Perry studies the U.S.A., Canada, Japan and Sweden.

14 These are the sums of the coefficients on the "lagged prices" variables from Perry (1975) Table 4 except for the Netherlands which is taken from Table 2.

they are all evidently in the neighbourhood of unity. Fortunately, it is not necessary to leave matters as vague as this. Four further studies have explicitly tested the natural hypothesis, two in the context of wage equations for the United Kingdom (Gray, Parkin and Sumner [1975]) and Italy (Spinelli [1976]), one price equation for the United Kingdom (Smith [1975]), and one in the context of price inflation reduced form equations for twenty countries including eight EC members [15] (Cross and Laidler [1976]). In none of these studies can the natural rate hypothesis be rejected. Further, it is worth noting that the Spinelli study of Italy performs better than the militancy hypothesis which Ward and Zis were unable to reject. Thus these studies are all in agreement with Perry's results but sharpen them up.

As already noted above, Perry used, alongside the excess demand and expectations variables, a "wage explosion" dummy. Spinelli also used such a variable for Italy for 1969. It may be thought that the need to use such dummy variables implies the presence of important wage push influences. However, this does not seem to be the most plausible interpretation of the role of those dummy variables. Perry shows that for several years prior to the wage explosion (1968 in France, and 1969-70 in the other EC countries), real wages were growing less quickly than *average* labour productivity. If it is supposed, as seems reasonable, that the *marginal* productivity of labour (which determines *equilibrium* real wages) also grew more quickly than real wages, then the surprise is not that wages exploded: rather it is that they did not grow more quickly earlier. The most plausible explanation for this (and the one offered by Perry) is that productivity growth was difficult to forecast and only when it was obvious with the passage of time that productivity growth had outstripped real wage growth, did wages "explosively" catch up. Thus the "explosions" were not a wage push phenomenon. They were a delayed reaction to rising *equilibrium* real wages.

The broad conclusion of this review of empirical studies of wage and price inflation in the EC countries is that wage push and the naive Phillips Curve hypotheses can be decisively rejected; that the "natural rate of unemployment" hypothesis cannot be rejected. The implication of this is that there is no case against monetary union in the EC based on fears that some countries would have to suffer

15 The nine excluding Luxembourg.

excessive unemployment rates dictated by the need to pursue a common inflation rate. Further, there is no reason to suppose that countries or regions would price themselves out of business any more so than they might in the absence of monetary union.

II. Inflation and Unemployment with EMU

The behavior of inflation and unemployment in the EC under EMU will, of course, depend on the precise model of monetary union adopted. The focus here will be on the parallel currency approach advocated in *The Economist* manifesto. That approach envisages the issue of a parallel currency, the Europa (₤), to circulate alongside the national currencies. Citizens would be free to hold and use either ₤ or their national currency as the medium of exchange and to write contracts in terms of ₤ or national currencies. The purchasing power of ₤ would be stabilized by an exchange rate rule which depreciated the basket of national currencies at a rate equal to the European-wide rate of inflation of consumer prices. The supply of ₤ would be such as to satisfy the demand for it while the ₤ was circulating alongside national currencies but the supply would be controlled according to a steady, non-inflationary growth rate if and when the ₤ was the only money and the national monies ceased to exist.

Several questions arise from the above scenario. First, would there be a "stabilization crisis" when ₤ was introduced? That is, would the inflation rate immediately drop to zero (or close to zero) but at the expense of a deep recession? Secondly, while ₤'s and the national currencies were circulating alongside each other, what would determine the level of output and employment on the one hand and inflation rates on the other? Thirdly, when the ₤ has replaced all the national currencies, what would determine the national rates of inflation and unemployment rates? Fourthly, how could monetary and fiscal policy be conducted in the final stage of union? These questions are taken up in turn.

To examine the stabilization crisis problem consider a single country which is inflating quite rapidly at the time the ₤ is introduced.

Assume, in line with the discussion in the preceding section that the rate of inflation in the individual country is determined, proximately, by excess demand and, with a coefficient of unity, the expected rate of inflation, i.e., assume

$$p = ax + p^e \qquad a > 0 \qquad [1]$$

where

p = actual rate of inflation of prices measured in units of national currency

p^e = expected p

x = excess demand ($=0$ when unemployment = "natural rate")

Further, suppose that inflation expectations, p^e, gradually adapt to the actual rate of inflation, i.e.,

$$p^e = bp_{-1} + (1-b)p^e_{-1} \qquad 0 < b < 1 \qquad [2]$$

To keep matters simple, suppose that at the inception of the union, the inflation is fully anticipated and unemployment is at its "natural rate"; i.e.,

$$\left.\begin{array}{l} p = p^e \\ \text{and} \quad x = 0 \end{array}\right\} \qquad [3]$$

The national money supply growth rate (m) is also equal to the domestic rate of inflation (abstracting from real growth) and the exchange rate is flexible. Clearly, in the absence of a monetary reform, a reduction in the rate of inflation requires a reduction in the growth rate of the money supply (m) and the creation of some excess supply ($x<0$), to reduce p below p^e and thereby (via equation 2) lower p^e. The process thus set up would have to be pursued until $p=0$ at which time, once p^e had approached zero, excess supply could be eliminated and the economy restored to full employment. Starting from a high rate of inflation, such a process could involve a prolonged and deep recession. Would the introduction of a stable parallel currency involve exactly the same painful adjustment or not? To answer this question, first, recall that contracts may be written and prices set, in terms either of national currency or Europa. There is no reason to suppose that those firms setting their prices in terms of Europa will behave any differently from other firms. They will set their prices in accordance with their expectations of Europa price inflation and excess demand. Hence, if (as was assumed above) there

is no excess demand, the rate of inflation of prices in Ɇ will be equal to the expected Ɇ inflation rate. Arbitrage will ensure that the rate of inflation in domestic currency prices is equal to that in Europa prices plus the rate of depreciation of the domestic currency against the Europa. Some firms will continue to set prices in terms of domestic currency, inflating those prices at a rate equal to the expected rate of inflation. Some firms will price in terms of Europa and base their prices on a zero expected rate of inflation. With the Europa exchange rate adjusting against the basket of currencies to maintain a stable purchasing power Europa, the Ɇ exchange rate will appreciate at a rate equal to the average rate of inflation of national currency prices. Thus, purchasing power parity between its Ɇ and the national currencies will be maintained.

If interest rates on assets denominated in national currencies increased under competition from the Europa (an asset with a safe nominal return of zero) then there would, other things equal, be a reduction in aggregate demand and a tendency to recession. However, this could be offset by appropriate fiscal policies.

The above has been entirely *a priori* and in a sense has to be because there is little experience of the introduction of a parallel currency. However, there is considerable experience of monetary reforms (a closely related monetary measure) following the great hyper-inflations. The stabilization crisis in Germany in 1925 following its monetary reform was extremely short lived.[16] The Chinese hyper-inflation was brought under control with a monetary reform in 1949 which apparently did not bring a recession in its wake.[17] Brazil, with less than a complete monetary reform ("monetary correction" or indexation) brought a serious inflation under control with no halt to its growth rate. At the time of their monetary reforms all these countries were in much more serious trouble than even the most seriously inflationary EC members now are. Although the above cases do not constitute proof that a stabilization crisis is not a serious possibility, they do suggest that it is highly improbable.

The second question to be addressed concerns the determination of the levels of output and employment on the one hand and inflation rates on the other, while the Europa and national currencies are circulating alongside each other. This has already been touched on

16 See Bresciani-Turroni (1931).
17 See Kia-Ngau (1958) and Chan (1963).

in the above discussion of the possibility of a stabilization crisis. First, it should be noted that each country would have two inflation rates, one in terms of domestic currency prices and one in terms of Europa. The Europa inflation rate would be zero for the community as a whole. However, prices expressed in terms of Europa would not necessarily be constant for each individual country. How each country might depart from (some above and some below) a zero Europa denominated inflation rate is examined below. The individual country's domestic currency inflation rate would depart from its Europa inflation rate as a result of arbitrage by the rate of change of the exchange rate.

If eventually (as would be likely) Europa completely replaced the national currencies, and if the growth of the supply of Europa was managed to maintain a zero community wide rate of inflation, individual national *measured* rates of inflation would not necessarily also be zero. Some countries would have gently rising consumer prices and some gently falling prices. The key reason for this is that in high productivity growth economies the relative price of labour intensive services would rise more quickly than in slow growth economies and hence a broad consumer price index which included services would rise in fast growing countries and fall in others. This would be purely a *relative* price effect and would have no adverse consequences. Given the spread of productivity growth rates from the slowest to the fastest, this is unlikely to involve deviations of annual national inflation rates from zero of more than the odd per cent point (some above of course, and some below). This judgement is strongly supported by the empirical findings on this matter of Genberg (1976) and Vaubel (1976).

Now consider how monetary and fiscal policy could be conducted in a community in which Europa is the only money and its growth rate is being managed at a non-inflationary rate. First, it is clear that active monetary policy in the traditional sense of changing the growth rate of the money supply or the general level of interest rates is not going to be a policy option available to national governments. Nor is it going to be a community wide policy option if monetary policy discretion is to be abdicated in favour of price stability. However, there is a great deal left that national governments would be able to do, if they wished, both to influence the level of aggregate demand to smooth out any remaining fluctuations and to influence the geographical distribution of employment and economic activity.

First, in the monetary area, consumer credit and housing loans could be regulated, as could, within limits, the rates of return on non-transferable national savings instruments. Secondly, the size of the government sector deficit/surplus could be freely chosen (at the price of paying the interest rate which the market dictates to raise the loans required to cover a deficit). Thirdly, taxes and public spending could be freely determined to influence both the timing of aggregate demand and its geographical disposition. Thus, the *only* thing that a government gives up when it gives up the right to print its own money is the ability to cause inflation and use inflation as one source of revenue. There are no other restrictions on political freedom of action. This is taken up more fully in the next section.

III. Political Freedom and Monetary Union

There are three distinct but related arguments concerning political freedom and monetary union. One is that because monetary union would require governments to give up the freedom they now enjoy to manipulate the money supply and the benefits which accrue to them from that, they will not yield that freedom and allow a monetary union to develop. Therefore, there is no point in advocating union. It is a political non-starter. The second argument is that governments *ought* to exercise political control over inflation and monetary policy; therefore monetary union is a less desirable order than separate national monetary systems with exchange rate flexibility between the various currencies. The third argument is that whilst it may be appropriate for governments to give up day-to-day control of monetary policy to a relatively strong and independent central bank, it is not appropriate to give such control to a supra-national body. Each of these propositions is examined in turn.

A government which gives up independent control of the supply of its own domestic money looses three things. First, the freedom to use inflation as a tax — or as a source of revenue — to finance part of public expenditure. Secondly, the seigniorage that arises from being able to issue what is, effectively, non-interest bearing debt. Thirdly, a potential instrument of stabilization policy. How serious are these losses.

The removal of the power to levy an inflation tax can hardly

be regarded as a loss. From a social welfare point of view, inflation is a very inefficient tax. Even from the government's narrower point of view, inflation is rarely regarded as desirable. It is usually identified, at least in government's public pronouncements, as an unfortunate occurrence which happens despite their best attempts to contain it and not as a direct consequence of their willful intention to raise extra revenue. Thus, even if a government does enjoy the benefits accruing to itself from an inflation tax, it would be surprising if it were prepared to admit it and to allow the case against union to rest on this objection.

The second loss is seigniorage. From the point of view of national money issuing governments, this is a real loss. However, there is no reason why each national government should not have an arrangement with the European agent to share in the seigniorage arising from the Europa issue and, since Europa is planned to have a stable purchasing power and so will be held in larger quantities than the national currency which it replaces, more than replace the seigniorage losses from national currency issue. This simply requires an appropriate initial seigniorage share-out clause in the Monetary Union Treaty. Further, it can be forcefully argued that the best monetary system would be one in which seigniorage did not arise because interest was paid on money. From the point of view of social welfare, this argument is correct. Hence, although national governments benefit from seigniorage, private citizens do not and their best interests would be served simply by paying interest on money and eliminating the seigniorage altogether.

Finally, consider the loss of a potential stabilization instrument. This was discussed in a different context above. All that is necessary here is to note that there are more than enough additional instruments left for hitting the various macroeconomic policy targets and all that is really lost is the ability to influence the average rate of inflation.

Thus, taking all these "losses" together, it appears that a government which surrenders to an independent central monetary agency the right to issue and control the volume of money gives up very little and, with an appropriate seigniorage sharing provision, effectively gives up nothing at all.

If the above argument is correct, it follows that the second of the above propositions, that monetary policy *ought* to be subject to democratic political control, is substantially undermined. That argument is not, however, thereby completely demolished. It is still

relevant to ask the question: ought the rate of inflation to be controlled independently of day-to-day democratic monitoring? The answer to this questions is going to depend not on some fundamental principle but on an evaluation of the welfare consequences of the behavior of the inflation rate which arises from a democratic control process compared with that which would emerge with an independent central monetary authority. A recent paper by Nordhaus (1975) shows, *a priori*, that a limited term elected controller of inflation will go for more variability and a higher rate of inflation than a life-time tenured bureaucrat. There is ample empirical evidence that monetary policy has been used to manipulate the economy to achieve maximum electoral advantage on the run in to an election. Thus, democratic political control of monetary policy and inflation certainly does not produce a desirable behavior of the inflation rate.

The behavior of inflation under a bureaucratic monetary control regime would clearly depend on the rules which governed the behavior of the monetary authority and the effectiveness of the procedures for monitoring that behavior. A Constitutional Law which set up an independent monetary authority charged with maintaining price stability by pursuing a steady growth rule for the money supply, with an emergency reserve power for the executive/legislative branch of government seems to be a formula which would produce the most orderly behavior of the price level. There is nothing new in this suggestion, either in the field of monetary policy and control or in other areas. In the monetary area it has long since been advocated by Jevons (1871), and more recently, by Friedman (1967). Outside the monetary area, such arrangements are commonplace. For example, highway rules, weight and measures standards, and the Judicial system are all examples of public, social decisions and arrangements being made and monitored outside the democratically controlled political process. Legislators make the laws but their enforcement and operation proceeds separately from and independently of the democratically elected political agencies. Money and its regulation are much more like these matters than like such public decision problems as the amount of resources to devote to defence or the degree of progressivity of incomes taxes. These latter items are essentially political. Money is essentially apolitical and technical. It should be controlled and managed *within a framework of law made by democratically elected politicians* but they are the last people to entrust with its day-to-day management. The argument that

monetary policy should be independent of day-to-day political interference (*and operated by a national central bank*) but *not* by a supranational body is the hardest to deal with. The argument gets its strength from the undeniable desirability of having the central bank answerable to an elected government for its actions and charged with carrying out rules determined by a democratic process. In the EC context this hardly seems like an insuperable problem. Instead of one elected government making the rules for the conduct of monetary policy, nine governments have to agree on a set of rules. Political responsibility would rest with the governments of the EC and would have to be exercised through the usual ministerial councils.

In sum, monetary union provides a rare opportunity to engineer an anti-inflationary monetary reform with the likelihood of minimum real disruptions and to institute a politically immune set of monetary arrangements for the EC.

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