

END GAMES, TIME INCONSISTENCY AND

EUROPEAN ECONOMIC AND

MONETARY UNION

by

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ABSTRACT

The vision of a monetary union in Europe is as old as the European Community itself, and yet despite the vast amounts of time, effort and political capital spent to build such a system, little progress has to date been made. Most recently, the Maastricht Treaty has set out a strategy and a timetable for monetary union in the Community. One can only ask if there is the likelihood that the process be once more obstructed and if so what the causes might be. This paper, presented in the form of a descriptive analysis of the issues, was motivated by this line of thought.

Clearly, there would be endless adjustment difficulties involved in the transitional process: most have been well documented. To date though, the consequences of the uncontrollable behaviour of rational economic agents within the context of this situation has been left largely unchallenged. The aim of this paper is to attempt to shed light on this issue.

The analysis described is within a simple game theoretic framework. When it is declared that monetary union is to be formed, the various games begin. Unlike before, rational agents - or the players in the game - now face finite time horizons. They engage in activities that enable them to exploit the incentives that have become available to them under these conditions. These end game activities have detrimental effects on the old and new regimes and invariably render the plan (proposed monetary union) time inconsistent. And they, clearly are inevitable: rational agents will always seek to maximise their welfare no matter what the circumstances are. As such, and depending of course on the type of end game played, monetary union in its transitional phases will always be in danger of being derailed.

All that the policy makers and negotiators can do is to seek ways of minimising these activities. While strongly endorsing the convergence criteria and the penalties for any intentional deviating activity, every attempt should be made by these bodies to build up a credible reputation for the transitional process and institutional set up once the monetary union has been established. If the monetary union is deemed credible, i.e. the players perceive it to be a worthwhile goal, then rational agents will seek to avoid engaging themselves in these activities.

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INTRODUCTION

The institutional and operational set-up underpinning the European Monetary System (EMS) has not changed substantially over time although it was negotiated thirteen years ago. However, the system in some respects - well before the perspective of moving towards European Economic and Monetary Union (EMU) arose - has been fundamentally transformed. The changes have cumulatively gone well beyond what could initially have been foreseen. The capacity of the participants to learn from experience and develop the EMS into a framework much more ambitious and coherent than the relatively defensive mechanism which resulted from the 1978 initiative - more than any of the system's more enduring features - makes the analysis of the process of European monetary integration do interesting and challenging

(Gros and Thygesen, 1992: 67)

It is a reality indeed, as Gros and Thygesen argue above, that the initial perspectives of the EMS have changed substantially. It is also a reality that the participants have gained from past experience and as the preliminary stages towards monetary union are completed, they will undoubtedly be better equipped to deal with this process.

This paper seeks to explain, as history has shown with the EMS, why the potential for change in the initial perspectives for the EMU also exist: why the final outcome will almost certainly be substantially different from what has been envisaged today and consequently, why such an analysis becomes so "interesting and challenging". It should be noted that while the issues to be discussed here are of general interest, the analysis is motivated by the plan for EMU among the members of the European Community (EC).

There is no doubt that the main driving force for EMU is political: the quest for the political integration of Europe. Monetary unification has long been recognised as the appropriate instrument to facilitate the forming of a politically unified Europe (Fratianni et al, 1992: 1). Since the tools being used to mould political union are economic by nature, the outcomes will clearly differ from a case where economic means are used to achieve pure economic ends. Political and economic interests frequently conflict with each other. Hence the uniqueness

of the transitional phase and consequent outcome.

It will be shown that there are various dangers involved in the transitional process and that the common root of these problems is the uncontrollable behaviour of public and private agents' expectations in the financial, goods and labour markets. It is assumed that agents form their expectations on a rational basis. Given that economic outcomes may not be perceived to be as important as political motivations, these agents may appear to behave in a suboptimal manner (or in a way that is perhaps inconsistent with initial perspectives). The specified convergence criteria, most notably inflation (an economic concept with far reaching political implications) are used to show why the end result will, given economic as well as well as political motivations, be dissimilar to what has initially been envisaged. The notions of "time inconsistency" and "end game" behaviour, as a reaction to a perceived lack of credibility, both by rational private agents for policy makers and policy makers for the end result and for other national authorities, are introduced in an attempt to explain these inconsistencies.

In essence, as Europe moves towards full monetary union it faces two particularly perplexing policy questions. The first concerns the nature of the transition toward EMU and the second, the performance of the proposed European central bank.

The argument of this paper is presented in the form of a descriptive analysis of the various issues. Chapter one deals with basic definitions and components of both economic and monetary unions. A simple cost/benefits analysis is also given. In chapter two, the proposed modes of operation of the transitional period specific to the European arrangements are overviewed. A brief record of the convergence criteria - the inflation convergence criterion has been selected to illustrate a point - is used. The terms "time inconsistency" and "end game" activities are, largely through the use of relevant examples, introduced in chapter three. Potential end game activities in the context of a game theoretic framework are subsequently explored. In chapter four, related policy implications are suggested. Concluding remarks follow.

CHAPTER ONE

MONETARY AND ECONOMIC UNION: THE THEORY

1.1 Monetary (and Economic) Union Defined

Since the term "monetary union" can be interpreted in various ways and also to varying degrees, its precise definition in this context is important. Here, the necessary conditions for monetary union (or exchange rate/currency union) are taken from the Delors Report as being:

- i) assurance of total and irreversible convertibility of currencies;*
- ii) the complete liberalisation of capital transactions and full integration of banking and other financial markets; and*
- iii) the elimination of margins of fluctuations and the irrevocable locking of the exchange rate parities (Gros and Thygesen, 1992: 319).*

Masson and Taylor's interpretation of a monetary union is also in keeping with this paper: a monetary union is defined as

[an] area within which exchange rates bear a permanently fixed relationship to each other and where, in the absence of capital controls, there can only be one monetary policy [S]uch [an] area of exchange rate stability also involve[s] the replacement of the currencies of member countries by a common currency, i.e. the formation of a common currency union (Masson and Taylor, 1992: i).

The requirements above are regarded here as minimally essential for any arrangement to qualify as a monetary union (Allen, 1976: 4).

Monetary integration/union should not be confused with economic integration/union. While the completion of the latter foremostly requires the elimination of the remaining constraints of the mobility of services, capital and labour, the steps leading to monetary union introduce

new constraints (Fратиanni et al, 1992: 3).

Paragraph 25 of the Delors Report lists the following to describe the four basic components that form the core of the economic dimension of unification:

- i) the single market within which persons, goods, services and capital can move freely;*
- ii) competition policy and other measures aimed at strengthening market mechanisms;*
- iii) common policies aimed at structural change and regional development; and*
- iv) macroeconomic policy co-ordination including binding rules for budgetary policy.*

It is argued in the Delors Report that "economic and monetary union form two integral parts of a single whole and would therefore have to be implemented in parallel" (para. 21)¹. The reasoning behind this remains unclear. On the other hand, economic union is made to be a precondition for monetary union:

achieving monetary union is only conceivable if a high degree of economic convergence is attained (para. 16).

On the other hand, however,

economic and monetary union would represent the final result of the progressive economic integration in Europe (para. 16).

and

the creation of a single currency area would add to the potential benefits of an

¹ Parallelism should be "understood as the idea that the economic benefits of economic and monetary integration reinforce each other so that full benefits of monetary and economic union exceed the benefits that derive from integration in only one of these two areas" (Gros and Thygesen, 1992: 271).

enlarged economic area because it would remove intra-community exchange rate uncertainties and reduce transaction costs (para.26).

And so, while monetary union is shown to add value to economic union, it is not implied that economic union cannot be successful without the establishment of monetary union (Fратиanni et al, 1992: 6).

1.2 Benefits and Costs

The intent of this thesis is not to present an in-depth evaluation of the mechanisms of monetary union in order to determine whether the latter is a feasible prospect (in Europe) or not. Instead, the starting point is taken to be that monetary union as the ultimate objective has been approved². In this light, and given that agents form rational expectations, an attempt is made to determine whether the perceived benefits (and costs) are in fact realistic. Hence the brevity of the section to follow.

1.2.1. Benefits

Most fundamentally, the formation of monetary union results potentially in the achievement of price stability within the collection of economies³. This is due largely to irrevocably fixed parities. By introducing a single currency, transactions costs and exchange rate uncertainty can be eliminated between participating countries⁴. Reductions in interest rate differentials and information costs can also be achieved.

It is perhaps important to mention that the above could alternatively be achieved by merely irrevocably locking exchange rates. But, as Eichengreen (1990: 6-7) argues, while fixed exchange rates have advantages over fixed rates, they do not disappear. The only way

² See the Delors Report (para. 39).

³ Price variability discourages international trade and disrupts the operation of the price mechanisms (Eichengreen, 1990: 3).

⁴ Kenen (1992: 457) argues for instance that transaction costs are extensively reduced due to full currency convertibility within the system.

to remove the final impediments to financial integration is to establish a common currency. As such, the full benefits of monetary union cannot be reaped unless a single currency is introduced.

In addition to this, the level of reserves held by the central bank, the European Central Bank (ECB) in this case, could be economised upon, while the ECU has the potential to become a major international currency (Gros and Thygesen, 1993: 254).

1.2.2 Costs

To the "average" national authority a loss of monetary autonomy could only be regarded as a cost. "Fixed exchange rates, perfect capital mobility and monetary autonomy cannot be attained simultaneously [however]. To enjoy any two, the third must be sacrificed" (Eichengreen, 1990: 6). In consequence, scope for seignorage (inflation tax) may decline, as would the national monetary authority's ability to stabilise the macro-economy through exchange rate adjustment. Members also sacrifice fiscal independence. As such,

[i]t will become increasingly difficult for individual nations to levy taxes significantly in excess of those prevailing elsewhere in Europe. Footloose factors of production will be increasingly able to flee high tax jurisdictions (Eichengreen, 1990: 9).

Joining a currency union may limit national authorities' ability to run budget deficits: without their own national currencies, member states' central bank printing presses will no longer be a means of financing budget deficits.

Of no less importance, finally is the macroeconomic instability that may potentially result from a move towards monetary union. Minford et al (1992: abstract) argue that since the "EC has a low level of labour mobility, a negligible fiscal offset to national shocks and a fair degree of short-run nominal rigidity in wages and prices", the loss of exchange rate policy as a stabilising mechanism might be particularly damaging.

Finally it has been argued that varying distortions could result from adjustment problems

which are "more persistent and difficult to resolve than previously estimated" (Bayoumi and Eichengreen, 1992: i). This paper starts from the premise that the costs (incurred during an subsequent to the transition) of monetary union do not exceed the potential benefits of the new system⁵.

⁵ See Eichengreen (1990: 11). This suggests that Europe is considered to be an optimal currency area, that factors of production are mobile, shocks are not deemed to be asymmetric in general (i.e. that all communities can respond symmetrically given that their loss of policy autonomy is irrelevant etc).

CHAPTER TWO

THE VISION OF A MONETARY UNION IN EUROPE

2.1 Introduction

The quest for an economic and monetary union in Europe can only be described as a recurring tension in the EC - almost for as long as the latter has been in existence itself. The attainment of integration on this level has been suggested time and again but never actually achieved. In 1970, for instance, the EC went as far as to announce its plans to form such a union in the decade to follow: the blueprint for this plan came to be known as the Werner Report. Its efforts by the mid-seventies however added up to failure and the EC looked as though it was further away from economic and monetary integration than ever before. In 1979, the European Monetary System (EMS) was formed, partly as a compromise to a full monetary union. Although, undoubtedly advantageous to its member communities the EMS will never be able to reap the benefits that come with a monetary union and as such the same dream continues to haunt the community.

Of late the search has been manifest in the Delors Report (1989) and the Maastricht agreement, while influenced by the Delors Report, represents a more workable blueprint for the future development of the community.

2.2 The Delors Report

The main feature of the Delors Report is the concept of gradualism. This approach is supported not only by reason that "the choices have to be made by the national governments" and the latter require time to adjust to these changes, but also because "monetary union is to follow economic union [and the latter can only be achieved gradually, so monetary union could be conceivably be designed to follow at the same pace". Furthermore the costs of

adjustment may dictate towards a gradual approach (Giovannini, 1989: i) and (Fратиanni et al, 1992: 6-9).

The first stage towards monetary union is seen as a period of greater convergence through the strengthening of the Exchange Rate Mechanism (ERM). Stage two "should accomplish the set up of the European System of Central Banks (ESCB), which would start its operations, but still co-exist with national monetary authorities". Finally, the third stage "should accomplish the irrevocably fixing of exchange rates and the complete transfer of monetary authority to the ESCB" (Giovannini, 1989: 9).

2.3 The Maastricht Treaty

As mentioned, the designs of the Maastricht Treaty stem from those described in the Delors Report. The proposals, however are more applicable to the actual implementation of the plans. Elements such as the actual time horizons are specified in the Treaty. Once more, a gradual approach comprising three stages towards monetary union is suggested.

At the heart of the strategy is the process of convergence. The plan is that widely varying economic indicators (inflation, interest rates, exchange rate fluctuations, budget and public sector deficits) in Europe will slowly begin to fall in line with each other and converge with the record of the best-performing economies. Once, and if this occurs, then in principal anyway, it should be relatively straightforward to lock fixed exchange rates irrevocably and finally merge the currencies into one.

During stage one, each government must begin to put in place programmes to achieve convergence and heads of those member states should commit themselves to regard their individual economic policies as a matter of concern to all. "The Council of Financial Ministers (Ecofin) may intervene if national economic policies are inconsistent with the guidelines or present a risk to EMU" (Maastricht Treaty, 1991: Articles 104(a)(b)(c)).

Stage two begins on 1 January 1994 with the establishment of the European Monetary Institute (EMI). The tasks of the EMI are to strengthen co-operation between the national

central banks, co-ordinate monetary policies, facilitate the use and the functioning of the ECU and its clearing system and finally to monitor the European Monetary System (Article 109(f)). The ultimate policy making still rests with the national authorities at this stage.

On the 31 December 1996, the European Council must decide whether a majority of member states meet the four convergence criteria on inflation, budget deficit, interest and exchange rates. If this is seen to be so the Council can launch the third and final stage of monetary union. If no date has been set by the end of the following year, then the European System of Central Banks (ESCB) must be established by 1 July 1998 and stage three must follow regardless, on 1 January 1999, including those states which have met the conditions to adopt the common currency (Article 109(j)(k)).

The ECU becomes a currency in its own right in stage three (Article 109(l)). All the participating states will agree on the conversion rates at which their currencies will be irrevocably fixed and will be exchanged for ECU's. From the outset the European Central Bank (ECB) takes the helm - the EMI "shall go into liquidation upon the establishment of the ECB" (Article 109(l)). The ECB is to be an independent body, "not taking instructions from anyone, whether EC institutions, governments or any other body" (Article 109). It has the exclusive right to authorise the issue of the ECU bank notes by the European or national central banks. Member states can issue coins subject to ECB approval (Smart, 1992: 2).

2.4 The Convergence Criteria

The steps to monetary union are conditional on the following convergence criteria, which must be met by each country entering the single currency zone:

- i) its inflation rate should in the previous year be no more than 1.5% (and its long term interest rates no more than 2%) above that of the three best performers in the group;
- ii) its budget deficit should not (normally) be more than 3%, and its public debt 60% of the Gross Domestic Product;
- iii) its currency should have remained in the narrow band for two years without a devaluation (Minford, 1992: 49).

The current EC members form three groups. Denmark, France, Luxembourg, Germany, Ireland and the United Kingdom have virtually converged (Begg et al, 1991: 45) although Ireland's debt is over 100% of GDP (Minford, 1992: 49) and Germany's budget deficit as a percentage of GDP (approximately 4%) and consumer price inflation (approximately 5%) are both too high (Castle, 1992: 2). A second group of countries (Italy, Spain) is stuck at an average rate of inflation which is about twice as high as the first group of countries and in the past five years has not fallen below 5% (Begg et al, 1991: 45). Single digit rates of inflation are still out of reach of the third group (Greece, Portugal).

And so, "[a]t present only three countries fulfil the convergence criteria: France, Luxembourg and Denmark (Minford, 1992: 49). By 1 July 1998, the last day for deciding which countries will join the third and final stage of monetary union, Germany and the United Kingdom will probably also qualify. Greece and Portugal almost certainly will not and Italy's chances look slim. That leaves Belgium, the Netherlands and Ireland, which have to reduce their debt, and Spain, which needs to tackle its high inflation and interest rates" (Castle, 1992: 2).

2.5 Inflation Considerations: The Coronation Theory⁶ Appraised

Categorical emphasis to date has been placed on inflation rates and the convergence thereof. It has been argued that the architects of EMU see this as a way of tying the rest of Europe to Germany's economic success (Castle, 1992: 1). Furthermore, while in the 1960's and the 1970's both monetary and fiscal policy were actively used to "fine-tune" the economy, it is now generally agreed that the main task of monetary policy is to ensure price stability (Gros and Thygesen, 1992: 280). For these reasons the section to follow concentrates on the inflation convergence criterion⁷.

De Grauwe explores two issues: he asks firstly if the European communities presently

⁶ The Coronation Theory holds that "EMU should only come into existence when countries have converged to similar low levels of inflation and that only these countries should join EMU from its inception" (Begg et al, 1991: 45).

⁷The aim ultimately of this comment is to aid the discussion on the consequences that newly introduced incentives have on the impending monetary union in Europe.

engaged in the race against unacceptable rates of inflation and time will in all likelihood be able to converge to the levels set out in the Maastricht Treaty and secondly whether the Maastricht inflation convergence requirement is in fact "too severe" (De Grauwe, 1992: i).

The conclusions reached are interesting. De Grauwe argues that while one of the remarkable achievements of the EMS has been the degree to which inflation rates have converged within the system, these trends are unsustainable; that the "degree of inflation convergence achieved in 1991 in the EMS is probably at a historically high level and hopes of a further narrowing of the differences in national inflation rates are unrealistic" (De Grauwe, 1992: 14). This, he argues is because "convergence in yearly inflation rates can hide increasing divergences in trends in price levels ..." ⁸ and that if this "erosion of the competitiveness of certain countries in the EMS continues, devaluations will be[come] necessary ..." (De Grauwe, 1992: i-ii) ⁹.

Secondly, De Grauwe concludes that the requirement for the inflation convergence is too stringent. Empirical evidence from the Lander in Germany ¹⁰ shows the tight convergence in regional inflation rates ¹¹ to be the result of a full monetary union where a common currency and a common central bank have imposed the necessary discipline to achieve these results ¹². As such "it seems quite unreasonable to expect that such a tight inflation convergence can be achieved among countries that maintain their own currency and central bank" (De Grauwe, 1992: 7-8). Gros and Thygesen argue that some countries experience higher inflation than

⁸i) Gros and Thygesen (1992: 173) argue that the slow down in the convergence process has occurred partly because the impact on financial markets is stronger than the impact on the wage setting process. Participants in the labour markets have not yet been convinced of the "commitments" to avoid realignments. ii) See Froot and Rogoff (1991: 277).

⁹ De Grauwe shows that inflationary trends in the 1980's are not unlike those observed in the second half of the 1960's. At the end of this period, exchange rate adjustments became necessary in order to correct the diverging developments in competitiveness. This, in consequence led to a renewed divergence of national inflation rates (De Grauwe, 1992: ii).

¹⁰ See De Grauwe (1992).

¹¹ See De Grauwe (1992: 15-18). Quite often the yearly differences in regional inflation rates in Germany are around 1% and sometimes closer to 0.5%.

¹² Balls et al (1991:9) argue that as long as the "possibility of realignments still exists, the inflation differential will remain. A pledge not to realign is insufficient: inflation rates will only converge with a single currency".

others just because their monetary authorities are perceived as not being very averse to inflation (Gros and Thygesen 1992: 127). Similarly, differences in productivity growth between countries tends to reinforce the idea that inflation convergence as outlined in the Maastricht agreements is too severe and perhaps unattainable.

In fact, it has been shown that inflation prior to EMU is not even technically necessary. Monetary union is, after all, monetary reform: once union is established, the old currencies disappear as do inflation expectations associated with these currencies (De Grauwe, 1992: 18)¹³. Instead, this strict inflation convergence criterion acts an incentive to low inflation countries (that would probably not join a monetary union without this condition) to form a union with other higher inflation communities. By converging inflation rates, high inflation countries are demonstrating to their potential low inflation partners that they are committed to low inflation policy¹⁴.

In the light of the above arguments it should be clear that the length of the time allocated to the transitional phase is fundamental to the final outcome. Although, in essence, it is unlikely that the degree of convergence stipulated in the Maastricht agreements will be achievable without the discipline of a full monetary process, the longer the transitional period, the greater the likelihood of the occurrence of diverging national price levels and thus of realignments.

¹³It is assumed here that the old currencies will disappear. The only problem that exists then is the choice of the rate at which the old currencies will be converted into the sole, common currency. If the national currencies circulate alongside the common currency, then the inflation convergence criterion remains important (De Grauwe, 1992: 18-19).

¹⁴ A similar conclusion is reached by Begg et al (1991: 47-49).

CHAPTER THREE

DANGERS INHERENT IN THE MOVE TOWARDS MONETARY UNION

3.1 "Time Inconsistency" Introduced¹⁵

In simple terms, "time inconsistency occurs when a policy which, at the start seemed optimal today and tomorrow no longer seems optimal to policy makers when the time comes to act upon it" (Economist, 1991: 24).

3.1.1 An Example: The Credibility Approach¹⁶

This model rests on the assumption that "unemployment (employment) is a decreasing function of the discrepancy between actual and expected inflation rates" (Kydland and Prescott, 1977: 624). It is also assumed that the "monetary authority wishes to keep the inflation rate close to zero and to keep the unemployment rate low" (McCallum, 1989: 241). Furthermore, because expectations are formed on a rational basis¹⁷, "only surprise inflation affects output and therefore employment¹⁸ (Gros and Thygesen, 1992: 126-127).

¹⁵ While Strotz (1955: 56) appears to be the first one to have raised this concept in relation to an individual consumer, Kydland and Prescott (1977) are credited with first having identified it where the source of the "problem lies in the technology (particularly the government's fiscal technology) and in the assumption that people hold rational expectations" (Calvo, 1978: 1411). Note also that the term "time inconsistency" is also referred to as "dynamic inconsistency". See Miller and Malcomson (1984) for example.

¹⁶ The section to follow borrows from Kydland and Prescott (1977: 623-626). Although the authors present this model in order to show that rules are preferable to discretion (and this is not the aim of this discussion) it is also useful in that it adds clarity to the notion of time inconsistency (especially in the context of the EMU).

¹⁷ This means that "[b]ecause expectational errors are costly to those who make them, purposeful agents will try to form expectations in a manner that eliminates avoidable errors. Furthermore, systematic errors that occur predictably under certain conditions are avoidable; by observing the particular conditions that lead to errors, agents can take action to offset any systematic tendency to err. ... Errors are committed of course, but they occur at random" (McCallum, 1989: 145).

¹⁸ The "credibility approach" is based on the assumption that expectations are formed on a rational basis. The monetary authority is only able to engineer some inflation by surprising private agents, who are thus unable to adapt in a way suitable of negating the impact of the unexpected policy action. In turn, the public becomes aware of these added short term incentives available to government and "any promise by the

The monetary authority has the choice of maintaining stable prices in the present while also aiming at continuing along this low inflation course in the future or it may introduce an amount of inflation (this, of course must come as a surprise for it to have its desired effects) in the present while anticipating adverse long term consequences. Essentially then a trade-off exists, on the one hand between slower growth and long term price stability and on the other hand between reduced unemployment benefits of faster, unanticipated monetary growth and increased costs of inflation with rapid economic growth.

Thus, since government cannot use higher inflation as a tool to increase output and employment on a *systematic* basis, the former's "best" policy is to aim at zero inflation - output would, on average, be at the level determined by other non-monetary factors (Gros and Thygesen, 1992: 127). And, as inflation is a credibility problem, it is important to analyse not only what the government wants to achieve but also what the public expects the government will do (Gros and Thygesen, 1992: 126). In this case, the public's expectations are consistent with government policy and as such an equilibrium exists.

Consider now a second scenario: suppose for one reason or another, the current monetary authority does not expect to be operation in the future and can therefore afford to adopt a myopic standpoint i.e. the monetary authority does not consider the long term consequences of present policy actions. Once time horizons are limited, incentives for short term gain are introduced and the monetary authority might be tempted to bring about faster unanticipated short term growth. The monetary authority would, after prices and wages have been set in the private sector, take advantage of these short term nominal rigidities and produce an amount of surprise inflation¹⁹. If this action takes agents by surprise, unemployment would in consequence fall (or output would rise). The economy would, in the long term be placed in a worse position but this would be of little concern to the monetary authority; such are the problems for a successive monetary authoritative body. The only way that a position of lower inflation could once more be achieved would be for the monetary authority to introduce an

government not to cause inflation would therefore command little credibility with the public (Gros and Thygesen, 1992: 127).

¹⁹ The monetary authority could drop the bank rate thus effecting a decrease of the entire range of interest rates in the economy.

amount of disinflation that is not anticipated and then to rely on future inflationary expectations to follow suit thereby boosting the economy out of the manufactured recession.

In essence then, the monetary authority with a need to consider the long term consequences of employing a policy action other than maintaining price stability chooses to maintain a position of low inflation and as such to follow the "best" policy. In the second scenario, however the monetary authority has short term prospects only. New incentives are thus introduced and the outcome of policy is significantly different although the best policy is still to follow a path of low inflation. In technical terms, this is called "time inconsistency": a plan that is perceived as optimal at present and in the future is not consistent with the "temptations" that inevitably appear as time goes by.

3.2 "End Games" Introduced

The term "end game" refers to the type of activity that has the potential to render a plan or announcement time inconsistent²⁰. More specifically, end games arise when the participants of a current arrangement know that the latter terminates at a certain point in time and in consequence can influence their relative wealth or income positions in the new arrangement by taking actions before the old regime expires. This is because incentives are seen to change dramatically (and in ways that are detrimental to the performances of both the old and the new regime) (Fratianni et al, 1992: 26-27).

Consider the following example: it is one that concerns the round of wage negotiations between management and the labour that took place in the old, formerly socialist companies just prior to the monetary union being established in Germany.

Under normal circumstances, the survival of the firm puts a limit on unions' wage demands and management's wage concessions. However, when both sides agree that the firm will go bankrupt anyway, an end game arises. Labour will demand excessive wages to secure generous benefit levels, if as in Germany, unemployment benefits are

²⁰ See for instance Fratianni et al (1992) or Froot and Rogoff (1991).

... tied to exit wages. Managements has no reason to object, but may have good reason to concede. Managers who were appointed for political merits under the socialist regime are more interested in building a reputation of concern for workers than in preserving the firm's viability (Fратиanni et al, 1992: 26-27).

Such activities are inevitable during the transition from one institution to another: they can be minimised but never eliminated. It can also not be over-emphasized that since political considerations ultimately dominate the economics of situations, a smooth transitionary process cannot in all reality be expected. There will always be recurrent instabilities (some perhaps in the form of end game activities). In this light then it might be fair to say that in an European context various end game activities would be entered into in order to maximise the entity concerned's short term potential.

3.3 Dynamics of the Games

It would be futile to claim that the discussion to follow covers all the possible variations of potential end game activities available to participating rational agents and also all the reasons for the announcement of a EMU being rendered time inconsistent. Instead, an attempt has been made to identify the source of a select few potential instabilities within the current system.

The analysis to follow is best described in a game theoretic framework. In the European context, various simultaneously played games could be identified. A game between the various European governments/monetary authorities²¹ and Nature (or a well defined and agreed upon, fixed social objective function) exists as does a game between the policy maker

²¹ The terms "monetary authority" and "government" have until now been used interchangeably: the degree to which these two institutions are one and the same varies among countries. It has been assumed though that the two are separate entities and in terms of the game both play an important role. The government for instance will still be in office after monetary union has been accomplished (unless of course they are outvoted in a concurrent election) while the monetary authority too will have the same degree of responsibility as before the third stage towards monetary union. The government, however may rely substantially on the monetary authority to bring about a desired outcome - in this way the two bodies are closely linked. Within the constraints of the game then, they are assumed to comprise one entity; to be called, in this case, the "policy maker".

and the private agent²² of a community/country. And, finally an intra-private sector game could also be identified.

These games begin when the fixed social objective, in this case monetary union, is ratified by all participants involved and the first stage, such as the one described in chapter two is entered into. Although these games should be viewed in a dynamic context in that the players monitor each other's actions, this analysis takes place according to the mechanisms of a one-shot game²³. Monetary authorities face finite time horizons. Once the third stage of the transition has been reached, the mechanisms of the game (its participants and their objectives, that is) will change and the "old" analysis will no longer apply. It is also assumed that all economies are represented by various Phillips curves, that nominal wages are sticky and that there is informational asymmetry before the various games begin²⁴.

The nature of the interaction between the various participants in the game is fundamental to this analysis. It could perhaps be argued that the reactions of the participants are based largely on their perceptions of each other's commitment (or lack thereof) to the specified goal. If, in terms of the inflation/unemployment example, for instance, the public were to become aware of the short term opportunities open to the policy maker for exploitation, then the latter could not expect to command much credibility from the public. This is because private agents' perspectives of government stem from their expectations of government. As such, the monetary authority would not be able to shape the public's behaviour in a way consistent with the strategy. Without credibility then, not only is there a possibility of the goal being unattainable, but also of the "strategy itself [being rendered] suboptimal" (Fratianne et al,

²² As Rogoff (1985a: 200) argues, it can be "misleading to model the strategic interactions of two governments without also modelling the game between the policy maker and the private sector".

²³ The outcome of a single shot game differs considerably to that of a repeated game. See Von Hagen (1992: 850) for instance.

²⁴ Policy makers in the specified country are assumed to have more knowledge about their economy than policy makers from other regions. Policy makers and private individuals alike possess "private information" (Canzoneri, 1985: 1056). The policy maker has full information about the current status of their economy while private agents may not have the access to some of this information and at the same time, "the government does not know how intransigent the public wage demands are" (Backus and Driffill, 1985a: 212). Likewise, there is an asymmetry of information amongst the members of the private sector.

1992: 15).

This notion is crucial to the discussion to follow. Here, firstly a strategy announced at a certain time is referred to as being credible "if it remains optimal when the monetary authority revises its policy at a later date" (Fратиanni et al, 1992: 15). And, secondly the term is used more specifically in the context of a "credible commitment" to the final goal - in this case to EMU. Thus, "credibility requires that the failure to meet a commitment be more costly to the policy maker than to honour it" (Fратиanni et al, 1992: 15). In this light, a commitment to a goal will not be credible if the latter is considered suboptimal in the pre-transitional stages. Similarly, if the majority of the parties are dissatisfied with the end result or the latter is perceived as being unattainable anyway, then once again the commitment will not be credible. Lastly, a credible goal alone does not assure the credibility of the commitment to EMU. EMU may be attractive today, but there is no assurance that it will always be so in the future.

3.4 End Games, Time Inconsistency and EMU

3.4.1 Inflation, Wage Demands and Other Considerations

Previously in this chapter a situation was described where the monetary authority was tempted by short term incentives to raise output. These incentives were introduced when deadlines on the monetary authority's time horizon were extended. This is perhaps one of the more obvious of end game activities open to the European policy maker. National monetary authorities would be aware that monetary union brings with it a loss of monetary autonomy and would therefore expect not to have to take responsibility for the medium to long term consequences of these policy actions. The outcome of the game would be suboptimal in that the public reacts to the engineered inflation by raising their expectations of future inflationary estimates. Any credibility that the monetary authority may be able to command from the public is destroyed. Froot and Rogoff (1992: 271) argue that the monetary authority knows that its credibility base has been destroyed and as such the "temptation is likely to be especially strong near the time of union". This is a non co-operative game.

If paralleled to the European transition, it soon becomes clear that this game is an

oversimplified one. The Maastricht inflation convergence criterion clouds (as do the other convergence criteria) the basic dynamics of the games since the monetary authority would obviously be endangering its rights to inclusion by inflating too much and/or too soon. But as was argued in chapter two, not only is this entrance condition regarded as being too tight and probably unattainable, it is also unnecessary²⁵. Knowing this, rational monetary authorities would tend to hold little regard for these conditions and chose rather to opt for the short term benefits of higher economic growth while at best making an attempt to stay within the boundaries of the limits stipulated.

This could be achieved in two ways²⁶: the monetary authority could employ the inflation option in the earlier stages of the transition and then attempt to disinflate just prior to full integration²⁷. In this way the benefits of higher employment could be reaped and the country concerned still admitted to the union. Whether these convergence criterion are ultimately attainable would of course depend not only on the rate of inflation of the specific country prior to the disinflation and the time that the monetary authority allows for the convergence process but also on the reactions of the private sector to such policy.

Alternatively, the policy maker could postpone raising output until the very last stages of the transitional period. This appears to be a more appealing approximation of a possible policy action in the game in that the stipulated levels of convergence could be attained²⁸ prior to the final stages of the transition (thereby ensuring inclusion in the monetary union) while still leaving the inflation option open to the monetary authority.

²⁵It should be noted that an argument along similar lines could be extended to the other convergence criteria as stipulated in the Maastricht agreements although this is not to say that all such criteria are unnecessary and unattainable.

²⁶ It is assumed here that it is an inherent trait of the monetary authoritative body to misuse and overabuse the monetary tools and options available to them. Perhaps this too is an oversimplification.

²⁷ This option has been suggested by Fratianni et al (1992: 27). They argue that different incentives will arise if the announcement specifies a date and final parity: governments would postpone disinflations to shortly before joining the union.

²⁸It is assumed for simplification purposes here that such levels of convergence are attainable, even though it was argued earlier that this might not be the case.

An analogy could perhaps be drawn between this line of thought and that discussed by Alesina (1989) in his article "Politics and Business Cycles in Industrialised Democracies". Alesina argues that before elections, economies are often overstimulated with expansionary policies such that "the incumbent appears as efficient as possible in providing public goods, services and transfers. By hiding or delaying the budgetary consequences the incumbent may succeed in creating a temporary illusion of prosperity before the voters realise that they will have to pay for it with post-election taxes" (Alesina, 1989: 57 and 63). In this same way the consequences of European monetary authorities' expansionary policies could also be hidden or delayed until a later and perhaps more convenient date. This is a non co-operative game in the sense that the policy maker once more can only achieve this inflation by using the private sector.

"The central banks' incentives to inflate need not be motivate by employment considerations, but can also arise due to the presence of nominal government debt or short term rigidities in the tax system" (Rogoff, 1985: 1173). Consider public debt, for instance: it might be in the policy maker's interests to enter the monetary union with a lower real value of government debt²⁹. Similarly, if the "distribution of seignorage in the new regime depends on the relative size of the national monetary bases, governments have incentives to increase monetary base growth to secure a larger seignorage share for themselves".

Alternatively, seignorage distribution in the EMU may depend on the fiscal stance of national government granting fiscally "weak", highly indebted governments a larger share of seignorage. This creates an incentive to raise budget deficits to increase debt levels shortly before union is entered into³⁰ (Fратиanni et al : 1992: 27) (Governments are competing against each other here in terms of the relative shares of seignorage that will be accorded to them).

In any case, as the policy maker "suddenly" raises output, a game similar to the management/labour example in the introductory comments of this chapter might

²⁹See for example Froot and Rogoff (1991: 300).

³⁰The end game here resembles the behaviour of individual firms in a cartel where profits are distributed according to relative capacities (Fратиanni et al, 1992: 61).

simultaneously be played in the private sector. The motivation for such action would be different in this sector however. Perhaps these exorbitant wage concessions are bargained for in response to the credibility (or lack thereof) that the policy maker now commands from the private sector and also in anticipation of higher future wage allowances³¹. The policy maker in the management/labour example above may accommodate these possible high wage demands. This policy stance, while securing post-transitional electoral support for the policy maker, may however result in higher aggregate unemployment. This is a co-operative game in the sense that each party bargains for similar ends and their respective demands reinforce each other.

3.4.2 A Final Realignment and Rates of Currency Conversion

It has been argued that before finally abandoning the use of realignments it would be useful to effect a "last but large realignment that creates a constellation of real exchange rates" (Gros and Thygesen, 1992: 185)³². Such a final realignment might perhaps be necessary if exchange rates are seen to be misaligned at the same time as the creation of EMU. Those with an undervalued exchange rate may suffer imported inflation, while those with overvalued currencies might otherwise stand to suffer a possibly long period of slow growth until sustained below average inflation has restored competitiveness (Begg et al, 1991: 55).

It is certainly not a given that a final or maxi realignment would occur³³. In fact it needs to be shown that "the present constellation of real exchange rates leads to imbalances, i.e. that the current real exchange rate represents an overvaluation in the sense that it causes an external deficit and unemployment" (Gros and Thygesen, 1992: 182). It is however a difficult

³¹The motivation behind demanding "higher than normal" wage concessions is similar to the efforts made at securing favourable currency conversion rates i.e. starting from a high initial base.

³² While clearly a devaluation will not improve the competitiveness in the long run, it could make the adjustments to lower government spending easier, temporarily cushioning the effects on employment and output Froot and Rogoff (1991: 303).

³³Froot and Rogoff (1991: 303) argue that as the date of union approaches, however, the odds of a devaluation taking place increase.

if not impossible task to prove this³⁴. And, clearly, a final realignment would be rendered ineffective if not accompanied by appropriate domestic policies i.e. measures that reduce domestic demand and thus inflationary pressures.

If it is believed with a positive probability - however small - that exchange rates are to be realigned (i.e. that the currency is to be depreciated), advantage will undoubtedly be taken by all players in the game, of the incentives that are simultaneously introduced³⁵. "Wages and prices [would] increase at a rate that is not consistent with a fixed nominal exchange rate, building up realignments of relative prices" (Froot and Rogoff, 1991: 304). In effect, wage and price setters do not feel exchange rate discipline (Begg et al 1991: 55) and the result is that inflation (and interest rates in the financial sector) are pushed up, away from convergence. In a sense then it can be said that if a realignment is needed, it will be expected but at the same time, exchange rate stability is the only way through which inflation and interest rates converge (Begg et al. 1991: 56). Hence the danger of the active speculation of a final realignment (induced by expectations) has of yielding a less than optimal outcome. The country concerned may in fact find itself in an even worse position (Balls, 1991: 14).

Strong incentives exist for most countries to look for a final depreciation advantage by driving the exchange rate to the floor of the margin of fluctuation on the last day. Begg et al (1991: 57) cite as examples of these incentives the "familiar beggar-thy-neighbour advantage³⁶ from enhanced competitiveness" and for high debt countries once more the reduction in the real value of debt.

While currency reform (the replacement of several moneys with a single one) is to be an integral part of the transition to EMU, little emphasis has to date been converted to the new, common numeraire. Once more this uncertainty induces potentially undesirable speculative activities, generally with an inflationary bias. If for example the announced rate is expected

³⁴There is for instance very little evidence of a direct link between exchange rates and (un)employment.

³⁵ In fact, Giovannini (1991: 13) argues that there is no way of convincing the public that a realignment is not going to occur.

³⁶See Froot and Rogoff (1991: 303): "He who devalues last, devalues best".

by wage and price setters, various price distortions will arise. The latter may seek to increase/decrease³⁷ their money holdings in order to translate outstanding nominal contracts to the new denomination (Giovannini, 1991: 9-10). It has also been shown that "investors will recognise the temptations offered by currency reform and they will charge an ever rising premium on non-indexed debt as the date of union approaches". While debtors are generally unprotected in this regard, investors are able to capitalise on the currency reform³⁸.

To combat these problems (and to minimise the costs of transition) it has been argued that the actual rates of conversion could be announced some time before the process is to take place³⁹. In this way, uncertainty (and the scope for speculation) would be avoided. This policy stance however opens wide the opportunity for other end game activities as all players in the game know that despite any short term maximisation activity on their part, the specified national currencies will be converted at a particular rate.

Various possible end game activities have been described. The discussion above has been somewhat eclectic, omitting as mentioned, to detail many possible end game variations and outcomes. Clearly though, "[b]oth governments and private sector agents will have incentives to engage in policies aimed at manipulating their position in the new regime rather than assuring sound ... conditions during the transition" (Fратиanni et al, 1992: i). These activities lead systematically to outcomes that can only be described as suboptimal.

The point being made is that end game activities are ultimately detrimental to the final outcome, potentially rendering the plan for EMU time inconsistent. As additional hazards are introduced to a somewhat already unstable transition, the likelihood that the desired outcome will be jeopardised, increases. One might argue that this occurs because political/private motivations dominate the process.

³⁷Depending that is on the denomination of their current money holdings.

³⁸See especially Froot and Rogoff (1991: 300 and 303-305). The authors present a reputational model to illustrate the temptation to devalue before the union comes about.

³⁹Giovannini (1991: ii) for instance suggests an announcement should be made two years prior to the actual conversion.

Clearly, the analysis depends on the extent to which private and public agents deem the final goal - monetary union - to be attainable i.e. whether it is deemed credible or not⁴⁰. Agents will tend not to engage in activities that risk their inclusion in the monetary union⁴¹ (or put risk on the entire monetary union⁴²) if the opportunity cost of being excluded is regarded as being significantly high. In other words the greater the degree of which monetary union commands credibility from the various participants in the game, the less frequent will be the occurrence of such countervailing activities and therefore the greater will be the probability of monetary union coming about.

3.5 Changing Economic and Political Environments

Even though the participants in the game are obliged to ratify the treaty that calls for the establishment of an economic and monetary union prior to its enactment, there is only a small probability that the economic and political conditions will remain the same during the transition.

As part of the process towards integration in Europe, various economic indicators, as mentioned, are required to converge to specified levels. To achieve these convergences, countries able only to command low levels of credibility from the private sector have sought to peg their own currency to Germany's currency in order to acquire credibility gains - this is perhaps the essence of the EMS. As such, the high inflation countries follow the monetary policies set by the low inflation monetary authority⁴³. Within this framework, various end games on behalf of both the dominant leader and the followers may take place. Where clearly it is optimal to remain aligned to the system, the low inflation players, knowing that the other

⁴⁰ End game incentives will always be present; it is really a matter, more than anything else, of whether they are tempting enough to be taken up.

⁴¹Applicable to less stable and usually high inflation economies such as Greece and Portugal.

⁴²Applicable to a "stronger", low inflation economy such as Germany.

⁴³It is widely argued that the "status" of the various players is important to the outcome of the game. von Hagen (1992) argues in contrast to this that the credibility gains neither require nor imply hegemony of the low inflation member.

players will have to follow suit, might find it in their interests for one reason or another to inflate. Likewise, the high inflation players might be forced, due perhaps to the unexpected occurrence of country specific/asymmetric shocks or once again to the inability to resist inflationary temptations, to withdraw. What was first perceived to be an optimal policy is no longer considered so.

In a similar light, any form of economic hindrance in the way of monetary union (i.e. realignments) might for example be seen by politicians and the electorate as a sign that the entire arrangement is impractical and thus their motivations and consequent actions would conceivably also change.

In addition to these economic fluctuations, end games may be induced by changes in the political arena. The latter refer not only to changes in the government, with dissimilar motivations and reputations⁴⁴ but also to the electorate/private sector and the signals that they issue forth. As Cohen and Michel (1991b: i) comment, "[t]he question is not so much whether a policy maker can be trusted to implement a given policy, but rather - in a democracy - whether the votes can be trusted to re-elect a committed policy maker". Voters are not bound by their previous choices as are policy makers and are thus free to enter into end game activities as they deem desirable. Various other phenomena, like free riding should also be taken into account.

In essence then, it could be argued that if the end game activities as described above are coupled with inevitable changing political and economic environments, the result will be different to the outcome originally anticipated.

⁴⁴This in turn might perhaps be induced by a deteriorating economic climate.

CHAPTER FOUR

POLICY IMPLICATIONS

4.1 Introduction

It has been suggested that when end game activities are entered into, they have the potential to render a plan/announcement time inconsistent. Such behaviour is inevitable. The aim of this chapter is to suggest various policy measures or rather to introduce ways in which the outcome of the games described can be improved upon. These solutions undertake to minimise the frequency to which end game activities are entered into.

The heart of the discussion to follow lies in the suggestion of ways to enhance the credibility of the European system as perceived by all the participants during the transitional stages. A lack of credibility makes EMU look less attractive, thereby lowering the likelihood that the final goal is achieved. On the road to monetary union, the main credibility problems relate to the authorities' commitment to the final goal, the delegation of monetary policy to the common central bank and the permanent fixing of exchange rates (Fратиanni, 1992: 16).

With very little necessary work done in this field, it becomes patently obvious that the type of policy that pure economic theory prescribes is frequently dissimilar to that which appears optimal in practice⁴⁵ and as such it is often necessary to adopt a second best⁴⁶ solution to the problem. This will become clearer in the discussion to follow.

⁴⁵This has adverse political motives if individual preferences, for example, are to be taken into account.

⁴⁶The term "second best" refers here to a policy that might be chosen given that the policy that pure economic theory advocates is infeasible.

4.2 During the Transition to European Monetary Union

In chapter two the proposed stages towards monetary union were briefly outlined. Of the three stages, there is no doubt that the second stage appears to be the most "dangerous". Participating economies, during this period (just prior to the final locking in of all exchange rate, that is), are most susceptible to speculative activities, destabilising shocks (both external and internal) and realignments. In this light, it might be argued that the process be sped up or in other words, that an early lock-in of all parities is undertaken⁴⁷. In practice, however this would probably not be possible: it takes economic agents (both public and private) time to adjust to the associated economic changes and political hurdles, to achieve sufficient levels of economic integration, and to afford the costs involved in the transition. A gradual approach⁴⁸ might be resorted to⁴⁹. Some means then of avoiding all forms of destabilising activity during this stage (and any other stage for that matter) should be sought out⁵⁰. The heart of the solution lies in the augmentation credibility for the process.

Fratianni et al (1992: 29) argue that "end games can be mitigated by keeping the conditions and timing of the transition sufficiently uncertain to the relevant decision makers". In theory this holds true - participants are unable to improve upon their positions in the current arrangement if the conditions that are applied, the day that the arrangement expires, etc. are unknown. In practice however this is not an option. Not only is the transition necessarily the subject of "international agreements which require the time and specificity to pass the national legislative and administrative channels" it is also politically infeasible: "such uncertainty would require that the timing and conditions are set by an authority other than the participating government" (Fratianni et al, 1992: 28). As such, it is necessary to adopt a second best policy option. Various measures that seek to prevent or at least minimise the occurrence of end game activity should be investigated.

⁴⁷ See for instance Balls (1991: 14) and Giovannini (1990: 14).

⁴⁸ See for instance Fratianni et al (1992: 16) and Froot and Rogoff (1991: 271).

⁴⁹ Froot and Rogoff (1991: 3065) argue that this might not be such a bad thing. "As long as the time to union is sufficiently far off, the government might be able to index its debt gradually", thereby signalling its commitment by reducing its short term temptation as the future value of reputation falls.

⁵⁰ Here, clearly a second best option is being sought after.

Strongly endorsed convergence criteria, similar to those stipulated to in the Maastricht Treaty, undoubtedly play an important role in the process. Without these conditional entrance requirements there would be insufficient political commitment to follow the necessary course of action - these criteria pressurize governments, at the risk of exclusion, to stay in line. If they are not viewed as credible though there is a chance not only of them being discarded but also of various end games being played amidst an attempt to converge these economic indicators. In this light it would appear justified to require not only that various levels of convergence are achieved but that they also be met for a specified period of time. This stipulation should apply not only to a period in which realignments have been successfully avoided but also to the fluctuations in the rates of inflation and interest, levels of public debt and budget deficit⁵¹.

Instead of taking the above approach perhaps it would be preferable instead to rely on a strategy whereby the various benefits⁵² that become available to participants achieving convergence are made known⁵³. Concrete incentives might be viewed in a more positive light. This, once again would only be deemed credible if all the participants believe with conviction that the idea of forming a monetary union is not just a whim entertained by a few but a credible goal, worth striving for⁵⁴.

Alternatively the disincentives of cheating (or following a path other than the stipulated one) could be emphasised. The result of government renegeing on a contract might, for instance, might be a withdrawal of electoral support for that institution (i.e. a democratic penalty is imposed).

⁵¹Additional time would undoubtedly be required in order for these conditions to be met though, not to mention that they might be unattainable in the first place!

⁵²See the first chapter of this paper.

⁵³ If these benefits are then deemed worthwhile, it would conceivably be in the policy makers' interest to find ways of signalling their commitment. Froot and Rogoff (1991: 303) suggest high inflation counties should take "extraordinary steps to commit themselves (perhaps by tying exchange rates firmly to other EC agreements or by indexing domestic debt to the ECU".

⁵⁴Effective institution building is considered in the following section.

In the previous chapter the dilemma that surrounds the issue related to the determination of the rates at which the individual currencies are to be exchanged for the common currency was discussed. Perhaps in the light of the above though, the problem could be viewed in more simple terms. Instead of announcing conversion rates just before the introduction of the new currency (and in so doing inducing less than optimal behaviour prior to the conversion), it might perhaps be preferable to announce the conversion rates prior to (perhaps years before) the actual deed while firmly entrenching the convergence criteria in the manner described above. In this way, scope for potential end game activity would be limited. This end could also be achieved by taking the more radical step of curtailing monetary control of the national monetary authority prior to the conversion.

In the early stages of the transition especially, a degree of flexibility should be allowed and always accommodated for. One cannot, for example exclude the possibility of nation-wide economic shocks occurring. Without the flexibility to respond to these shocks with the appropriate monetary (or fiscal) policy, it is quite conceivable, depending on the nature, severity and frequency with which the shocks occur, that the whole system be in jeopardy. Similarly, essential exchange rate realignments should be neither disallowed, or condoned but "organised according to standard practice, through common agreement" (Begg et al, 1991: 56). The aforementioned would of course cease to hold true once stage three has been reached and preferably before this too, depending on the extent to which convergence has been achieved⁵⁵. The point being made though is that there is an obvious trade-off between the credibility and flexibility of the system.

As mentioned, if there is the slightest indication that a final realignment is to occur just prior to exchange rates being locked in, various distorted perceptions concerning the viability of the system will undoubtedly be fostered until the realignment has either occurred or is deemed unnecessary. Perhaps in this light then, it would be less destabilising to the arrangement if an early (and unexpected) "final" realignment were to be effected. If during the early stages in the transition exchange rates are misaligned to the extent that it is to be deemed a problem,

⁵⁵As long as any form of realignment is allowed however, whether it be justified by common decree, by an escape clause in the agreement etc., the achievement of a monetary union will not be deemed completely certain until the event itself has occurred.

then it might be preferable to remove these distortary influences before the problem is magnified beyond proportion (Begg et al, 1991: 64).

4.3 Effective Institution Building

Until now it has been argued that credibility enhancement is essential if the impending process is to be in any way successful, this is also true of the institutional set up of the monetary union. If the policy makers and private agents are convinced that the new regime will deliver the "published" benefits once the transitionary phase has been completed, then clearly they will be less tempted to enter into end game activities that might forfeit their inclusion in the union or the formation of the entire monetary union.

Although their argument is modelled once again in the domestic framework of a 'rules versus discretion debate', Barro and Gordon (1983) suggest that a government will be able to improve upon the credibility that it commands if it builds up a reputation as being committed to ensuring sound monetary policy⁵⁶. "[T]he potential loss of reputation - or credibility - motivated the policy maker to abide by [rules rather than discretionary or less than optimal behaviour]" (Barro and Gordon, 1983: 102). Clearly this would apply to the to-be-established ECB. If a reputation such as the aforementioned is created not only will the probability that progress goes as far as the establishment of the ECB to significantly increased but also the task of the latter in the years to follow will be made easier. There should for instance be no reason whatsoever for a country to become credibly committed to entering a monetary union if their record of economic growth and stability are not expected to be improved upon in a new regime⁵⁷.

The question still remains: how can a credible reputation be built up, and prior at that, to the physical establishment of the central body? Rogoff suggests that an "inflationary detesting"

⁵⁶By this it is meant that it is not tempted by the "cheating" option discussed previously.

⁵⁷This argument applies particularly to economies, like Germany, whose economic performance is commendable without being a member of a monetary union.

or very "conservative" central banker who would put more emphasis than government politicians on fighting inflation⁵⁸, be appointed as head of the central bank (Rogoff, 1985b: 1179)⁵⁹. Furthermore it should be re-iterated that the central bank should be completely independent "without the fear of favour" of any political control (Goodhart, 1993: 30) and (Balls, 1991: 4). At the same time too national central banks in the community should be strictly monitored⁶⁰ (Begg et al, 1991: 71). The earlier these policy stances are announced the better.

Besides therefore being incentive-compatible, dealing effectively with the fears of today by those responsible for conducting negotiations but also by those who are implementing and following policy, a successful plan should also "strive to set out a robust and wise constitution that will function long after the initial concerns have lost their relevance" (Begg et al, 1991: 63)⁶¹.

⁵⁸The ECB has been "given the remit of achieving domestic price stability as an overriding priority" (Goodhart, 1993: 30).

⁵⁹See also von Hagen (1992: 849) and Lohmann (1992).

⁶⁰While strict regulatory activity plays an essential role in the process, harmonisation between the ECB and the national banks should also be ensured.

⁶¹ The proposed constitution and general workings of the ECB (see for example Goodhart (1993) and Schnadt and Whittaker (1993)) border on being beyond the scope of this discussion. In the context of this paper therefore this is regarded as sufficient comment.

CONCLUSION

While currently in the first phase of the three stage process towards economic and monetary union, European policy makers and communities are only recently beginning to experience and grasp the full realities that go hand in hand with the process. Undoubtedly numerous countervailing forces to such a challenge will exist. This paper has dealt primarily with one form of hindrance to the successful completion of integration, namely rational agents' expectations.

This paper begins from the maintained assumption that European Economic and Monetary Union (EMU) will take place. In this light, an attempt has first been made in the early chapters of this paper to define a monetary union, to list the costs and benefits involved in the transformation process and then to survey the proposed operation and functioning of the transition to and establishment of a monetary union in Europe. An argument based within a theoretical framework is then made for the inevitability of end game activities and resultant time inconsistent outcomes.

Policy makers and negotiators of EMU should aim to find appropriate policy rules such that the achievement of monetary union is judged continually as time passes by all involved to be the "best" option available. A solution would have to be an "engineered" one. Public and private agents form expectations on a rational basis and seek consistently to maximise their level of welfare given the prevailing circumstances. As such, behaviour leading to end game activity with time inconsistent consequences are inevitable and at best can only be minimised.

The "problem" - said with the fear of making an over-generalisation - lies essentially in the way that the process involved to attain EMU is viewed. As long as public and private agents alike regard each stage in the transition towards monetary union as an "optimisation" problem that needs to be solved, resultant countervailing forces will undoubtedly undermine progression. The whole process should be considered rather as a "dynamic" challenge (Backus and Driffill, 1985b: 530). In practice, agents will always seek to maximise their welfare though and as such the possibility of EMU being derailed will always exist. Public

and private agents will continue to accept "second best" arrangements.

It has been suggested, in the light of the above that a way of minimising the frequency with which end game activities occur would be to enhance the credibility of the policy rule or end goal, which in this case is the attainment of a monetary union⁶².

In the framework of the previous chapter, the games (between the various participants) will not cease until a full degree of credibility has been reached. If the policy rule lacks credibility then in the future this same policy rule will deliver "low" levels of welfare to those not only who follow the rule but also those who implement it. This is because agents adapt their behaviour in accordance with their expectations. If it is deemed for one reason or another that the "published" levels of welfare will not be delivered/deliverable then there is no reason to believe that agents' behaviour would be similar to that if the policy were considered credible.

An authoritative body will command greater credibility if it has a reputation for following sound policy. It has been argued that every attempt should be made to secure an appropriate inflation averse reputation for the proposed central monetary authority (the ECB). This in turn will go a long way to convincing the policy makers and other agents that the end goal - monetary union - is worth striving for. This will raise the potential costs of cheating to a prohibitively high level, thus increasing the penalties against any form of deviation from an optimal course of action. In so doing the scope for potential end game activity and resultant time inconsistent policy will be minimised.

⁶²If the end goal is deemed credible then it would follow that the credibility of actions taken by policy makers would in all likelihood increase. Policy makers would become more attentive to the implications of the decisions that they make.

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