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**APPROACHES TO REGIME DEVELOPMENT AND EVOLUTION
THE CASE OF THE EUROPEAN MONETARY SYSTEM**

BY

ANITA MILLAR, B.A., M.A.

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of

**Master of Arts
Norman Paterson School of International Affairs**

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Christopher J. Maule, Director
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Professor M. Molot, Supervisor

ABSTRACT

The thesis uses a case study to examine the ability of competing theoretical approaches in International Political Economy to explain regime evolution. For this purpose the case of the European Monetary System is used. The intention of this thesis is to test the hypotheses that mainstream explanations of regime evolution are not sufficient, and thus non-traditional approaches should be considered both independently and in conjunction with the mainstream approaches. The mainstream approaches examined are structuralist and functionalist, while the non-traditional are cognitive and one that considers the structural power of market forces. Support is found for these hypotheses and it is suggested that critical theory might be used to combine the important elements of these approaches. The explanatory power of each approach is first discussed at a theoretical level in the literature review provided and then tested at a case level. The tests developed for the case study are both qualitative and quantitative in nature which is, in part, reflective of the inter-disciplinary nature of this thesis. The analyses of all tests, however, have a qualitative element since their interpretation is a function of the manner in which the evolution of the EMS is bench-marked in terms of the regime's changing operation and the response of EMS members to the rules of the regime.

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LIST OF ABBREVIATIONS

BFr - Belgium franc
Dkr - Danish kroner
Ffr - French franc
DM - Deutschemark
Ir£ - Irish punt
l - Italian lira
fl - Dutch guilders
Esc - Portuguese escudo
Pta - Spanish peseta
£ - Pound sterling

CHAPTER ONE

INTRODUCTION: AN OVERVIEW OF THE PAPER

SECTION ONE: THE PROBLEM AND ITS IMPORTANCE

The problem investigated in this thesis is that of economic cooperation between states - why it occurs and why and how it changes. While cooperation exists in many forms, this thesis focuses upon cooperation manifested by international regimes¹. The specific problem addressed is the capacity of competing theoretical approaches to regime evolution to provide insights into the development of the European Monetary System (EMS), a fixed exchange rate system, from its commencement in March 1979 to the United Kingdom's full participation in October 1990.

The EMS has been chosen for the testing of these approaches because it is a complex regime involving states that have possessed, and continue to possess, varying degrees of influence over the regime's evolution. State participation in the EMS has been determined by a number of internal and external influences. Some indication of these influences upon state action and thus the regime are provided by the events that occurred within the EMS during the fall of 1993. At that time strains in the EMS, emanating from German unification, tight German monetary policy, and a lack of willingness among various EMS participants to realign their currencies, culminated in the UK's reduced participation in the regime and a series of speculative attacks, of varying severity, on the currencies of a number of states participating in the regime.

The employment of a case such as the EMS for the testing of regime theory is also a new point of departure in the International Political Economy (IPE)

literature which, until recently, has focused largely on economic regimes associated with the era of Pax Britannica or Pax Americana, whereby "Great Britain and the United States created and enforced the rules of liberal international economic order" (Gilpin, 1981, p.145). Such attention has affected the regime literature in two ways: first, the focus has been on regimes that have declined; this, in turn, has precluded change in the last phases of a regime's life as being understood as a period of regime metamorphosis; second, state interaction has largely been characterized in terms of an identifiable dominant actor².

In addition to dealing explicitly with the question of how the competing approaches explain regime evolution, this thesis attempts to integrate the topics of international politics and economics and thus reflect the inter-disciplinary nature of the study of IPE. At a theoretical level it considers the regime literature which has its origins in international relations theory, while at a case level (the evolution of the EMS) it deals with issues of concern to the study of both international politics and economics. These fields of study are intertwined most directly in the case study through the exploration of theories and statements associated with the theoretical approaches with a number of quantitative tests drawn largely from economics and finance. These tests reflect the economic and financial nature of the regime under scrutiny. The tests are not exclusively quantitative, however, as the regime is not assumed to function independently of questions of ideology or politics and thus where applicable tests of a more qualitative nature are employed.

SECTION TWO: THE EMS

The EMS is a fixed exchange rate system based on two sets of exchange rate parities. The first set of parities, referred to as the bilateral parity grid, is based on the rates at which the national currencies of EMS participants are traded against each other. The second set of parities, the central parity grid, is the rates at which each national currency is traded against the European Currency Unit (ECU). The ECU is a composite currency comprised of specified proportions of the national currencies of the European Economic Community (EEC)³ members, whereby the proportions are determined by each component currency reflects each member's relative economic weight (Bank of England, November 1990, p.480). The operation of the Exchange Rate Mechanism (ERM) of the EMS⁴ requires both grids. Each currency must establish a central parity against the ECU so that the parities that comprise the bilateral parity grid can be derived (Bank of England, February 1991, p.73).

The origins of the EMS can be traced back to a meeting at the Hague in 1969, when principal ministers of EEC states agreed to move towards economic and monetary union (Coffey, 1987, p.6). In response to the Hague agreement the Werner Plan for European economic and monetary union was produced. The Werner plan failed, but its provisions for the first stage of monetary union provided the blue-print for an exchange rate agreement called the Snake⁵ (Coffey, 1987, p.12).

The creation of the Snake was a European response to U.S. policies concerning the dollar and the resulting exchange rate structure created by the

Smithsonian agreement of December 1971⁶. Not long after, on March 7, 1972 six⁷ members of the EEC agreed to maintain their bilateral exchange rates within a 2.25 per cent band of fluctuation around the central parities of their national currencies. The Snake thus operated as a 'Snake in a Tunnel' whereby the dollar exchange rate of the European currencies were kept within the wider tunnel, a 4.5 per cent band of fluctuation, as provided by the Smithsonian agreement, while their relative movements against each other were confined by the Snake (Solomon, 1982, p.218). This form of the Snake changed, however, with the floating of the dollar and an agreement by six EEC countries to float their currencies jointly as a Snake without a tunnel⁸ (Solomon, 1982, pp.232-233). The Snake continued in this form until it was replaced by the EMS in March 1979.

Despite the Snake's survival, its history was turbulent as reflected in its changing membership. Within a month of the Snake's inception the United Kingdom, Ireland, Denmark, and Norway joined, although two months later Ireland and the United Kingdom withdrew their respective currencies (Ludlow, 1982, p.3). Not long after, in February 1973, the Italian lira was withdrawn from the exchange rate arrangement and the Deutschmark was revalued by 3 per cent in March 1973 (Ludlow, 1982, p.3). By November of 1973 the Deutschmark had been revalued once more along with revaluations of the Dutch guilder and Norwegian kroner. These revaluations were a reflection of the pressures on the Snake that forced the withdrawal of the French franc in January 1974. France did rejoin the Snake in 1975, but permanently withdrew from the regime in March 1976 (Ludlow, 1982, p.3).

The Snake's history was troubled for a number of reasons, but the turbulent environment provided by a system of floating exchange rates and a weak U.S. dollar were among the most significant. This environment and unpopular U.S. policies, some of which contributed to the weak dollar, helped to encourage the preferences of French President Giscard d'Estaing and German Chancellor Schmidt for a greater degree of economic and political integration in the EEC (Ludlow, 1982, pp.63-75). Thus the decision to create the EMS was driven by both the economic and political concerns of France and Germany.

The evolution of the EMS has continued to be shaped by the political and economic interests of its members as reflected in its operation and the changing response of EMS participants. Up to March 1983, the regime's functioning is marked by the unwillingness of ERM participants, most notably the new socialist Government of France, to recognize the limitations which participation in the ERM of the EMS placed upon its policy alternatives. At the end of three years, however, the French socialists fundamentally changed their policies and the regime underwent a period of consolidation. Nevertheless, the latter half of this consolidation period was marked by the re-examination of various aspects of the regime by a number of its participants. This re-examination is reflected in the Basel/Nyborg agreement which was signed in September 1987.

Many of the issues of concern to EMS members became topics in the discussion of European economic and monetary union (EMU) following the submission of Jacques Delors' report on European monetary union in April 1989.

The Delors report became a focal point for the discussion of EMU and the role of the EMS in EMU⁹ (Tew, 1992) in the debates proceeding the inter-governmental conferences (IGCs) on monetary and political union. The first IGC took place in December 1990 following United Kingdom's announcement of its full participation in the EMS. Although these conferences are not reviewed at length in this thesis, they are considered in connection with the timing of the United Kingdom's announcement. It is argued, although the United Kingdom later withdrew, its full participation at that time provided a counterbalance to German and French influence on the discussion of EMU, thus affecting the further evolution of the EMS.

SECTION THREE: THE APPROACHES AND RESEARCH QUESTIONS

Each approach to regime emergence and evolution considered in this thesis is defined by its theoretical orientation which provides a framework for the theories¹⁰ or statements¹¹ that are discussed and tested. The four approaches considered at a theoretical and case level are: structural, functional, cognitive and external forces. The analysis of the four approaches will explicate: the conditions which give rise to regime emergence and evolution, and the limitations of the various theoretical approaches when each is considered in isolation.

The structural approach argues that the distribution of power determines the possibility for cooperation (Haggard and Simmons, 1987, p.499). In this framework, regimes are manifestations of power and are not independent variables (Keeley, p.1990, p.556). Hegemonic stability theory, which is a structural explanation, follows

this tradition by emphasising the importance of state power. According to this explanation the development of the regime is a function of the power of the hegemon. The version of this theory examined in this thesis, as reviewed by Keohane (1984), in part, is based on the premise that hegemonic power emanates from its tangible resources. Consideration, however, is also given to willingness of the hegemon as an explanation of action by the hegemon, and ideology as an explanation of deference by secondary states.

In contrast to a structural approach, a functionalist approach "explains behaviours or institutions in terms of their effects" (Haggard and Simmons, 1987, p.506) upon the environment in which states interact. In this manner, regimes alter the environment in such a way as to promote cooperation between state actors. The functionalist theory examined in this thesis argues that international regimes alter the environment in which states operate by providing a mechanism to overcome "political market failure" through the reduction of transaction costs (Keohane, 1984). Thus regime promotion and reinforcement is explained by the benefits received from participation in the international regime (Haggard and Simmons, 1987. p.506).

The structuralist and functionalist approaches, and the two theories most closely associated with them (hegemonic stability theory and Keohane's functionalist theory) are mainstream explanations of regime development and evolution. For reasons discussed in this thesis, they are, however, considered inadequate when considered in isolation and in combination. As a consequence, two alternative approaches, cognitive and one based on external forces, are examined and

considered. These alternative approaches are less developed theoretically than either the structural or functionalist approaches. Therefore, only a series of statements is examined and tested.

The cognitive approach, as encapsulated by Haggard and Simmons, argues that the role of ideology, the values of actors, and the beliefs actors hold about the relationship between issues, in addition to knowledge and the capacity of actors to process information, need to be taken into consideration for cooperation to be understood (1987, p.510). Given that this argument is general and lacks a theory which is fully reflective of all aspects of the approach, only a narrower abstraction of the approach is discussed. The statements chosen focus upon the theme of learning and the role of learning in the formation of state interests (Nye, 1987) and thus how regime evolution is affected in the formation of these interests. Reference to role of epistemic communities is made in the discussion of the relationship between learning processes and policy evolution (Adler and Haas, 1992).

The final approach considered is an extension of Lindholm's work (1977; 1984) which emphasizes how market forces constrain government action and thus regime evolution. This was first suggested as a separate approach in the regime literature by Strange (1982). This approach is structuralist in the sense "that it is skeptical of the achievements to be expected of international organizations and collective decision making". It is not structuralist, however, in the sense of territorial states but in that of "the structure of a world economy in which the relationships between those states are largely determined by the relations of production and the

other prevalent structural arrangements for the free movement between states of capital, knowledge, and goods (but not labor) that make up a world economy" (Strange, 1982, p.338).

The research questions posed at both the theoretical and case levels reveal the manner in which these approaches explain regime emergence and evolution, and moreover expose the limitations of the various theoretical approaches. While these questions are discussed more fully in Chapter Two, in brief, the questions asked of the theories and statements associated with the above approaches are as follows:

- (a) can the hegemonic stability theory, as reviewed by Keohane (1984), provide an adequate explanation of regime development and evolution;
- (b) can a functionalist theory based on the reduction of transaction costs explain cooperation as it exists at the regime level;
- (c) what is learning, what and how do epistemic communities contribute to state learning, and, can regime formation and change be seen as a function of learning; and,
- (d) can regime development and change be seen as a product of forces external to the state?

SECTION FOUR: HYPOTHESES

This investigation tests the following two hypotheses: first, if the mainstream approaches are inadequate individually then employing them together may lead to a more robust explanation of regime evolution; and second if the mainstream

approaches together do not provide a robust explanation, then alternative approaches should be considered on their own merits and in conjunction with the mainstream approaches; however, if the approaches and their associated theories and statements are considered jointly, then they must be theoretically reconciled. Some consideration of the problem of reconciliation and the role that can be potentially played by critical theory (Cox, 1981) are undertaken in Chapter Two.

SECTION FIVE: OUTLINE OF THE THESIS CHAPTERS

The structure of the thesis reflects its theoretical emphasis; the case under consideration is primarily used for testing and illustrative purposes. In Chapter Two, an overview of the major themes in the regime literature is provided, the research questions are considered at a theoretical level, and some preliminary conclusions are drawn. The review is not intended to be comprehensive, although it does attempt to reflect major themes in the regime literature. These conclusions generate the hypotheses of the thesis which are tested in Chapter Four.

In order to facilitate the testing of the hypotheses at the case level and provide a clear link between regime theory and the tests used, a methodology section concludes Chapter Two. In the methodology section, the tests used to answer the research questions at a case level are outlined.

In Chapter Three, the economic and cooperative aspects of monetary systems are discussed in general and specifically in reference to the EMS. An outline of the economic and institutional features of the EMS is included in the discussion of the

regime in order to show the manner in which a regime such as the EMS limits its members' choice of policies and policy instruments. The overview also outlines the manner in which the regime's development and evolution have also been determined by state interests, although actors, such as central banks, play a key role. In this regard, a number of remarks of an institutional nature are made about the role played by central banks. Reference is made to the independence of central banks and the treatment of central banks in the literature on epistemic communities.

Apart from underlining the cooperation required between states participating in a regime such as the EMS and the constraints faced by these states, the primary purpose of Chapter Three is to link Chapters Two and Four through the provision of the necessary economic and historical material required to understand the testing of the case in Chapter Four. Chapter Five concludes the thesis and compares the results of the investigation undertaken in Chapters Two and Four.

SECTION SIX: RESEARCH METHODOLOGY

The testing of the capacity of four theoretical approaches to explain regime development and evolution in the case of the EMS involves both quantitative and qualitative analysis. The quantitative analysis arises from the interpretation of those tests which are quantitative in nature, while the qualitative analysis emanates from both the interpretation of tests that are qualitative in nature and the fact that the interpretation of all tests is a function of how the evolution of the EMS is benchmarked and defined in time.

In Chapter Three, the evolution of the EMS, from its commencement in March 1979 up to the United Kingdom's full participation in the regime in October 1990, is divided into three time frames. This segmentation of the regime is not made without reference to the regime's roots in the Treaty of Rome, the Werner Plan and the Snake, or the events that occurred following October 1990. The purpose of the segmentation is to bench-mark the change in the EMS in terms of its operational form. In this context, operational form refers to the changing nature of the regime's functioning and the response of the regime's participants to the running of the EMS as reflected in their compliance with the discipline of the ERM of the EMS and their response to the structure of the regime. The bench-marks used to signify operational change are the same as those used by Ungerer et al. (1990)¹². But unlike Ungerer et al., some attempt is made to clarify what these bench-marks represent in the delineation of the regime's evolution. A full discussion of this issue and the similarity of this operational form to aspects of the dimensions of regime change identified by Haggard and Simmons are undertaken in the methodology section of Chapter Two.

Apart from its importance in designating regime change, change identified along operational lines has implications for the weight allocated to regime definitions in this thesis. For example, Krasner's definition of regimes based on principles, norms, rules and decision-making procedures (1983, p.2) is useful in establishing the existence of a regime but avoids the use of the term in a "purely descriptive manner to group a range of state behaviours in a particular issue-area,...since the potential for tautology is high" (Haggard and Simmons, 1987, p.493)¹³. Nevertheless, if used

to describe regime change in terms of changes in principles, norms, rules or decision-making procedures, there is a danger of reducing the analysis of regime development and change into a "checklist of elements whose occurrence at the same time and in the same space is sufficient to place any phenomenon in the category labelled 'regimes' ...[without] tie[ing] the concept into any larger system of ideas" (Young, 1986, p.106).

In sum, definitions, such as Krasner's, while providing a method for establishing regime existence and change, lack a theoretical basis, in addition to being inherently static. By tracing regime change along operational lines, not only is the dynamic nature of regime change underlined, but a theoretical investigation of change in terms of operational form is also promoted. Although not given much weight in the analysis, Krasner's definition of a regime is utilized to establish the EMS as a regime as understood in the international relations literature.

ENDNOTES

1. Krasner's definition of regimes is used in this thesis. According to Krasner regimes are:

sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations. Principles are beliefs of fact, causation, and rectitude. Norms are standards of behaviour defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice (1983, p.2).

2. This is largely reflected by the past predominance of the structural approach in explaining cooperation. Good examples of this are the works of important authors such as Gilpin (1981), Kindleberger (1981), Lake (1983). Oran Young (1983) has argued that regime transformation refers to "significant alterations in a regime's structures of rights and rules, the character of its social choice mechanisms, and the nature of its compliance mechanism...[such that] we would want to speak of one regime disappearing and another taking its place" (1983, p.107). Much of his work, however, as reflected in his most recent collection of works (1989), has focused on natural resource regimes rather than trade, monetary, or security regimes which have been the focus of the structuralists. It is in this manner, with its focus on a monetary regime without an apparent hegemon, that this paper is a departure in the regime literature.

3. The EEC includes the following countries: Belgium, Denmark, France, Germany, Italy, Ireland, Luxembourg, Netherlands, United Kingdom, Greece, Spain and Portugal.

With the Maastricht treaty the European Community (EC) has formally replaced European Economic Community (EEC). This change in acronym is reflective of the fact that the activities of the EEC are no longer restricted to the Treaty of Rome's ten activities (The Economist, July 11, 1992, p.13). However, because the Maastricht treaty has not been ratified by all of its signatories EEC is used in this thesis.

4. All the members of the European Economic Community (EEC) joined the EMS in March of 1979. However, the United Kingdom, Greece, Spain and Portugal did not join the exchange rate mechanism (ERM) of the EMS which designates the bands which each member's currency can traded against both other members and against the ECU. Spain joined in June of 1989 and the United Kingdom joined in October 1990.

5. The Snake was an exchange rate agreement that involved a 2.25 per cent band of fluctuation around central parities of the national currencies of its members.

6. The Smithsonian agreement was a measure implemented by those countries participating in the disintegrating Bretton Woods System of fixed exchange rates. As part of the Smithsonian agreement the new US\$ exchange rate parities (rates at which currencies would be bought or sold in terms of the US\$) were agreed upon, although the US dollar remained inconvertible for gold (Solomon, 1982, p.213).

7. The six EEC countries involved were Belgium, France, Germany, Italy, Luxembourg, and the Netherlands.

8. These six countries were Germany, France, Belgium, the Netherlands, Denmark, and Luxembourg. Belgian and the Netherlands kept their currencies within 1.5 per cent of each other and this was referred to as the "worm" in the "snake" (Solomon, 1982, p.233).

9. In terms of the EMU in general, the EMS "has a wide role in the context of economic and monetary union which was endorsed... at the Hague in 1969" (Commission of the European Communities, 1990, p.3). Although the Snake survived, its success in encouraging monetary cooperation was limited. The process of monetary cooperation was re-launched in 1979 with the creation of the EMS and the ECU (Commission of the European Communities, 1990, p.3). The Single European Act of 1986 established this link more formally and the Delors report on economic and monetary union, which followed SEA, explicitly identified the EMS as the nucleus of its three stage plan for EMU (Tew, 1992, pp.208-209).

10. Theory is understood to satisfy the following goals: in some "minimal" sense "it must state a presumed regularity in observation that is susceptible to reliability and validity tests, permits the deduction of some unknowns, and is parsimonious enough to prevent the deduction of so many that virtually any occurrence can be held to bear it out" (Eckstein, 1975, p.90).

11. A statement is understood to be defined as having some regularity "about the structure, behaviour, and interaction of phenomena. 'Regularity' here means, literally, 'ruleness': the discovery of rules that phenomena observe in the concrete world...the rules may describe simple relations among variables without specification of their exact nature; or they may describe sequences like causal paths or historical and genetic patterns; or they may be statements of the conditions of persistence or efficacy of structures...They may be 'probability statements' that permit no inferences about individual cases but only more or less confident ones about sets of them" (Eckstein, 1975, p.88). Statements are understood to still be "interesting and useful; but they are not theory" (Eckstein, 1975, p.90).

12. Although Ungerer et al. did not use the term operational form, those points in time considered pivotal to the regime's development were chosen by Ungerer et al. on the basis that they designate change, in some manner, in the regime's operation or in the response of the regime's members. Moreover, the bench-marks chosen by Ungerer et al. are very similar to those chosen by the European Commission (1990) in the Commission's overview of the operation of the EMS in its first ten years of existence. The Commission's overview is less specific than Ungerer et al., although it does underline the importance of the 1987 Basle/Nyborg agreement which has been chosen as a bench-market in the evolution of the EMS.

13. An example of a descriptive definition of regimes is provided by Puchala and Hopkins who define regimes more generally as existing:

in every substantive issue area in international relations where there is discernibly patterned behaviour. Wherever there is regularity in behaviour some kinds of principles, norms or rules must exist to account for it (1983, p.63).

CHAPTER TWO

A THEORETICAL INVESTIGATION OF THE REGIME LITERATURE

SECTION ONE: INTRODUCTION

The purpose of this paper is to investigate and provide insights into the theoretical literature on international regimes. The interaction of players within a regime is defined as cooperation, where cooperation is understood to take place when "the policies actually followed by one government are regarded as facilitating the realization of their own objectives, as the result of a process of policy coordination" (Keohane, 1984, p.51). Given this understanding of cooperation, the basic question is that of cooperation between states - why it occurs, how it is maintained, and why it changes. For this purpose the literature on cooperation as described by Keohane (1984) is reviewed.

The review examines the provisions that the regime literature makes for gradations of cooperation, and how regimes are both a product of, and a forum for, continued cooperation. Emphasis is placed on the significance of regime theory, which is reflective of the focus of the literature and the implicit view that regimes are evidence of highly developed and successful forms of international cooperation. At a theoretical level, this discussion is important since it implicitly asks whether the regime literature provides sufficient insight into the issue of cooperation and addresses the possible directions the theoretical literature might pursue.

Research questions investigated in this theoretical study are sub-divided into two categories. The first category of questions is the most generic. It is concerned with the discussion of the concept of cooperation and the broader questions that the investigation must address, while the second category is more specific, being

comprised of questions about approaches to regime emergence and evolution.

The organization of this chapter is reflective of this division. Section Two analyzes the first category of questions which are: what is cooperation, how does it differ from harmony, and what is the role of reciprocity in cooperation between states? Subsequent to the investigation of these questions, the link between cooperation and the regime literature is examined.

Given that the focus of this thesis is upon cooperation between states, the last fundamental question asked is: to what extent does international relations theory, and in particular, the regime literature, take account of domestic factors and the effects which they have upon the state and thus international cooperation? The underlying question in regard to the inclusion of the domestic level is: does cooperation between states require the subjugation of domestic goals¹ or can domestic goals be pursued despite the constraints presented by cooperation?

The second category of questions is addressed in Section Three. Moving from the general question of what is the nature of cooperation, the discussion focuses on a particular manifestation of cooperation, that of regimes. Consequently, as identified by the four approaches considered in this thesis, the basic causal factors influencing regime emergence and evolution are examined. This examination involves an investigation of these approaches and their associated theories and statements with a series of research questions specific to each.

The first approach considered is the structural approach. This approach, "particularly including the theory of hegemonic stability, attempt[s] to show how

international conditions define the possibilities for cooperation" (Haggard and Simmons, 1987, p.499). The version of this theory considered for examination is that summarized by Keohane (1984). This version of hegemonic stability considers not only the power of the hegemon as determined by its tangible resources, but also the role of willingness and ideology as an explanation of regime emergence and evolution. The central question asked is: can this version of hegemonic stability theory provide an adequate explanation of regime emergence and evolution?

Keohane's unconventional use of Marxist ideas to explicitly underline the role of ideology, in addition to the work done by both Keohane and Nye (1977) on the willingness of the hegemon, is the reason Keohane's review of hegemonic stability is used as a basis for the section on hegemonic stability. Keohane's insights into the structuralist school are considered important, although he puts an "emphasis on the effects of international institutions and practices on state behaviour" (Keohane, 1984, p.26)

The second approach considered is the functionalist one which "explains behaviours or institutions in terms of their effects" (Haggard and Simmons, 1987, p.506). Augmented with the assumption of a rational actor this approach provides a framework for the functionalist theory developed by Keohane (1983). This theory presents regimes as a mechanism for overcoming transaction costs that give rise to "political market failure" and in this manner facilitate agreement among states. This functionalist theory is examined to determine whether it provides an explanation for regime development and change or whether it best predicts regime maintenance

through cooperation. If it only encompasses the latter, then how does a regime provide a forum for cooperation which would result in its maintenance and survival?

The third approach is a cognitive approach. The broad outline of this approach, as summarized by Haggard and Simmons, focuses "upon the commonalities among writers emphasizing ideology, belief systems, and knowledge as explanations of regime change" (Haggard and Simmons, 1987, p.509 n.66). The statements investigated in conjunction with this approach concern the role of learning, as understood by Nye (1987), in regime emergence and evolution.

The questions asked focus on identifying the nature of learning, differentiating between simple and complex learning, and investigating what they imply for cooperation. Nye defines learning in terms of a change in national interest but does not develop fully how national interests are redefined. In order to address this problem, Nye's work is extended with the literature on epistemic communities. The role of these communities and their influence on policy evolution is addressed in conjunction with Putnam's work on the interaction of domestic and state actors and how their interaction affects state policy. The use of the epistemic community literature, however, is limited by possibility of the existence of such communities in all issue-areas in which regimes are involved.

The final approach considered is the least developed one. It was first suggested as an approach by Strange (1982) and is an extension of the work by Lindholm (1977) who considers the manner in which market forces constrain state action. The approach is structural to the extent that it considers regimes as a

product of structuralist forces, although instead of focusing upon territorial states it considers the role of capital and knowledge in determining cooperation between states. The series of statements used to consider this approach are drawn from Lindholm and updated with the work of Gill and Law (1989) who continue to consider the role of these forces.

Section Three concludes with a discussion of the competing approaches. The discussion deals with the broader questions of this thesis, such as how these approaches incorporate domestic influences.

Section Four summarizes the chapter's theoretical findings and draws preliminary conclusions as to the robustness of the approaches under consideration. To this end, verification of the hypotheses of the paper is provided. The hypotheses are as follows: (i) if the mainstream approaches provide an inadequate explanation of regime emergence and change individually then employing them together may lead to a more robust explanation of regime evolution; and (ii) if the traditional approaches do not provide a robust explanation, then alternative approaches need to be considered on their own merits and in conjunction with the mainstream approaches. If the approaches and their associated theories and statements are considered jointly, however, they must be theoretically reconciled. A method of reconciliation suggested is critical theory which "leads to the construction of a larger picture of the whole of which the initially contemplated part is just one component, and seeks to understand the processes of change in which both parts and the whole is involved" (Cox, 1981, p.129). Thus, critical theory takes problem-solving theory,

which "leads to further analytic sub-division and limitation of the issue to be dealt with" (Cox, 1981, p.129) as only a starting point.

Section Five outlines the tests used to investigate the explanatory power of the various approaches and their associated theories and statements in the case study included in this thesis. A number of remarks are made as to the origins of these tests and their interpretation. Consideration is also given to how the evolution of the EMS is bench-marked since the interpretation of these tests is a function of the manner in which change in the EMS is demarcated.

SECTION TWO: COOPERATION AND REGIMES

In this section the discussion is concerned with the broader issue of defining cooperation, and understanding the role of reciprocity in cooperation between states. The analysis of these issues, in turn, points to questions that the investigation as a whole must address of why states cooperate and the limitations of explanations of cooperation.

A definition of cooperation requires some point of reference with which to establish the scope of the concept being defined. The points of reference chosen are the polar ends of a continuum of state interaction² where cooperation lies between harmony at one end and discord at the other end.

Harmony refers to the situation whereby the policies of one set of actors are complementary to others in such a way that they "automatically facilitate the attainment of the others' goals" (Keohane, 1984, p.51). Consequently, there is no

need for cooperation and, if there was "it may even be injurious" (Keohane, 1984, p.51). On the other hand, discord refers to the situation when policies are not purely complementary and therefore the policies of one set of actors do not automatically facilitate the attainment of the other's. If attempts to adjust policies are met with resistance, or no attempts are made, the result is discord (Keohane, 1984, p.52). Cooperation falls between these two polar ends of harmony and discord. It arises out of a situation of non-complementarity and entails a process of continuous policy adjustments.

In Keohane's After Hegemony (1984) these three concepts are not implicitly placed on a continuum. Rather, in Keohane's schema, harmony is presented as separate from cooperation and discord with the latter two presented as branches of the same tree of non-complementarity. The separation of harmony from cooperation and discord stems from claims that "where harmony reigns, cooperation is unnecessary" and because "cooperation and harmony are by no means identical and ought not to be confused with one another" (Keohane, 1984, p.51). This separation of harmony, however, does not highlight the fact that all three concepts share a common denominator: state interaction based on policy compatibility.

If a continuum is used, the amount of communication, influence, negotiation, and bargaining arising from policy incompatibility determines where each concept is placed on the continuum. Harmony is placed on the right hand side of the continuum, since policy compatibility requires no communication or use of influence and is consequently apolitical (Keohane, 1984, p.53). Discord is placed on the left

hand side of the continuum as policy incompatibility "often leads to efforts to induce others to change their policies:" (Keohane, 1984, p.52) and is thus considered highly political. In this schema, cooperation is placed at the centre of the continuum as it is political and results in the adjustment of policies so that compatibility is achieved.

Therefore, while Keohane's concepts are used, their presentation is different. Keohane's approach is useful because it highlights the fact that cooperation "is typically mixed with conflict and reflects partially successful efforts to overcome conflict" (Keohane, 1984, p.54). However, it is hoped that by placing harmony, cooperation and discord on the same continuum, the similarity among the three concepts, rather than their differences, is underlined.

Since the definition of cooperation requires that policy adjustments be made by states, the question rises as to the role of reciprocity in cooperation. Two dimensions of reciprocity identified by Keohane are those of contingency and equivalence (Keohane, 1989, p.135). In the case of contingency, reciprocity implies "actions that are contingent on rewarding reactions from others and that cease when these expected reactions are not forthcoming" (Gouldner, 1960, p.161). In the case of equivalence, the concern is with the equivalence of benefits (Keohane, 1989, p.134). According to Keohane "rough equivalence is essential to our usual understanding of reciprocity" (1989, p.135) and thus Keohane adopts Moore's definition that a pattern of reciprocity based on equivalence is "one where services and favours, trust and affection, in the course of mutual interest are ideally expected to find some balancing out" (Moore, 1978, p.509). Since equivalence is the

dimension of reciprocity that is ongoing within persistent regimes, it is this dimension with which this thesis is concerned. Keohane further refines the question of benefits received by those actors participating in the exchange by using it to differentiate between two types of reciprocity: specific and diffuse. While specific reciprocity "emphasises an overall balance within a group" (Keohane, 1989, p.135), diffuse reciprocity is concerned not with what each actor receives in terms of the equivalence of benefits, but what the benefits are to the group as a whole (Keohane, 1987, p.146). Although diffuse reciprocity is more difficult to achieve, if specific reciprocity is successful over a period of time, then governments may create suitable conditions for the operation of diffuse reciprocity (Keohane, 1989, p.148). However, "genuinely diffuse reciprocity is rare" in world politics (Keohane, 1989, p.148) and thus specific reciprocity is the form referred to in this paper.

While the notion of reciprocity is useful, it does not provide insight into the process by which reciprocity is institutionalized³. According to Keohane, for "specific reciprocity to become successfully institutionalized, much less lead to diffuse reciprocity, exchange must take place sequentially rather than simultaneously" (Keohane, 1989, p.147). Simultaneous exchange is thought to make agreements nearly impossible as:

issues frequently arise sequentially and an appropriate "quid" for a "pro quo" may be impossible to find at a given time. Furthermore, in simultaneous exchange, obligations never exist, since the exchange is balanced at every moment. There is never a "debt" or a "credit" (Keohane, 1989, p.147).

Sequential exchange, however, promotes long-term cooperation more

effectively through the existence of debts and credits. In such a credit market, mutual confidence may be created "since repayment over a period of time provides information to lenders about the habits of others" (Keohane, 1989, p.148).

According to Keohane, imbalances associated with sequential exchange become possible through international regimes which "make temporary imbalances feasible, since they create incentives (in the form of obligations) to repay debts" (Keohane, 1984, p.129). Regimes are likened to credit arrangements that depend on institutional reputation which is not easily created, and provide for exchanges that are expected to benefit both parties in the long run, but not to be balanced in any given period of time. In this analogy, the principle of symmetry is maintained (Keohane, 1984, p. 130).

In sum, cooperation refers to the adjustment of policies between states when there is a lack of complementarity, while reciprocity refers to the "equivalent" flow of resources or obligations arising with cooperation. In this scenario, regimes provide a forum in which imbalances may occur in the short run, but symmetry is achieved in the long run.

This understanding of regimes and how they work provides some insight into existence of partial and quasi-regimes which are "less well defined, less structured forms of cooperation and mutual adjustment" owing to ill-defined scope and clarity of norms and rules, inadequate procedures, a lack of compliance, or a lower degree of institutionalization (George et al., 1987, p.14). These regimes are examples of different gradations of cooperation and their existence may not be a symptom of a

failure of cooperation but a function of the "credit market"⁴ requirements in particular issue-areas⁵.

Keohane's credit mechanism provides an understanding of the link between cooperation and regimes. It does not, however, provide a theory as to why regimes develop or evolve in the manner in which they do.

A theoretical basis is required to understand regime change, and in this thesis the explanatory power of four approaches is considered. This does not mean, however, that dimensions of regime change are ignored in this thesis. In fact a particular understanding of regime change is used to bench-mark the evolution of the EMS in the methodology section of this chapter and as part of the discussion this understanding of regime change is compared to Haggard and Simmons' broad understanding of how regimes change.

Haggard and Simmons suggest that regimes "may change over time or vary across cases in at least four ways" (1987, p.496): strength, organizational form, scope and allocational mode" (1987, p.496). Strength is used to analyze why regimes weaken or decay and is measured by the "degree of compliance with regime injunctions, particularly in instances where short-term or myopic self-interest collide(s) with regime rules" (Haggard and Simmons, 1987, p.496). Organizational form is understood in terms of its administrative apparatus which exists "for the purpose of dispute settlement, the collection and sharing of information, or surveillance". Understanding regime change in these terms thus avoids "blackboxing/*sic*/ organizational structure and processes [that] will lead to simplistic

predictions" (Haggard and Simmons, 1987, p.469). Scope refers to the issue-areas covered by the regime. Lack of reference to scope may lead to misleading characterizations because the regime has "weakened" in one issue-area, despite its success in other less recognized issue-areas. In addition, if scope is neglected the role of bargaining and issue-linkage in the regime's success may be overlooked (Haggard and Simmons, 1987, p.497). Allocational mode refers the regime's "endorse[ment] of different social mechanisms for resource allocation. A market-oriented regime supports private allocation of resources ...[whereas] authoritative allocation involves the direct control of resources by regime authorities" (Haggard and Simmons, 1987, p.498).

SECTION THREE: APPROACHES TO REGIMES

Given that regimes provide a context, or credit mechanism, for cooperation and mutual adjustment, the basic causal factors determining regime emergence and evolution need to be examined. The structure of the investigation has its origins in Krasner's discussion of regimes in terms of their relationship between basic causal factors and related outcomes (Krasner, 1983, p.11). Krasner outlines three possible ways in which causal factors, regimes and related outcomes can be linked. The first considers regimes as the consequence of basic causal factors having little or no independent effect upon related outcomes and is sometimes referred to as structural. The second considers regimes as having an impact upon related outcomes but only under restrictive conditions (Krasner, 1983, p.8) and is referred to as modified structural. The third, which is referred to as Groatian, argues that regimes are a

pervasive phenomena of all political systems (Krasner, 1983, p.8):

regimes exist in all areas of international relations...Statements nearly always perceive themselves as constrained by principles, norms, and rules that prescribe and proscribe varieties of behaviour (Puchala and Hopkins, 1983, p.86).

As identified by Keeley, this identification of the configuration of causal factors, regimes and related outcomes revives the realist and liberal debates rather than transcending them since structural theory is closely identifiable with realism, Grotrian with liberalism and modified structural the "uneasy middle ground" (Keeley, 1990, p.556). The effect, therefore, is a "limitation on the ability of regime theory to point to new directions in the analysis of international relations" (Keeley, 1990, p.557). This criticism notwithstanding, in the discussion of the four approaches considered in this thesis, attempts are made to provide an understanding of the relationship between basic causal factors, regimes, and related outcomes. Understanding this relationship is important when considering whether or not the approaches, theories and statements outlined can be considered on a joint basis, and if so, on what theoretical basis.

In the following discussion, the basic causal factors considered are determined by the precepts of the various approaches to regime emergence and evolution. Once these basic causal factors and the relationship between these factors, regimes, and related outcomes have been identified, the tests used to measure the explanatory power of the various approaches are outlined.

(i) THE STRUCTURAL APPROACH & HEGEMONIC STABILITY THEORY

The first theoretical approach is structural which takes the view that "regimes

are epiphenomena, manifestations of the distribution of power, rather than having a significant independent existence or effect" (Keeley, 1990, p.556). The theory of hegemonic stability is the theory which has been most closely associated with this approach. The version examined in this thesis is three-dimensional. It was chosen to avoid an over-simplified presentation of the theory without sacrificing the underlining framework provided by the structural approach.

The theory of hegemonic stability is most strongly associated with Kindleberger, although he uses the terms leadership or responsibility rather than hegemonic stability. In Kindleberger's view:

for the world economy to be stable, it needs a stabilizer, some country that would undertake to provide a market for distress goods, a steady if not countercyclical flow of capital, and a rediscount mechanism for providing liquidity when the monetary system is frozen in panic...world leadership must also manage in some degree, the structure of foreign-exchange rates and provide a degree of coordination of domestic monetary policies (1981, p.247).

According to Kindleberger, the provision of such a liberal market world economy is equivalent to a provision of a public good, and without a hegemon, "there may be an inadequate amount of public goods produced" (Kindleberger, 1981, p.243). A public good is one whereby the "the consumption of which by an individual, household, or firm does not reduce the amount available for other potential consumers" (Kindleberger, 1981, p.243); "because an individual can 'consume' the good without paying for it, collective goods tend to be provided unless the interests of some actor cause it to assume a disproportionate share of the costs" (Gilpin, 1983, p.74). In the international political economy, it is the hegemon who provides these goods⁶.

Regimes are mechanisms that help to enforce the liberal economic order created by the hegemon. "The gold standard of the nineteenth century and the postwar Bretton Woods are notable examples of an economic regime in which the hegemon establishes and enforces the rules of a liberal regime and suppresses the ever-present tendencies toward economic nationalism" (Gilpin, 1983, p.75). But regimes are only manifestations of power, and the "decline of hegemonic structures of power can be expected to presage a decline in the strength of corresponding international economic regimes" (Keohane, 1980, p.132).

This understanding of regimes, whereby the basic causal factor behind regime emergence and change is power expressed as the "tangible capabilities of actors" (Keohane, 1984, p.34), is that described by the first dimension of hegemony. According to this understanding, "hegemonic structures of power dominated by a single country are the most conducive to the development of strong international regimes whose rules are relatively precise and well obeyed" (Keohane, 1980, p.132).

Once the regime is developed, however, the hegemon must not merely assist in the maintenance of the regime but also engage in crisis management (Gilpin, 1983, p.79). When the regime is threatened the hegemon must be able to respond. However, once its resources are depleted or reduced, the hegemon's ability, both to maintain the regime and manage a crisis, are severely limited. An example of this is provided by Kindleberger who points to the inability of Great Britain to respond to the financial crisis of 1929 (Kindleberger, 1986, pp.8-9).

In short, this dimension of hegemonic stability theory predicts that "outcomes

reflect the potential power of actors" (Keohane, 1980, p.137). In this manner, the first dimension of the theory of hegemonic stability is a "power-as-resource" theory which attempts to link tangible state capabilities (conceptualized as power resources) to behaviour (Keohane, 1989, p.10). The second dimension of the theory, further refines hegemonic stability theory as it takes the position that power does not mean action. Before action is taken the hegemon must be willing to act. Keohane and Nye have noted that hegemonic leadership is likely to occur when the hegemon sees itself as a major consumer of the long-term benefits produced by the regime, but they add that leadership is more likely to occur if "one state is powerful enough to maintain the essential rules governing interstate relations, and willing to do so" (Keohane and Nye, 1977, p.44). This approach therefore adds to the explanatory power of the theory because it accounts for the case of the unwilling hegemon as illustrated by the behaviour of the United States in the 1930s and Japan in the 1980s. According to this approach, as the powers of the hegemonic state begin to erode, the policies of both the secondary states and the hegemonic state are likely to change. As described by Keohane and Nye the hegemon becomes unwilling as its power resources shift:

Thus, as the rule-making and rule-enforcing powers of the hegemonic state begin to erode, the policies of the secondary states are likely to change. But so are the policies of the hegemonic state. An atmosphere of crisis and proliferation of ad hoc measures will seem not only undignified but unsettling to many. Dissenters will begin to wonder about costs of leadership (Keohane and Nye, 1977, p.45).

The third dimension of hegemonic stability theory speaks to the question of deference to the hegemon by secondary states. In explaining the participation of

these states in the system, there are two traditional explanations. The first is that espoused by Kindleberger, who sees the hegemon as the necessary supplier of public goods in which all participants benefit but suggests it is not in the interest of any one actor (state) to supply the goods (Krasner, 1983, p.13). Deference is therefore explained in terms of benefits received. In this scenario, power serves a common good (Krasner, 1983, p.13). The second explanation of deference is based upon the concept of power used in the service of particular interests. This explanation concerns itself with the ability of the hegemon to use coercion through the supply of positive or negative sanctions⁷ (Krasner, 1983, p.15).

The third dimension of hegemony, however goes beyond the questions of collective goods or power as explanations for deference. Yet, similar to using sanctions to supply deference, the third dimension underlines the use of power in the service of particular interests. In this case, however, hegemons are interested in the use of regimes to "enhance their own national values" (Krasner, 1983, p.15) and the adoption of those values as a basis for deference. Kindleberger implicitly deals with ideology within the order established by the hegemon, specifically, a "liberal economic order" (Gilpin, 1983, p.73). Explicit consideration of the incentives faced by other countries is not addressed, although, among other things, a liberal ideology must exist for the "emergence and expansion of the liberal market system" (Gilpin, 1983, p.73). Thus ideological consensus or ideological hegemony is required if the hegemon is to have the support of other powerful states (Gilpin, 1983, p.73).

An explanation of deference by secondary states based on ideology, has its

origins in notions of Gramscian hegemony. As explained by Cox, this approach holds that "power based on dominance over production is rationalized through an ideology incorporating compromise or consensus between dominant and subordinate groups" (Cox, 1977, p.387). "A hegemonical structure of world order is one in which power takes a consensual form" (Cox, 1981, p.153, n.27). Although the literary sources of the third dimension, as understood in this thesis, and as specified by Keohane, are Marxist:

many Marxian interpretations of hegemony turn out to bear an uncanny resemblance to Realist ideas, using different language to make similar points. Antonio Gramsci's conception of ideological hegemony, however, does provide an insightful supplement to purely materialist arguments, whether Realist or Marxist (Keohane, 1984, p.32).

In sum, the three dimensional theory of hegemony has a richness that is not provided if the focus is only on tangible resources. The inclusion of willingness and ideology increases the interpretative power of this approach. Nevertheless, because the first two dimensions are solidly grounded in realism, they fail to take into account the role of domestic interests. Although the second and third dimensions of the theory have the potential to explain willingness on the part of the state and why that willingness may dissipate, theoreticians have not explored these aspects of the theory. In part, this is owing to the underlying theoretical approach of hegemonic stability theory which is structural and system centred rather than society or state centred.

A system centred approach holds that state policy is a function of the state's attributes or capabilities relative to other nation states (Ikenberry et al., 1988, pp.4-6). It is concerned with the state's position in the international system. On the other

hand, a society centred or state centred approach looks at policy as a function of domestic politics. Because the theory of hegemonic stability is a systemic centred theory, it is limited to explaining recurrent patterns of behaviour within the international arena (Ikenberry et al., 1988, p.5) and overlooks the possibilities which the second and third dimensions present for the incorporation of the interaction of domestic and international politics. Furthermore, although hegemonic stability theory has its basis in neo-realism, its neglect of the domestic dimension of policy is in line with classical realism. The difference between classical realism and neo-realism is explored by Mastanduno et al. (1989). The systemic approach to realism is revealed as having a tendency to collapse "the state and the nation-state into one entity" (Mastanduno et al., 1989, p.458), whereas classical realists implicitly rely on notions of the state and its relations to society. The state is therefore considered as distinct from domestic society and, "that in the pursuit of foreign policy the state must draw upon the society and economy for material resources" (Mastanduno et al., 1989, p.458).

Given the reliance of classical realists on notions of the state and its distinction from domestic society, it might be expected that these concepts would have been developed. However, the classical school has not investigated this aspect of their theoretical approach. In response to this theoretical gap, Mastanduno et al. have attempted to examine the use of domestic strategies for the pursuit of international goals, the use of international strategies for the pursuit of domestic goals, and the challenges to the state in one arena that may trigger response in

another arena. A domestic or international strategy followed is a function of each state's "domestic and international structural positions" (Mastanduno et al., 1989, p.467). A state's international position is a function of the distribution of capabilities of power among states, while its domestic position is a function of the constraints presented by societal groups.

Since the approach taken by Mastanduno et al. (1989) is structuralist, like other structural analysis it suffers from an inability to identify state strength (Putnam, 1988, p.433), as well as the inability to provide insight into the "differences across issue areas across time" when state structures do not change (Putnam, 1988, p.433). In an attempt to resolve this reliance on the variable of state strength, Putnam has endeavoured to shift the focus to the politics of domestic-foreign linkages (1988, p.432). Putnam's approach is to stress the role of the negotiator in providing the linkage between the two spheres, and to underline how negotiations at one level are constrained by the threat of non-ratification by the other.

If the literature moves in this direction, then the question of what makes the hegemon willing to support a given regime may be explicitly linked to domestic society. In this regard, linkages between ideology and domestic interests may be furthered.

In summary, the three dimensional hegemonic theory possesses a defined set of assumptions as to why states cooperate and regimes emerge and change. The basic precepts are that resources are power, willingness is a determinant of action, and acceptance of ideology provides an explanation of deference. The weakness of

hegemonic stability theory, however, is its lack of linkage of the domestic sphere to a state's dealings at the international level. This criticism can be levelled at both classical and neo-realist conceptions of the state. Recent attempts to bring the theoretical literature forward and grapple with these questions have been made by authors such as Mastanduno et al. (1989) and Putnam (1988). It is through these authors that the second and third dimensions of hegemonic stability theory, if pursued, may provide greater insight into the issue of regime emergence and evolution. In this thesis how these authors may be used in conjunction with hegemonic stability theory is not developed at a theoretical level, although some indication is provided in the case study.

(ii) THE FUNCTIONALIST APPROACH AND FUNCTIONALIST THEORY

A competing approach to regime formation is a functionalist approach which implicitly assumes that regimes have an impact on outcomes. Whether they are just intervening variables between basic causal factors and outcomes, or can independently affect outcomes, depends on the theorist. Keohane "believes that the behaviour of states... is strongly affected by the constraints and incentives provided by the international regime...[and although] when the international system changes, so will incentives and behaviour...emphasis [is placed] on the effects of international institutions and practices on state behaviour" (Keohane, 1984, p.26). Thus Keohane is treated as a functionalist who treats regimes as intervening variables.

Functionalism traditionally explains causes in terms of effects. However, since the reasons for an institution's existence may be different from the functions it serves,

a functional explanation needs "to provide good reasons to believe in a causal connection between the functions that an institution performs on one hand and its existence on the other" (Keohane, 1984, p.81). Thus if actors are assumed to be rational then effects explain causes (Keohane, 1984, pp.80-81). More specifically, if actors are rational, then the institutions and the social practices explained are designed to fulfil anticipated functions (Keohane, 1984, p.81). The underlying causal variable of this approach is egoistic self-interest, which is defined by Krasner as "the desire to maximize one's own utility function where that function does not include the utility of another party" (Krasner, 1983, p.11). The assumptions of the hegemonic approach are different from those of the functionalist approach in that hegemons are pure power seekers and, as such, are "interested in maximizing the difference between their power capabilities and those of their opponent" (Krasner, 1983, p. 11)⁸.

Keohane's functionalist theory utilizes both game theory and the logic of microeconomics. In regard to game theory, his theory argues that in a single play of the prisoner's dilemma, outlined in Appendix 1, the rational thing for a player to do is defect. However, if the game is iterated, it produces cooperation. Cooperation, therefore, becomes a function of whether interactions between the same players can be expected to continue over time (Keohane, 1984, p.84) or whether the game played is on a tit-for-tat basis such that egoists are able to adjust their behaviour and reduce discord. If the latter is the case, the result maybe the creation and maintenance of regimes (Keohane, 1984, p.84).

In terms of microeconomics, the burden of explanation falls upon Coase's (1960) explanation of market failure. The value of regimes is in their ability to overcome political market failure (Keohane, 1984, p.85) in an anarchic world. By turning Coase's explanation⁹ on its head, Keohane identifies political market failure as arising from a lack of liability for actions, imperfect information and high transactions costs. The intrinsic demand for regimes is created through their provision of a mechanism by which political market failure may be overcome.

In terms of overcoming legal liability, while regimes do not provide for the "centralized enforcement of agreements" they do "establish stable mutual expectations about others' patterns of behaviour and develop working relationships that will allow the parties to adapt their practices to new situations" (Keohane, 1984, p.89). The effect of regimes is to "...provide information and generate patterns of transactions costs: costs of renegeing on commitments are increased, and costs of operating within these frameworks are reduced" (Keohane, 1984, p.89). In terms of transactions costs, regimes alter the "relative costs of transactions" (Keohane, 1984, p.89). Because regimes construct linkages between issue areas, an action against one country within a specific issue-area can no longer be considered in terms of its specific ramifications. Instead the action must be considered in terms of its general significance for the regime and its implications for a wider issue-area¹⁰. The situation then becomes analogous to an iterated game and the "incentives to violate regime principles are reduced" (Keohane, 1984, p.90). In regard to the problem of asymmetric information "by reducing asymmetries of information through a process of upgrading the general

level of available information, international regimes reduce uncertainty" (Keohane, 1984, p.94).

It is through Keohane's emphasis on the ability of regimes to overcome political market failure that he is able to produce a persuasive explanation of why it is in the interests of states to maintain regimes. However, it is not so clear that this approach provides an adequate explanation of regime development. As expressed by Smith, Keohane's emphasis on "bargaining and negotiation.....reintroduces the distribution of power as an independent variable...[which] leads back to the theory of hegemonic stability" (Smith, 1987, p.275).

In sum, while the functionalist theory reviewed provides additional insight as to why regimes are maintained, it is not clear that it is independent of the hegemonic stability theory. Rather, a comparison of the two theories might suggest that the hegemonic stability theory provides a superior explanation of regime emergence, while the functionalist approach provides a better explanation of regime maintenance following the regime's establishment.

If the hegemonic stability theory is modified such that it is assumed that actors may learn to cooperate, this fundamentally changes the assumptions underpinning the hegemonic stability theory concerning state actors and the relationship between causal factors, regimes and outcomes. In regards to the relationship between causal factors, regimes and outcomes, if hegemonic stability theory is modified so that Keohane's functionalist theory is accommodated, the theory of hegemonic stability can no longer be said to be a structural theory. Instead, it is more reflective of a

modified structural or Groatian argument (Keeley, 1990, p.559)¹¹. Although a representation of the Groatian argument is not tested directly in this paper, how the structural and functionalist approaches and their associated theories may be linked with the use of critical theory is discussed later in this chapter.

Before turning to the other two approaches of regime emergence and change, a fundamental point has to be made about Keohane's functional theory. It is not clear how an iterated game, upon which the theory relies, and market imperfections are linked. Keohane attempts to link them by likening issue linkages to the transformation of a single play of the game, the prisoner's dilemma, to an iterated game. However, at the same time the prisoner's dilemma is used to explain the development of cooperation if state interaction is expected to continue. It is not clear if Keohane's uses of game theory in these two different instances are independent.

The next two approaches to be considered are not as well developed as either of the mainstream approaches. The first approach discussed is cognitive and the series of statements chosen in connection with this broad approach considers the role of learning in state interaction. The second approach considers forces beyond the state that constrain state action and the statements chosen reflect the emphasis on the role of market forces and transnational actors. In addition, some remarks are made with respect to the role of technology in increasing the power of these forces.

(iii) THE COGNITIVE APPROACH AND LEARNING

The cognitive approach as encapsulated by Haggard and Simmons, recognizes that

cooperation cannot be completely explained without references to ideology, the values of actors, the beliefs they hold about the interdependence of issues, and the knowledge available to them about how they can realize specific goals. Cooperation is affected by perceptions and misperceptions, the capacity to process information and learning (1987, p.510).

Unlike either the structural or the functionalist approaches, the cognitive approach does not treat an issue-area within which a regime operates as simply given. Thus the approach is "particularly important in explaining the substantive content of regime rules and why they have a dynamic other theoretical approaches lack" (Haggard and Simmons, 1987, p.510).

While there does not exist a theory which is broadly reflective of the approach, a series of statements regarding state learning have been chosen to reflect a specific aspect of this approach. These statements were chosen as they focus on how states learn and how national interests are defined. The work done by Nye (1987) is the main source for statements used in regard to learning, although these have been extended with the work by Adler and Haas¹² (1992) in reference as to how epistemic communities influence policy evolution.

Nye's paper addresses an area lacking in realist theory, "how states define their interests and how their interests change" (Nye, 1987, p.372), with the concepts of learning. As recognized by Nye, realist theories:

maintain that states learn by responding to structural changes in their environment, or, in game-theory terms, they adjust their behaviour to changes in the payoff matrix. When mutual interests or the long shadow of the future suggests that rewards for cooperation are great, states may alter the strategies by which they pursue their interests. In this sense, cooperation can be learned (1987, pp.372-373).

According to Nye, the problem with this realist explanation is twofold: (i) "it does not show how interests may be defined", and (ii) it does not "focus on how groups within societies can use partners in transnational coalitions or institutions to retard the learning of new interests by their own governments" (1987, pp.372-373). Therefore, in an attempt to address this shortcoming, Nye's paper focuses upon the issue of how national interests become defined and change and if cooperation can be learned (Nye, 1987, p.372). To this end, Nye draws upon liberal theories to supplement those of realism to direct attention to the manner in which domestic and international forces interact and affect the redefinition of national interests, in addition to the manner in which institutional frameworks and regimes foster such a process (Nye, 1987, p.373).

Nye defines learning in terms of a change in national interest and, although he acknowledges that national interest may change as a result of domestic shifts in power or normative change, Nye's concern is with a change in national interests that is the result of cognitive change or learning (Nye, 1987, p.378). It is understood by Nye that "to learn is to develop knowledge by study or experience" (Nye, 1987, p.378) whereby:

new knowledge is used to redefine the content of national interest. Awareness of newly understood causes of unwanted effects often results in the adoption of different, and more effective, means to attain one's ends (E. Haas, 1980, p.390).

The key to Nye's explanation of learning is the use of ends-means relationships. Degrees of learning, from simple to complex, are expressed in terms of a continuum of ends-means relationships. Simple learning is defined as using "new

information to adapt the means, without altering any deeper goals in the ends-means chain", whereas complex learning "involves recognition of conflicts among means and goals in causally complicated situations, and leads to new priorities and trade-offs" (Nye, 1987, p.380). Consequently, complex learning encompasses changes of deeper goals.

Before outlining the processes of learning, some comment has to be made as to the positive connotation that the term possesses as a concept. Nye clearly states that while learning has a positive connotation his definition includes negative possibilities (Nye, 1987, p. 380). The criteria for learning are the use of information to change means, ends or both, whether they are "good or "bad".

Nye differentiates between two types of learning processes. The first of these is the discontinuous or "lumpy" process. In this case "large groups or generations may learn by crises or major events which serve as metaphors for organizing diverse sets of experiences" (Nye, 1987, p.398). The second process is identified as incremental. This type of learning is associated with the process incurred by bureaucracies or groups which learn that certain procedures or approaches do not work. It is this latter type which Nye identifies as probably having a larger role within regimes "because they establish standard operating procedures, constrain ideologies and reward others, and provide opportunities for contacts and bargaining among leaders" (Nye, 1987, p.398). With respect to discontinuous learning, the regime may crystallize the learning of a particular group or groups¹³.

Nye's work on security regimes shows how learning gives rise to the norms

required for regime formation and how such regimes may be a key to continued learning as they "may foster organizational learning by creating or reinforcing institutional memory" (Nye, 1987, p.398). Although regimes play an important role, Nye does not rule out that learning can arise outside the framework of regimes. In fact he underlines that changes in structural power can result in learning without the intervening variable of regimes (Nye, 1987, p.399).

Nye's work is important in terms of its focus on the issue of state learning, the type of learning states can experience, be it either simple or complex, and the identification of different learning processes whether they be lumpy or incremental. Nevertheless, his work does not clearly focus upon the process by which knowledge becomes available to the state and thus influences state learning. In this regard Nye recognizes that:

individual learning is a necessary, but insufficient, basis for organization learning. Societies and governments are complex entities. Not everyone learns the same lessons or at the same rate. Shifts in social structures and political power determine whose learning matters. In organizations there must be an institutional memory and procedures which affect old and new members through the organization (1987, p.381).

Since Nye does not provide a clear understanding of the process by which states learn, some of the work on epistemic communities¹⁴ and how they affect policy evolution is referenced. This body of work is helpful in indicating how knowledge becomes available and influences both organizations and states, although its application is problematic at a case level if such a community does not exist in the issue-area covered by the regime under question.

As understood by Peter Haas, the term epistemic community refers to a

"collection of individuals who share the same worldview (or episteme)" (1992, p.27) and in particular, share a set of normative and principled beliefs, causal beliefs, notions of validity and a common policy enterprise which is a set of common practices associated with a set of problems (Haas, 1992, p.3). According to Adler and Peter Haas, these communities affect policy evolution through a framework consisting of the influence epistemic communities have upon policy innovation, diffusion, selection and persistence (1992, p.373). Policy innovation is affected by epistemic communities as these communities assist in framing issues, defining state interests and setting standards (Adler and Haas, 1992, p.375). Policy diffusion is affected through "communication with their other members in scientific bodies and other international organizations, during conferences, and via publications and other methods of exchanging lessons and information" (Adler and Haas, 1992, p.378). Policy selection is affected to the extent that decision makers are unfamiliar with an issue-area and uncertain about the issues at hand (Adler and Haas, 1992, p.381). Policy persistence is affected to the extent that new ideas and policies become institutionalized owing to the efforts of epistemic communities (Adler and Haas, 1992, p.384).

The above framework is then operationalized through foreign policy and international politics. Foreign politics is viewed:

as a process by which intellectual innovations (which epistemic communities help produce) are carried by domestic and international organizations (in which epistemic communities may reside) and are selected by political processes to become the basis of new or transformed national interests". Likewise, under specific conditions...[international politics are viewed] as the process by which innovations of epistemic communities are diffused nationally,

transnationally, and internationally to become the basis of new or changed international practices and institutions and the emerging attributes of a new world order...Once the expectations and values injected by epistemic communities into the policy process are internationally shared, they help coordinate or structure international relations" (Adler and Haas, 1992, p.373).

To help illustrate the link between foreign policy and international politics and thus provide a full understanding of how epistemic communities can affect states domestically and internationally, Adler and Haas¹⁵, employ Putnam's (1988) description of international politics as a two level game where:

the domestic game refers to how expectations and values enter into the political process through active participation of domestic and transnational epistemic communities and how through the policy process these ideas help define the national interest which then becomes a conceptual and normative input to the international game. In the international game, governments not only act out of concern for the domestic political environment, but they are also motivated by the need to solve international problems, whose interpretations and meanings are embedded in the national interest...governments transmit expectations and values that compete to become the basis of international behaviour. Choices made at the international level have implications for domestic politics as well. By identifying the array of possible international solutions domestic coalitions are realigned (1992, p.373).

In sum, the contribution of Nye's work to IPE and regime theory is its attempt to supplement realist concepts of national interest with liberal pluralistic concepts which identify the basic causal factor behind learning as knowledge obtained through experience or study. Nye's work, however, does not fully take into account the impact of domestic influences upon state policy unless the role played by epistemic communities in the framing an issue, defining state interests, setting standards, promoting new ideas, promoting policy innovations and institutionalizing ideas and

policies is considered.

The work on epistemic communities, was motivated for reasons similar to Nye's interest in the role of learning. As indicated by Peter Haas, by focusing on international or domestic power, the possibility that actors can learn new patterns of reasoning and pursue new state interests is overlooked, unless "the conditions that foster a change in state interests and the mechanism through which the new interests can be realized" (1992, p.2) are analyzed. These motivations are not unlike Nye's concern with realism's inability to answer how national interests become defined and changed (Nye, 1987, p.372).

(iv) EXTERNAL FORCES

The final set of statements is concerned with the manner in which market forces affect interstate cooperation and regime emergence and evolution. The approach from which these statements are abstracted was first suggested by Strange (1982) as a separate approach in the regime literature. As outlined by Strange this approach is structural in the sense that regimes are a product of structural forces, but instead of focusing on territorial states it focuses on the structure of the world economy. The development of regimes is thus determined by the "relations of production and other prevalent structural arrangements for the free movement between states of capital, knowledge, and goods (but not labor) that make up a world economy" (Strange, 1982, p.338). To this end, Strange suggests extending Lindbolm's work on Politics and Markets (1977) to the world system (Strange, 1982, p.351). In this thesis Lindbolm's later work on the relationship between the state and the

market, The Market as Prison (1984), is used instead because it focuses specifically on this relationship. Nevertheless, it is still true that it is an approach that can be applied to:

sectors of the world economy or to the structures of that system [and] it suggests many much more open ended and value-free questions about the relationship between authorities and markets and about the outcomes of their interaction than regime analysis....Moreover, it does not take markets as part of the data, but accepts that they are creations of state policies-policies that affect transactions and buyers and sellers, through the part played by markets in shaping basic structures of the world system such as the security structure, the production structure, the trade and transport structure, the credit and money structure, the communication structure, and (such as it is) the welfare structure (Strange, 1982, p.353).

This approach has attracted little attention among regime theorists. However it has implicitly been developed by Gill and Law (1989) who address not only how ideas affect the environment but how an environment, characterized by the growth of integrated capital markets and transnational actors, may constrain state action and thus the emergence and change of regimes. The importance of this approach is not the attention it pays to domestic actors, but the attention paid to forces external to the state.

The three approaches discussed above assume the dominance of the state; however, in a world where the multinational has control over substantial resources, and capital markets have become increasingly integrated, deregulated¹⁶, and fundamentally restructured by processing and information technology, the effect of these market forces upon state cooperation must be considered¹⁷. The approach has some similarities to Marxism but "while Marxist writers have typically stressed

the emergence of wage labor markets as a defining feature of capitalism" the "emergence of capital markets is at least as important" (Gill and Law, 1989, p.479). Two examples which involve the interaction of capital and the state are the emergence of the Euro-markets in the 1960s, as capital sought to evade domestic regulation, and the environment of "competitive deregulation" among states in the 1980s which sought to attract international capital. The latter policy "progressively reduced the barriers to the international mobility of financial capital, creating a more integrated and global capital market" (Gill and Law, 1989, p.479).

Charles Lindbolm (1984) has explored the effect of market forces upon state action with an investigation of the influence of business interests on domestic policy makers. According to Lindbolm, business people are directed and controlled through inducements, and this inducement system is the hub of the automatic punishment system. "Any change in their position that they do not like is a disincentive, an anti-inducement, leading them not to perform their function or to perform it with less vigour. Any change or reform they do not like brings to all of us the punishment of a sluggish economy" (Lindbolm, 1984, p.6). When this occurs, it is not the corporate and other business executives who are forced or retired from office, but government officials. It is owing to this result that Lindbolm characterizes the market as a prison.

For a broad category of political/economic affairs, it imprisons policy making/*sic*/, and imprisons our attempts to improve the social world because it afflicts us with sluggish economic performance and unemployment simply because we begin to debate or undertake reform (Lindbolm, 1984, p.6).

Thus "[government] policy is imprisoned not in the sense that it can't break out of its confinement but in the sense that to release it we must pay a ransom"

(Lindbolm, 1984, p.7) and the ransom paid is in the form of an "investment strike" by the market if the government pursues a policy which is not in the interests of business. The ability of business interests to shape policy through an "investment strike" can be contrasted to the ability of labour to do the same. "Whereas an 'investment strike' by business may occur spontaneously, if the business climate deteriorates, labour in order to exert corresponding influence would have to directly organize a wide-ranging or even general strike" (Gill and Law, 1989, p.481).

This difference in the ability of capital to affect government policy compared to labour is most pronounced in the area of financial capital which can be quickly withdrawn and its effects immediately felt as "supply of finance to governments through the purchase of government bonds and bills may decline very rapidly. This might result in the government being unable to finance its current activity without resorting to monetary inflation" (Gill and Law, 1989, p.481). Likewise, productive capital in the manufacturing and extractive industries may also chose to withdraw in reaction to a given policy but its withdrawal, by the very nature of the capital, may be very slow (Gill and Law, 1989, p.481). Owing to the differential speed and immediacy at which different types of capital can impact on the state, any consideration of the role of external forces upon the state must explicitly consider which areas of state policy are the most vulnerable to different forms of capital.

Although Lindbolm only distinguishes between power emanating from governments and markets at the national level, it is "also the case that transnational corporations exert authority across national boundaries when they allocate resources

internationally" (Gill and Law, 1989, p.482) and they allocate both productive and financial capital. At the international level, the differential speed at which financial capital can react compared to productive capital is a product of the liquidity of financial capital. Although a transnational corporation may postpone an investment, the "reaction of financial capital need not be postponement of investment" (Gill and Law, 1989, p.485). Where there are no foreign exchange restrictions, financial capital can be moved out of a country within minutes. With productive capital, the power of capital is a function of political pressure and the number of competitors, the fewer the number of competitors, the fewer the constraints (Gill and Law, 1989, p.483). In the case of financial capital, its power is a function of the degree to which global financial markets are integrated; moreover the immediacy with which integration is experienced has been effectively increased with technology. As integration increases, financial capital becomes more powerful and the more likely that both interest and exchange rates¹⁸ will be affected. Hence, when considering the impact of these forces on states, attention must be paid to the form of capital power constraining state policy over certain issue-areas and through regimes. For example "huge sums of money can quickly flow out of a country to more attractive havens, resulting in a balance of payments crisis under fixed exchange rates, or a foreign crisis (fall in the exchange rate) under floating exchange rates", and the smaller and more open the economy, the greater the inflationary risks (Gill and Law, 1989, p.486).

Gill and Law not only underline the power of transnational actors within a global framework, but also attempt to examine the impact of international capital on

the ideological climate at national and global levels. To this end, they point to the 1970s and 1980s as a time period when "the emphasis, certainly with regard to economic policy,...shifted towards a definition of questions and concepts which is more congruent with interests of large-scale, transnational capital" (Gill and Law, 1989, p.484). To capture this emphasis, Gill and Law quote Paul Volcker's¹⁹ (1985) summary of what had become a common policy outlook by the mid- 1980s:

There is [an] element of common strategy...persistent for some years...[giving] more emphasis to market orientation in economic policies, more concern and effort to reduce the proportion of government in GNP, more emphasis to private initiative. Obviously that matches a lot of rhetoric and oratory in the United States. But what is really startling is the rhetoric and oratory in France that parallels this kind of broad orientation of policies. It is even true in much of the developing world (Gill and Law, 1989, fn.7).

Additionally, Gill and Law attack mainstream theoreticians who "over-concentrate on inter-state relations, assuming states to be unitary actors" (Gill and Law, 1989, p.496). They also point to the lack of focus on "interconnected changes in social forces within and across nations" (Gill and Law, 1989, p.496). These involve issues not only of class and accumulation but also constellations of interest, learning, identity, self-consciousness and strategy (Gill and Law, 1989, p.496).

Given the view taken by Gill and Law, the larger question is how do transnational actors not only discipline the state but affect the beliefs and priorities of the state. In terms of state cooperation and the formation of regions, the question not asked by the literature, but which arises upon reading the literature, is whether the ideology of transnational actors adopted by states results in the creation of a "common point of view", or learning, which, in turn, provides a basis for

cooperation. In Gill and Law (1989) this question is discussed in the context of Gramscian hegemony. Another question not answered by the literature is whether regime emergence and evolution are a function of business interests.

(v) THE APPROACHES SUMMARIZED

In sum, each of the theoretical approaches outlined highlights different causal factors of regime development and demise. Across all there is a distinct lack of consideration of either the interests of non-state actors and/or domestic society. The recent writings of Mastanduno et al. (1989), and Putnam (1988), however, may provide the literature with new paths to explore domestic and international linkages. The work done by Mastanduno et al. (1989), underlines how a state's domestic and international structural positions can affect its strategies and goals. In terms of regime theory, this work can provide insight into whether a state's support, or lack thereof, for a regime is a function of the state's structural position. Putnam (1988), rather than focusing upon structural positions, emphasizes the "politics" surrounding negotiations. Putnam's stylization of the interactive negotiations that occur at the international and state levels is useful as it can be applied independently across segments of a regimes's life.

The most notable preoccupation shared by the structural and functionalist approaches, and their associated theories and statements, is with the state and its position or dealings with other states. Apart from this generalization, each approach has its own unique attributes. Consideration of power based on resources, supplemented with the role of willingness and ideology, provides a robust explanation

as to why regimes arise and why there may or may not be participation on the part of state actors. The drawback to this approach is that shared by all realist approaches: concentration on the state within the wider international arena without considering domestic issues, and more specifically, the relationship between foreign and domestic issues. The work done by Mastanduno et al. offers some hope in this direction.

The functionalist approach and the theory chosen to represent it suffer from the same affliction. This may reflect their close relationship to hegemonic stability theory. However, apart from their shared shortcomings, hegemonic stability theory and Keohane's functionalist theory together identify the significant causal forces behind regime emergence and change. In terms of regime birth and eventual demise or transformation, hegemonic stability theory suggests that these phases in the regime's life reflect the hegemon's strength or lack thereof. The functionalist approach, on the other hand, provides insight as to why a regime might be maintained and supported by secondary states over its middle years.

The third approach and the statements concerned with learning, have roots in both the realist and liberal schools. The insight of this approach is its focus on what nations learn and how learning can affect the state's behaviour. This adds a dynamic dimension to the theory of cooperation. The problem with this approach is that how learning occurs has not been fully developed at a theoretical level. In this thesis the literature on epistemic communities and the role they play in policy formation and change has been used to extend Nye's statements concerning learning.

The use of this literature, however, is restricted, especially, at a case level to the existence of such communities. This shortcoming, however, should not detract from an explanation of learning that attempts to consider how specialists equipped with arcane knowledge and know-how may influence policy evolution. If the role of such actors is ignored the theorist may be left with the assumption that the state is an unitary actor and a parsimonious game theoretic representation of learning whereby with the long shadow of the future the experience of playing an iterated game of the prisoner's dilemma may lead to cooperation (Axelrod, 1984, pp.27-69).

The fourth approach, underlines the role of forces external to the state in a manner largely ignored by the other three approaches. Gill and Law's work is especially important in their attempt to use Gramscian ideas to connect transnational actors to ideology. Their work is similar to how Gramsci's notions of ideological hegemony are drawn upon by both Keohane (1984) and Gilpin (1987) as an argument for deference to the hegemon by secondary states. The question that arises from the analysis is whether transnational actors dictate ideas or are they merely couriers of the hegemon's ideology across the globe? The problem with this approach, however, is that it is not yet well developed and thus it can not yet stand on its own as a complete explanation of cooperation, although it indicates that cooperation between states may fail or succeed as consequence forces outside of the those most usually thought to affect state action.

In conclusion, each approach cannot by itself adequately identify the basic causal factors which determine regime emergence and evolution. However, together

they may be able to better identify these factors and provide a robust explanation of regime formation and change.

SECTION FOUR: CONCLUSION TO THE THEORETICAL OVERVIEW

This chapter provides an overview of the literature on cooperation with the purpose of analyzing why cooperation occurs, how it arises and changes. The investigation has considered the explanatory powers of competing theories of regime formation and evolution. The initial analysis suggests that independently the four approaches considered do not provide an adequate explanation as to why regimes emerge, are maintained, and are eventually abandoned or undergo a period of metamorphosis.

The analysis indicates that to varying degrees each of the four approaches considered provides insight into aspects of the complex nature of cooperation; consequently there may be some utility in considering these approaches in combination and not ignoring the possibility that each provides insight into a particular segment of a regime's evolution through its specific emphasis on the different forces that encourage cooperation. Whether this can be achieved is a function of the manner in which these theories fit together. A suggested method of reconciliation is to use a historical paradigm, such as that employed by critical theory.

Critical theory differs from problem-solving theory in two fundamental ways. First, critical theory "stands apart from the prevailing world order of the world and asks how that order came about....it does not take institutions and social power relations for granted, but calls them into question by concerning itself with their

origins and how and whether they might be in the process of changing" (Cox, 1981, p.129). Problem-solving theory, on the other hand, "takes the world as given as it finds it, with the prevailing social and power relationships and the institutions into which they are organised, as the given framework for action (Cox, 1981, pp.128-129).

Second, critical theory "is theory of history in the sense of being concerned not just with the past but with a continuous process of historical change", whereas problem-solving theory is "non-historical or ahistorical, since it, in effect posits a continuing present" (Cox, 1981, p.129). Critical theory thus "approaches from a perspective which transcends that of the existing order, which problem-solving theory takes as its starting point. Critical theory allows for a normative choice in favour of a social and political order different from the prevailing order, but it limits the range of choice to alternative orders which are feasible transformations of the existing world" (Cox, 1981, p.130).

In critical theory, the framework for action or historical structure is a picture of a particular configuration of forces which imposes pressures and constraints (Cox, 1981, p.135). The three categories of forces which interact in a structure are material capabilities, ideas and institutions.

"Material capabilities are productive and destructive potentials" (Cox, 1981, p.136). Cox specifies these material capabilities in terms of dynamic and accumulated form. The dynamic form is understood to "exist as technological and organisational capabilities" (Cox, 1981, p.136). In their accumulated form they are natural resources and stocks of equipment which are transformed respectively by

technology and wealth.

Like material capabilities, ideas are divided into two groups. The first of these are "intersubjective meanings, or those shared notions of the nature of social relations which tend to perpetuate habits and expectations of behaviour" such as "people are organised and commanded by states which have authority over defined territories" (Cox, 1981, p.136). The second kind of ideas are:

collective, images of social order held by different groups of people. These are differing views as to both the nature and legitimacy of prevailing power relations, the meaning of justice and public good, and so forth...The clash of rival collective images provides evidence of the potential for alternative paths of development and raises questions as to the possible material and institutional basis for the emergence of an alternative structure" (Cox, 1981, p.136).

The third category, institutionalisation, "is a means of stabilising and perpetuating a particular order"(Cox, 1981, p.136). Collective images which are in accordance with the ruling power relations are encouraged, but over time institutions become more than a reflection of power relations and may influence outcomes as "they can become either a battleground of opposing tendencies, or stimulate the creation of rival institutions reflecting different tendencies" (Cox, 1981, pp.136-137). Critical theory, by using an historical approach underlines regimes as evolving institutions and subject to changing configurations of material capabilities, ideas, and institutions. Competing approaches can be fit within a wider umbrella called critical theory. Because critical theory is historical it "must continually adjust concepts to the changing object it seeks to understand and explain" (Cox, 1981, p.129) which thus allows evolving regimes to be understood in terms of changing conceptualizations of

the configuration of material capabilities, ideas, and institutions.

Each approach considered and its associated theories and statements uses a problem-solving paradigm, but because critical theory takes problem-solving theories as starting points in the painting of a larger picture critical theory allows these problem solving theories to be understood as being just parts of a larger canvas. An approach based on external forces is most easily translated to critical theory in terms of its influences on material forces, although forces are defined more broadly to explicitly include the independent role of transnational capital, and the manner in which they constrain institutions.

A cognitive approach can be understood within critical theory most directly through ideas. This especially true for ideas classified as "differing views as to both the nature and legitimacy of prevailing power relations, the meanings of justice and public good, and so forth" (Cox, 1981, p.136) since the cognitive approach and, in particular, Nye's theory of learning are ultimately concerned with the questioning and re-examination of knowledge and ideas supporting state goals and priorities.

Functionalism and structuralism, and in particular the theory of hegemonic stability, are related most directly to critical theory's conception of institutions. According to Cox, "institutions reflect the power relations prevailing at their point of origin and tend, at least initially, to encourage collective images consistent with these power relations" (1981, p. 136) which is what is understood by the structuralist approach and the theory of hegemonic stability. Over time, however, "institutions take on their own life; they can become either a battleground of opposing

tendencies, or stimulate the creation of rival institutions reflecting different tendencies. Institutions are particular amalgams of ideas and material power which in turn influence the development of ideas and material capabilities" (Cox, 1981, p.137). This conception of institutions applied to regimes is, in essence, the same as the functionalist understanding of regimes as intervening variables between causes and outcomes. Beyond material capabilities, critical theory, with its emphasis on ideas, also accommodates a theory of hegemonic stability that takes into account the willingness of the hegemon and the role of ideology in ensuring deference by secondary states.

In sum, critical theory provides a method based on historical analysis that accommodates the most important elements of the each approach and allows them to be understood in terms of a framework which is dynamic in nature. In this manner critical theory may yet play an important role in the further development of regime theory.

SECTION FIVE: METHODOLOGY

(i) Introduction

The previous sections of this chapter provided an overview of the approaches, their respective theories and statements which are to be tested using the case of the European Monetary System (EMS). The testing occurs in Chapter Four of this thesis while Chapter Three links Chapter Two and Chapter Four with establishment of the EMS as a regime as understood in the international relations literature, and the provision of the economic and institutional details required to understand how the

EMS operates. Also provided is an outline of how the regime has evolved. The regime's evolution is demarcated in terms of its changing operation and the response of its membership to its operation. The consequence of bench-marking is the division of the regime's first ten years into three periods whereby each period delineates an important, but not necessarily distinct, phase in the evolution of the EMS and thus provides a point of reference for the testing of the various approaches.

In order for the tests to be outlined, this section of the thesis is divided into various sub-sections according to the theories or statements being tested. In addition to the origins of each test being identified, each test is discussed in terms of its applicability to the case at hand. The discussion ends with a number of remarks concerning the application of these tests to an evolving regime. Also provided is a brief outline of how the regime's evolution is bench-marked. This issue is discussed in full in Chapter Three.

(ii) Structuralism and Hegemonic Stability

The first dimension of the hegemonic stability theory argues that the possession of resources means power; therefore, in terms of the financial regime under consideration, the greater the relative financial strength of a state, the greater is its hegemonic power and its ability to construct and maintain financial regimes. Once this power diminishes, however, so should the regime. In the tests that follow, financial power is measured in two ways: capital holdings and currency strength. In both cases, according to the premise of this approach, during the first years of the regime's life the hegemon's, Germany's, relative financial power should be significant.

The first test of financial power is borrowed from Keohane (1980) who used holdings of United States dollars as reserves by participating members in Bretton Woods as a measure of power. In applying the same test in the case of the EMS, holdings of Deutschemarks as reserves by participating members in the EMS are used. The problem with this test is the lack of detailed and publicly available data²⁰ which means that the composition of reserve holdings can only be deduced from limited information such as the components of global monetary reserves by the type of reserve currency. While this type of analysis provides a gauge of rising reserve currencies at a global level, it does not provide information regarding holdings of reserve currencies by those countries participating in the Exchange Rate Mechanism (ERM) of the EMS. Although a detailed breakdown of reserve holdings by ERM country is not available, the composition of net reserves of countries in the EMS exchange rate arrangements²¹ is used as a gauge. A test of hegemonic power should indicate preference for EMS currencies over United States dollars, if a European hegemon, Germany, exists. Although holdings of Deutschemarks by EMS countries cannot be directly observed, they can be inferred from the above two sets of data. If Germany is the hegemon, the tests should reveal a preference for holdings of Deutschemarks, but for that preference to decline as hegemonic strength wanes over time. Given that the reserve holdings may not be an true indicator of hegemonic power, as preferences for reserve currencies may be determined by a number of unrelated issues, such as portfolio diversification, three other tests of hegemonic power have been employed. All three tests are concerned with financial

power and have not been used previously in the regime literature to measure hegemonic strength.

The proxies are all indicators of relative strength. The first indicator of currency strength considered is the use of the Deutschmark as a currency of intervention to support the bilateral parity grid of the ERM of the EMS. A currency is the currency of intervention within the regime if it is used to support bilateral exchange rates within the ERM. Outside of the regime, it is the currency of intervention if it is used to support the exchange rates of the ERM currencies vis-a-vis the U.S. dollar.

Isolating the use of the Deutschmark as an intervention currency by periods of tension within the ERM and by type of intervention, should provide a gauge of how the Deutschmark has been used within the EMS. It would be expected that the more central the Deutschmark is to the ERM, the more it would be used for purposes of intervention, and especially intramarginal interventions which are used to maintain current bilateral exchange rate parity relationships. The significance of intramarginal interventions versus interventions at the margin, which are interventions in support of a currency that has reached its upper or lower trading limit against other currencies, is fully discussed in the analysis of the institutional structure of the EMS undertaken in Chapter Three.

The second and third tests of currency strength involve the relative volatilities²² of the hegemon's currency and interest rates compared to other currencies within and outside of the EMS. The premise of the test is that the lower

the relative volatility of the hegemon's currency and interest rates, the more stable and thus the more powerful the proposed hegemon's currency. Any discussion of volatility, however, must take into account the manner in which exchange rates move over time as exchange rates have two components: the trend (deterministic) and its stochastic (error) components²³.

The test of volatility focuses on the stochastic element of the exchange rate rather than its trend. Hence, an exchange rate's volatility could be large but the exchange rate only move within a small band, while another exchange rate could drop by, or increase by, a significant but proportional amount²⁴ and show little volatility. Hence, when comparing volatilities, it is important that the exchange rates follow similar trends. In regard to interest rate volatility LIBOR²⁵ interest rates are considered rather than domestic interest rates because in all ERM countries domestic interest rates to some extent have been artificially administered, whereas because LIBOR are offshore rates they are not subject to regulation²⁶.

The second dimension of the hegemonic stability theory is concerned with willingness. The argument made is that leadership by a state requires that it be willing to forgo short term gains in order to preserve the regime. "Such leadership in maintaining a regime would be most likely in a hegemonical system: that is, when one state is powerful enough to maintain the essential rules governing interstate relations, and willing to do so" (Keohane and Nye, 1977, p.44).

A test of willingness requires a barometer to measure the willingness of the leader to provide leadership and hitherto has not been attempted with a financial

regime. If some effort is made to include the domestic elements of willingness, the barometer chosen should take into account internal aspects of the German state, such as domestic attitudes, political structures and decision making procedures (Keohane, 1984, p.34) and consider how these affect the willingness of the hegemon to support the regime. If the barometer chosen is the availability of Deutschemarks to other members of the regime, this provides a measure of domestic attitudes, as the Deutsche Bundesbank (the German Central bank) is a domestic institution with a fair degree of independence from the elected federal government. Given that the Deutsche Bundesbank is a domestic institution with a domestic agenda (i.e. low inflation), it has always been possible that the Bundesbank would not provide the EMS with sufficient liquidity. Therefore, any discussion of hegemonic willingness, in terms of the use of the Deutschemark in exchange rate interventions, must include the views of this key domestic institution.

The last set of tests concerned with hegemonic stability theory is associated with the dimension of ideology and the question of deference by secondary states to the hegemon over the time the regime was initiated and maintained. This dimension cannot be tested directly. However, it can be argued that the prevailing ideology has been neo-classical economics as epitomised by the practices and policies of the Deutsche Bundesbank which has to some extent been argued by Putnam et al. (1987) but not in connection with hegemonic stability theory. The work done by Putnam et al. is used in this discussion.

The functionalist approach considers the role of the expected effects of

regimes on regime formation and evolution. Keohane's theory is based on political market failure and how such failure may result in the demand for the regime and be a force behind the demand for its maintenance. The tests of this theory are derived directly from the manner in which Keohane employs Coase's argument concerning political market failure. Each aspect of political market failure is outlined and from it a test is derived. The tests are original and have been developed explicitly to test the theory with a financial regime.

The first aspect of political market failure which regimes must overcome is the problem of legal liability. While regimes do not provide for the "centralized enforcement of agreements...[they do] establish stable mutual expectations about others' patterns of behaviour and develop working relationships that will allow the parties to adapt their practices to new situations" (Keohane, 1984, p.89). The first task is to prove that, within the EMS, expectations about each player's behaviour, if they existed, were developed; and, if so, to uncover if the development of these expectations was integral to the regime's development. Likewise, in terms of the regime's operation, it has to be proven that expectations concerning each player's behaviour were important for the maintenance and further development of the EMS. The application of such questions to a financial regime is again original to this thesis.

The second aspect of political market failure is the problem of imperfect information. Regimes overcome this problem as they "...provide information and generate patterns of transactions costs" (Keohane, 1984, p.89) in such a way that the cost of reneging on a commitment increases and the cost of operating within the

framework of regimes is reduced. The element is tested through the identification of transaction costs reduced and consideration of whether the regime actually provided the information that reduced these costs. This test should prove that the transactions costs reduced were the same as those which were anticipated to be reduced or, if not, the costs that were reduced were equally as important as those that were anticipated. In addition, as in the case of the "establishment of mutual expectations", the discussion considers whether the reduction in transactions costs is fundamental to the development of the regime, its maintenance or conducive to the regime's further evolution.

The third element of political market failure that regimes are argued to overcome is the problem of transactions costs through the alteration of the "relative cost of transactions" (Keohane, 1984, p.89). This element of the theory considers the question of issue density, which "...refer(s) to the number and importance of issues arising within a given policy space" (Keohane, 1983, p.156). The more dense the policy space, the more complex the issue linkages with the result that an action against another player must be seen in terms of its general rather than specific ramifications. It is in this manner that Keohane argues that the situation becomes analogous to an iterated game (Keohane, 1984, p.90). It must, therefore, be proved that in the case of the EMS there is issue density and the density is of such degree that the economies of scale which can be provided by a regime are required (Keohane, 1983, p.150). The next portion of the test considers the importance of the reduction of transactions costs in each stage of the regime's life. The discussion

considers the EMS within the context of regimes and quasi-regimes of which the states that comprise the European community are the sole members, such as the Common Agricultural Policy (CAP), and those clubs which only some of its members directly participate such as the G7²⁷. It is expected this portion of the discussion as it pertains to the functionalism will provide some of the richest insights into why regimes are maintained.

(iii) LEARNING

The cognitive approach considered and the aspect discussed and tested is concerned with the role of learning (Nye, 1987) in regime emergence and evolution. The focus of this approach is national interests and how they become defined and change. In regard to regimes, Nye's focus has been with how institutional frameworks and regimes foster the redefinition of national interest (Nye, 1987, p.373) that is the consequence of learning. In this manner, a change in national interest is understood to be a symptom or outcome of learning. Given that a change in national policy provides a signal that there may have been a change in national interest (and hence learning), the testing of learning looks at shifts in policy by major players within the EMS. The application of this literature to financial regimes is original to this thesis²⁸. In the discussion of the shifts under examination the following questions are asked:

- a) was the national interest redefined and if so;
- b) was this the result of simple or complex learning whereby simple learning implies that new information was used to change the "means"

to the same end, whereas complex learning implies changes of deeper goals (Nye, 1987, p.380); and finally,

c) if learning is proven to have occurred, what is its relationship to the development of the regime.

The instances of policy shift to be considered are as follows:

- a) the shift in French and Italian economic policy in 1982 and 1983;
- b) the shift in the Bundesbank's policy regarding foreign holdings of Deutschemarks;
- c) the emphasis in both French and Italian policies regarding monetary union in 1987; and,
- d) Britain's decision to participate in the Exchange Rate Mechanism (ERM) of the EMS in October 1990.

As indicated in the literature review, the literature on epistemic communities extends Nye's (1987) arguments concerning learning. The contribution of the literature on epistemic communities is in its consideration of policy evolution and the role played by such communities in that evolution. In reference to the EMS, to fully test this aspect of learning, it must be first established that a potential epistemic community, comprised by central bankers, exists. If such a community does not, then the impact of domestic actors that might be part of such a community on policy evolution can only be considered in terms of a state structure of which they are members. In this thesis, although the European central bankers and especially those that comprise the Bundesbank, have an important role in the EMS, they are not, for

reasons discussed in Chapter Three, an epistemic community. Their roles are thus considered as members of a domestic institution that has an agenda and influences domestic policy-makers to varying degrees.

(iv) EXTERNAL FORCES

The tests of the statements abstracted from this approach are concerned with the discipline which market forces and non-state actors exert on state action and regimes. This approach is tested with a focus on the structural power of financial capital.

The testing is divided into two parts. First, the power enjoyed by capital within domestic and international financial markets in terms of its identifiable affects on foreign exchange markets is considered. Second, consideration is given to identifiable shifts in the state's beliefs and the correlation of these shifts with the increasing power of transnational capital. Given that the first set of the tests is concerned with changes in observable markets, the tests are more quantitative in nature. Although the second set tests are concerned with elements which are less quantifiable, such as the correlation between capital interests and state beliefs, they are discussed owing to their great importance.

The basic test used to test the effect of market forces, is taken from Sachs and Wyplosz (1986). Similar to the goal of this thesis, the goal of Sachs and Wyplosz was to gauge the role of market confidence (or lack thereof) in the deterioration of the French economy between May 1981 and March 1983 and the eventual pronounced shift in French policies. To this end, they perform two tests, the first focuses upon

changes in real industrial share prices, while the second focuses upon the change in the one-month forward exchange rate of the French franc versus the Deutschmark.

The first test, by focusing on the stock market, considers the internal market while the second focuses on the external market. Sachs and Wyplosz outline that the results of the two tests may reflect an accurate or an exaggerated response to Mitterand's initial policies. According to the authors, if the response was accurate, then the two markets were useful in reducing the possible misallocation of resources, both nationally and internationally, but if the response was exaggerated, panic may have undermined sensible policies. In conclusion, because they were unable to distinguish between the two points of view, the authors state that the tests only document the change in confidence. Apart from documenting change, the tests are useful in noting the correlation between market response to government policies and the potential ramifications of this response on public policy. It does not matter whether the response resulted in an increase or decrease; rather, what does matter is that market response may have resulted in policy adjustment and that the market response provided a constraint on government action.

The Sachs and Wyplosz test of external markets, rather than the reaction of stock markets, is used because it focuses on foreign exchange markets which are characterized by their over-the-counter products and lack of regulation. Forward exchange rates of the French franc against the Deutschmark are used as a gauge of market expectations concerning the depreciation of the French franc. Since an appropriate time series of market forward exchange rates was not available, the

forward rates for the French franc were calculated using a coverage arbitrage, or interest rate parity, formula. This formula²⁹ is as follows:

$$F_0 = S_0(1 + r_{FF}) / (1 + r_{DM})$$

Covered arbitrage ensures equilibrium is maintained in the foreign exchange markets. The return to the investor on one French franc (r_{FF}) for a given term is equivalent to selling one French franc at the spot exchange rate (S_0), depositing these funds in Germany at the German interest rate (r_{DM}) for the same term and agreeing to buying French francs at the current forward rate (F_0). A differential between forward rates calculated on the basis of this relationship and market forward rates may exist, however, owing to the cost of transacting in the securities and foreign exchange markets, differential tax treatment, political risk premia, or government regulations (Frenkel and Levich, 1975, pp. 325-337). Thus the calculated forward rate only reflects the increases in French interest rates that would occur to compensate holders of deposits denominated in French francs for an expected depreciation.

A refined measure of expectations of a depreciation would consider changes in uncovered arbitrage or expected future spot rates ($E[S_{t+1}]$). Uncovered arbitrage refers to the case where the above investor's exposure to changes in the future spot rate is not "covered" with a contract to purchase French francs in the future at a pre-specified forward rate. As indicated by Wolff (1987) the expected future spot rate can be described as follows:

$$E[S(t+1)|t] = F(t,t+1) + P(t)$$

where $F(t,t+1)$ is the natural logarithm of the forward rate at time t for an exchange rate at $t+1$, $E[S(t+1)|t]$ is the forecast of the log of the spot exchange rate at $t+1$ conditional on all information available at t , and $P(t)$ is a premium term. The existence of a time varying premia in the pricing of the forward foreign exchange rate has been documented in the economics and finance literature by theoreticians such as Fama (1984) and Frankel (1982). The existence of the premium term, which has to be estimated through modelling, complicates the use of expected future spot rates to gauge market expectations of a depreciation of the French franc in this thesis. Attempts, such as that by Wolff (1987), have been made in the economics and finance literature to examine and estimate $P(t)$ but this is a theoretical question outside the realm of this thesis.

(v) THE TESTS AND REGIME EVOLUTION

A number of the tests outlined are quantitative in nature, while others are qualitative. The analyses of all these tests, however, have a qualitative element as their interpretations are a function of the manner in which the evolution of the EMS is bench-marked over time. The dimension of change chosen to bench-mark the evolution of the EMS is operational form. This dimension of change is implicitly used by Ungerer et al. (1990) and more generally the European Commission (1989) to designate the changing nature of the EMS over its first ten years of operation. Operational form is concerned with both the manner in which the regime operates

and the response of its membership to the rules of the regime. In this manner the changing institutional aspects of this complex regime are underlined so as to capture the manner in which the regime has evolved. Operational form is comprised of a cross section of elements that constitute four types of change identified by Haggard and Simmons which, as discussed in Section Two of this chapter, are: strength, organizational form, scope, and allocation mode (1987, p.496). Operational form, which has been developed to analyze the EMS, is most explicitly similar to aspects of strength and organizational form. Operational form, as strength, is concerned with the degree of compliance on the part of states with regime injunctions. However, unlike strength it is also concerned with how states respond to the regime beyond compliance with the regime's injunctions and thus takes into consideration efforts of its members to effect change through official channels and actions. Like organizational form, operational form, takes a closer look at problems of regime organization and operation and thus avoids simplistic explanations emanating from the treatment of the regime as a black-box. While operational form does not explicitly take into consideration scope and allocative mode it indirectly references both. Issue-linkage, emanating from the regime's scope, may affect a regime's operational structure, and similarly any change in allocative mode would be reflected in the operational rules of the regime.

The three periods chosen to designate operational change within the EMS from its inception in March 1979 and up to October 1990 are as follows:

- i) March 1979 to March 1983: this period is characterized by its

operational turbulence as reflected in the numerous realignments that took place over this period.

ii) March 1983 to September 1987: these years mark the beginning of regime's maintenance and consolidation with the former West Germany as the centre country in an asymmetric system.

iii) September 1987 to October 1990: in many ways this period is not distinct from the second, although it is marked by the signing of Basel/Nyborg agreement of September 1987, which involved the re-examination of various aspects of the EMS, namely its asymmetric nature. The signing of the SEA in February 1986 (it became effective later in July of 1987) and the turbulent international environment, caused by a falling United States dollar, provided the background for this agreement. The period ends with the United Kingdom's decision to join the ERM of the EMS before the convening of the first Intergovernmental Conference (IGC) on monetary and political union in December 1990.

ENDNOTES

1. Such as that required by the participation of states in monetary regimes. The smooth functioning of such a regime requires that its members adhere to a common rate of inflation; consequently, any goals - such as an expansionary fiscal policy - that might interfere with this must be subjugated in the interests of a smoothly functioning regime.

2. This analogy does mean to preclude the possibility that the two ends cannot be joined in a circle whereby harmony may suddenly become one of discord.

3. Institutionalization refers to ongoing balances of rewards, services and favours that occur within a regime.

4. In this context credit market, debit and credit are used in a general manner to refer and applies to any issue area and need not apply to an economic regime.

5. As outlined by George et al., significant cooperation can be "achieved through less extensive forms of cooperative behaviour" (George et al., 1987, p.14); the implication of this is that not all forms of cooperation require extensive credit and debit facilities provided by a regime.

6. In the international economy the list of public goods has been expanded over time by Kindleberger to include:

provision of an open market for traded commodities in glut, and of a supply of those in acute shortage; a steady flow of capital so as not to cut off loans suddenly; coordination of monetary and fiscal policies among major nations; maintaining some coherent system of exchange rates; and serving in financial crisis as a lender of last resort, providing liquidity to halt liquidation, capital withdrawals and domino business and bank collapse (Kindleberger, 1988, p.ix).

7. This is developed with the concept of "imposed" regimes by Oran Young (1983). Young develops the notion of imposed regimes whereby dominant actors may use sanctions and incentives as a method of achieving deference.

8. Grieco (1988, pp.500-501) has captured this relationship mathematically. Where the concern is with absolute position the payoff function of the state is $U=V$, where U represents utility and V is the payoff. If the concern is with relative gains then $U=V-k(W-V)$, where $W-V$ is the net payoff received by other participants and k is the coefficient of sensitivity.

9. According to Coase (1960), the presence of externalities does not prevent effective coordination without central control. The three necessary conditions are as follows: a legal framework establishing liability for actions; perfect information; and zero transactions costs.

10. For example, the European Common Agricultural Policy (CAP) is nested in the European Monetary System (EMS). Keohane's example of issue density is as follows:

in view of the benefits of economies of scale, it is not surprising that specific agreements tend to be 'nested' within regimes. For instance, an agreement by the United States, Japan, and the European Community in the Multilateral Trade Negotiations to reduce a particular tariff will be affected by the rules and principles of GATT - that is, by the trade regime. The trade regime, in turn, is nested within a set of other arrangements, including those for monetary relations, energy, foreign investment, aid to developing countries, and other issues, which together constitute a complex and interlinked pattern of relations among the advanced market-economy countries. These, in turn are related to military-security relations among the major states (Keohane, 1984, p.90).

11. Snidal (1985) has further blurred the line between the structural and functional approaches with his work on k-groups. In brief, the argument states that once k or more states cooperate, "cooperators do as well as or better than they did before cooperation" (Snidal, 1985, p.599) and that this can explain collective action. Although not considered at length in this thesis, is important to classify this work as it claims that a critical number, k, of states may find cooperation beneficial. It also argues that k can equal 1 country, a hegemon. But the premise of this argument relies on the proposal that regimes have an effect and in the case of collective action among a number of states it is implied that cooperation occurs because states anticipate that cooperation will bring benefits. In this manner it more similar to a functional approach rather than a structural approach, even though it attempts to incorporate the case of a single powerful actor. Hence, the question then again arises as to the relationship between the structural and functional approaches.

12. The work of Adler and Haas is utilized, although their definition of learning is different than that of Nye. Nye defines learning in terms of a change in national interest (Nye, 1987, p.373), whereas Haas and Adler define learning in terms of "epistemological assumptions and interpretations that help frame and structure collective understanding and action" (Adler and Haas, 1992, p.385).

13. The only "group or groups" specifically referred to by Nye are bureaucracies.

14. Most notably in International Organization, Winter 1992.

15. The playing of this game is effectively illustrated by Kapstein (1992).

16. Rybczynski (1988) considers the issues of integration and deregulation in his discussion of the internationalization of finance. This discussion is supplemented with a number salient remarks concerning the new:

instruments and methods that have acted as a "thread" and "locomotive" linking various segments of the [sic] financial markets and different world markets, bringing them closer and making them more interdependent (Rybczynski, 1988, p.16).

17. Greenspan, in his analysis of the structural and operational changes remarked that:

New technology--especially computer and telecommunications technology--boosted gross financial transactions across national boundaries at an even faster pace than the net transactions supporting the increase in trade in goods and services (1990, p.10).

Two years later Greenspan further remarked that:

The most important force underlying the evolution of banking and finance in the world today is the rapid explosion of technology in the areas of information processing and communication (1992, p.2).

18. To some extent the power of financial capital has also been explored by Block (1980) with his idea of a "tipping point".

19. Volcker was the United States Federal Reserve Board Chairperson between 1979 and 1987.

20. Conversations with officials at the Bank for International Settlements (BIS) and the Bank of Italy on June 23, 1992 assured the author that much of the data concerning both the composition of reserves of EMS countries is not publicly available for reasons of confidentiality and sensitivity.

21. A conversation with Roberto Rinaldi of the Bank of Italy on June 23, 1992, one of the authors of the paper from which these tables were taken, failed to yield an update of these tables or a further breakdown of these tables in terms of particular EMS currencies. The author was assured by Roberto Rinaldi that the information was highly confidential. This was confirmed by an official of the European Monetary Co-operation Fund (EMCF) which is the fund through which very short-term financing (VSTF) is administered.

22. The measure of volatility most commonly used in financial analysis measures the standard deviation of historical data which is "computed by measuring the difference of the value of each observation in a sample and the sample's mean, squaring each difference, taking the average of the squares and then determining the square root of this average (Kritzman, 1991, p.22).

Mathematically this is represented by the following equation:

$$\frac{\sqrt{E[X-E(X)]^2}}{n-1}$$

where $X = \ln(x_t/x_{t-1})$ and n = sample size.

23. This understanding of the exchange rate can be represented by the following equation (Hull, 1989, pp.64-68, 219) where the change in spot rate is described as a function of the divergence of interest rates through a stochastic process known as a Geometric Brownian motion which describes "the motion of a particle that is subject to a large number of small molecular shocks" (Hull, 1989, p.64).

$$\theta + \Delta\theta = \theta e^{[(m-s^2/2)\Delta T + \epsilon\sqrt{\Delta T}]}$$

where: θ = spot;

$\Delta\theta$ = change in spot;

m = is the expected growth rate of spot which Garman and Kohlhagen (1983) have described as being the difference in domestic and foreign interest rates;

s = standard deviation (volatility) of spot;

ϵ = is a random sample from a standardized normal distribution;

s^2 = variance of spot;

Δt = change in time.

24. On a graph such an increase or decrease would be seen as a straight line.

25. Libor stands for London Interbank Offer Rates which are rates offered on non sterling deposits in London.

26. A Euro-currency is a "deposits in a bank and denominated in a specific currency, its distinguishing feature being that it is located outside the country of the currency's origin" (Argy, 1981, p.68). Because Euro-currencies are held outside the country of origin are they not subject to the regulations of the domestic country; consequently higher deposit rates and lower lending rates, than otherwise available in domestic

markets, are possible because costly domestic reserve requirements, depositors insurance fees and taxes are absent (Sarver, 1988, pp.11-13, pp.15-17).

27. The countries which comprise the G7 are Canada, United States, Germany, France, Japan, United Kingdom and Italy.

28. Nye (1987) applied the question of learning to the problem of nuclear deterrence.

29. This relationship between the forward and spot exchange rates can be found in a number of international finance text books. An understandable but not over-simplified explanation is found in Smith (1990, pp.70-73, pp.339-340).

CHAPTER THREE

THE EMS: INSTITUTIONS, OPERATIONS AND REGIME STRUCTURE

SECTION ONE: INTRODUCTION

The purpose of this chapter is to link the theoretical study in Chapter Two, with the case study in Chapter Four. Chapter Three provides the necessary economic, institutional and historical information needed to outline the manner of the EMS's evolution and to establish the EMS as a international regime as defined in the international relations literature (Krasner, 1983). This discussion focuses on both the operational features of the Exchange Rate System (ERM) of the EMS and the manner in which state sovereignty is affected by participation in the ERM of the EMS. Although a formal literature review of the EMS is not presented, the discussion on the EMS in this chapter and exchanges rate systems in general cites the most relevant work in this field¹.

This Chapter is divided into six sections. The introduction is followed by Section Two which contains a simple outline of the ramifications of membership in a given exchange rate system on the policy choices of its participants. The goal of this discussion is to introduce the EMS in terms of the policy cooperation required, among its members, for the smooth functioning of such a system.

In Section Three, the institutional framework of the EMS is fully outlined and the problem of asymmetry in monetary regimes based on fixed exchange rates is introduced. Section Four expands upon the problem of asymmetry, as introduced in Section Three, and relates it directly to the literature concerning the EMS.

This discussion furnishes an introduction to the overview of the historical

evolution of the EMS provided in Section Five. The overview is concerned with establishing the EMS as a regime and bench-marking its evolution from March 1979 to October 1990. Both the establishment of the EMS as a regime and bench-marking of its evolution are important to the testing undertaken in Chapter Four. Bench-marking allows for the identification of both turning points in the regime's development and periods characterized by either particular attitudes of its membership or forms of operation.

The product of this bench-marking process is the delineation of the regime's evolution into three discernable periods each defined by a turning point in the regime's evolution. This division of the evolution of the regime up to October 1990 is then used in Chapter Four as a framework for the investigation of the explanatory power of the various theoretical approaches at a case level. In this manner, it assists in the testing of the hypotheses outlined in Chapter One. Similarly, discussion of those implicit and explicit principles, norms, rules and decision-making procedures which establish the EMS as a regime is necessary since the testing undertaken in Chapter Four is based on this premise.

The discussion in Section Five ends with a comment as to what each identified period represents in the regime's life in terms of either a period of birth, consolidation, or period of re-examination that culminates in the regime's demise or metamorphosis. Section Six concludes Chapter Three by underlining the implications of participation in a monetary regime based on fixed exchange rates for a state's policy choices.

SECTION TWO: THE THEORETICAL OVERVIEW

This section provides a simple outline of the implications of participation in a monetary system based on fixed exchange rates. The discussion furnishes a context for the policy implications of participation in a system based on fixed exchange rates by placing the system on a continuum between a flexible exchange rate and a single currency system, as indicated in Figure 1:

FIGURE 1
FIXED AND FLEXIBLE EXCHANGE RATE
AND SINGLE CURRENCY SYSTEMS

FLEXIBLE RATES	FIXED RATES	SINGLE CURRENCY
<ul style="list-style-type: none"> • the exchange rate is a market defined price and is thus a function of supply and demand. • monetary sovereignty is protected. 	<ul style="list-style-type: none"> • exchange rates are defined in terms of a numeraire which means that absolute prices are defined. • monetary sovereignty is not protected. • the more restrictive the parity relationships, in terms of the degree of fluctuation that each exchange rate is allowed around its central parity, the more the system approximates a single currency system. 	<ul style="list-style-type: none"> • exchange rate parities are irrevocably fixed. • complete loss of monetary sovereignty.

The effects of economic interdependence vary across the continuum. A system based on fixed exchange rates does not necessarily fit halfway between a system based on floating exchange rate and a single currency. Where a system based on fixed exchange rates fits on the continuum is a function of the total trading range of bilateral exchange rates between member countries.

Typically each bilateral exchange rate is defined in terms of central, upper and lower

exchange rate parities. The bilateral upper and lower trading exchange rate parities determine the total trading range, or band of fluctuation, of the currency against other members. Generally, the wider the band of fluctuation the less restrictive the parity grid of bilateral exchange rates and the more likely that the policy options applicable to a system of flexible exchange rates are available to the system's participants.

Likewise, the tighter the band of fluctuation, the more restrictive the parity grid of bilateral exchange rates and the closer the system moves towards first a gold standard and then a single currency. In this schema capital controls cannot be ignored since they can support a parity grid of bilateral exchange rates defined by a narrower band of fluctuation than would normally be possible owing to the force of speculative capital flows.

In order to appreciate the manner in which the policy options of the state are affected according to the rigidity of the parity grid chosen, it is useful to consider a simplified overview of the implications of membership in flexible exchange rate, fixed exchange rate and single currency systems. The following analysis attempts not only to highlight policy implications of membership in each of the three systems but also to compare their shortcomings and benefits.

(i) FLEXIBLE EXCHANGE RATES

In the case of perfectly flexible exchange rates, the exchange rate is a market-determined price of one currency for another. The price varies according to the principles of supply and demand.

2

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

Monetarists have often invoked the argument that flexible exchange rates protect non-inflating countries from inflating countries (Cohen, 1989, p.205); in other words, the main benefit associated with flexible exchanges rates is that they protect each member's monetary sovereignty. If prices are perfectly flexible, and one country expands its money supply, this country will experience a depreciation of its exchange rate equal to the jump in domestic inflation² associated with the expansion in money supply. In this manner, the increase in prices in the inflating country is offset by the fall in the exchange rate in such a way that inflation is not exported from one country to the other³.

The benefits accruing to participants of a flexible exchange rate system, however, are limited to monetary shocks. Participation in a flexible rate system is not a cure for interdependence (Cohen, 1989, p.205). Economic expansion in one country alters the equilibrium of others: a fall in real wages in one country increases its competitiveness; and real interest rate movements will generate capital movements and shift the savings rate equilibrium (Cohen, 1989, pp.205-206).

The protection provided by flexible exchange rates is also limited to the extent that the country adjusting its monetary base experiences overshooting (Dornbusch, 1976). Overshooting of the exchange rate occurs when prices are not perfectly flexible and the onus of short-run adjustment is on the exchange rate.

The domestic price level is determined by both domestic prices and the exchange rate. If output and prices do not adjust automatically, the exchange rate must appreciate (depreciate) proportionately more than the decrease (increase) in

money supply. Over a period of time, the appreciation (depreciation) then leads to a shift of demand to foreign (domestic) goods permitting the domestic currency to depreciate (appreciate). In the longer run, as prices adjust, the exchange rate will depreciate (appreciate) back to the point that the net appreciation (depreciation) is equal to the increase (decrease) in money supply growth. Given the price inflexibility within industrial economies, by default the sensible procedure for the central bank to follow in the light of overshooting, is to target the exchange rate rather than money supply. This facilitates the central bank's drive against inflation (deflation) with a less restrictive (expansive) monetary policy.

The influence of the exchange rate on monetary policy, in a system based on flexible exchange rates, leads to an introduction of a systemic inefficiency. If two central banks are both trying to revalue (devalue) their currencies, in equilibrium their respective efforts will cancel the other's out, but at the cost of restricting (expanding) the money supply (Cohen, 1989, p.205)⁴. "Beggars thy neighbour policies" of this sort were followed in the interwar period when nations sought competitive devaluations against each other. In view of these repercussions, cooperation between participants is required for the smooth functioning of the regime. Without cooperation, a pattern of upwardly or downwardly spiralling exchange rates may result. In the schema of possible "cooperative relationships" such a pattern of spiralling exchange rates approximates discord.

(ii) Fixed Exchange Rates

In the case of a fixed exchange rate system each currency's price is fixed in

terms of some numeraire⁵. Consequently, unlike a flexible rate system, exchange rate stability is ensured as long as bilateral exchange rate parities are maintained. Under this system each state's central bank and currency are preserved. If central banks cooperate and commit themselves to an identical exchange rate policy, then the system is identical to that of a single currency with a single central bank (Cohen, 1989, p.202).

Nevertheless, if they do not cooperate each central bank will treat its neighbour's policies as a given over which it can exercise limited influence. If one country wishes to build up its foreign exchange reserves it can do so by increasing its interest rates. The new level of interest rates will attract foreign capital thus reducing the level of foreign exchange reserves of the other members of the fixed exchange rate system. If exchange rates were flexible then the country increasing its interest rates would experience an appreciation of the exchange rate and equilibrium would be restored. However, because the exchange rate is fixed, the flow of capital will only be stopped and equilibrium restored when there is an equal increase in interest rates on the part of other participants. To avoid a spiralling of interest rates, coordination is required, which, in turn, involves the negotiation of an "appropriate" interest rate for the country seeking the initial interest rate increase.

Although competitive interest rate increases under a fixed exchange rate system are similar to the competitive exchange rate revaluations and devaluations associated with flexible exchange rates, the two systems are fundamentally different. In a system of flexible exchange rates, if one country changes its monetary policy by,

for example, reducing its money supply and increasing interest rates, equilibrium across participating countries is restored through changes in exchange rates. On the other hand, in the case of fixed exchange rates, if the money supply in one country is reduced and interest rates increased the adjustment that occurs is through the flow of foreign exchange reserves to the country with the higher level of interest rates from those with lower interest rates. Because foreign exchange reserves are a component of each country's monetary base⁶, as foreign exchange reserves fall the money supply will contract and force interest rates to increase in those countries experiencing a capital outflow⁷. It is in this manner, if exchange rates are fixed, that the monetary policies of the participating countries become linked.

Unlike flexible exchange rate systems, the exchange rate parities of fixed exchange rate systems are subject to review by external markets. In a fixed exchange rate system there is always the chance that a fixed exchange rate is either overvalued or undervalued owing to the policies followed by the system's participants. If exchange rates are out of line then speculation will force a realignment. A speculative crisis precipitating a collapse of the regime is unlikely, however, if the commitment to the exchange rate system by its participants is perceived as credible. In sum, fixed exchange rates preserve the existence of national currencies, but limit monetary independence, and are prone to speculation if markets perceive that cooperation may not be sustained.

(iii) Single Currency

A single currency eliminates the need for the coordination of monetary policy

or exchange rates associated with other regimes and avoids the speculative pressures associated with a fixed exchange rate regime. Although a single currency circumvents the systemic problems associated with either flexible or fixed exchange rates, the adoption of a single currency among states has its own set of unique costs. In large part the costs to each participating state are directly associated with the loss of national currency or seigniorage.

Seigniorage, the right to issue legal tender, allows the issuer to collect two types of tax⁸, seigniorage and wealth taxes. When a state issues legal tender, any claim on the state denominated in national currency is by definition a risk free asset. If a government finds no more purchasers for its new loans and its revenues do not cover its expenditure then the state is technically bankrupt. However, when the state can issue currency in which its debt is denominated it can always meet its earlier commitments. In essence it collects a seigniorage tax which can clearly be interpreted as a fiscal instrument (Cohen, 1989, p.200).

The second tax, which can be collected as a result of seigniorage, is a wealth tax. The tax is collected through the devaluation of the stock of nominal debt through inflation. The nominal interest rate is composed of the real interest rate plus the expected rate of inflation. Consequently, if the government can push the inflation rate beyond the expected rate, a tax is levied (Cohen, 1989, p.200). To push the inflation rate beyond that of the expected rate the government must trigger the jump in inflation by "surprise". However, if this action sparks an expectation of further inflation then the benefits are lost. A central bank with a good reputation may be

able to enter a "gaming strategy" successfully and take the economy by surprise⁹.

In addition to these two taxes, the possession of a national currency supplies the state with a third instrument - the exchange rate. The exchange rate can be used as an inflationary (deflationary) tool to the extent that an overvalued (undervalued) exchange rate can be maintained (Artis and Taylor, 1989, p.201). However, with integrated capital markets, this instrument is only available to the extent that capital controls can be used to fragment capital markets and protect against speculative capital flows that would force the depreciation of an overvalued currency if the exchange rate was not fully supported by domestic monetary policies, or the credibility of the deflationary policies followed by the authorities are scrutinized by the foreign exchange and money markets.

Currently the EMS is a system based on fixed exchange rates, although most of its membership hope that the ERM of the EMS will become the nucleus of an European monetary union (EMU) with a single currency¹⁰. As it presently functions, however, the EMS fits to the right of the centre of the continuum presented in Figure 1.

This discussion of flexible and fixed exchange rate and single currency systems has attempted to highlight important differences in the functioning of these monetary systems in order to provide a context for the EMS and help the reader appreciate how the EMS has evolved and the implications of this evolution. While the costs and benefits of each system were highlighted, consideration has not been given to how these are shared or to the problem of asymmetry and "burden of adjustment"¹¹ for

disequilibria within the system. These questions and especially the problem of asymmetry, however, are important and consequently they have been given appreciable weight in the debates concerning the EMS since its inception.

The problem of asymmetry and how it relates to the EMS are directly addressed, but it is preceded by an explanation of the institutional structure of the EMS. The regime was constructed to promote symmetry, although it has not evolved in this manner.

SECTION THREE: INSTITUTIONAL STRUCTURE

The EMS is characterized by two sets of exchange rate parity relationships (Coffey, 1987, p.122) which together comprise the Exchange Rate Mechanism (ERM) of the EMS. The first set of bilateral exchange rate parity relationships is defined by the exchange rates at which the national currencies of EMS participants are traded against each other and the fluctuation band associated with each bilateral central exchange rate parity. The bilateral parity grid, which contains these exchange rates, presented in Table 1 is the focal point of the ERM on a daily operational basis. These rates effectively determine the trading range for all the currencies involved. The manner in which this determined is outlined in the example presented in Table 2.

Table 2 shows the total trading range of the French franc against the Deutschemark. The central rate is 3.35¹² French francs per Deutschemark, and, according to the rules of the ERM, the French franc can trade below or above the Deutschemark by an amount equal to 2.25 per cent of the central rate. Thus the

TABLE 1
ERM PARITY GRID
BILATERAL CENTRAL RATES AND SELLING AND BUYING RATES AS OF SEPTEMBER 14, 1992

	BFR/ LFr	DKr	FFr	DM	£ 1 =	L 1,000 =	FL 100 =	PEsc 100 =	Pta 100 =	£ 1 =
	100 =	100 =	100 =	100 =						
Belgium - Lux S	-	553.000	628.970	2109.50	56.5115	26.2867	1872.15	25.1900	33.6930	64.0650
C	-	540.723	614.977	2062.55	55.2545	25.7018	1830.54	23.7241	31.7316	60.8451
Bfr/Lfr B	-	528.700	601.295	2016.55	2016.55	25.1300	1789.85	22.3435	29.8850	67.3035
Denmark S	18.9143	-	116.320	390.160	10.4511	4.86140	346.240	4.65860	6.23100	11.9479
C	18.4338	-	113.732	381.443	10.2186	4.75325	338.537	4.38747	5.86837	11.2526
DKr B	18.0831	-	111.200	373.000	9.9913	4.64750	331.020	4.13210	5.52600	10.5976
France S	16.6310	89.9250	-	343.050	9.18900	4.27440	304.440	4.09610	5.47850	10.5055
C	16.2608	87.9257	-	335.386	8.98480	4.17932	297.661	3.85772	5.15981	9.89389
Ffr B	15.8990	85.9700	-	327.920	8.75500	4.08630	291.040	3.63200	4.85950	9.318
Germany S	4.94900	26.8100	30.4950	-	27.4000	1.27450	90.7700	1.22100	1.63300	3.13200
C	4.84837	26.2162	39.8146	-	26.7894	1.24612	88.7526	1.15023	1.53847	2.95000
DM B	4.74000	25.6300	29.1500	-	26.1900	1.21850	86.7800	1.08300	1.44900	2.77800
Ireland S	1.85100	10.0087	11.3830	38.1825	-	0.475738	33.8868	0.455895	0.607720	1.16920
C	1.80981	9.7860	11.1299	37.3281	-	0.465154	33.1293	0.429390	0.574281	1.10118
£ B	1.76500	9.5683	10.8825	36.4964	-	0.454806	32.3939	0.404371	0.540858	1.03710
Italy S	3979.30	21517.0	24472.0	82068.0	2198.73	-	72844.0	980.1000	1310.90	2513.64
C	3890.77	21038.3	23927.3	80248.8	2149.82	-	71222.3	923.0480	1234.60	2367.34
L B	3804.20	20570.0	23395.0	78462.0	2101.99	-	69638.0	869.3000	1162.70	2229.56
Netherlands S	5.58700	30.2100	34.3600	115.235	3.08700	1.43600	-	1.37600	1.84050	3.52950
C	5.46286	29.5389	33.5953	112.673	3.01848	1.40405	-	1.29601	1.73345	3.32689
fl B	5.34150	28.8825	32.8475	110.168	2.95100	1.37280	-	1.22100	1.63250	3.13050
Portugal S	447.560	2420.10	2752.40	9233.60	247.299	115.030	8190.00	-	142.020	272.320
C	421.513	2279.22	2592.21	8693.93	232.905	108.337	7715.97	-	133.753	256.470
Esc B	396.980	2146.60	2441.30	8190.00	219.350	102.030	7267.00	-	125.970	241.545
Spain S	334.6190	1809.40	2057.80	6901.70	184.892	86.0000	6125.30	79.3850	-	203.600
C	315.1430	1704.05	1938.06	6500.00	174.131	80.9979	5728.83	74.7648	-	191.750
Pta B	296.8020	1604.90	1825.30	6121.70	163.997	76.2800	5433.10	70.4130	-	180.590
UK S	1.74510	9.43610	10.7320	35.9970	0.964240	0.448240	31.9450	0.414000	0.553740	-
C	1.64352	8.88687	10.1073	33.8984	0.908116	0.422415	30.0853	0.389909	0.521514	-
£ B	1.54790	8.36970	9.5190	31.9280	0.855260	0.397830	28.3340	0.367220	0.491160	-

S = Exchange rate at which the central bank of the country in the left hand column will sell the currency identified in the row at the top of the table; C = Bilateral Central Rate; B = Exchange rate at which the central bank of the country in the left hand column will buy the currency identified in the row at the top of the table.
Source: Financial Times, September 15, 1992, p.2.

TABLE 2
OBLIGATORY BILATERAL INTERVENTION LIMITS FOR
THE BANK OF FRANCE AGAINST THE DEUTSCHEMARK

2.25%	1. upper trading limit margin FF/DM = 3.43
	2. central rate FF/DM = 3.35
2.25 %	3. bottom trading limit FF/DM = 3.43

Note: the maximum possible band of fluctuation is 4.25 per cent; however, this could only occur if as the FF depreciated it did not reach its upper trading limit against any other currency before it reached its upper limit against the Deutschemark.

Source: Bank of England Quarterly Bulletin, November 1990, p.479.

official trading range of the French franc against the DM is 4.50 per cent. The French franc has a similarly defined bilateral rate with every other currency participating in the ERM. Therefore, in order for the French franc to reach its upper trading limit against the Deutschmark the franc must not have reached its upper limit against any other currency. By implication the French franc would be the weakest currency and the Deutschmark the strongest currency within the ERM.

Such a relationship is best illustrated by the example provided in Table 3. To understand Table 3 it is important to appreciate the relationship between any three exchange rate parities such as that between the Deutschmark, the French franc and the Irish punt. Given a I£/DM rate and a Ffr/DM rate the Ffr/I£ will already be determined such that the following equality should hold¹³:

$$I£/DM \times Ffr/I£ = Ffr/DM$$

As already indicated within the ERM this relationship is further complicated by the fact that the total movement of all three rates is restricted by the agreed upon upper and lower trading limits of each exchange rate parity. Thus the effective upper or lower Ffr/DM rate is determined by the position of the I£/DM and the Ffr/I£ in their respective trading bands.

As summarized in Table 3 given a I£/DM rate of .38125 (.36494) the effective lower (upper) trading rate of the Ffr/DM is 3.33. If the Ffr/DM rate was below (above) this rate the I£/DM would hit a rate below (above) its lower (upper) trading limit. Thus, "the scope for appreciation is limited by the weakest currency in the

TABLE 3
THE RELATIONSHIP BETWEEN BILATERAL RATES

If the Irish Punt in trading has hit its upper trading limit against the DM .364, the effective lower trading limit of the French franc is 3.336, because at that rate the Irish punt hits its lower trading limit against the French franc.

$$\begin{array}{rcl} \text{I£/DM} \times & \text{Ffr/I£} & = \text{Ffr/DM} \\ 0.38125 & 8.75 & 3.3359375 \text{ (Ffr/DM effective lower trading limit)} \end{array}$$

Now if the Ffr/DM rate reached 3.29 the effective Ffr/I£ would be 8.73 which is below the French franc's lower trading limit against punt.

$$\begin{array}{rcl} \text{I£/DM} \times & \text{Ffr/I£} & = \text{Ffr/DM} \\ 0.38125 & 8.73180328 & 3.329 \end{array}$$

If the Irish Punt in trading has hit its lower trading limit against the DM .364, the effective upper trading limit of the French franc is 3.354 because at the rate the Irish punts hits its upper trading limit against the DM.

$$\begin{array}{rcl} \text{I£/DM} \times & \text{Ffr/I£} & = \text{Ffr/DM} \\ 0.364964 & 9.189 & 3.3536542 \text{ (Ffr/DM effective upper trading limit)} \end{array}$$

Now if the Ffr/DM rate reached 3.36 the Ffr/I£ rate would be 8.73 which is above the French franc's upper trading limit against the Irish punt.

$$\begin{array}{rcl} \text{I£/DM} \times & \text{Ffr/I£} & = \text{Ffr/DM} \\ 0.364964 & 9.20638748 & 3.36 \end{array}$$

Note: all rates defined as an upper or lower rate can be found in Table 1 in shaded boxes.
The effective upper and lower rates are calculated rates.

band, while the potential for depreciation is limited by the strongest" (Bank of England, November 1990, p.480).

When any two currencies reach their upper or lower trading limits (known as their obligatory intervention rates) "then the central banks involved are obliged to meet all bids/offers made to them at the relevant time...which might necessitate a central bank selling a currency not held in its foreign exchange or in an amount which exceeds its current holdings" (Bank of England, November 1990, p.480). Such an intervention is referred to as an obligatory intervention or an intervention at the margin. A central bank intervening at the margin has the right to draw upon the Very Short Term Financing Facility (VSTF) which is administered by the European Monetary Co-operation Fund (EMCF). Access to VSTF financing is automatic and the amount of credit available to the intervening bank is unlimited.

In terms of the above example, if the French franc weakened sufficiently, reaching its upper trading limit against the Deutschmark, the Bank of France would then be required to support its currency by selling Deutschmarks. (This would increase the supply of Deutschmarks and create a downward pressure on the price of the Deutschmark). If the Bank of France lacked the required Deutschmarks it would have unlimited and automatic access to VSTF¹⁴. This, in turn, would have an expansionary effect on the German money supply¹⁵ and a contractionary effect on the French money supply and would encourage changes in interest rate differentials in both countries which would increase the effectiveness of the interventions¹⁶.

The second band set of exchange rate relationships is not a nation-to-nation currency grid. Instead it is a set of ECU-to-nation currency relationships. The central rates, as of October 1990, are shown in Table 4. As already discussed in the introduction the ECU is a composite currency made up of specified amounts of national currencies of the European Economic Community (EEC) members as shown in Table 5. The amounts of the component currencies broadly reflect each member's relative economic weight (Bank of England, November 1990, p.480)¹⁷.

A central feature of the second band of fluctuation is the divergence indicator. The divergence indicator was to have provided a second method of identifying those currencies which were relatively weak or strong by comparing each ERM currency's market rate against the ECU with the currency's central rate against the ECU. The percentage difference between the market and central ECU rate is expressed as a proportion of its Maximum Divergence Spread (MDS). The MDS is the maximum by which a currency's market ECU exchange rate can diverge from its ECU central rate. If "a currency's divergence indicators reaches 75 %[sic] of its maximum divergence ('the divergence threshold') there is a presumption that 'appropriate' action will be taken to contain or reduce the divergence" (Bank of England, November 1990, p.481). Because the ECU is a composite currency it provides a comparison of a national currency against the average of EMS currencies, and is thus appropriate to use as the basis of the divergence indicator (Bank of England, November 1990, p.481).

The use of the ECU in the divergence indicator also reflects the fact that the

TABLE 4
Central Rates of EMS Currencies

Currency	Units of National Currency/ECU
Belgian franc	42.4031
French franc	7.84195
Lira	6.89509
Dutch Guilder	0.767417
Deutsche mark	1538.24
Danish Krone	2.31643
Irish punt	133.631
Peseta	0.696904
Drachma	133.631
Sterling	0.696904
Escudo	178.735

Source: Bank of England Quarterly Bulletin, November 1990, p.481.

TABLE 5
Composition of the ECU

Currency	Amounts(i)	Weight(ii)
Belgian franc	3.341	8.1
French franc	1.332	19.3
Lira	151.8	9.8
Dutch Guilder	0.2198	9.4
Deutschemark	0.6242	30.2
Danish Krone	0.1976	2.5
Irish punt	0.008552	1.1
Peseta	6.885	5.3
Drachma	1.44	0.7
Sterling	0.08784	12.8
Escudo	1.04741	<u>0.8</u>
		100

(i) Amounts as of September 1989

(ii) Weights based on exchange rates as of October 12, 1989

Source: Bank of England Quarterly Bulletin, November 1990, p.481.

ECU was originally intended to be the numeraire of the EMS and the second band of operation, based on the national exchange rates defined in terms of the ECU, to have been the focus of the system. This focus of the system was to support internal symmetry (within the system); however, over time, the first band, based on the exchange rates at which each national currency is traded against each other, has become the most important of the two bands, with the Deutschmark having the central role of numeraire, as the countries participating in the ERM began to target their exchange rates in terms of the Deutsche mark (Bank of England, February 1991, p.74).

Given the central role of Germany and its currency, within the EMS, the following analysis examines the role of Germany's monetary policy and the Deutschmark in terms of the problem of asymmetry. The analysis emphasizes the importance of the issue of asymmetry and the manner in which it has affected the debate concerning the system's evolution.

SECTION FOUR: THE QUESTION OF ASYMMETRY AND THE OPERATION OF THE EMS

The question of asymmetry relates directly to the $n-1$ problem. As identified by Mundell (1969)¹⁸, in a world of n countries, $n-1$ adjustment mechanisms are required to achieve world equilibrium. The n th instrument is, therefore, extra and can be allocated to a system wide target such as the price level. In the case of exchange rates, in particular, Mundell identifies the $n-1$ problem as follows:

If there are n currencies there are only $n-1$ exchange rates and whether there is a choice of adjustment policies is a question of whether surplus countries

appreciate or deficit countries depreciate. If there is no outside money reserve unit such as gold it makes no substantive difference what happens to the weighted index of par values since a uniform change in par values would have only an accounting significance. But if currencies are directly or indirectly tied to gold or domestic money supplies, appreciation of currencies of surplus countries will lower the currency value of gold reserves and thus exert a deflationary force in the world as a whole, whereas devaluation of the currencies of deficit countries, through an increase in the price of gold expressed in those currencies can exert an inflationary influence (Mundell, 1969, p.30).

As indicated by Mundell, with the requirement that only $n-1$ exchange rates need be defined, not only is there an extra instrument which can be used as the nominal anchor, but a nominal anchor is required to determine absolute prices. There are two competing hypotheses concerning how fixed exchange rate systems operate, either symmetrically or asymmetrically, and the manner in which the nominal anchor is determined.

If a fixed exchange rate functions symmetrically then "every country is concerned with accommodating reserve flows in order to maintain exchange rate parities" (Giovannini, 1989, p.13). According to this hypothesis, "the nominal anchor is provided by an external numeraire like gold, or is agreed upon by member countries through a process of international cooperation" (Giovannini, 1989, p.14). However, if a fixed exchange rate system is inherently asymmetric, it is "characterized by a centre country which provides the nominal anchor for the others, either by managing the gold parity in a centralized fashion, or by arbitrarily setting some other nominal anchor" (Giovannini, 1989, p.14). Unlike the symmetric case, in the asymmetric case not everyone is concerned with accommodating flows of foreign exchange reserves. In the asymmetric case the centre country targets its domestic

interest rate, while the other participants minimize the fluctuation of their foreign exchange reserves and give up control of their domestic interest rate targets (Giovannini, 1989, p. 24). In other words, with $n-1$ exchange rates only $n-1$ interest rate differentials are required to stabilise them. This leaves the n th interest rate which then can be used to stabilise aggregate demand of the system as a whole (Russo and Tullio, 1989, p.329).

It is widely accepted that the EMS functions asymmetrically with Germany as the centre country and all other participants as peripheral players. The German central bank, the Deutsche Bundesbank, determines prices through monetary policy, while the burden of adjustment falls upon the other participants which must attempt to stabilise their respective exchange rates vis-a-vis the Deutschemark. Figures 2 to 4 reflect the position of the Deutschemark¹⁹.

Figure 2 indicates that short-term money market rates are higher in other ERM countries, while Figures 3 and 4 indicate that the Deutschemark is the strongest currency in terms of its relative purchasing power. It can be argued that a lower rate has to be offered on Deutschemark money-market instruments because of the confidence of the market that the Deutschemark will not be devalued since it, or more specifically the anti-inflationary policies of the Deutsche Bundesbank, anchors the system.

Direct evidence supporting the characterization of the EMS as an asymmetric system, with Germany as the inflation leader targeting nominal interest rates and other ERM countries targeting foreign exchange reserves has been provided by Mastropasqua et

FIGURE 2
INTEREST DIFFERENTIALS IN SHORT TERM INTERESTS RATES
ERM VERSUS DM DENOMINATED DEPOSITS
BASED ON SHORT TERM MONEY MARKET RATES

Monthly data for calculations extracted from
International Financial Statistics, various years, line 60B.

FIGURE 3
EMS CURRENCIES AGAINST THE U.S. DOLLAR

Monthly data for calculations extracted from International
Financial Statistics, various years, line RF; for the UK & Ireland RH.

FIGURE 4
EMS CURRENCIES
AGAINST THE DEUTSCHEMARK

Monthly data for calculations extracted from
International Financial Statistics, line RF; for the
 UK and Ireland line RH.

al. (1989). Their work indicates that not only does Germany play a minor role in interventions involving ERM currencies but that changes in German foreign exchange reserves are fully sterilized²⁰, indicating that Germany, over the period examined by Mastropasqua et al. (March 1979 to June 87), insulated its monetary policy, whereas other ERM countries participate in intramarginal interventions and do not sterilize movements in foreign exchange reserves.

German sterilization of changes in foreign exchange reserves indicates that over the period considered by Mastropasqua et al. Germany insulated its domestic monetary policy from the other EMS countries, while non-sterilization of inflows of capital by other members indicates some abandonment of sovereignty over domestic monetary policy. This supports the case that interest rates are instruments and foreign reserve flows are targets of monetary policy for other (secondary) EMS participants, whereas in Germany interest rates are instruments of monetary policy and domestic price stability is the target of monetary policy.

As outlined by the Bank of England's literature review of the ERM of the EMS (1991), there are two points of view regarding asymmetry in the EMS. The first view is that the evolution of the EMS as an asymmetric system has been intentional "in the sense that it has emerged as a result of policy preferences of participating States" (Bank of England, February 1991, p.74). Giavazzi and Pagano (1988) argue this in terms of the "advantages of tying one's hand", or the benefits rendered to peripheral states by 'tying' their policies to those of Germany. Giavazzi and Pagano (1988, pp.1055-1056) note that countries within the EMS with above average inflation

are less competitive compared to low inflation countries owing to the appreciation of the real exchange rate of the high inflation countries, such as Italy and Denmark, relative to the low inflation countries, such as Germany. The authors attribute the foregoing to the following two factors:

First, between successive realignments, excess inflation (combining with the fixity of the nominal exchange rate) results in a one-for-one appreciation of the real exchange rate. Second, at realignment dates, excess inflation countries obtain devaluations which are generally insufficient to make up for the real appreciation experienced since the previous realignment (Giavazzi and Pagano, 1988, p.1055-1056)²¹.

Researchers such as Fischer (1987) argue that the EMS allows high inflation countries to purchase a commitment to Germany's low inflation policy. The purchase of such a commitment increases the transparency of monetary policy and "hence the credibility, to achieve policy objective more effectively and efficiently" (Swinburne and Castello-Branco, 1991, p.1). According to this view, high inflation countries can do one of the following: i) use inflation surprises to stimulate output and employment; or, ii) use inflation, whether unanticipated or not, to earn a wealth tax.

These policy choices relate directly to the "time-inconsistency problem" (Kydland and Prescott, 1977) which refers to the fact that a policy maker may have two goals, control over inflation and over employment/output. In one time period the authorities may wish to adopt an anti-inflationary monetary policy, but because of the need to create employment the same authorities may have an incentive to create inflation surprises and thereby create a short-term increase in output and employment. If the time inconsistency problem is recognized by the private sector and the policy maker cannot make a credible pre-commitment, then controlling

inflation becomes problematic. A method of dealing with this problem is to modify the institutional arrangements affecting the central bank (Swinburne and Castello-Branco, 1991). One such arrangement is to fix the exchange rate to a low inflation country thereby transferring the credibility problem to a central bank, such as the Bundesbank, which has already established a solid reputation. Without membership in such a regime each central bank's credibility would take longer to develop and would probably be done at a higher cost to the individual country.

If asymmetry is voluntary, then the argument of the credible banker provides a convincing explanation of why inflation rates and interest rates among ERM members have converged. The argument also indicates why it has been in the system's interest for the Bundesbank to resist interventions in the foreign exchange markets in support of ERM exchange rate parities as this would affect the German money supply and thus the inflation rate of the system's credible banker.

Another institutional arrangement outlined by Swinburne and Castello-Branco (1991) that ensures central bank credibility is to grant central bank independence by statute and to narrowly define the central bank's objectives to ensure that a single policy instrument, monetary policy, is assigned to a single target, the inflation rate (1991, pp.24-25). This understanding of central bank independence and the motivations for it, however, should not be confused with other areas of financial regulation including the external price of a currency. Table 6 outlines where the central banks considered in this thesis have independence and indicates that, with the exception of the Deutsche Bundesbank, central bank independence is lacking.

TABLE 6
CENTRAL BANK INDEPENDENCE

QUESTION	ANSWER
1. IS THE CENTRAL BANK THE CHIEF EXECUTANT IN THE MONETARY FIELD OF CURRENT ECONOMIC POLICY?	Yes for all countries surveyed. But for some countries certain functions are shared with other institutions. One of these is Germany whereby the regulation of capital inflows is shared with government.
2. DOES THE CENTRAL BANK HAVE A STATUTORY DUTY TO PURSUE CERTAIN STATED ECONOMIC OBJECTIVES?	
Where there are no statutory obligations	Italy
Countries where the central bank has a general statutory duty to promote the welfare of the country or the government's policy	Germany
Countries where specific goals are set for central banks by statute:	
(i) Maintaining domestic value of the currency	Denmark, Germany, Netherlands, USA
(ii) Controlling external value of the currency	Denmark, Netherlands and Switzerland
(iii) Control of credit expansion	Denmark, France
(iv) Supervision of Banking System	France, Germany, Netherlands, USA
(v) other	Germany and Netherlands: facilitation of money transmission
3. ARE THE CENTRAL BANK'S ACTIONS IN PURSUING THESE OBJECTIVES SUBJECT TO REFERENCE TO OR APPROVAL BY ANY BRANCH OF GOVERNMENT?	
Countries where the central bank must keep government informed of its policies	USA: the Fed must report twice a year to Congress on its policies—not to the President or the Executive; in practice it is in continuous contact with all policy making bodies of the government.
Countries where the central bank is subject to general directions of government	France: Ministry of the Economy through the Treasury Directorate dictates even day-to-day conduct of monetary policy. Italy: Supervised by Treasury any monetary policies must be approved by the Committee for Credit and Savings (CCS) to which central bank is subordinate. UK: subject to direction of Treasury, in practice decisions reached jointly.
Countries where the central bank is largely independent of government in the pursuit of its statutory duties	Germany: Bundesbank is independent of Federal Government in determining discount, credit, open-market and minimum reserve policies. Federal Government may ask for decisions to be deferred for up to two weeks.

TABLE 6

4. IF THE CENTRAL BANK IS INDEPENDENT IN ANY IMPORTANT RESPECT IS IT ABLE TO PURSUE OBJECTIVES THAT CONFLICT WITH THOSE OF THE GOVERNMENT? DOES IT DO SO? IF SO, HOW IS THE CONFLICT RESOLVED

Germany: the Bundesbank's obligation to support the government's general economic policy is limited by the proviso that it has its own duties to discharge in safeguarding the currency. Conflicts have occurred but these have not been major or prolonged and are kept to a minimum by the division of roles – the government being responsible and the Bundesbank for monetary policy. Although the government has has temporary blocking power in Bundes – bank decisions this has only been used on a few occasions.

Countries where such a situation is unlikely to arise:

(i) Because the government has complete authority over the central bank

Denmark, France, Italy and Belgium and UK. re Belgium: Although forbidden to pursue targets conflicting with general objectives of government, in practice National Bank is largely independent e.g. in 1978 it reduced its financing of the government and thus forced it to finance its budget deficit by borrowing abroad. re UK: Although general policy is subject to Treasury approval a measure of independence is maintained and disagreement with government policies has occasionally been published.

(ii) Because the central bank is independent of Government

USA: Although formally independent of government, the Chairman of the Board of Governors represents the Federal Reserve in discussions with the government; possible policy conflicts are discussed in various forums that typically include the Secretary of the Treasury, Chairman of the Council of Economic Advisors and the Director of the Office of Management and Budget.

5. POWERS OF GOVERNOR AND DIRECTORS: TERMS OF OFFICE, INTERESTS REPRESENTED, METHODS OF REACHING DECISIONS

Belgium: Governor is appointed by the King (the government) for five year he/she may be suspended for up to three months during this period or dismissed). He/she may be re-appointed.

Denmark: Governor appointed by the Sovereign (government) remains in office until 70 years of age.

France: Governor appointed by President in consultation with the Cabinet, for an indefinite period and may be dismissed by the President.

Germany: Governor appointed for a term eight years by the President on nomination by federal government, which in turn consults Central Bank Council.

TABLE 6

	<p>Italy: Governor appointed by Board of Directors (not necessarily from among their number) subject to approval of Council of Ministers and President of the Republic, for an indefinite term.</p> <p>UK: Governor appointed by the Crown (i.e. government) for five years. The Governor may be re-appointed.</p> <p>USA: The seven members of the Federal Reserve Board are appointed by the President, with the approval of the Senate, for fixed terms of 14 years, non-renewable.</p>
6. IS THERE AN INTER-CHANGE OF STAFF OR LIASON BETWEEN THE STAFFS OF THE CENTRAL BANKS AND THE TREASURY/MINISTRY OF FINANCE?	
Countries where this takes place	<p>France: Little liason occurs, but it has become established that one of two Vice-Governors will be appointed from the Treasury.</p> <p>Italy: Central bank staff are frequently loaned to government departments, as well as taking personnel from them on secondment.</p> <p>USA: There is some interchange of staff between the central bank and the US Treasury. In addition there are umerous committees that provide formal liason between the two organisations.</p>
Countries where contact is limited	<p>Belgium, Denmark, Spain</p> <p>Germany: no formal liason or interchange of staff; however, members of the two institutions work closely together in national and international bodies such as the IMF.</p>
7. IS THE CENTRAL BANK OR ITS GOVERNOR MADE ACCOUNTABLE TO PARLIAMENT? IN WHAT WAY?	
Countries where central bank is directly accountable to Parliament	<p>USA: The Fed. Chairman is required to report twice a year to both Houses of Congress on the goals and conduct of monetary policy.</p>
Countries where the Governor reports to Parliament largely for purposes of information	<p>Italy: Governor can be examined by Parliament for the purpose of information.</p> <p>Denmark: The annual report is published and presented to Parliament, although this is not a requirement.</p> <p>Germany: The Bundesbank is independent of Parliament and it publishes an annual report.</p>

TABLE 6

Countries where the Minister of Finance is directly responsible for the central bank's conduct of monetary policy.

Belgium: Minister of Finance, who has the right to control all the Bank's operations, is subject to examination by Parliament.

France: Bank's policy is examined, criticised and approved by Parliament through the Minister of the Economy. Exceptionally, the Governor may be questioned by Parliament. An annual report is submitted to the President of the Republic and its accounts are controlled by the Public Corporation's Audit Commission.

8.WHO OWNS THE STOCK OF THE CENTRAL BANK

Countries where the stock is 100 per cent owned by the state

France, Germany, Netherlands, Denmark

Countries where the state holds only part of the stock

Belgium

Other

Italy: shares can only be held by "public law" banks, national interest banks, social security institutions, savings banks and insurance institutions.

Source: 1980 Report of the Wilson Committee in the United Kingdom.
Appendix "Relations between Government and Central Bank: A Survey of Twenty Countries," London:HMSO, June 1980.

While the Deutsche Bundesbank is one of the most independent of central banks, as summarized in Table 6, its independence is in one specific area: domestic price stability. This independence is tempered by the fact that the Bundesbank has no statutory responsibility in regard to controlling the exchange rate and that it has an obligation to support the government's general economic policy. Policy support, however, is "expressly linked to the condition that this does not create insoluble conflicts with the primary task to be performed by monetary policy" (Deutsche Bundesbank, 1989, p.9). If external purchasing power stability is to be attained, a revaluation of the Deutschmark is required when there is greater inflationary pressure abroad and as a consequence, "the Bundesbank's stabilisation policy is therefore dependent on the parity changes, and thus on the cooperation of the Federal Government" (Deutsche Bundesbank, 1989, pp.11-13).

The argument that fixed exchange rate systems such as the EMS are systemically asymmetric with an deflationary bias has been argued by Wyplosz (1989). Wyplosz investigated the view²² "that a fixed exchange rate regime exerts more pressure on high inflation than on low inflation countries because the former see their exchange reserves fall" (1989, p.312) and found that "barring size considerations, a fixed exchange rate regime may give more than proportional weight to the policy preferences of its most restrictive members" (Wyplosz, 1989, p.319). Countries with the most restrictive monetary policy will attract foreign capital and thus experience an increase in their foreign exchange reserves, while countries with an inflationary bias have less restrictive monetary policies and lose foreign exchange reserves in an

effort to maintain the exchange rate. Because the stock of reserves is finite the high inflation country will be forced to tighten its monetary policy to maintain the exchange rate while the low inflation country is insulated from such a policy adjustment (Bank of England, February 1991, p.74).

Given that a country's supply of foreign exchange reserves is finite, the burden of adjustment will fall more often on the country with the expansionary policy, weaker currency and falling foreign exchange reserves than the country with a restrictive policy, stronger currency and increasing foreign exchange reserves.

It is in this manner that, in the case of fixed exchange rates, the country with a weak currency is faced with adopting a more restrictive policy if the exchange rate is to be maintained. If a more restrictive policy is not adopted, the country will eventually deplete its foreign exchange reserves as it attempts to defend its exchange rate on world markets.

To some extent both explanations (the intentional versus the unintentional) provide some insight into the asymmetry of the EMS. Each may provide a better explanation of the system's asymmetry as it emerged over different periods of the EMS's life. In addition, apart from Germany, the motives of the ERM's membership for participating in the ERM of the EMS may have differed widely or the motives, while broadly consistent, may have been weighed differently.

SECTION FIVE: THE REGIME AND ITS EVOLUTION

In the following discussion the evolution of the EMS from March 1979 to October 1990 is bench-marked through the identification of turning points in the

regime's evolution and periods characterized by particular attitudes of its membership or forms of operation. Since this discussion provides a framework for the testing of the theoretical approaches in Chapter Four, which implicitly assumes that the EMS is a regime as understood in the regime literature, it must first be established that the EMS:

can be defined as sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectation converge in a given issue area of international relation. Principles are beliefs of fact, causation, and rectitude. Norms are standards of behaviour defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice (Krasner, 1983, p.2).

These principles, norms, rules and decision-making procedures are identifiable in the case of the EMS. The basic principles of the regime are that an EEC customs union and further European integration requires stable exchange rates. Such an exchange rate system also contributes to strengthening the role of the EEC in international monetary relations (Deutsche Bundesbank, Monthly Report, March 1979). The norm of the regime is that participating countries pursue policies conducive to stability (Deutsche Bundesbank, Monthly Report, March 1979). The rules of the regime in the exchange rate parities of the ERM are to be maintained and that the "ECU was to be the numeraire for rates, indicator of exchange rate divergences, dominator of claims and liabilities in the EMS, and means of settlement and reserve asset of the Community central banks" (Deutsche Bundesbank, Monthly Report, 1979, p.12). The decision-making procedures include how, what type and when interventions are to be made to defend the agreed upon exchange rate

relationships. In particular, the rules that determine which central bank buys and which central bank sells when a currency reaches its upper or lower trading limit against another currency are examples of these procedures.

The acceptance of the EMS as a regime means that the regime can be used as a case for the testing of the competing approaches and theories considered in this thesis. This testing, however, also requires that the evolution of the regime can be bench-marked in some manner. As already outlined in Chapter Two the method chosen is operational form which is concerned with the changing nature of the regime's operation and the response of its participants.

As discussed the EMS was originally structured as a symmetric system, but over time it has become increasingly asymmetric and the attitudes and reactions of its membership towards the EMS changed concurrently. This changing asymmetry and the acquiescence of its members to German leadership²³ provide identifiable changes in the regime's operation and are thus used in the bench-marking of the regime's evolution up to October 1990. The bench-marking process involves defining, in broad terms, three discernable periods in the regime's evolution and those turning points, which define each period, that involve either a change in the regime's operation or a change in the attitude or response of the regime's members.

To expedite the bench-marking process of the regime's evolution, Table 7, containing an outline of those events affecting the development of the EMS between 1979 and 1990, has been developed. Table 8, which contains a summary of key economic data, has also been included to provide an indication of the changes in the

TABLE 7
OUTLINE OF THE REGIME'S LIFE

PERIOD	KEY EVENTS
PERIOD ONE	<p>March 13, 1979: The EMS comes into being with the signing of an agreement between EEC central banks. Every EEC member at that time, except the UK agrees to participate in the ERM.</p> <p>May 10, 1981: The election of Mitterand which was then followed by three of four realignments within the ERM involving the French franc.</p> <p>March 1983: the last realignment involving the French franc and the beginning of a shift in French policy.</p>
PERIOD TWO	<p>September 1985: the Plaza Agreement. With this agreement the Group of Five announced the desirability of an orderly depreciation of the US dollar against main non-dollar currencies.</p> <p>February 1986: The signing of the Single European Act, amending the treaties establishing the European Communities. The main objective of the act is to complete the EEC's internal market; it became effective in July of 1987.</p> <p>February 1987: the signing of the Louvre Accord by the finance ministers and central bank governors whereby they agreed that exchange rate changes over the previous year had brought exchange into ranges which were in line with economic fundamentals. In addition, they expressed their determination to cooperate more fully to foster exchange rate stability.</p>
PERIOD THREE	<p>September 1987: The signing of the Basle/Nyborg agreement. The agreement contained measures liberalizing the use of intramarginal interventions.</p> <p>January/February, 1988: Minister Ballador, France, Minister Amato, Italy, and Genscher, Germany all call for the strengthening of the EMS and the establishment of an European central bank.</p> <p>June 13, 1988: Council of Ministers adopts a directive stipulating the complete liberalization of capital movements within the Community by July 1990.</p> <p>June 27-28, 1988: European Council establishes a committee of central bank governors and other experts to study/propose concrete stages toward economic and monetary union. The committee was scheduled to report to the EEC leaders at the June 1989 Madrid summit and is chaired by Jacques Delors.</p> <p>April 17, 1989: the Delors Committee submits its final report on economic and monetary union.</p> <p>June 19, 1989: Spain joins the ERM with a 6 per cent fluctuation band.</p> <p>June 26-27, 1989: At a meeting in Madrid the European Council adopts the first stage of the Delors Report as of July 1, 1990 and the UK makes a counter-proposal to the Delors report.</p> <p>December 8-9, 1989: In Strasbourg the European council formally agrees on convening an Intergovernmental Conference (IGC) on the EMU in December 1990 so as to prepare the institutional changes for stages two and three of the Delors Committee.</p> <p>January 1, 1990: End of capital controls in France.</p> <p>January 8, 1990: Italy adopts narrow margins within the ERM, together with a modest devaluation of the central rate of the lira.</p> <p>May 14, 1990: Italy abolishes remaining restrictions on capital movements.</p> <p>June 1990: Belgian Government decides to tie the value of the Belgian franc to the Deutschmark.</p> <p>July 1, 1990: In accordance with the suggestions of the Delors Report concerning the beginning of stage one, EEC member states comply with the directive stipulating the removal of capital controls.</p> <p>October 8, 1990: The UK enters the pound sterling in the ERM adopting a margin of 6%.</p> <p>October 27-28, 1990: All EC countries, except to the UK agree to start the second stage of necessary for EMU on January 1, 1994, and establish a new monetary institution at that point.</p> <p>December 14, 1990: IGC conferences on monetary and political union begin.</p>

Source: Ungerer et al., 1990, pp. 91-95.

TABLE 8
ECONOMIC DATA

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Inflation (annual % change, CPI)														
Belgium	7.8	4.5	4.5	6.7	7.6	8.7	7.7	6.3	4.9	1.3	1.5	1.2	3.1	3.4
France	9.4	9.1	10.8	13.3	13.4	11.8	9.6	7.4	5.8	2.5	3.3	2.7	3.5	3.4
Germany	3.7	2.7	4.1	5.4	6.3	5.3	3.3	2.4	2.1	-0.1	0.2	1.3	2.8	2.7
Italy	18.5	12.0	14.8	21.3	19.5	16.5	14.6	10.8	9.2	5.9	4.7	5.0	6.3	6.5
Annual Increase in labour costs (%)														
Belgium	9.1	7.1	7.6	9.3	10.1	6.3	4.3	4.9	3.6	2.8	1.9	0.8	5.7	4.3
France	14.3	14.2	15.3	16.1	14.3	20.3	12.7	8.5	6.0	4.5	5.2	3.1	4.7	1.5
Germany	7.1	5.2	5.9	6.6	5.5	4.7	3.3	2.3	3.8	3.5	4.0	4.2	3.9	5.2
Italy	27.4	16.5	19.3	21.9	23.9	17.6	14.9	11.2	11.1	4.8	6.5	6.1	6.0	7.3
Annual growth in real GNP/GDP (%)														
Belgium	0.3	2.8	1.7	3.7	-0.9	0.8	0.4	2.3	0.6	2.0	2.6	4.5	4.0	NA
France	0.9	3.3	3.2	1.6	1.2	2.5	0.7	1.3	1.9	2.5	2.2	3.8	3.7	2.8
Germany	3.7	4.1	4.0	5.2	3.9	4.5	3.4	2.2	2.4	3.2	2.1	1.6	2.6	3.5
Italy	3.7	3.7	6.0	5.3	0.6	0.2	1.0	2.7	2.6	2.9	3.1	4.1	3.0	2.0
Money supply growth (Year end, annual % change, M2/M3)														
Belgium	10.3	10.2	8.2	6.5	10.0	7.5	7.1	6.2	6.7	10.7	9.9	6.6	11.0	NA
France	14.2	12.4	14	9.7	11.0	11.4	11.5	9.5	6.8	6.3	7.3	7.3	7.9	NA
Germany	11.2	11	6	6.0	6.2	5.0	7.1	5.3	4.7	5.0	6.6	5.9	5.5	NA
Italy	21.7	22.6	20.8	12.7	10.0	18.0	12.3	12.1	11.1	9.4	8.4	8.5	10.8	NA
Unemployment (% of civilian labour force)														
Belgium	6.3	6.8	7.0	7.4	9.5	11.2	12.5	12.5	11.6	11.6	11.4	10.0	8.5	7.8
France	4.9	5.1	5.8	6.2	7.3	8.0	8.2	9.8	10.2	10.3	10.4	9.9	9.4	8.9
Germany	3.2	3.1	2.7	2.7	3.9	5.6	6.9	7.1	7.1	6.3	6.2	6.1	5.5	6.0
Italy	6.7	6.7	7.2	7.1	7.4	8.0	8.8	9.5	9.4	10.4	10.2	10.8	10.8	10.2
Lending (+)/Borrowing (-) (% of gdp, market prices)														
Belgium	-5.6	-6.1	-7.3	-9.2	-12.8	-11.0	-11.3	-9.0	-8.5	-9.1	-7.1	-6.6	-6.6	-5.8
France	-0.8	-2.1	-0.8	0.0	-1.9	-2.8	-3.1	-2.8	-2.9	-2.8	-1.9	-1.7	-1.5	-1.2
Germany	-2.4	-2.4	-2.6	-2.9	-3.7	-3.3	-2.5	-1.9	-1.1	-1.3	-1.9	-2.1	0.2	-3.2
Italy	-7.0	-8.5	-8.3	-8.6	-11.4	-11.3	-10.6	-11.6	-12.5	-11.7	-11.1	-10.9	-10.2	-10.1
Net exports (X-M) of goods and services (% of GDP, market prices)														
Belgium	-0.6	-0.7	-1.8	-2.5	-1.7	-1.0	1.8	1.7	2.6	4.0	3.2	3.3	3.0	2.2
France	0.1	1.3	0.6	-1.2	-0.9	-1.9	-0.1	0.6	0.7	1.1	0.2	0.1	0.5	0.2
Germany	2.3	2.5	0.5	-0.5	0.8	2.4	1.9	2.3	3.6	5.3	5.1	5.1	5.2	6.0
Italy	1.0	2.2	1.1	-2.7	-2.0	-1.0	0.7	-0.3	-0.4	1.5	0.7	0.3	0.3	0.4

Data notes: 1) IFS Yearbook, 1991; line 64 for CPI, line 65 and 65ey (Italy) for labour costs; and line 99ap (Belgium), 99br (France & Italy) for gdp & np 1) European Economy, Annual Economic Report No. 46, Dec 1990 for unemployment see Table 3; for money supply Table 46 (M2N Belgium, M2R France, M3 Germany, M2N Italy); For net exports Tables 35 & 39; general borrowings Table 56.

economies of key participants in the ERM over the life of the regime. The countries of focus are Germany, the leader; Belgium that pegs its exchange rate closely to that of the leader but is of such a small size that it can not independently affect regime change; and France and Italy which are two large countries with heterogenous structures²⁴. Figure 5 illustrates this relationship further with the use of a framework similar to one employed by Lake (1983). For an explanation of this framework see Appendix Two.

The three discernable periods in the regime's evolution are as follows:

(i) March 1979 to March 1983

The event delineating the beginning of this period is the operation of the regime as an institution. Its operation, however, up to the end of the period was characterized by the unwillingness of all of its participants to recognize the limitations which participation in the ERM of the EMS placed upon their policy alternatives. The use of March 1979 to demarcate the commencement of the regime is not meant to overlook the fact that the EMS has roots that reach back to European aspirations for economic integration that existed, in its most modern terms, since the end of World War II. Thus any discussion of the EMS and its operation needs first to be put in the context of the wider quest for European political and economic integration.

The principles for monetary cooperation were established by the Treaty of Rome which provided for consultative machinery which included a monetary committee to enable the EEC Commission and members of the Community in

FIGURE 5
ANNUAL SHARE OF GDP
VERSUS ANNUAL INFLATION

Share of GDP is defined as each country's annual GDP as a share of the sum of GDP for the four countries considered

Data for calculations extracted from the International Financial Statistics, various years, lines 99B and 64

general "to discuss and coordinate their policies and activities in respect of international monetary questions" (Tew, 1992, p.193). More formally, however, the seeds for the EMS were first sown with the break down of Bretton Woods²⁵ in the face of European attempts to economically integrate. In 1969, at a meeting of EEC principal ministers, a demand for the establishment of an economic and monetary union was made (Coffey, 1987, p.6). This demand was based on a report commissioned a year earlier upon the completion of the EEC customs union in July of 1968. This involved the removal of all intra-Community trade barriers and the establishment of a common tariff against all non-EEC countries. As a consequence of this meeting, a Committee was formed by Pierre Werner, then Prime Minister of Luxembourg, which resulted in the Werner Report of October 1970 which laid out a program for the creation of an economic and monetary union by 1980 (Ungerer et al, 1990, p.92). Although the objectives of the Werner Report²⁶ were not realized, the first stage for monetary union became the blueprint for the exchange rate arrangement called the Snake²⁷ (Coffey, 1987, p.12). The sponsorship for the EMS by Chancellor Schmidt of Germany and President Giscard D'Estaing of France (Coffey, 1987,p.17), for the purposes of greater economic and political integration, came with the failure of the "Snake" in the 1970s and the monetary policy practised by William Miller of the United States Federal Reserve Bank who targeted interest rates at the cost of inflation and a weak and volatile United States dollar.

Although initially the EMS was sponsored, in large part by France, this changed with the election of President Mitterand in 1981²⁸. Mitterand's

expansionist policies ran counter to those of other ERM countries, and especially Germany's. Thus three of the four realignments within the ERM over this period involved the French franc. In March 1983, however, President Mitterand, reversed the economic policies followed by his government during his first thousand days in office owing to the constraints which the ERM placed upon his policy alternatives. This development had special significance for the stability of the EMS at that time, but also more generally as the "French state had been one of the most interventionist among the capitalist nations since the war" (Hall, 1990, p.171).

At an operational level, a lack of common European economic policies meant that, in large part, intervention in the foreign exchange market by ERM members, undertaken to support ERM exchange rate parities, were at the margin. In this manner the EMS operated as envisaged by the original March 1979 agreement whereby obligatory intervention in partner currencies at the margin was to be the main instrument to ensure the stability of agreed exchange rates (Ungerer et al., 1990, p.5). Unlike interventions at the margin, if intramarginal interventions (where the central banks intervene to support their respective currencies before the currency reaches its bilateral trading limits) were undertaken there was no automatic access to VSTF²⁹ which meant that the intervening central bank would have to work directly with the partner central bank. Despite this operational framework, however, intramarginal interventions became more prevalent (Ungerer et al., 1990, p.5). This trend was consolidated over the second phase of the regime's life.

(ii) March 1983 to September 1987

The beginning of this period is defined by the shift in Mitterand's policies which ushered in a period in the regime's evolution defined by the establishment of Germany as the centre country in an asymmetric system. Over this period the major indicators of participating countries began to converge as the economic policies of the ERM countries, most noticeably France, became increasingly focused on monetary stability both regionally (i.e. within the EMS) and domestically. While exchange rate realignments continued to be used to compensate for past divergences of costs and prices, they were also employed as an instrument to achieve greater financial discipline and minimize future divergences in costs and prices (Ungerer et al., 1990, p.2). As indicated by the data provided above in Table 8, following a shift in French policy from an expansionary policy to one which was more fiscally and monetarily restrictive, after 1983 there was a perceptible decline in the growth of French money supply and the level of government borrowing. This shift in French policy was accompanied by a downward shift in the central rate of the French franc against other ERM currencies and the implementation of a package of stabilization measures which was directly supported by a credit under the loan mechanism of the EEC.

Operationally, this shift in focus implied an acceptance of the Deutschemmark as the anchor currency of the ERM. As part of the effort to achieve monetary and exchange rate stability in the ERM the Deutsche Bundesbank continued to place price stability as its primary objective. Other central banks targeted their exchange

rates against the Deutschemmark and used intramarginal interventions in Deutschemarks to achieve this goal (Ungerer et al., 1990, p.2). The German authorities, however, did not aspire to have the Deutschemmark play a central role in the EMS as they feared that the accumulation of Deutschemarks by other central banks might be a threat to their own monetary policies. Over time their comfort with intramarginal intervention increased although the Deutsche Bundesbank did not sanction their use (Ungerer et al., 1990, p.5).

The fruition of acquiescence to policies set by the Deutsche Bundesbank included increasing convergence³⁰ of a specific set of cost and price variables thought to be necessary for stable nominal exchange rates³¹. Figures 6 to 8 show the convergence of prices³² and unit labour costs³³ among the four main ERM countries.

Despite the achievement of nominal convergence by members of the ERM over this period, there were four realignments within the ERM. The main impetus behind the last two of these realignments, especially the one in January 1987, was a weakening of the United States dollar which began halfway through 1985 and continued into 1987. This resulted in an inflow of speculative capital into Deutschemarks which in turn placed upward pressure on the Deutschemmark and created and exacerbated tensions within the ERM of the EMS (Ungerer et al., 1990, p.14). In the case of the realignment of 1987, the weak United States dollar combined with labour unrest in France resulted in weakness of the French franc in the ERM. The Bank of France responded by allowing the French franc to fall to its

FIGURE 6
ANNUAL CHANGES IN MONTHLY CPI
FOR SELECTED ERM COUNTRIES

Monthly data for calculations extracted from *International Financial Statistics*, various years, line 64.

Volatility: annualized 12 month standardized deviations of logarithmic changes in monthly rates.

FIGURE 7
INFLATION DIFFERENTIALS
AMONG SELECTED ERM COUNTRIES

Monthly data for calculations extracted from
International Financial Statistics, line 64.

FIGURE 8
ANNUAL INCREASES IN LABOUR COSTS
FOR SELECTED ERM COUNTRIES

Monthly Data for calculations extracted from
International Financial Statistics, lines 65 & 65E.

lower intervention limit against the Deutschemark when an increase in domestic interest rates and interventions in the foreign exchange market, on the part of the Bank of France, failed to calm the foreign exchange market (Ungerer et al., 1990, p.14).

After the realignment of January 1987, the United States dollar continued to weaken following the signing of the Louvre agreement³⁴ in Paris in February 1987 and only stabilised after the stock market crash of October 1987 and involved massive interventions by the G7 countries. Despite this environment, which was made more difficult with the liberalization of exchange controls among EEC countries, another realignment did not take place within the ERM until January 1990 when the Italian lira moved from a trading band of 6 per cent to 2.25 per cent within the ERM.

(iii) September 1987 to October 1990

The turning point that demarcates the beginning of this period in the regime's evolution is the signing of the Basle/Nyborg Agreement of September 1987. This agreement involved the re-examination of various institutional aspects of the EMS, namely the role of intramarginal interventions and the use of "concerted" interest rate adjustments. This period is distinct in the regime's evolution not because of changes in its operation, but because of the changing attitudes of its participants towards the operation of the EMS and how this was reflected in the role to be played by the EMS in European economic and monetary union (EMU). The discussions that occurred up to October 1990 concerning EMU and thus the future of the EMS were

given impetus with the adoption of the Single European Act of July 1986³⁵ followed by the commission and submission of the Delors report on Economic and Monetary Union in April 1987³⁶. The Delors report became a focal point in the discussion of EMU and the role of the EMS in achieving that goal. Despite efforts by the United Kingdom to slow down the movement toward EMU at the Madrid Conference in June of 1989³⁷, at this conference agreement was reached to proceed to stage one of EMU. This required that members participate in the ERM of the EMS, and that work should begin on organizing another Inter-governmental Conference (IGC) to determine subsequent steps to EMU (Tew, 1992, p.24). Consideration of this period of re-examination, for the purposes of this thesis ends with United Kingdom's full participation in the Exchange Rate Mechanism (ERM) of the EMS in October 1990, just before the convening of the series of Intergovernmental Conferences (IGCs) on monetary and political union which began in December 1990 and ended with the Maastricht conference in December 1991.

The signing of the Basle/Nyborg Agreement demarcates a change in attitude towards asymmetry within the EMS and how that change was reflected in EEC policy in general. The Basle/Nyborg conference was called in response to a number of factors. First, there was some general dissatisfaction among ERM members concerned with domestic issues such as unemployment³⁸ and who were constrained by the policies followed by the system's anchor, the Deutsche Bundesbank. Second, France and Italy argued that without access to VSTF financing for intramarginal interventions, the EMS placed a larger part of the burden of management on

countries with weaker currencies as it was the central banks of these countries which were required to intervene at the margin and not the Deutsche Bundesbank (Ungerer et al., 1990, p.9). It was also argued that asymmetry arose from interventions at the margin as it was the debtor country that lost its foreign exchange reserves (Ungerer et al., 1990, p.9).

Apart from these issues, the realignment of 1987 was also a significant force behind the changes agreed to at Basle/Nyborg as this realignment might have been avoided if the countries participating in the ERM had responded in a concerted manner to the decline in the dollar. The realignment of January 1987 thus underlined that "despite considerable progress in reducing inflation rates and other divergencesthe currencies participating in the exchange rate mechanism of the EMS still react[ed] in different ways to a general decline in the dollar" (Deutsche Bundesbank, 1987, p.64). The goal of the conference, therefore, was to make the system less vulnerable to external influences which could adversely affect the operation of the ERM. This required:

agreement on intervention policies and interest rate policies with the aim of minimising the incentives for short-term capital movements, but to an even greater extent it requires economic and financial policies in all member countries which are geared to safeguarding the progress towards convergence that has already been made within the EMS. In particular, the greater mobility of capital....has heightened the awareness of the fact that it is becoming less and less possible to pursue monetary and economic policies that are geared to different objectives if the exchange rate mechanism of the EMS is not to be endangered (Deutsche Bundesbank, 1987, p.64).

The events leading up to the realignment of 1987 in conjunction with the other issues outlined above resulted in a request by EEC Ministers of Economics and

Finance to the Committee of Central Bank Governors and to the Monetary Committee to strengthen the operating mechanisms of the EMS (Ungerer et al., 1990, p.8). The proposals tabled by both the Committee of Central Bank Governors and the Monetary Committee culminated in the Basle/Nyborg Agreement. The most important changes, which indicate an increasing equality within the EMS, included:

- i) conditional access to VSTF via the European Monetary Co-operation Fund (EMCF) for intramarginal financing; and,
- ii) the extension of the basic time limit for borrowing under the VSTF by one month to three and a half months; in addition, the ceiling applied to the automatic renewal for three months was doubled (Deutsche Bundesbank, 1987, p.66).

The importance of Germany allowing VSTF financing for intramarginal intervention cannot be underestimated, given the Deutsche Bundesbank's stated objections to this form of financing.

The Bundesbank has tended to take a critical view of the strategy pursued by its partner central banks within the EMS of stabilising exchange rates within margins through large-scale interventions; for inadequate mobility of exchange rates within margins may increase the incentive to switch out of the weak currency into the strong one as long as exchange rates still appear to be favourable and without incurring any serious exchange rate risk (Deutsche Bundesbank, 1987, p.67)

The fact that other members pressed for this change and achieved it, even if it came with conditions, underlines a shift in the system and a change in attitude among some of the players towards the asymmetry perceived within the EMS despite the views of the Deutsche Bundesbank. In its view, not only had there been unwanted expansions of Germany's monetary stock owing to the role of the Deutschemark in the EMS, but what is important is the "asymmetry of the starting

position (of some member countries) and not the burden of adjustment in the system which forces individual countries to make special efforts" (Deutsche Bundesbank, 1987, p.69).

Two significant conditions attached to VSTF financing were that this type of intervention still "remained subject to approval by the central bank issuing the intervention currency;[and] that the amounts involved would be limited in relation to total supply" (Ungerer et al., 1990, p.9). These conditions reflect the fact that "the main aim in the negotiations on the financing of intramarginal interventions was to limit the risks to monetary policy posed by the new arrangements" (Deutsche Bundesbank, 1987, p.67).

In sum, the gains made by the peripheral members with the institutional changes that occurred with the signing of the Basle/Nyborg Agreement demarcate a change in the attitude of the peripheral states towards the EMS in terms of their views towards the functioning of the system and whether it should be replaced by commonly defined monetary and exchange rate policies. The consequence of this debate was the commissioning and production of the Delors report on Economic and Political Union and the United Kingdom's counterproposal tabled at the Madrid Conference of June 1989.

This outline of the regime's evolution in terms of change in its operational form is used as a framework for the testing of the approaches in Chapter Four. Proper interpretation of these tests however, requires that a comment be made as to what these periods represent in terms of a regime's potential life-cycle of birth,

maintenance and consolidation, and demise or metamorphosis. The first two periods--March 1979 to March 1983, and March 1983 to September 1987--are easily identifiable respectively as periods of birth, and maintenance and consolidation. The third period--September 1987 to October 1990--is not as easy to define as the first two as it is set apart less by changes in the regime's operation over the period and more by a re-examination of the operation of the EMS and its future in terms of its role in EMU. Thus it could be argued that the third period is an extension of the second period such that the second period actually extends from March 1983 to September 1990. This presentation of the regime's evolution, however, would ignore the manner in which attitudes, ideas and positioning by member countries, namely the UK, can influence the regime's evolution. This point becomes more obvious in the discussion of the UK's decision to participate in the regime in October 1990.

SECTION SIX: CONCLUSION

This chapter provides the economic, institutional and historical details required to appreciate the manner in which the EMS evolved between 1979 and 1990. The discussion included an outline of the implications of the membership in a given exchange rate system for each member's choices, especially in the realm of monetary policy. The reaction to the constraints presented by participation in the ERM of the EMS and the attitude of its membership towards these constraints comprised the basic criteria used in choosing the time frames delineating three periods in the life of the EMS between 1979 and 1990.

ENDNOTES

1. A focused and readable literature review on the exchange rate mechanism of the EMS is provided by the Bank of England (1991).
2. If the money supply increases then domestic interest rates will fall. The result will be an outflow of capital and subsequent depreciation of the domestic currency.
3. Consider the purchasing power parity relationship where:
 $P^F e = P^G$ (where $e = DM/Ffr$). If P^F , the price in France, increases a certain proportion and the French franc depreciates (e falls) by the same proportion than according to the above equation P^G , price in Germany, will remain constant.
4. If the money supply in France is restricted and prices fall then the exchange rate must appreciate. Consider the purchasing price parity relationship. $P^F e = P^G$ (where $e = Ffr/DM$) so if P^F falls and P^G is constant then e must rise.
5. An exchange rate is the price of one currency in terms of another. The numeraire, although often identified as the currency used most often to quote the price of a currency, is more than an accounting unit. The numeraire "is the nominal anchor determining the absolute level of prices in the system" (Bank of England, February 1991, p.74). Without a numeraire the exchange rates only define relative prices.
6. A nation's monetary base is composed of (i) foreign exchange reserves and (ii) domestic credit. An increase in either of the two components will result in the increase in a country's monetary base. If a country's foreign exchange reserves increase and the country does not wish its monetary base to be expanded it can offset this increase with a decline in domestic credit. This type of activity is referred to as sterilization.
7. This assumes that the country with the higher level of interest rates has sterilized the inflow of foreign reserves with an offsetting decrease in domestic credit which allows its interest rates to remain higher than those of the other participants in the regime. If reserve flows were not sterilized than the country's monetary base would expand and interest rates would fall and the inflow of capital would decline.
8. These are equivalent taxes.
9. The main source for this material is Kydland and Prescott (1977) on the "time-inconsistency of optimal economic policy". This material is discussed further in section four in regard to whether the asymmetric nature of the EMS is intentional.

10. An good overview article concerning how the EMS has operated making reference to capital controls and the fixity of exchange rate parities appeared in the *Economist* (June 24 1989, pp.17-20). This article makes one of the first references to the Delors Report and the role of the EMS as an important building block in the move toward EMU. The Delors report: survived, largely intact, up to Maastricht and the goal of economic and monetary union has become central part of the Maastricht Treaty. Although this treaty has not yet been ratified, the result of the Edinburgh summit seem to indicate that the goal of EMU union has survived (*The Economist*, December 19 1992, pp.48-49). The importance of Maastricht Treaty, the Edinburgh summit, and the actions of the Bundesbank over the fall of 1992 are given some consideration in Chapter Five.

11. The question of the burden of adjustment, the problem of confidence and liquidity (to be discussed later in this paper) were first considered by Mundell (1969, pp.21-38). Burden of adjustment can also be a function of the relative size of the countries involved. Although not thoroughly investigated in this thesis; it is sufficient to say that it would exaggerate any of the systemic asymmetries associated with the EMS. For more on this question see Swoboda (1978).

12. In Table 1 instead of 3.35 Ffr per DM (one DM) the parity is expressed as 335.386 Ffr per 100 DM. Typically, this exchange rate is expressed in terms of one DM.

13. If the Ffr/£ is lower than the rate that would ensure equilibrium (Irish punts are cheap) arbitrageurs would enter the market and purchase punts and sell French francs. The effect of this would be to increase the price of the punt until the Ffr/£ rises.

14. After 1987 VSTF financing also became available for non-obligatory interventions or what is commonly known as intramarginal interventions which are interventions that occur before a currency reaches its upper or lower trading limits against another currency. This official change in the EMS in 1987 had important political and operational implications and is discussed in this context later in the chapter.

15. The money supply of any country is determined by its money multiplier and its monetary base. The monetary base is comprised of the following two elements: (i) domestic credit and (ii) the holding of foreign exchange reserves. By making Deutschmarks available the Deutsche Bundesbank is expanding its monetary base and thus expanding the German money supply.

16. As the money supply contracts in France interest rates should rise and as the money supply in Germany expands interest rates should fall. With the widening of the interest rate differential capital should flow out of Germany and into France and thus support the weakened franc (i.e. when capital flows out of Germany Deutschmarks are sold and French francs are purchased and thus a demand for French francs is created and the price of a French franc bid up and the price of the

Deutschemark bid down).

17. Such as each member's contribution to the Gross Domestic Product (GDP) of the EEC, and its share of intra-EEC trade.

18. Mundell identified the $n-1$ problem in terms of exchange rates and price levels. Implicitly Mundell is applying Walras's Law whereby the n th equation can be eliminated from a set of n equations as only $n-1$ of these are independent. Given $n-1$ functions, the n th is determined (Blaug, 1968, p.149).

19. Several series in these Figures 3 and 4 have been scaled, divided by 10 or 100, so that series can be compared on the same graph.

20. This means that an increase in reserves is offset by a decline in domestic credit, which implies that the monetary base of the country undertaking such operations is unchanged.

21. Consider the following equation (i) $P^F = eP^G$ where $e = Ffr/DM$, is the relationship between prices and the exchange rate. According to purchasing power parity, the price of a good in France must equal the price of the same good in Germany when the Germany good priced in Deutschemarks is multiplied by the exchange rate. From this relationship the real exchange rate (for the French franc) can be defined as (ii) $q = eP^G/P^F$. Now if prices in France rise, for equation (i) to hold e must also rise and in this way " q " in equation (ii) would remain constant, but if e does not adjust, as in the case of fixed exchange rates, then in accordance to (ii) " q " will fall (so that in real terms the French franc has appreciated).

22. This view was first set forth by Nurkse (1945).

23. The time segments chosen to delineate each phase of the regime's life coincide with those chosen by the Ungerer et al. (1990). The events highlighted in each time frame are the same as those highlighted; however, beyond indicating the changing asymmetry of the regime these time segments are used here to underline both the changing nature of cooperation within the regime and the elements effecting that change.

24. These four countries were also selected by Mastropasqua et al. (1988) for their discussion. According to Mastropasqua et al. they were chosen to highlight the rules of the game owing to the different positions and policy approaches of the system's members (1988, p.252). In March of 1979 all EEC members joined the EMS, but the United Kingdom, Greece, Spain and Portugal did not join the ERM. Spain joined in June of 1989 and the United Kingdom joined in October of 1990.

25. Under Bretton Woods each member of the International Monetary Fund (IMF) pegged its currency to gold in principle, but over time this peg was in terms of the United States dollar. Over the 1960s the size of the fluctuation band was 2 per cent (1 per cent above the central parity and 1 per cent below). With the Smithsonian agreement of December 1971 however this fluctuation band was changed to 4.5 per cent (2.25 above and below the central parity rate). This meant that each European Currency could fluctuate by 4.5 per cent in relation to the United States dollar but by 9 per cent against another European Currency (Tew, 1991, p.195).

26. The Werner Report envisaged complete monetary union. This union was to achieved in stages by acting on the following four recommendations:

- (a) that the EEC countries should pool their reserves (of gold, dollars, IMF drawing rights, etc) and settle their individual deficits and surpluses by internal EEC financial arrangements;
- (b) that EEC members should agree (on) a matrix of exchange -rate parities between their respective currencies and keep actual exchange rates very close to these parities (as in the Snake);
- (c) that these parities should be adjusted less and less frequently, until finally as from the end of the stage two (which the summit conference of October 1972 ruled should be in 1980) the parities should be fixed for ever; and
- d) that eventually the national currencies, should preferably be replaced by a single Community currency (Tew, 1992, p.193).

27. The exchange rate arrangement referred as the Snake was really a 'Snake in a Tunnel' whereby the dollar exchange rate of snake currencies would be kept within the wider tunnel as provided by the Smithsonian agreement and their relative movements of the European Currencies against each other would be confined by the Snake which effectively limited the relative fluctuation of European currencies to 4.5 per cent (Tew, 1991, p.195).

28. At the time of France's entrance into the EMS there was still a strong element of dirigism in French economic policy. Reference to France as dirigiste implies that the state takes an active part in the direction of French industry through indicative economic planning and industrial policy. Indicative planning is the use of a detailed plan for the allocation of resources; French industrial policy refers to subsidies and state control over the national banking sector to allocate funds to firms engaged in activities on which economic growth could be based (Hall, 1990, p.172).

29. The rules regarding intramarginal interventions changed in September of 1987.

30. Ungerer et al. outline two types of convergence: real and nominal. They were defined by Ungerer et al. as follows:

i) real convergence: refers to the "ultimate goal of convergence in living and working conditions" and the objective of exchange rates an intermediate objective

ii) nominal convergence: refers to the convergence of a specific set of economic variables such as costs and prices required to achieve exchange rate stability (Ungerer et al., 1990, p.22).

31. According to the law of one price: $P^1 = eP^2$ (where e is defined as the price of country one's currency in terms of country two), if prices are constant (or stable) " e " must also be constant.

32. The two most popular measures of price are consumer prices (CPI) and Gross National Product (GNP) deflators. Prices and their convergence are often considered in connection with monetary policy and its use in stabilizing rates of inflation and therefore exchange rates.

33. This measure of costs assumes the following (Ungerer et al., 1990, p.22):

- (i) the progress of other input costs are similar
- (ii) the countries being compared have a similar production technology;
- (iii) the structure of demand is unchanged in the countries under comparison;
- (iv) the focus is on short-run development.

34. The finance ministers and central bank governors of the six major industrial countries agreed that exchange rate changes over 1986 and into 1987 had "brought their currencies within ranges broadly consistent with underlying economic fundamentals" and that they would "cooperate closely to foster stability of exchange rates around current levels" (official communique, reproduced in the IMF survey, March 9, 1987, p.75). The communique was in response to concerns that a continuation of the (then current) pattern of exchange rate shifts among the six countries might damage growth and the possibility of adjustment for these countries. In 1988 and 1989 the dollar strengthened as United States monetary policy tightened and interest rate differentials shifted in favour of dollar-denominated assets. Among the ERM countries inflation rates converged and the Deutschmark weakened as a consequence of the announcement of a withholding tax on interest income in Germany (which was later repealed in July 1, 1989). In addition, tighter monetary policy in the United Kingdom and the attractiveness of investment opportunities in countries outside of the ERM (Ungerer et al., 1990, P.18) helped to take pressure off the Deutschmark.

35. The adoption of the Single European Act (SEA) prepared the way toward EMU via the preamble of the act "which referred to the continuing validity of the Community's commitment to EMU, dating from 1972 (Tew, 1992, p.4).

36. The Delors Report most notably set out the three stages involved in the progress towards EMU. These three stages were to include the following: in stage one, greater convergence of economic performance through the strengthening of economic and political coordination; in stage two, the establishment of the basic institutional structure of EMU; and in stage three exchange rates would be irrevocable locked followed by the change to a single Community currency (Tew, 1992, p.202).

37. The UK's proposal called for a hard-ecu to be introduced in stage two as a parallel currency existing alongside the current national currencies but with the possibility of eventually displacing them in stage three if the hard-ecu came into widespread use (Tew, 1992, p.206). Spain and France also sponsored counter proposals for a revised version of the present ECU to be introduced in stage two. These proposals would modify the composition of the ECU to prevent its parity value from depreciating, in any extent, in relation to another EEC currency and thus harden the ECU (Tew, 1992, p.206).

38. During this period of dollar weakness, speculative capital flowed into Germany. This weakened the French franc against the Deutschemark which had already come under additional pressure owing to labour unrest. Initially the Bank of France intervened in foreign exchange markets and raised interest rates, but abandoned its efforts in the face of speculation in the foreign exchange markets concerning a realignment (Ungerer et al., 1990, p.15).

CHAPTER FOUR REGIME THEORY AND THE EMS

SECTION ONE: INTRODUCTION

The purpose of Chapter Four is to test the ability of competing approaches to regime development and evolution to provide insight into the development and evolution of the EMS. The four separate approaches reviewed in Chapter Two are considered in turn. The first two are the structural and functional which are mainstream explanations of regime development and evolution. The last two are non-traditional explanations and are the cognitive and the approach based on the role of external forces. The examination undertaken in this chapter tests the hypotheses that: (i) if the mainstream approaches to regime development and evolution are inadequate on an individual basis, then there may be some utility in considering them on a joint basis; and (ii) if the mainstream approaches together do not provide a robust explanation, then alternative approaches should be considered on their own merits and in conjunction with the mainstream approaches.

In Section Two the testing of the two traditional approaches and the theories that follow in the tradition of these approaches is undertaken. Section Three examines the non-traditional approaches and statements chosen to reflect these approaches. Section Four concludes with a summary of the analysis undertaken in the chapter. These approaches, their associated theories and statements and the tests used to examine them are briefly reviewed in the discussion preceding the testing undertaken in each section.

SECTION TWO: THE TRADITIONAL APPROACHES

(i) HEGEMONIC STABILITY

a) First dimension: "power-as-a-resource"

This dimension of hegemonic stability theory argues that the possession of resources means power; therefore, in terms of the financial regime under consideration, the greater the relative financial strength of a state, the greater is its hegemonic power and thus its ability to construct and maintain financial regimes. Once this power diminishes, however, so should the regime. In the tests that follow, financial power is measured by capital holdings and currency strength. In both cases, according to the premise of this approach, during the initial years of the regime's life, the hegemon's (i.e. the former West Germany) relative financial power should be significant; however, as time passes the hegemon's relative strength is expected to have somewhat diminished.

The measure of financial power in the first test is holdings of Deutschemarks in the foreign exchange reserves of participating members in the ERM of the EMS. The problem with this test is the lack of publicly available data which means that the composition of reserve holdings of foreign exchange can only be deduced from the information that has been made publicly available.

Tables 9 and 10 break down the components of global monetary reserves by the type of reserve currency. Table 9 contains a statement of the gross amount of reserve assets in billions of U.S. dollars by type of currency and Table 10 presents global holdings of these assets by both type of currency and as a proportion of total

TABLE 9
COMPONENTS OF GLOBAL MONETARY RESERVES LEVEL AT YEAR END
BILLIONS OF US DOLLARS

Type of Reserve	1980	1981	1982e	1983	1984	1985p	1986	1987	1988	1989	1990
Gold	40.2	40.2	40	40	40.0	40.0	40.1	39.9	39.9	39.8	39.7
SDRS	15.1	19.1	19.6	15.1	16.1	20.0	23.8	28.7	27.1	26.9	29.0
Reserve Position at the IMF	21.5	24.8	28.1	40.9	40.7	42.5	43.2	44.6	38.0	33.5	33.8
Official ECU balances	63.7	50.2	41.3	45.3	37.7	40.7	48.7	76.1	63.6	62.0	64.1
Foreign Exchange (all)	297.6	261.1	253	252.6	272.4	299.4	379.5	547	577.6	630.3	757.4
Identification by currency:											
US\$	205.6	192	184	187	197.1	201.6	269.7	376.0	376.6	386.1	429.9
Deutschemark	48.6	36.1	34.8	32.3	37.6	50.0	55.2	87.8	101.0	126.8	153.3
Yen	13.6	12.3	12.8	13.6	16.9	23.6	28.4	43.2	45.8	53.6	73.2
Private ECU Balances	NA	NA	NA	NA	NA	NA	NA	5.2	12.8	20.4	36.9
Sterling	9.5	6.6	6.9	7.5	9.0	9.9	10.6	14.0	17.4	16.6	25.2
French franc	5.6	3.1	3.6	3.1	3.2	3.7	4.4	6.2	9.2	8.7	17.1
Swiss franc	10.5	8.3	7.8	6.7	6.2	7.3	7.1	8.5	8.9	11.4	13.8
Dutch Guilder	4.2	2.7	3.1	2.4	2.4	3.3	4.1	6.1	5.9	6.7	8.0
Other unidentified assets	12.3	43.4	11.5	23.8	31.0	35.6	16.9	22.3	22.6	24.1	23.3
Total Reserves	450.4	438.8	393.5	417.7	437.9	478.2	552.2	758.6	768.8	816.6	947.3 *

TABLE 10
COMPONENTS OF GLOBAL MONETARY RESERVES
PERCENT OF TOTAL RESERVES AT YEAR END

Type of Reserve	1980	1981	1982e	1983	1984	1985p	1986	1987	1988	1989	1990
Gold	9	9.2	10.2	9.6	9.1	8.4	7.3	5.3	5.2	4.9	4.2
SDRS	3	4.4	5.0	3.6	3.7	4.2	4.3	3.8	3.5	3.3	3.1
Reserve Position at the IMF	5	5.7	7.1	9.8	9.3	8.3	7.8	5.9	4.9	4.1	3.6
Official ECU balances	14	11.4	10.5	10.8	8.6	8.5	8.8	10.0	8.3	7.6	6.8
Foreign Exchange (all)	66.1	59.5	64.3	60.5	62.2	62.6	68.7	72.1	75.1	77.2	80.0
Identification by currency:											
US\$	45.6	43.8	46.8	44.8	45.0	42.2	48.8	49.6	49.0	47.3	45.4
Deutschemark	10.8	8.2	8.8	7.7	8.6	10.5	10.0	11.6	13.1	15.5	16.2
Yen	3.0	2.8	3.3	3.3	3.9	4.9	5.1	5.7	6.0	6.6	7.7
Private ECU Balances	NA	NA	NA	NA	NA	NA	NA	0.7	1.7	2.5	3.9
Sterling	2.1	1.5	1.8	1.8	2.1	2.1	1.9	1.8	2.3	2.0	2.7
French franc	1.2	0.7	0.9	0.7	0.7	0.8	0.8	0.8	1.2	1.1	1.8
Swiss franc	2.3	1.9	2.0	1.6	1.4	1.5	1.3	1.1	1.2	1.4	1.5
Dutch Guilder	0.9	0.6	0.8	0.6	0.5	0.7	0.7	0.8	0.8	0.8	0.8
Other unidentified assets	0.0	9.9	2.9	5.7	7.1	7.4	3.1	2.9	2.9	3.0	2.5
Total Reserves	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source (both tables): Report of the Deutsche Bundesbank, various years.
Table notes: (1)p=provisional; (1)e=estimated from table of changes.

foreign exchange reserve holdings.

These tables establish a number of interesting trends that indicate an increase in the use of the Deutschmark at a global level. In the early 1980s the level and the proportion of reserve assets held as foreign exchange dropped in 1983 and fully recovered by 1985. After 1985 total reserve assets and the proportion held as foreign exchange increased significantly. This increase in reserve levels was, in large part, the consequence of an increase in the holdings of U.S. dollars and Deutschmarks. Although the holdings of U.S. dollars also increased steadily after 1985, after 1987 the share of U.S. dollars held as reserves declined until 1990 when the total share held was roughly equal to that of 1980; whereas, in the case of the Deutschmark, the share of Deutschmark global reserve holdings increased steadily.

This trend can be more clearly seen on Figure 9 which indicates a steady increase in the use of the Deutschmark as a reserve asset, even during periods of a global decline in foreign exchange reserves, while the use of the United States dollar was more volatile and generally declining after 1987. The use of ECU balances and gold declined over this period while the use of other European currencies did not change much. By the end of the 1980s, the total share of other European currencies held in the form of foreign exchange reserves returned to 1980 levels with a marginal increase in the use of the pound sterling and French franc and a decline in the use of the Swiss franc. The only other currency to improve its share in global foreign exchange reserves was the Japanese yen.

While the tables and figure indicate that the composition of global monetary

FIGURE 9
COMPONENTS OF INTERNATIONAL MONETARY RESERVES
(AS A SHARE OF TOTAL RESERVES)

End of year data used in calculations
 extracted from Report of the Deutsche Bundesbank,
 various years.

reserves changed in favour of the Deutschemark, they do not indicate a change in the components of reserves among those countries participating in the ERM of the EMS. However, Tables 9 and 10 considered in conjunction with Table 11 provide some evidence of the latter. Table 11 has been taken from an article by Mastropasqua et al. (1989) and outlines the composition of net reserves of countries in the EMS exchange rate arrangements. This table indicates an increase in the use of EMS currencies as a reserve asset by these countries and to a lesser extent a shift away from U.S. dollars to EMS currencies.

While Tables 9 and 10 indicate an increase in the use of the Deutschemark as a reserve asset, Table 11 does not clearly indicate an increased usage of Deutschemarks over other EMS currencies. There are some indications, however, that a change in composition of reserve assets held by EMS countries occurred. Table 10 and Figure 9 both show that globally the share of French francs held as reserve assets did not improve as of 1987 whereas there was an increase in the share of Deutschemarks.

The increase in the use of Deutschemarks and decrease in the use of currencies such as the French franc at a global level does not prove that all these changes occurred owing to changes of the preferences of the central banks of EMS countries in favour of the Deutschemark. However, the tables discussed above do suggest that if the share of EMS currencies held as foreign currency reserves increased during the 1980s and the use of French francs remained unchanged then there was some increase, if only "minor", in the holdings of Deutschemarks by EMS

TABLE 11
OFFICIAL NET RESERVES OF COUNTRIES IN THE EMS

	1979		1983		1985		1987	
	net	share	net	share	net	share	net	share
Convertible currencies	30.0	43.8	59.9	55.8	67.0	62.4	68.9	58.8
US\$	35.3	51.5	46.5	43.3	42.4	39.5	59.0	50.4
EMS currencies	3.2	4.7	10.2	9.5	19.7	18.4	14.4	12.3
others	0.5	0.7	3.2	3.0	4.9	4.6	5.5	4.7
ECUs	26.6	38.8	49.9	46.5	43.5	40.5	42.0	35.9
Net position on the IMF	7.3	10.7	14.2	13.2	14.2	13.2	12.9	11.0
others	-4.4	-6.4	-16.7	-15.6	-16.7	-15.6	-16.9	-14.4
Total	68.5	100.0	107.3	100.0	107.3	100.0	117.1	100.0
Memorandum Item:								
Euromarket Deposits			28.7		37.1		45.4	

Source: Mastropasqua et al, 1988, Table 10.2.

(Their source: BIS monthly statistical series)

Note: share columns were added to original table.

countries. According to the Deutsche Bundesbank regarding the global increase in the holdings of Deutschemarks, a "minor role was played by the net purchases of Deutschemark by the countries participating in the exchange rate mechanism of the EMS" (Report of the Deutsche Bundesbank, 1987, p.60).

While Tables 9, 10 and 11 indicate a shift from U.S. dollars in favour of EMS currencies, the 1987 statistics may overstate the preference for dollar assets owing to the weakness in the dollar which began at the end of 1985 and continued through to 1988. Figure 10 which maps the United States dollar against the ECU reflects this weakness in the United States dollar over this period.

The G5¹ and G7² countries responded to the weakness in the United States dollar in two ways that would have an impact on the holdings of Deutschemarks. Deutschemarks would have been sold and dollars purchased to support an orderly depreciation of the dollar as agreed to by the G5 in 1985 with the signing of the Plaza agreement, and then again in support of a weak United States dollar in accordance with the Louvre Accord of 1987³. This would have underplayed any shift in preference for EMS currencies as a reserve asset over the United States dollar. The requirement to stabilize the dollar required the purchase of dollars on a "considerable scale by the central banks participating in the Louvre Accord" (Report of the Deutsche Bundesbank, 1987, p.56) and was responsible not only for the increase in the United States dollar composition of reserves in 1987 in EMS countries but also for the global increase of the U.S. dollar as a reserve asset.

In sum, it appears that there was a change in the composition of reserve assets

FIGURE 10
US DOLLARS PER ECU

US\$/ECU

suggesting a strong preference for Deutschemarks and German hegemonic power. Growth in hegemonic power was especially significant over the second and third periods providing evidence that the third period, as suggested in Chapter Three, is in fact a special time segment of the second period which ends not in 1987 but in 1990.

The next two tests are not absolute but relative tests of strength. The tests consider the use of the Deutschemark as a currency of intervention in the ERM and the volatility of peripheral ERM currencies and interest rates relative to the Deutschemark and Deutschemark-denominated deposits on the Euro-markets.

The first test considers the use of the Deutschemark as an intervention currency within the ERM of the EMS, and as a currency of intervention on the part of the EMS against those currencies that the ERM currencies float, such as the United States dollar. For the purpose of analyzing the use of the Deutschemark for interventions in general Table 12 is referenced and for the analyses of interventions by type of intervention Tables 13, 14 and 15 are used.

Table 12 contains the currency distribution of foreign exchange interventions in the EMS. The statistics provided indicate a significant increase in the use of the Deutschemark and other EMS currencies over the United States dollar for interventions in the EMS as the EMS matured. Although all EMS currencies have been increasingly used, the greatest increase has been in the use of the Deutschemark. At first glance this distribution of foreign exchange intervention contradicts the theory of hegemonic stability which would predict a decreasing use

TABLE 12

**CURRENCY DISTRIBUTION OF FOREIGN EXCHANGE
INTERVENTION IN THE EMS (PURCHASE AND SALES)**

	1979-82 to 1982 %	1983 to 1985 %	1986 to 1987 %
US dollars	71.5	53.7	26.3
Deutschemarks	(23.7)	(39.4)	(59.0)
Other EMS currencies	3.5	4.1	12.7
Other Currencies	1.3	2.8	2

Notes: Period covered is March 1979 to June 1987

Source: Talvas, 1990, p.37.

(Talvas listed his sources as Mastropasqua et al., 1989; Deutsche Bundesbank; and the Federal Reserve Bank of New York).

of the Deutschemark relative to other currencies in the regime's final years, but before this conclusion can be reached the use of Deutschemark for both interventions at the margin and intramarginal interventions are considered in turn.

Table 13 identifies, by time period, the realignments within the EMS; Table 14 identifies interventions in Deutschemarks by period of tension and type of intervention; and Table 15 identifies intervention in Deutschemarks by EMS countries on an annual basis. Consideration of the column labelled "parity grid" in Table 13 indicates that five⁴ of seven realignments involved a currency that reached its upper trading limit against the Deutschemark. In the case of two other realignments, a weakened currency was devalued against all or a subgroup of other ERM currencies that included the Deutschemark. In no case was the Deutschemark identified as the weaker currency. Where the Deutschemark was clearly identified as the stronger currency interventions at the margin in Deutschemarks would have been made in support of the weaker currency that had reached its upper trading limit against the Deutschemark⁵.

These seven realignments all occurred before 1983. Table 14 indicates that the interventions undertaken at the margin in Deutschemarks in these seven cases were significant.

The results support the hegemonic stability theory as the theory would predict that the Deutschemark, the hegemon's resource, would be used to correct the regime's balance, especially over the initial years of the regime's life. The smooth functioning of the regime after 1983, as evidenced by the decline in interventions at

TABLE 13
THE REALIGNMENTS

Realignment	Date	Source of Strain	Divergence Indicator & Parity Grid	Action Taken
PERIOD 1: 1	Aug - Sept/79	Earlier increases in nominal interest rates in Denmark and Belgium resulted in an inflow of capital	Dkr: -75; Bfr: -75; DM/Dkr	Initially there was intervention to support the Bfr & Dkr, and both the Danish and Belgium discount rates were raised. This was then followed by a revaluation of the DM and a devaluation of the Dkr.
2	Nov/79	Uncertainty after the Parliamentary election in Denmark put pressure on the Dkr.		Despite intervention to support the Dkr, the Dkr was devalued against all other ERM currencies
3	Mar/81	Bfr & Lira. exposed at the bottom of band after the DM firms.	Bfr: -75; DM/Bfr Ffr/Bfr	Intervention on behalf of the lira followed by an increase in the Italian discount rate from 16.5 to 19 per cent rate; after this the Lira was devalued. With respect to Bfr there was intervention which was then followed by an increase in the Bfr discount rate
4	Aug - Sept/81	With pessimism surrounding the Ffr owing to the Presidential election in France (5/10/81), the DM gained strength vis-a-vis the US\$ and the Bfr and Ffr had problems following the path of the DM against US\$.	DM: +75 (last two weeks of Sept.); Bfr not past -75 DM/Bfr	Intervention in support of weak currencies DM and f. revalued and the Ffr & lira were devalued against Dkr., BF and Irish pound.
5	Feb/82	Diminishing confidence in future performance of Belgian economy	Bfr: close to -75 & Dkr: slightly	Intervention in support of the Bfr followed by a devaluation of the Bfr and Dkr against
6	May- June/82	Pressure on the Bfr, Ffr and lira and realignment rumors. Pressure on the BF come from lack of confidence in the Belgian political situation and its economy. Pressure on the Ffr emanated from widening inflation differentials vis-a-vis Germany.	DM: above +75 from end - April. Bfr: the most 'diverging' DM/Bfr	Intervention and revaluation of DM and Nfl and devaluation of Lira and Ffr against Dkr, Bfr, and Irish punt.

TABLE 13
THE REALIGNMENTS

Realignment	Date	Source of Strain	Divergence indicator	Action Taken
7	Dec/82 - Mar/83	Deteriorating trade balance and inflation in France. Increasing pressure on Ffr especially late in week; persistent rumours; anticipation of realignment after March elections in Germany and France.	Bfr: frequently below in Jan. and Feb. In March the Ffr was below	Substantial intervention in support of Bfr and Ffr, interest measures in Belgium, Germany and the Netherlands, which culminated in a revaluation of DM, Nfl, Dkr, Bfr and devaluation of Ffr, lira and Lf.
PERIOD 2				
8	March - July 1985	Deterioration in the performance of the economy in regards to its fiscal and external accounts puts the lira under pressure	lira: -40 lira to the bottom of the band	Realignment of the lira by approximately 8 per cent against other participating currencies
9	Apr 4/86	French inflation differential with regard to Germany and others widens. A realignment is initiated by a new government	Ffr and Lf fall below their lower trading limits DM and Nfl. above upper trading limits	Revaluation of DM, fBF and Dkr Devaluation of FF
10	Aug 2/86	Depreciation of the US\$ and sterling against ERM countries negatively affects Irish competitiveness	Lf from 16 to -37	Devaluation of the Lf by 8 per cent against other participating countries
11	Jan 12/87	Continued weakness in the US\$, Ffr under stress partly linked to difficulties in wage negotiations. DM at highest levels against the US\$ since Oct. 1980	Ffr fall to its lower trading limit against DM. DM: +75 to -30	Intervention, increase in interest rates in France and subsequent realignment. The DM, Nfl, Bfr were revalued against Ffr and other ERM currencies.
PERIOD 3				
12	Jan 8/90	DM strengthened significantly in the latter part of 1989. This was linked to political developments in Eastern Europe. There was some downward movement of the lira most particularly against the DM		The lira was devalued by 3.7 per cent. The lira was placed in narrow 2.25 per cent fluctuation band.

Source: Adapted from Ungerer et al., 1990, pp.51-54

TABLE 14
Net Deutschemark Interventions in the EMS by Selected Period

Period	Obliga- tory	Intra- marginal	Total	Memo Item Affecting Liquid- ity Germany
March 21, 1963 to July 8, 1985 From the first trading day after the realignment of March 21, 1983 to the end of major DM purchases by partner countries.	-11.8	-49.8	-61.6	-16.9
July 11, 1985 to April 4, 1986 From the end of major DM purchases by partner countries to the last trading day before the realignment of April 6, 1986.	0.7	33.3	34.0	0.0
April 7, 1986 to July 7, 1986 From the first trading day after the realignment of April 6, 1986 to the end of DM mark purchases by partner countries.	-19.0	-10.9	-29.9	-10.3
July 8, 1986 to January 9, 1987 From the end of DM purchases by partner currencies to the last trading day before realignment of January 12, 1987.	+18.9	+44.1	+63.0	17.4
January 12, 1987 to February 20, 1987 From the first day of trading after the realignment of January 12, 1987 to the last day of trading before the Louve Accord.	-	-7.3	-7.3	0.9
February 23, 1987 to March 31, 1987 From the first trading day after the Louve Accord of February 22, 1987 to the end of the quarter.	-	-16.1	-16.1	5.7
March 19, 1987 to September 11, 1987 Dollar initially weak; renewed strengthening of the DM in the EMS.	-	22.6	22.6	-0.7
September 14, 1987 to October 14, 1987 Easing of tensions in the EMS after the Nyborg conference.	-	-14.6	-14.5	-
October 15, 1987 to January 14, 1988 Downward pressure on the dollar; DM in firm position in the EMS.	-	+21.5	+21.5	10.0
January 15, 1988 to end-March 1988 Recovery of the dollar; easing of tensions in the EMS.	-	-9.9	-9.9	-6.1
March 9, 1988 to May 12, 1988 Further strengthening of the dollar.	-	-11.7	-11.7	-
May 13, 1988 to August 23, 1988 Sharp rise in the dollar; tensions in the EMS ease.	-	+6.1	+6.1	-
August 24, 1988 to December 19, 1988 Dollar weaker again; some EMS currencies repeatedly under downward pressure.	-	-11.7	-11.7	-
December 20, 1988 to end-March 1989 Renewed recovery of the dollar; weakening of the Danish kroner.	+1.7	-10.8	-9.1	+0.2
March 24 to September 15, 1989 Dollar rises further, with fluctuations; calm in the EMS.	-	-10.6	-10.6	-
September 16, 1989 to January 11, 1990 Dollar falls sharply against DM; DM firms in the EMS.	+3.4	+8.2	+11.5	0.0
January 12, 1990 to June 26, 1990 Dollar relatively stable against the DM; DM temporarily weak against the lira and peseta.	-	+27.5	+27.5	-
June 27, 1990 to November 1, 1990 Dollar again falling against the DM; DM temporarily weak against peseta and lira.	+1.5	+2.9	+4.4	-1.6
November 2, 1990 to March 1991 At first the dollar is weak but it recovers by the end of Feb/91, and as this occurs the DM weakens in the EMS after firming the period from Nov/90 to Feb/91.	-	-8.5	-8.5	-

Source: Report of the Deutsche Bundesbank, various years. (annual report of the German central bank)

TABLE 15
DEUTSCHEMARK INTERVENTIONS IN THE EMS

DM billion

Period	Purchase/ Sale & Balance	Obligatory	Intra- marginal	Total	Effects upon liquidity in Germany
1979	Purchase	—	2.7	2.7	-2.4
	Sales	3.6	8.1	11.7	+11.7
	Balance	-3.6	-5.4	-9.0	+9.2
1980	Purchase	5.9	5.9	11.8	-11.1
	Sales	—	1.0	1.0	0.6
	Balance	+5.9	4.9	+10.8	-10.5
1981	Purchase	2.3	8.1	10.4	-11.6
	Sales	17.3	12.8	30.1	+25.3
	Balance	-15.0	4.7	-19.7	+13.7
1982	Purchase	—	9.4	9.4	-2.5
	Sales	3.0	12.8	15.8	+6.1
	Balance	-3.0	3.4	-6.4	+3.6
1983	Purchase	16.7	19.1	35.8	-20.4
	Sales	8.3	12.9	21.2	+12.6
	Balance	+8.4	+6.2	14.5	-7.8
1984	Purchase	—	28.9	28.9	-3.0
	Sales	4.7	7.6	12.3	+4.4
	Balance	-4.7	+21.4	16.6	+1.4
1985	Purchase	—	29.1	29.1	-0.2
	Sales	0.4	30.8	31.2	—
	Balance	-0.4	-1.6	-2.0	-0.2
1986	Purchase	19.0	33.6	52.6	-12.2
	Sales	4.1	74.0	78.1	+3.8
	Balance	14.8	-40.4	-25.5	-8.4
1987	Purchase	—	47.8	47.8	-7.3
	Sales	15.0	61.7	76.7	+25.4
	Balance	-15.0	-13.9	-28.9	+18.1
1988	Purchase	—	26.8	26.8	-6.1
	Sales	—	16.3	16.3	—
	Balance	—	+10.5	+10.5	-6.1
1989	Purchase	—	20.4	20.4	-3.0
	Sales	5.0	8.6	13.6	+3.0
	Balance	-5.0	+11.8	+6.8	0
1990	Purchase	1.5	32.5	34.1	-1.6
	Sales	—	12.3	12.3	—
	Balance	+1.5	+20.2	+21.8	-1.6

+ = Deutsche mark sales or an expansion impact on liquidity in Germany
 - = Deutsche mark purchases or a contractionary impact on liquidity in Germany

Notes as provided by the Deutsche Bundesbank, p.65: (i) Purchase and sales of Deutsche Mark (against partner currencies) by the central banks participating in the exchange rate mechanism, including the Bundesbank; classified by date of transaction. Spain included as of June 19, 1989 and the UK as of October 8, 1990. (ii) (—) indicates the extent to which German mark interventions in the EMS and debtor positions in the EMCF affected the net external position of the Bundesbank and thus the banks' provision with central bank money; - = contractionary liquidity effect through sales of Deutsche mark, + = expansionary liquidity effect through sales of Deutsche mark. (iii) Data begins as of March 13, 1979 with the beginning of the EMS.

Source: Report of the Deutsche Bundesbank, 1990, p.65.
 (annual report of the German central bank)

the margin and the reduction in realignments, again supports the predictions of hegemonic stability theory concerning the years of the regime's consolidation when the leader is accepted and the regime functions more smoothly.

The changing pattern of interventions after 1983 as predicted by hegemonic stability theory reflect continued hegemonic strength. As indicated by Tables 14 and 15 and Figures 11 and 12 in the years following March 1982 the Deutschemark continued to be used as an intervention currency, but obligatory interventions fell as a share of total interventions while the share of intramarginal interventions increased significantly. Rather than indicating decreasing hegemonic strength, this shift in the pattern of interventions is reflective of increasing strength if it is understood that the use of Deutschemarks for interventions at the margin is the better measure of relative strength, previous to 1983, owing to the operation of the regime at that time; but, after 1983 the use of Deutschemarks for intramarginal interventions is a better measure of relative strength as members of the ERM began to target their exchange rates against the Deutschemark.

This argument implicitly refers to the changing operation of the EMS after 1983 and how the regime's evolution, although anchored by the Deutschemark, was in large part driven by the policy choices of its non-German members. This aspect of the regime's evolution and the role of intramarginal interventions is given greater consideration in the discussion of the willingness of the hegemon.

Up to this point the analysis of hegemonic strength has focused on the use of the Deutschemark as a currency of intervention within the ERM. Currencies

FIGURE 11
THE SUM PURCHASE AND SALE OF GERMAN MARKS
AS A SHARE OF THE SUM TOTAL PURCHASES AND SALES BY TYPE OF INTERVENTION

Annual data for calculations extracted from Report
of the Deutsche Bundesbank, 1990, p.65.

FIGURE 12
SUM OF PURCHASES AND SALES OF DEUTSCHE-
MARKS BY TYPE OF INTERVENTION

Annual data for calculations extracted from
 Report of the Deutsche Bundesbank, 1990, p.65.

participating in the ERM, however, float against currencies outside of the ERM, such as the United States dollar. If ERM currencies can be viewed as a currency block⁶ and the Deutschmark as the block's anchor (owing to its strength) then the Deutschmark should be expected to be the ERM's currency of intervention against the dollar.

Proof of the use of the Deutschmark as the EMS's currency of intervention against the dollar has already been inferred in the discussion of global holdings of Deutschmarks as a reserve currency. However, additional proof is provided by Table 14 above which outlines the periods as defined and chosen by the Bundesbank of large scale interventions by EMS central banks in the foreign exchange markets. The table reveals that, not only were periods of significant change within the ERM included, but that periods of United States dollar weakness and strength have also been isolated. The scale of these interventions is a clear indication of hegemonic strength.

The second and third tests of currency strength involve the consideration of the relative volatilities of the hegemon's currency and interest rates compared to other currencies within and outside of the EMS. The premise of this test is that the lower the relative volatility of the hegemon's currency and interest rates, the more stable and thus more powerful the proposed hegemon's currency. By extension, convergence of relative volatility is indicative of declining relative position, although this may be reflective of the consolidation of the regime around the hegemon. In this manner the loss of the hegemon's relative position would in fact reflect its

hegemonic position.

Figures 13 through 18 map these volatilities over time. Figure 13 maps the relative volatility of selected ERM currencies against the United States dollar. This figure indicates that all the currencies have experienced similar volatility against the United States dollar and that no one currency has been less volatile against the dollar.

As suggested in Chapter One, any discussion of volatility should make allowance for the fact that exchange rates have two components: a trend component and a stochastic component. Figure 14 shows the trend of the EMS exchange rates against the United States dollar and Figure 15 maps their paths over time. Volatility tests focus on the stochastic element of the exchange rate rather than its trend. Since an exchange rate could experience a constant proportional decrease or increase but show very little volatility, it is important that the exchange rates being compared follow similar trends. Figures 14 and 15 support and reinforce the volatility tests as all the currencies considered follow the same relative path over time.

If Germany is a hegemon then its currency should be its source of power at least among the currencies in the ERM of the EMS. Figure 16 shows the volatility of key bilateral exchange rates against the Deutschmark. The figure indicates that after 1983 these bilateral exchange rates became less volatile and started to converge, thus reflecting, in part, the consolidation of the regime around the Deutschmark. If this interpretation is accepted as an indication of hegemonic strength, the test supports the theory of hegemonic stability. Figures 17 and 18 reinforce the results

FIGURE 13
VOLATILITY OF SELECTED ERM CURRENCIES
AGAINST THE US DOLLAR

Volatility: annualized 12 month standard deviation of logarithmic changes in monthly rates.

Data extracted from International Financial Statistics, various years, linea LRF.

FIGURE 14
TREND AGAINST US\$

Monthly data used in calculation extracted from International Financial Statistics, various years, line RF.

FIGURE 15
SELECTED EMS CURRENCIES
AGAINST THE US DOLLAR

Data extracted from International Financial Statistics,
various years, lines LRF.

FIGURE 16
VOLATILITY OF SELECTED EMS CURRENCIES
AGAINST THE DEUTSCHEMARK

Monthly data used in calculations extracted from International Financial Statistics, various years, line RF.

Volatility: annualized standard deviation of logarithmic changes in monthly rates.

FIGURE 17
TREND AGAINST DM

Monthly data for calculations extracted from International Financial Statistics, various years, line RF.

Trend = $X - \text{mean of } X$

FIGURE 18
SELECTED EMS CURRENCIES
AGAINST THE DEUTSCHEMARK

Monthly data extracted for calculations extracted from
International Financial Statistics, various years, line LRF
 line LWF for Belgium

of the volatility test as they indicate that the bilateral exchange rates have the same trend and follow the same path over time.

Figure 19 provides further support of this premise as it indicates a convergence of short-term interest rate volatilities. German LIBOR⁷ rates are much less volatile than French LIBOR rates in the early years of the EMS, but as the regime matures the relative volatility of French libor rates fall indicating a consolidation of the regime around the hegemon.

b) Second dimension: willingness

The dimension of willingness argues that the leadership required for regime existence is most likely "when one state is powerful enough to maintain the essential rules governing interstate relations, and willing to do so" (Keohane and Nye, 1977, p.44). The test of willingness used considers the views and actions of the Bundesbank since the Bundesbank is a domestic institution with a domestic agenda with the ability to seriously disrupt the regime's functioning by not providing the regime with the liquidity required.

As discussed above Figures 11 and 12 indicate that not only has the Deutschemark been used increasingly in interventions, but that the type of intervention has shifted from marginal or obligatory interventions to intra-marginal interventions. As outlined by Mastropasqua et al. (1989) the availability of Deutschemarks for purposes of both interventions at the margin and intramarginal interventions has been important for the regime. Therefore, given the increased use of the Deutschemark, the potential expansionary effects of such use on money supply,

FIGURE 19
VOLATILITY OF 3 MONTH LIBOR RATES
FOR THE FRENCH FRANC & DEUTSCHEMARK

Monthly data for calculations extracted from
International Financial Statistics, various years, line 60EA.

Volatility: annualized 12 month standard deviation
of logarithmic changes in monthly rates.

and the Bundesbank's negative attitude toward such expansions in German money supply, the increased role of the Deutschemmark and the acceptance of its use in intra-marginal interventions seem remarkable.

Not all forms of intervention, however, affect the monetary base of the country issuing the intervention currency. As already discussed, if the Bank of Italy needs to support the lira, it may do so by selling Deutschemarks made available to the Bank of Italy through the VSTF or directly from the Bundesbank. The effect of this would be to expand Germany's monetary base and contract the Italian money supply. This action may result and be reinforced by a widening of Italian and German interest rates differentials, with an increase in Italian rates and a decrease in German rates. However, if the Bank of Italy supports the weakened lira by selling Deutschemark deposits available in the Euromarkets, this will have no effect on Germany's monetary base since the central bank does not experience a change in the liabilities side of its bank sheet, while the Bank of Italy may experience some contraction in its monetary base (Mastropasqua et al., 1989, p.270).

The availability of ERM currencies, especially Deutschemarks on the Euromarkets is significant as "most interventions in EEC currencies have been made with balances held in the Euromarkets" and this is why "the considerable increase in the scale of operations in the Deutsche mark has not provoked stronger resistance by the Bundesbank" (Mastropasqua et al., 1989, p.270)⁸.

Table 14 and Figure 11 above tend to support this case. While it is clear that there has been an increase in the use of Deutschemarks for the purposes of

intervention, it is also clear, as indicated by the last column in Table 14, over the period of time considered, this has not had a negative effect upon the Bundesbank's control over German money supply.

Ungerer et al. (1990) made two separate comments on the operation of the EMS, the use of intra-marginal interventions and the manner in which the Bundesbank has modified its views. The first comment was in reference to the period immediately previous to the Basle/Nyborg agreement, and the second was in reference to the period following the agreement. Ungerer et al. (1990) stated that previous to the agreement, as several countries undertook to maintain a stable exchange rate relationship against the Deutschemark, the "German authorities initially were quite reluctant to have their currency assume such a central role in the EMS because they were wary of possible risks to their own monetary policy" with the increased recourse to intramarginal interventions that such exchange rate policies involved (Ungerer et al., 1990, p.6). Over time, however, the German authorities accepted intramarginal interventions "since such transactions were financed with funds purchased by the intervening central bank in the market during earlier periods of Deutschemark weakness, they did not add to the existing aggregate supply of Deutschemarks [as did interventions at the margin]" (Ungerer et al, 1990, p.6). In the case of interventions at the margin the central bank supporting its weakened currency has access to "unlimited financing by respective partner central banks" (Ungerer et al., 1990, p.5). This in turn increases the monetary base of the partner central bank. Table 15 proves that the use of Deutschemarks for intramarginal

interventions did not inflate Germany's monetary base as the net effect of interventions, of all types, upon Germany's monetary was negative rather than positive.

The second comment made by Ungerer et al. (1990) on the operation of the EMS is made directly in connection to the Basle/Nyborg agreement which made possible the financing of intramarginal interventions through the VSTF. "Public opinion in Germany expressed fear that the obligation to finance intramarginal intervention, even if subject to certain limits", could endanger German monetary policy (Ungerer et al., 1990, p.9). This view, however, neglected that:

[i]ntramarginal intervention remained subject to approval by the central bank issuing the intervention currency; that the amounts involved would be limited in relation to total money supply; and that, unless tension in the ERM was to be resolved by a realignment of central rates, the alternative to intramarginal intervention would be intervention at the margins where the financing obligation would be unlimited in amount. (Ungerer et al, 1990, p.9).

Not only was public opinion apprehensive of the institutional changes agreed to in the Basle/Nyborg agreement, but the Bundesbank also registered its concerns and its reasons for having particular conditions attached to the financing of intramarginal interventions:

[i]n the past intramarginal foreign exchange market operations were primarily reflected in changes in the reserves of the intervening central bank that were held in the market; this had no direct impact on domestic liquidity in the country whose currency was used for intervention purposes. By contrast, the current development of liquidity is directly affected if intramarginal interventions exercise an immediate influence on bank liquidity through being financed via the EMCF. This is why the main aim in the negotiations on the financing

of intramarginal interventions was to limit the risks to monetary policy posed by the arrangements (Report of the Bundesbank, 1987, p.67).

These comments therefore indicate that it is difficult to prove that there was a change in willingness at a state or domestic level in Germany over the time considered in this thesis.

In sum, the acceptance of a view of hegemony that includes the dimension of willingness implies that it is not sufficient that the hegemon have the power necessary to be the force behind the regime; the hegemon must support it at a state level. A discussion of willingness at the state level, in the case of the EMS, is not sufficient as it would neglect the role of the Deutsche Bundesbank which is a domestic institution with a domestic agenda. The analysis shows that the Deutsche Bundesbank has been important not because of its support of the regime, but because of its lack of disruptive behaviour. If the required Deutschemarks had not been sufficient to support the exchange rate policies followed by the other ERM countries after 1983, the EMS might have not functioned as smoothly as it did up October 1990⁹.

c) Third dimension: "ideology"

This dimension of hegemony directly considers the question of deference by secondary states to the hegemon over the time the regime was initiated and maintained. In the case of the EMS, the ideology is neo-classical economics as epitomised by the practices of the German authorities and as adopted by not only EMS countries in the 1980s but also by the United States.

The shift towards monetarist policies as a consequence of the adoption of the

neo-classical view by the G7 over the series of Seven Power Summits has been investigated by Putnam and Bayne (1987, pp.96-97). After the Bonn Summit of 1978 there was a marked shift from fiscal and monetary policy based on demand-management to monetarism¹⁰. As outlined by Putnam and Bayne, the Germans had always argued on the side of monetarism, but the United Kingdom and the United States had adopted such policies only with the election of Margaret Thatcher as Prime Minister of the United Kingdom in May of 1979, and the introduction of control over money supply aggregates by Paul Volcker, the Chairperson of the United States Federal Reserve, in October of 1979 (1987, p.98). In the United States, the trend initiated by Paul Volcker was reinforced by the election of Ronald Reagan in 1979 (Putnam and Bayne, 1987, p.98).

In the previous section the Bundesbank was represented as a domestic institution with its own set of domestic objectives which it would not undermine even at the cost of the EMS. Although the Bundesbank's concerns are domestic, this does not preclude the possibility that it has been used by other state actors within the EEC to push for the acceptance of an economic ideology as practised by the Bundesbank. Although it is difficult to prove that other state actors have attempted to make political use of the Bundesbank's objectives, proof of deference is implied by other states hiring a "credible banker" and achieving low inflation at the cost of high unemployment as illustrated by Table 8.

In summary, the tests used to examine the explanatory power of hegemonic stability indicate that the theory has explanatory power that extends beyond the

resources of the hegemon and includes the willingness of the state and role of ideology. The tests concerned with the resources of the hegemon are, however, the easiest to apply and interpret. The tests concerned with holdings of Deutschemark as a reserve currency, the use of Deutschemark as a currency of intervention, and the relative volatility of Deutschemarks and Euro-Deutschemark rates all support the theory that during the birth and consolidation hegemonic strength would be expected to be strong and then, in some areas show some signs of flattening out as other members improve their position as a consequence of participating in the regime. Dissipation of hegemonic strength would be expected to occur in the final years of the regime's life. In the case under consideration these years are not considered in this thesis, although it could be argued that they have been foreshadowed by some of the events that occurred in the regime after 1987.

The tests concerned with ideology and state willingness are more difficult to construct, apply and interpret, but this should not detract from the possible insights that the dimensions of willingness and ideology provide. In the case of the EMS these dimensions were discussed in connection with the Bundesbank's view of the use of the Deutschemark as a reserve currency and the importance of an environment characterized by a monetarist economic ideology as epitomised by the practices of the Bundesbank. In this manner the dimensions of willingness and ideology help to underline the complex nature of cooperation.

(ii) FUNCTIONALIST

The functionalist theory tested is based on the premise that international

regimes such as the EMS are demanded by their participants. This demand is derived from the expectation that international regimes are a mechanism through which political market failure can be prevented. Political market failure encompasses the problem of legal liability, imperfect information and high transaction costs. Each of these aspects of political market failure is considered in turn.

The examination of the problem of legal liability and whether it has been overcome by the regime involves two separate tests. The evaluation of whether the regime provides a mechanism through which stable mutual expectations of the behaviour of all parties are created is the subject of the first test; and consideration of whether the regime makes provision for the adaptation of the practices of its participants in view of changing circumstances is the second.

In the ERM of the EMS the expectations of the behaviour of its participants are explicitly created through rules and decision-making procedures. Specifically, ERM rules concerning intervention at the margin guarantee that specific actions are undertaken by some or all of the regime's participants. These rules also specify conditions under which financing can be acquired. Likewise, the shift towards intramarginal interventions over interventions at the margin is an indication of the flexibility of the regime as the goals of its participants evolved.

In addition, the provision of capital controls¹¹ has provided those countries adopting them with "room-to-manoeuvre", over a period when the economies of most ERM countries had not converged and divergent policies were believed to be required for the fulfilment of various domestic goals¹². Capital controls have also

been used by countries with high domestic interest rates that need to avoid an appreciation of their currency (The Economist, June 24 1989, p.8). In the case of Spain, the appreciation of the Spanish peseta, which would have resulted without capital controls, would have broken the parities of ERM which it had for so long shadowed.

These tests thus help to explain how the regime overcomes the problem of legal liability through the rule and decision-making procedures of the ERM. They provide a mechanism through which mutual expectations are created. Nevertheless, the regime was also flexible, in part because of capital controls, allowing for the changing circumstances of its participants.

The problem of imperfect information and whether the regime overcomes this problem is the focus of the next set of tests. Information concerning exchange rate movements, and thus exchange rate stability, is provided by both the nation-to-nation grid of exchange rate parities and the nation-to-ECU grid. The divergence indicator, which is associated with the second grid, increases the transparency as to how each currency is trading against other currencies within the ERM.

The third set of tests is concerned with the role that regimes play in the reduction of transaction costs as a consequence of issue density. This set of tests must show that either the regime provides negotiating procedures that are applicable to a variety of potential agreements within a similar substantive area of activity, or that transaction costs, arising because of issue linkage, are reduced as a consequence of the regime's existence.

To prove therefore that transaction costs had a role in the regime's development and continue to have a role in the regime's maintenance of the EMS, issue density is established in each issue area. In order to establish issue density and the role of transactions costs, the EMS is considered in the context of the EEC's Common Agricultural Policy (CAP), the European customs union, and Europe's position vis-a-vis the world in general and the United States specifically. These issue areas have existed since the late 1950s and continue to be relevant to the current functioning of the EMS in specific and European decision-making in general.

Giavazzi and Giovannini (1988, pp.7-9) outline the significance of exchange rate stability to the functioning of CAP. The authors outline that the "survival of the common agricultural market depends upon the stability of intra-European exchange rates" (Giavazzi and Giovannini, 1988, p.7). The example provided by the authors is as follows:

Consider French and German grains for example: they are almost perfect substitutes. Thus the 'Law of One Price' for cereals should hold exactly. However input prices in agriculture--labour costs in particular--do not follow the 'law of one price': exchange rate realignments could thus produce large shifts in the profitability of the farming sector across Europe, and induce swings in agricultural trade in the region. The problem is aggravated by the fact that across European agricultural markets the 'Law of one price' rules by law. This is because the European Commission regulates the cereals market setting an EEC wide price for each product. The price is set in ECUs and translated in local currencies at the ongoing rate. (Giavazzi and Giovannini, 1988, p.7).

This example isolates two problems: that input prices vary across Europe, and that the rule of 'Law of One Price' is law. Since labour productivity in France may be lower than in Germany, cereal produced in Germany should be relatively cheaper

in terms of labour and thus, if there were no free trade, cereal production would be expected to be more profitable in Germany. The extent that cereal production in Germany is more profitable would depend on movements in the exchange rate. The lower the value of the French franc relative to the Deutschemark, the more profitable is cereal production in Germany. However, given that the 'Law of One Price holds', despite differentials in productivity between Germany and France, cereal production in France is guaranteed to be as profitable as cereal production in Germany. That is, the domestic price of a given measure of cereal in France multiplied by the current exchange rate (Ffr/DM) is assured to be equivalent to the domestic price of a given measure of cereal in Germany.

One of the implications of such a system, outside of the economic distortions created by such a guarantee, is the difficulty of managing and maintaining a system that guarantees the 'Law of One Price' but involves a multiple number of potentially unstable bilateral exchange rates of the EEC. As outlined by Giavazzi and Giovannini, the problem created by running a common market in a region not using a common currency was first illustrated with the devaluation of the French franc in August 1969 and the revaluation of the Deutschemark in October of that year. The response to this situation was a temporary suspension of the free cereals market and the following actions by France and Germany:

France prevented a jump in cereals prices on the home market by converting the common ECU price at an artificial exchange rate--that did not reflect the devaluation. Germany avoided being flooded with French cereals by imposing a tariff on imports and granting an export subsidy to its own farmers (Giavazzi and Giovannini, 1988, p.8).

This practice of combining tariffs and subsidies to compensate for exchange rate realignments became common in the early 1970s (Giavazzi and Giovannini, 1988, p.8), although it was costly to the EEC budget for two reasons.

The first is that it proved easier to remove the tariffs by letting agricultural prices rise in the devaluing country, than to remove the subsidies by cutting prices in the revaluing country. Therefore the revenue from the tariffs did not match the expenditure on the subsidies. The persistence of export subsidies in strong-currency countries aggravated Europe's chronic overproduction of food. By the mid-1970s two thirds of the financial resources available to the EEC were absorbed by the cost of running the agricultural market--leaving very little room for action in other countries in other areas (Giavazzi and Giovannini, 1988, p.8).

Table 16 outlines the allocation of the EEC budget in millions of ECU and Table 17 contains the share of the EEC budget allocated to each category of EEC expenditures since the 1970s. Tables 16 and 17 indicate that not only is the size of the expenditures devoted to subsidizing CAP significant, but also the expenditure on agriculture as a whole comprised a large portion of total EEC expenditure despite its decline on a percentage basis after 1986. Given the significance of the CAP on the EEC, the role of the ERM in assisting in the management of CAP in an environment characterized by multiple currencies cannot be underestimated. Thus, it can be argued that issue density exists and that the ERM has directly contributed and will continue to contribute, for as long as it exists, to the reduction of transaction costs associated with the CAP and similar European programs.

It is difficult to quantify the reduction in transaction costs to which the ERM has contributed, except to note that as the ERM has stabilized, the number of realignments have been reduced, and therefore it is likely that the CAP must be

TABLE 16
COMPONENTS OF EEC BUDGET
MILLIONS OF ECU

	1971	1973	1976	1981	1986	1988	1989
EAGGF GUARANTEE	1755.6	3614.4	5636.7	11580.0	22112.0	26391.8	26741.0
STRUCTURAL POLICIES	1180	259.1	623.8	3266.1	6223.8	7963.2	10523.7
RESEARCH ENERGY	64.0	68.8	110.7	313.9	758.8	1394.8	1755.8
DEVELOPMENT COOPERATION	0.4	63.3	202.8	795.7	1171.5	1261.8	1240.5
ADMINISTRATION	137.8	245.3	430.7	1035.4	1603.2	1958.1	2152.7
MISC.	131.3	254.3	558.1	1443.1	3304.8	4343.5	4012.2
TOTAL	2207.1	4505.2	7562.8	18434.2	35174.1	43313.2	46425.9

TABLE 17
COMPONENTS OF EEC BUDGET
SHARE OF GENERAL BUDGET

	1971	1973	1976	1981	1986	1988	1989
EAGGF GUARANTEE	79.5	80.2	74.5	62.8	62.9	60.9	57.6
STRUCTURAL POLICIES	5.3	5.8	8.2	17.7	17.7	18.4	22.7
RESEARCH ENERGY	2.9	1.5	1.5	1.7	2.2	3.2	3.8
DEVELOPMENT COOPERATION	0.0	1.4	2.7	4.3	3.3	2.9	2.7
ADMINISTRATION	6.2	5.4	5.7	5.6	4.6	4.5	4.6
MISC.	5.9	5.6	7.4	7.8	9.4	10.0	8.6

Notes: EAGGF, refers to what is commonly known as the payments made by the EEC to subsidize Agriculture in the EEC (CAP)

Adapted from: The Community Budget: The Facts in Figures, 1989, p.13, Table 1.

more manageable with the ERM than without it. Nevertheless, the 'agri-monetary' consequences of a realignment are still an important item in realignment negotiations for as indicated by Giavazzi and Giovannini the "realignment communiques...always carefully spell out the provisions for the agricultural markets--the timing of price adjustments, etc "(Giavazzi and Giovannini, 1983, p.9).

As with the case of the CAP, the existence of an European customs union, the openness of EEC economies (Table 18), and the volume of intra-EEC trade require stable exchange rates. While the need for stable exchange rates was recognised as a requirement for the fulfilment of the objectives set out in the Treaty of Rome¹³ (signed on March 25, 1957), as of the end of 1968, the EMS was not essential owing to the exchange rate stability associated with Bretton Woods. It was only with the breakdown of Bretton Woods followed by the failure of the "Snake" that the EMS was sponsored. Thus, as discussed in the historical overviews in Chapters One and Three, the EMS provided and continues to provide an European solution to the requirement for stable exchange rates that emanates from Europe's attempts, past and current, to integrate more fully politically and economically.

In this fashion the transaction costs associated with the CAP, its significance to some of the EEC's most influential members, in addition to the existence of an European customs union, the openness of the EEC economies and the significant volume of intra-EEC trade have not only contributed to the original demand for the regime but also its continued existence. Nevertheless, while the question of why the regime continues to be supplied after its establishment may be answered in the

TABLE 18
OPENNESS OF SELECTED ERM PARTICIPATING COUNTRIES

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
IMPORTS OF GOODS AND SERVICES AS A % OF GDP (MARKET PRICES)														
BELGIUM	58.2	56.3	62.6	65.4	69.8	72.8	72.8	77.3	74.3	66.7	66.5	69.0	73.7	73.1
FRANCE	20.4	19.1	20.6	22.7	23.5	23.7	22.6	23.5	23.2	20.2	20.6	21.4	23.0	23.2
GERMANY	23.0	22.3	24.4	26.7	27.8	27.2	26.6	28.1	28.3	24.4	23.4	23.9	25.7	26.8
ITALY	22.2	21.2	23.2	24.6	25.3	24.0	21.4	23.0	23.2	18.8	18.9	19.3	20.7	20.2
EXPORTS OF GOODS AND SERVICES AS A % OF GDP (MARKET PRICES)														
BELGIUM	57.6	55.6	60.8	62.9	68.1	71.8	74.6	79.0	76.9	70.7	69.7	72.3	76.7	75.3
FRANCE	20.5	20.4	21.2	21.5	22.6	21.8	22.5	24.1	23.9	21.3	20.8	21.5	23.5	23.4
GERMANY	25.3	24.8	24.9	26.2	28.6	29.6	28.5	30.3	31.9	29.7	28.5	29.0	30.9	32.8
ITALY	23.2	23.4	24.3	21.9	23.3	23.0	22.1	22.7	22.8	20.3	19.6	19.6	21.0	20.6

11) European Economy, Annual Economic Report No. 46, Dec 1990

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

benefits received from the reduction in transaction costs, the question of its initial supply is not independently provided by this functionalist theory. In fact, its arguments lead back to the theory of hegemonic stability. For example, if the CAP had not been seen as an important issue for either France or Germany, it is not clear that the EMS would have been supplied by either of its participants.

Despite this theoretical shortcoming, Keohane's functionalist theory cannot be dismissed, considering the insights it may provide about the influence of issue density on regime evolution. This theory provides an indication of why once the regime is established it would likely continue to be supported by its participants once its affect on transaction costs becomes apparent to the regime's members owing to the existence of issue-linkages. In the case of the EMS, especially after 1983, its members would have most certainly appreciated the manner in which increased exchange rate stability directly supported the CAP and indirectly the EEC as a whole.

The discussion up to this point has highlighted economic issue linkages as a potential force behind the birth and consolidation of the regime. In the case of the birth of EMS it has been argued, however, that the issue linkages have been mainly economic. Robert Solomon has made the point that while authors such as Peter Ludlow have focused upon economic considerations their arguments are more logical if the EMS is viewed as a political rather than economic mechanism. For example Peter Ludlow argues, as summarized by Solomon, that beyond the political aspirations of Roy Jenkins'⁴ (Solomon, 1982, p.294), that the decision of Chancellor

Schmidt of Germany to support the EMS in 1978 was threefold: a reaction to American inaction on the weak dollar; a lack of rapport between Chancellor Schmidt and President Carter of the United States; and American pressure on Germany and Japan to adopt more expansionary policies. Solomon argues that this presentation of the problems facing Germany cannot be solved by the EMS if the EMS is only considered on an economic level. However, if the EMS is seen as providing a "nucleus for European political union" then Ludlow's explanation of Schmidt's motivations is more sensible (Solomon, 1982, p.295).

Unlike Chancellor Schmidt, President Giscard d'Estaing was less concerned with the United States and more concerned with the economic position of France, specifically France's position vis-a-vis Germany, in addition to the need "to buttress the domestic economic program of Prime Minister Raymond Barre aimed at financial stability and structural adaptation" (Solomon, 1982, p.295). Solomon supports the above with a few remarks by President Giscard d'Estaing during a press conference held on November 1978:

West Germany has acquired a level of economic development and monetary power over the last few years that has placed it in the forefront of the industrialized countries, and I don't think it is good for Europe to have only one of its member states in this situation. As Europe must have a structure with equilibrium, and since this structure will be confederal, equilibrium will be much better ensured if the principal partners are in comparable situations. This is one of the reasons why I said it was important for France to be influential in Europe, for it to have this as an objective. In order to be influential it is important for us to have comparable means...of the same general order as West Germany's (Solomon, 1982, p.295)¹⁵.

Thus while President Giscard d'Estaing's concerns differed from Chancellor Schmidt's

both views were, in part, politically motivated.

In sum, in view of the costs of political issue linkages, the costs implied by the existence of multiple currencies combined with such economic structures as the CAP and an European customs union, a shift from the ERM to a single currency would increase the political leverage of the EEC and reduce economic transaction costs. Although the associated cost savings may be appreciable and provide some demand for a regime, transactions costs by themselves, or the correction of other political market failures, do not provide a sufficient explanation as to why a new regime might be supplied by its participants. This is because the benefits to a state of maintaining its own currency, or the rights ensured under the old regime, may be greater than the benefits perceived from a reduction in transaction or other costs associated with political market failure.

Hence, this functionalist theory may provide some explanation as to why a particular regime might be demanded or supported. It fails, however, to provide an explanation of the conditions which promote the provision of the regime or the conditions associated with the eventual re-examination of the regime that may culminate in its metamorphosis or demise. For a more robust explanation of the supply side the theoretician is again left with the theory of hegemonic stability if only the traditional approaches and their associated theories of regime development are considered. However, if the non-traditional approaches are considered, a more robust explanation may be obtained.

SECTION THREE: NON-TRADITIONAL APPROACHES

(i) LEARNING

The statements considered in this section are concerned with the role of learning, as identified by Nye (1987) in regime development and evolution. The focus of Nye's work is national interests and how they become defined and change. Given that a change in national policy provides a signal of a change in national interest and hence learning, this investigation highlights shifts in policy by major players within the EMS.

The instances of shifts in policy considered are as follows:

- a) the shift in French economic policy in 1983;
- b) the Deutsche Bundesbank's shift in policy regarding the use of Deutschemarks for intramarginal interventions;
- c) the importance which France and Italy attached to monetary union after 1987; and
- d) the United Kingdom's decision in October 1990 to fully participate in the Exchange Rate Mechanism (ERM) of the EMS.

The questions asked in the examination of these shifts in policy are, was the national interest redefined, and if so was this the result of simple or complex learning. If learning is proven to have occurred, then its relationship to the development of the EMS is discussed. Reference is made to the literature on epistemic communities and the insights this literature may provide in the examination of economic regimes such as the EMS at the end of the discussion.

The first shift in policy considered is the shift in French economic policy in 1982 and 1983. The policy shift that occurred in France involved a dramatic movement from the pursuit of expansionary policies promised by a newly elected socialist government committed to social change to more contractionary policies like those followed by the previous government. The question is, however, did this shift indicate that there was a change in the national interest and, if so, were the means changed to achieve the same national goal or was there an adjustment in the national goal? It can be argued that complex learning did take place as not only was there a change in priorities but there was also a change in goals as exchange rate stability took priority over domestic concerns such as unemployment. The redefinition of the national interest by the French government in terms of the external constraint, as provided by the ERM rather than by domestic concerns, is reflective of this.

The first devaluation of the French franc associated with this period of exchange rate pressure occurred in October 1981, six months after the election of the Mitterand government in May of 1981. This devaluation underlined the strain which market forces placed on the Mitterand government. Nevertheless, in spite of this pressure the Government of France continued with the implementation of its programmes.

French policy started to change in 1982 with the devaluation of the French franc in June which was accompanied by the following four stabilization measures: a price and wage freeze until October 1982 - the first time since 1958; new taxes were raised through higher social security contributions; the budget deficit was

targeted at a level not to exceed 3 per cent of GDP and; some public expenditures were delayed (Sachs and Wyplosz, 1986, p.276). While these adjustments in policy accompanying the devaluation policy indicate a shift from fiscal expansion to fiscal constraint, the final shift in French policy did not occur until March 1983 with the third devaluation of the French franc since the election of the Mitterrand government which ended Mitterrand's short-lived expansionary programme launched in 1981 (Sachs and Wyplosz, 1986, p.277).

This final change in French policy, which constitutes complex learning, marks the end of a specific period in the regime's emergence and evolution. It was this shift in policy on the part of a major player, that was necessary for the smooth functioning and probably the continuance of the regime. Without a change in policy on the part of the French authorities, the regime would have been severely undermined, as up to 1983 there had already been several realignments underlining the instability of the grid of exchange rate parities.

The next policy shift considered occurred in the years following 1983 when the Deutsche Bundesbank changed its views regarding the use of Deutschemarks for intramarginal interventions. As outlined earlier, stability-oriented policies began to involve an increase in intramarginal interventions rather than interventions at the margin in support of the bilateral exchange rate parities defined by the national currency to national currency parity grid. The increase in intramarginal interventions often involved interventions linked to maintaining an ERM member's bilateral exchange rate against the Deutschemark. As the Deutschemark exchange rate

became the policy target of non-German ERM members the Deutschemmark became the effective the anchor currency of the ERM (Ungerer et al., 1990, p.6). As discussed earlier in connection to the willingness of the hegemon the German authorities were initially reluctant to have the Deutschemmark play such a role within the ERM lest it undermine Germany's monetary policy. Eventually, however, Germany did accept the use of its currency for intramarginal interventions because intramarginal interventions were financed with Deutschemarks that did not add to the existing supply, whereas interventions at the margin did affect supply. As a consequence, German authorities began to agree more readily and even at times encourage the use of their currency in intramarginal interventions (Ungerer et al, 1990, p.6).

Although the movement to intramarginal interventions has already been identified as a key operational feature in the regime after 1983, was the German national interest redefined and more specifically was it redefined in the interest of the regime? As already discussed, the national interest, control of German monetary policy, was not redefined as the German stance on intramarginal interventions only changed after German authorities were sure that these interventions were not affecting aggregate money supply; therefore, it cannot be argued that this shift in German policy constitutes learning which is understood as a change in the national interest. Simple learning cannot even be argued, given that intramarginal interventions are not instruments of stable monetary growth, although they did become instruments for other ERM countries attempting to achieve exchange rate

stability. In this manner it may be argued that, apart from Germany, there was a change in the means used to achieve national goals and that this shift in policy had a direct impact on the asymmetric evolution of the regime.

The third prominent policy shift considered is the increased importance that France and Italy attached to monetary union. Between 1983 and 1987 both countries acquiesced to German dominance within the EMS as a method to attain internal stability. However by the latter half of 1987, which is marked with the signing of the Basle/Nyborg agreement, the system was actively being re-examined. Non-German members were concerned with the asymmetry of the system and the burden of adjustment placed upon them. As indicated by Ungerer et al., Italy and France "called for changes in the way the system was being managed and policy priorities in the EMS were being determined" (1990, p.3). Much of this discussion was undertaken after the Basle/Nyborg agreement at a time when these economies had achieved some internal stability. The question is was there a shift in national interest from a focus on internal price stability, which was ensured with the Deutschemark at the centre of a asymmetric system, to one that favoured growth and higher employment? There are a number of indicators which support the view that a shift in national interest did not occur.

First, over the third period, both France and Italy dismantled their exchange controls, thereby taking steps to increase financial integration within the EEC, thus reducing the "room to manoeuvre" that the controls had given them. These changes ensured that France and Italy had the effect of increasing the discipline to which

their monetary policies were subject. If domestic concerns, such as growth and unemployment, had begun to take precedence over the regime, capital controls would not have been removed.

Countries such as France and Italy have always voiced concerns regarding the policy trade-offs implied by the goal of exchange rate stability, but only over the third period, at a time when their respective economies had stabilized, did they become more vocal. Gains in price stability were earned at the cost of higher unemployment in both countries. Therefore, unless it can be shown that either country was willing rank price stability behind unemployment, once the price of lower inflation had been paid, it can be argued that the discussion of the asymmetry of the EMS had less to do with its prevailing functioning and had more to do with attempts by other ERM countries to increase their negotiating power and influence over the broader question of European integration.

Given that these tests failed to indicate a shift in national interest it is again difficult to prove that complex learning had taken place; and if it had, it would have once again been simple learning since it is not clear that the goal of price stability had changed. Simple learning, however, argues that only the means that France and Italy used to achieve their goals had changed. Acceptance of the argument implies that monetary union was perceived as a means of achieving price stability rather than being understood in terms of the broader goal of European integration. This is unlikely as the goal of European integration goes back to the Treaty of Rome. The role of monetary integration within the context of European integration has its

explicit origins in the Werner plan.

The fourth shift in policy considered is the United Kingdom's decision to join the ERM of the EMS. The United Kingdom joined the EMS in 1979, but did not participate in the ERM of the EMS until October 8, 1990. In 1979, the United Kingdom (and other EMS participants), exchanged 20 per cent of its holdings of gold and dollars against ECUs; however, it did not agree to participate in the ERM. The Labour government of Prime Minister Callaghan declined full participation in all elements of the EMS on the grounds that it would be "prejudicial to the economy's competitiveness" because it would "impose a competitive penalty on an economy prone to inflationary shocks" (Artis, 1990, p.287). With Thatcher's election in 1979, the United Kingdom remained outside of the ERM as the policy of the Thatcher government was to fight inflation by following a gradualist monetary strategy which was inconsistent with membership in the ERM which would preclude an independent monetary policy (Artis, 1990, p.287). This strategy was unsuccessful, however, as the result was an appreciation of the exchange rate, a sharp and deep economic recession and a reduction in inflation ahead of that being achieved in Europe (Artis, 1990, p.289). The failure of this policy was a function of a self-declared pre-commitment of monetary stability which could not be maintained given the unstable demand for money. After the failure of this policy the exchange rate became an important target of monetary policy culminating in the pound sterling shadowing the Deutschemark with an upper limit of three DM per pound sterling (Artis, 1990, p.290). Although this might have led to participation of the United Kingdom in the ERM, it met

"recriminations, in February 1988 when the exchange rate was allowed to rise strongly". This led to the use of the interest rate as a target for monetary policy (Artis, 1990, pp.290-291).

Even as time passed and the benefits of ERM membership for exchange rate stability became established, the British government, in large part, remained opposed to the United Kingdom's full membership (Artis, 1990, pp.292-293). Artis (1990) has attempted to isolate official reservations regarding ERM membership that are economic rather than political. The first of these reservations was the vulnerability of sterling to oil price movements owing to the petro-currency status of sterling. The problem with this argument, however, is that the petro-currency status of sterling was not as significant as it was in the early 1980s.

The second reservation is concerned with the development of the prospect of a bipolar system organized around the Deutschmark and the United States dollar. If sterling continued as a vehicle currency "the potential for destabilizing shifts of funds between sterling and the DM was bigger than the potential for such shifts between the French franc or the lira and the DM" (Artis, 1990, p.294). This argument became less important with the Basle/Nyborg agreement which "increased the system's capacity...to counter speculation" and the discovery of the 'paradigm' of EMS realignments that, in large part, the changing of central rates and bands did not affect the market rate (Artis, 1990, p.294).

Arguably, equally important reservations include the loss of sovereignty of monetary policy associated with a monetary policy based on targeting the exchange

rate. This sovereignty could be partially regained with the collective decision-making associated with EMU, but without this there was a view that the EMS was predisposed toward exchange controls which had been abolished by the UK in 1979. Additional concerns included loss of competitiveness associated with a loss in the variation of the nominal exchange rate along with concerns over the loss of instruments, nominal interest and real interest rates, to stabilize inflation (Artis, 1990, pp.296-298).

In sum there were both legitimate and non-legitimate concerns regarding the membership of the United Kingdom in the ERM of the EMS. Therefore given these concerns, why did the United Kingdom join the ERM and did this constitute a shift in national policy?

At the time the United Kingdom joined the ERM, sterling was trading in international money markets at a level which the markets perceived could be maintained within the ERM and thus not strain the EMS. Although entrance of sterling at this time was convenient it does not, however, fully explain why the United Kingdom joined in October 1990. The case can be made that in fact a reshuffling in priorities occurred: while monetary sovereignty was important, influence over the further evolution of the EEC and political and monetary unification took priority. United Kingdom membership came in October 1990 just before the first Inter-governmental Conference (IGC) on monetary and political union in December of 1990 and after the submission of the Delors report and the adoption of stage one at the Madrid conference of 1989.

At the Madrid conference the United Kingdom presented a counter-proposal, which was then followed by a formal proposal in November 1989 and then supplemented in June 1990. These actions may arguably reflect British concerns regarding its potential lack of influence in the negotiations surrounding EMU or the EEC in general. This view is reflected by the Governor of the Bank of England who suggested that there were a range of potential benefits. Among these participation in the ERM would:

visibly confirm our (UK) commitment to greater European economic integration and, it is widely believed, would therefore enhance our influence within the Community, both in the debate on EMU and more generally. By the same token, there is a real risk that if, we were to remain outside of the ERM and were to abstain from the ERM, our influence within the Community could diminish (Bank of England, August 1989, pp 372-373).

In his speech the Governor of the Bank of England outlined the economic benefits to the United Kingdom of ERM membership which in his views were:

- (a) reduction in intra-EEC exchange rate volatility, therefore a reduction in costs for business;
- (b) the control over inflation; and
- (c) the strengthening of the credibility of each participant's counter-inflationary policy due to a reduction in inflationary expectations on the part of wage earners (Bank of England, August 1989, p. 373).

The economic benefits accruing to the United Kingdom in October of 1990 did not differ much from what was already evident to observers. European trade, as reflected in the changes in the United Kingdom's effective exchange rate¹⁶, had

become more important to the United Kingdom, in addition British monetary policy was a failure as measured against the steady gains against inflation made by full members of the ERM. It thus can be argued that the economic reasons provided for entering the ERM, while they underline the benefits of membership, they do not provide sufficient insight into the decision of the United Kingdom to participate in the ERM in October of 1990, thus reinforcing the argument that influence in the EEC had become more important than monetary independence.

If this reshuffling of priorities constitutes a change in the national interest, then the question to be asked is: what learning took place, complex or simple? Given that the goals of the United Kingdom, its interest in the EEC and control over inflation did not change, only the means changed with United Kingdom's membership in the ERM. Thus at one level it could be argued that the only learning undertaken was simple learning. However, if monetary independence was no longer considered a goal, then this policy shift which effectively limited monetary autonomy constitutes complex learning.

If it is accepted that some level of learning occurred with the membership of the United Kingdom in the ERM, what was the effect of the United Kingdom's decision to enter sterling in the ERM upon the evolution of the EMS? The membership of the United Kingdom is important as the United Kingdom was the last major economy within the EEC to join: however, its ignominious departure in September of 1992 is indicative that in the opinion of the regime's other members the United Kingdom's membership was not sufficiently important to the regime's

continuance and evolution.

As discussed in Chapter One the series of statements concerning learning may be extended with some of the literature on the role of epistemic communities, such as central bankers, in the formation of national policies, such as the targeting of exchange rates with the goal of price and exchange rate stability, through policy innovation, diffusion, and persistence. Full consideration of the explanatory power of this literature requires that central bankers form an epistemic community. Kapstein (1992), however, has argued that central bankers are not yet a club in the sense of an epistemic community. In Kapstein's view the transformation is not complete and for this to occur:

First a substantial body of consensual theoretical and empirical knowledge on international banking would have to emerge. Second, regulatory policies and practices would have to be based on this consensual knowledge.... And, third, a supranational regulatory agency would probably be needed to insulate banks supervisors from domestic political pressures (Kapstein, 1992, p.268).

In addition, the most recent literature on cooperation as evidenced by the signing of the Single European Act¹⁷, Morvacisk has found evidence that apart from the role of supranational institutions in cementing existing interstate bargains as the foundation for renewed integration, the "primary source of integration lies in the interest of states themselves and the relative power each brings to Brussels" (1991, p.56). The conclusions in a related area of EEC progress provide further support of the treatment of EMS as a regime whose evolution is a product of state interests rather than a club of central bankers.

This treatment of the EMS, however, does not preclude the discussion of the

influence of central banks and the use of Putnam's two-level game, as suggested by Adler and Haas (1992) in understanding the manner in which the external constraint presented at an international level can be used to achieve a domestic goal that could not otherwise be attained owing to a lack of political will at a domestic level. In this manner the argument underlines one aspect of the argument of credible banker.

In sum, the discussion of learning and whether it occurred in the case of the shift in French economic policy in 1983, the Bundesbank's attitude toward the use of Deutschemarks, the emphasis which France and Italy placed on monetary union and the timing of the United Kingdom's decision to participate in the EMS all help to provide a more robust explanation of regime development and evolution. Consideration of these issues not only underlines the complex nature of regime evolution, but consideration of the question of complex or simple learning assists in the isolation of those events which are indicative of increased or decreased commitment of the regime's members to the regime. For example, the shift in French policy in 1983 is arguably both an example of complex learning and of the increased commitment to the regime despite the implications of this commitment.

The examples of simple learning, on the other hand, are also examples of how members of the regime have sought to influence the evolution of the regime. This is true of the new importance that Italy and France attached to monetary union and in the United Kingdom's decision to fully participate in the ERM of the EMS. In the case where learning was not found the actor in question, the Deutsche Bundesbank, had not fundamentally changed its attitudes towards the regime since

German monetary stability was not threatened.

(ii) EXTERNAL FORCES

The approach examined in this section considers the effect of external forces upon state action. The emphasis here is on the discipline which market forces and actors exert on state actors and regimes. The test of the statements associated with this approach considers the power of international capital in terms of its identifiable influence on foreign exchange markets and the correlation between identifiable shifts in state policy and the pressure exerted by transnational capital.

The test in this section is borrowed from Sachs and Wyplosz (1986), who attempt to gauge the role of market confidence (or lack thereof) in the deterioration of the French economy between May 1981 and March 1983 and on the eventual pronounced shift in French policies. The test focuses on changes in the three-month forward exchange rate of the French franc vis-a-vis the Deutschemark. The purpose of the test is to reveal how a given market response may have resulted in an adjustment in policy which effectively implies that the non-state actors can constrain government action.

The foreign exchange markets of May 1981 and 1983 provided the turbulent environment in which French authorities operated. As already discussed, this period covers the election of the Mitterand government in 1980 and the shift in French policy which occurred in March 1983. As indicated by Sachs and Wyplosz the attitudes taken by the markets were the direct consequence of the policy initiatives undertaken by the Mitterand government. Figure 20 maps the reaction of the foreign

FIGURE 20
FORWARD DISCOUNT OF THE FRENCH FRANC
AGAINST THE DEUTSCHEMARK

Spot - 3 month forward
discount (-)/Premium

Monthly data for calculations extracted from
International Financial Statistics, various years,
lines EA and RF.

3 month forward rate:

$$F = [(1 + f_{FF}(3/12)) / (1 + r_{DM}(3/12))] \times \text{Spot}$$

exchange markets by presenting the discount on the three-month forward exchange rate of the French franc in terms of the Deutschemark. This is a crude measure of market expectations of an exchange rate depreciation.

As Sachs and Wyplosz indicate, there are three perceptible sub-periods in the pattern of both series during 1983 and 1985 which start with the election of Mitterand government in 1981 and a drop in both series. The second sub-period starts in June 1982 with the second devaluation of the French franc and the first of the restrictive measures undertaken by the French government. Finally, in the third sub-period both variables recover with the shift towards austerity measures at the time of the third devaluation of the French franc.

Figure 21 maps the negative reaction of the currency markets to the policy initiatives initially undertaken by the Mitterand government. The foreign exchange market and specifically that for the French franc only stabilized and recovered with the reversals of these initiatives. The severity of the forward discount on the French franc indicates the pressure brought to bear on the French franc over this period. Figure 21 indicates the effect of market action in terms of both the premium which had to be offered on offshore deposit rates of French francs, in order for those deposits to be maintained, and the movement in the spot exchange rate at which the French franc was traded against the Deutschemark.

Although it cannot be proven that Mitterand's final decision to reverse his policies initiated with his election was a consequence of the pressure which foreign exchange markets exerted on the French franc, it has been shown that these markets

FIGURE 21
THE FORWARD DISCOUNT OF THE FRENCH FRANC AGAINST
THE DEUTSCHEMARK & UNDERLYING

Monthly data for calculations extracted from
International Financial Statistics, various years,
 lines EA and RF

3 month forward rate:

$$F = [(1 + r_{FFr} (3/12)) / (1 + r_{DM} (3/12))] \times \text{Spot}$$

put a considerable strain on the French franc within the ERM and forced a political decision. This strain became more apparent after the second devaluation and forced President Mitterand to make a political decision. At that time President Mitterand had two choices. The first was to abandon austerity and expand spending through the abandonment of the EMS, the devaluation of the French franc and the implementation of protectionist barriers to manage the trade deficit. This policy choice was that which was endorsed by Mitterand's Industry Minister Chevenement and his left-wing backers (Sachs and Wyplosz, 1986, p.276). The second alternative, which was the one implemented, was backed by Economics and Finance Minister Delors and the market-oriented wing of the Socialist policy and included the "strengthening of the austerity measures phased in since" the devaluation of June 1982. Mitterand's choice of the second alternative meant the reversal of his program upon which he was elected. This choice may, in large part, have been undertaken because to take France out of the EMS would have "meant a reversal of the trend towards European integration on which French policy had been based for 30 years" (Hall, 1990, p.177).

In sum, consideration of the role of external forces, underlines that regimes, and especially financial regimes such as the EMS, do not operate in a vacuum and are affected by forces beyond the realm of the state. Although only one test was provided for the approach, it is an approach that needs to be considered especially as the influence of financial markets has become and will continue to be more pronounced with the advances made in information technology.

SECTION FOUR: CONCLUSION

This chapter tested the explanatory power of various theoretical approaches concerned with regimes and their evolution with the case of the EMS. Each approach was found to have its own strength and weaknesses. Looking at a three-dimensional theory of hegemonic stability, the three tests surrounding the first all tend to underline the hegemonic strength of Germany over the time frame discussed in this thesis.

The volatility tests indicated that relative strength of the Deutschemark has declined but that occurred with the consolidation of the regime around Germany. In the case of foreign exchange reserves, there was some indication of increased relative strength. The use of interventions at the margin, as a measure of state strength, were initially prevalent and then declined, while intramarginal interventions increased. The contradictory results of these tests, however, are indicative of the changing nature of the regime.

The other two dimensions of this theory, willingness and ideology, were useful in underlining the role of a domestic state structure, the Bundesbank. However these two dimensions were not helpful in providing any insight into the changes that occurred over the life of the regime.

The tests of Keohane's functionalist theory indicate that the theory has explanatory power in terms of suggesting the role of regimes in overcoming political market failure where there is both economic and political issue density. The tests demonstrated that while political market failure may result in the demand for a

regime by its eventual participants, the problem of political market failure in no way necessitates the supply of the regime by its members.

The tests of learning and external forces were most helpful in terms of the discussion of the actions undertaken by its participants within the regime. The tests did not yield any evidence that learning or external forces could support any predictions of state behaviour, although they were helpful in the investigation of changes in state behaviour and thus the evolution of the regime. While the consideration of external forces helped to underline the constraint which markets place on state action, learning was not always established despite demonstrated changes in behaviour.

In summary, it is considered that the investigation undertaken in this chapter supports the paper's hypotheses that none of the approaches individually provides sufficient explanation of regime evolution. However, when combined, they are helpful in understanding the regime and its evolution.

ENDNOTES

1. The G5 included the United States, Germany, Japan, United Kingdom and France.
2. The G7 included the United States, Germany, Japan, United Kingdom, France, Italy, and Canada.
3. At the Paris conference, where the accord was signed, whereby the finance ministers and central bank governors of the G6 (G5+Canada) agreed that exchange rate changes over 1985 and 1986 had brought exchange rate changes in line with economic fundamentals and agreed to "cooperate closely to foster stability of exchange rates around current levels (IMF, Survey, March 9, 1987, p.75). After the signing of the Louvre accord the US dollar stabilised temporarily against major currencies but it was not until after the stock market crash of 1987 that downward pressure on the dollar abated.
4. Realignments 1,3,4,6 and 7
5. As reviewed in Chapter Three the country with the weakened currency, under ERM rules, is required to sell Deutschmarks, and German authorities are required to purchase the weakened currency and in this manner the relative price of the weak currency is bid up.
6. This does not preclude each central bank intervening to a limited extent on its own behalf against the United States Dollar.
7. Libor: London Interbank Offer Rates. This is a rate offered on an offshore deposit of the named currency.
8. The source used by Mastropasqua et al. is Michielsen, J. and J.-J. Rey. "European Monetary Arrangements: Their Functioning and Future", paper presented at the SUERF Colloquium on International Monetary and Financial Integration - The European Dimension, Luxembourg (9-11 October).
9. However, some would argue that the Bundesbank's response to the inflationary pressures caused by German reunification is indicative of how such an institution can be disruptive to a regime such as the EMS. On the other hand, it could also be argued that the problem in the ERM over the fall of October 1992 occurred because its members had forgot how to realign (November, 28, 1992). If the Bundesbank had accommodated the inflationary pressures presented by German unification then Germany, like the US in the case of the Vietnam War, might be accused of turning over the costs of its domestic goals to other members of the system.

10. Demand Management had its basis in Keynesian economics and is focused on growth through increased public spending or tax cuts. Sometimes such policies are accompanied by incomes policies, such as wage controls, to keep inflationary pressures in check. The monetarist school instead of focusing on growth focused on control over inflation with the use of fiscal policy and most importantly monetary policy (Putnam and Bayne, 1987, p.96).

11. The exchange controls were put in place by a number of ERM participates countries over the life of the EMS. In France between 1971 to 1981 domestic lending abroad was restricted and French resident could not lend French francs to non-residents. In 1981 the "devise titre", an exchange rate that cleared the market for financial transactions, which had originally been introduced in 1939 and the abolished in 1971 was reintroduced in 1981 (Giavazzi and Giovannini, 1989, p.165).

In Italy, Italian residents "were subject of a zero-interest deposit requirement equal to 50 percent of the value of their foreign investment" (Giavazzi and Giovannini, 1989, p.166). This law, which came into effect in 1972 and was only removed in May of 1987, made it impossible for an Italian resident to acquire foreign assets. In addition, between July 1984 and December 1985 the Italian authorities imposed a ceiling on foreign borrowing by domestic banks and "help to explain why, in a system generally designed to prevent capital outflows, we sometimes observe a covered interest differential in favour of the domestic market (Giavazzi and Giovannini, 1989, p.167, n.14).

In Belgium a dual exchange market existed and under this system Belgian residents although allowed to purchase foreign assets were required to make these purchases in a special market. In addition a parallel exchange market existed with current account transaction going through the market subject to EMS rules and capital account transaction going through the financial market in which the exchange rate is freely floating.

In the case of Germany, capital inflows and outflows were fully liberalized by 1981, although previously the Germany authorities had resorted to controls on capital inflows (Giavazzi and Giovannini, 1989, p.166-167).

12. If exchange rates do not properly reflect economic fundamentals, speculative capital flows can force a realignment of exchange rate parities. Consider, if a weak currency country, such as France or Italy, imposes controls which prevent holders of the weak currency from switching out of it, then the increase in domestic interest rates accompanying an anticipated devaluation will be smaller than otherwise required.

13. France, the Federal Republic of Germany, Italy, Belgium, the Netherlands and Luxembourg were signatories to the Treaty of Rome. The treaty established the European Economic Community (EEC), the European Investment Bank (EIB), and

the European Atomic Energy Community (Euratom). The objectives of the Community are as follows: (i) a customs union with free movement of goods; free movement of services and capital; the provision of common policies in international trade, agriculture, transport and social matters.

14. A speech by Roy Jenkins, President of the European Commission, on October 27, 1977 called for united Community action in the environment created by floating exchange rates and the weak dollar has been credited as sowing the seeds for the EMS. As summarized by Solomon, Ludlow argued that Jenkins had strong political motivation including the restoration of the political momentum of the Community, to provide a boost to the Commission he chaired (Solomon, 1982, p.294).

15. Solomon reference: Remarks by Valery Giscard d'Estaing, President of the European Monetary System, Bologna, Italy, November 16-17, 1979 (mimeo).

16. The effective exchange rate is a trade weighted exchange rate. As summarized by Artis the proportionate weight of the United States dollar fell from 24.6 per cent in 1981 to 20.1 per cent in 1988 while ERM countries rose from 41.6 per cent to 51.1 per cent in the sterling index (1990, p.293).

17. Monetary union was one aspect of the Single European Act.

CHAPTER FIVE

CONCLUSION: AN ASSESSMENT OF THE THEORY AND CASE

This thesis has taken two topics - International Regimes and the EMS - from two fields of study - Political Science and Economics - and integrated these to produce a thesis that is fully reflective of the inter-disciplinary nature of International Political Economy (IPE). This was achieved by considering four approaches in the regime literature at a theoretical level in Chapter Two, providing essential economic, institutional and historical information regarding the case of the EMS in Chapter Three, and then by testing the explanatory power of these approaches at a case level in Chapter Four. The tests used were either specially constructed or originally applied to pertain to the case being examined. The use of an economic regime with intricate institutional features was integral for exposing the strengths and weaknesses of each approach. The choice of the EMS also helped to emphasize the complex nature of cooperation and the implications that cooperation has for the sovereignty of states in such a regime.

Chapter Three is essential to the thesis as it links the theoretical investigation and the case study. The discussion in this chapter, in addition to providing the reader with an economic context for the EMS in terms of flexible and fixed exchange rate and single currency systems, bench-marks the regime's evolution in terms of its operational form. Change along the lines of operational form considers the institutional structure of the regime, its functioning and the response of its membership to the regime's evolution. The outcome of this bench-marking process is the division of the regime's evolution into three periods whereby the first

represents the regime's birth and the second and the third represent sub-periods in a period of regime consolidation. The resulting framework is important for the interpretation of tests used to explore the explanatory power of the theoretical approaches.

The purpose of this testing is to analyze the arguments made in Chapter Two: that each approach, structural, functional, cognitive, and external forces, on its own cannot adequately explain regime development and evolution; however, if considered jointly they might provide a robust explanation of regime development and evolution. The final evaluation of this argument requires that each approach be examined in view of both the theoretical investigation and the case study.

In Chapter Four it was concluded that the structural approach and a theory of hegemonic stability based on the resources of the hegemon provide a general explanation of regime emergence and evolution. The case study, however, also helps to illustrate the inability of this explanation to take into account domestic structures and attitudes.

At a theoretical level this problem is partially alleviated if the willingness of the hegemon is examined. The inclusion of the question of willingness effectively extends the question of hegemonic power beyond one of resources. The argument is limited, however, as it only speaks to the domestic politics of the hegemon and not those of other states. The domestic interests of other states are taken into account only if the dimension of ideology is added. This dimension seeks to explain deference by those other states to the hegemon in terms of acceptance of the

hegemon's ideology.

The case study provides only limited substantive support for the importance of either willingness or ideology and their roles in implicating domestic structures as important features in a theory of hegemonic stability. The availability of liquidity required for the functioning of the European Monetary System (EMS) and its Exchange Rate Mechanism (ERM) in terms of the preferences of the Deutsche Bundesbank was used to test the willingness of the hegemon and to incorporate explicitly the role played by an important domestic structure.

The test did not provide strong evidence that willingness is important, but the problem lies less with the test and the case and more with the theory. The theory indicates that a state must be willing to support a regime, but gives no indication about how or why this willingness may change, except through a loss of resources and thus limits our understanding as to why willingness may change. Similarly, it is also unable to tackle how the demand for resources by the state's own domestic constituencies may affect the hegemon's ability to make resources available to an international regime. The absorption of former East-Germany by former West Germany and the strain this has put on a unified Germany in light of Germany's obligations to act as an anchor for the EMS illustrate why this theoretical issue needs to be tackled.

With respect to ideology there are problems both within the case and the theory. In terms of the case it was difficult to construct a substantive test that could identify the ideology involved and prove the importance of its acceptance and why

this acceptance might have changed over time.

In sum, the case study supports the theory of hegemonic stability. Nevertheless, it also underscores the shortcomings of the theory in explaining the role of domestic interests.

In the theoretical review and the case study support was found for the functionalist approach and Keohane's functionalist theory in particular, although it was shown that they are not independent from the structuralist approach or the theory of hegemonic stability respectively. In particular, while Keohane's functionalist theory provides a good explanation of why a regime may be demanded it is deficient in its explanation of why a regime is supplied. The case study underlines this shortcoming.

In the case study the EMS is considered in a broader economic and political context. Specifically, it was reviewed in conjunction with the CAP, the European customs union and what its sponsors hoped it promised and, if it survives, will continue to promise for Europe's position vis-a-vis the United States, and France's position vis-a-vis Germany. The analysis underlines the role of bargaining strength (as does the hegemonic stability theory) and how a reduction in transaction costs can create and support the continued demand for a regime. The analysis of the case, however, did not assist in understanding why a regime is supplied unless it is supplemented with the theory of hegemonic stability.

Despite the theoretical shortcomings of this theory, the discussion of the role of transaction costs at the case level was illuminating nevertheless in terms of why

a regime might be supported by its participants. This is especially true when all members benefit, in some fashion, from the reduction of transaction costs emanating from their participation in other regimes.

Given the apparent theoretical linkage between the hegemonic and functionalist theories and their inability to explain regime development throughout the life of the regime, it is clear that the two approaches combined provide a more robust explanation. In particular, the case study indicates that the theory of hegemonic stability provides an explanation of regime development, while Keohane's functionalist theory with its emphasis on issue density and transaction costs provides some insight into why a regime might be supported by its participants once it is supplied by the hegemon.

While these two approaches together provide an explanation of regime evolution the account is static; it lacks a dynamic element. In addition, it also lacks consideration of the roles of domestic structures and other forces both within and outside of the state. Owing to these shortcomings two alternative explanations of regime evolution were considered: cognitive and the role of external forces.

The sets of statements representing a narrow abstraction of the cognitive approach have been taken from Nye's work on learning. The examination of these statements at the case level did not always indicate that state behaviour could be explained in terms of learning. If learning was proven, however, the analysis indicates that learning contributed to the evolution of the regime either in terms of a continuing or changed commitment on the part of the regime's membership.

Although not considered at a case level in the literature review in Chapter Two, the work on epistemic communities by Adler and Haas (1992) was used to extend Nye's work on learning processes. The work done by Adler and Haas is considered important owing to its use of Putnam's (1988) stylization of the relationship between domestic actors, the state, and interstate relationships to operationalize their theoretical framework. Putnam (1988) has argued that the relationship between the domestic sphere and the international sphere can be represented as a two-level game whereby one game is played domestically and the other played internationally.

According to Putnam neither of these games is played independently as deals struck at one level limit the deals that can be negotiated by the state at the international level and vice-versa. Although Adler and Haas provide one method of using this understanding of the relationship between domestic society and the state, their work only considers how epistemic communities affect the bargains struck by the state at an international level. How these bargains may, in turn, affect epistemic communities themselves or domestic society in general is not considered.

Finally, the role of external forces has to be evaluated. The contribution of an approach which examines the structural powers outside of those created by states is important because it emphasizes that economic regimes, such as the EMS, are contained and constrained by global market structures. The case study supports the arguments of this approach. It was shown that the reaction of the foreign exchange market to the policies of Mitterand's socialist government endangered the regime and

played a role in forcing Mitterand to choose between the survival of the regime and the political platform on which his government was elected.

The ideas underlying the fourth approach are ideas that have largely been ignored by the regime literature owing to the implicit assumption underlying the literature that states are the only sources of power in the global political economy. Although Marxists have considered the structural role of labour, little consideration has been given to the role of capital, knowledge and goods which are essential elements in the global market economy. In this thesis consideration has been given to capital markets and the manner in which they constrain state action. As market actors become increasingly integrated on a global basis owing to technology this approach will have to be developed if reality is to be understood. This is especially true of financial regimes which will continue to be affected by advances in technology that allow the financial resources of state and non-state actors to be moved at great speeds and in large volumes. Consideration of this fourth approach and the influence of technology upon markets may also help to encourage a dynamic rather than a static understanding of regime evolution which is promoted not only by the literature by the "notion of a regime" (Strange, 1982).

In sum, each approach to varying degrees explains regime evolution. Thus it can be argued that they should be jointly used or that some understanding of regime evolution be developed that incorporates elements of each approach. In Chapter Two it was suggested that critical theory rather than problem-solving theory be used.

Critical theory takes problem-solving theory, which leads to further analytical

sub-division and limitation of the issues, as a starting point in the "construction of a larger picture of the whole of which the initially contemplated part is just one component, and seeks to understand the process of change in which both parts and whole are involved" (Cox, 1981, p.129). Thus, if each approach is viewed as only a separate starting point in the construction of a larger picture of regime evolution it may be possible to integrate these approaches or at the very least the basic elements of these explanations. The mechanism that makes this possible is the consideration of the regime on a historical basis subject to a changing configuration of material capabilities, ideas and institutions whereby each approach is understood to represent a specific configuration or some segment of these forces.

In Chapter Two it is argued that the set of statements concerning external forces is most easily translated in terms of critical theory's material forces and that the cognitive approach and especially learning could be understood in terms of ideas that question "the nature and legitimacy of prevailing power relations, the meanings of justice and public good, and so forth" (Cox, 1981, p.136) since learning, as understood by Nye, ultimately involves the re-examination of the goals and priorities of the state.

It was also argued that hegemonic stability theory and functionalism can be more easily melded through critical theory's historical understanding of institutions. Like the structural approach and hegemonic stability theory, critical theory recognises that "institutions reflect the power relations prevailing at their point of origin and tend, at least initially, to encourage collective images consistent with these power

relations" (1981, p.136); however, it also acknowledges that "institutions take on their own life" (Cox, 1981, p.137). In this manner a regime can be understood to evolve into an intervening variable between causes and outcomes which is an understanding of regimes shared by functionalists such as Keohane. This aspect of critical theory is also helpful in explaining why a regime may not perfectly reflect the changing material capabilities or ideas at any particular point in time and thus help to identify why some tests of the hegemonic stability theory may not be conclusive over all periods of the regime's life.

The conclusions drawn in this thesis are based, in large part, on the testing of the case study. This case study, however, only considers the regime's evolution up to October 1990.

The regime's evolution has, however, been influenced and will continue to be influence by events that occurred after October 1990. These events have not been included because of considerations of length and because an appropriate time should pass before a historical perspective can be developed. Despite this the case study material provided by these events is very rich and could be used to further examine how the theoretical approaches reviewed in this thesis explain regime metamorphosis.

The events in question which together provide such rich case material include the series of inter-governmental conferences which culminated in the signing of the Maastricht treaty in December 1991. A shadow, however, has grown over the treaty with the rejection of the Maastricht agreement by the citizens of Denmark on June 2 1992 in a referendum on the agreement (The Economist, June 6, 1992, pp. 51 and

52). In addition, it was only narrowly accepted by French citizens in September 1992 (The Economist, September 26, 1992, pp.47-48).

The future for European and political union was brought into further question by the crisis in the ERM created, in large part, by Bundesbank's decision to raise its discount rate from 8 per cent to 8.75 per cent on July 17, 1992 which initiated speculation against the weakest currencies in the ERM. This culminated in the withdrawal of sterling and Italian lira from the ERM on September 16, 1993 and the devaluation of the Spanish peseta in September 1992 (The Economist, September 19, 1992, p.15). In response to this crisis the Bundesbank cut its discount rate back to 8.25 per cent but trouble continued over the fall of 1992.

In November 1992 the crisis resurfaced triggered by speculation against a non-ERM currency - the Swedish Krone¹ - the Spanish peseta was forced to devalue again but this time was accompanied by the Portuguese escudo while the Danish kroner, the Irish punt and the French franc came under heavy pressure (The Economist, November 28, 1992, p.87). After a brief respite pressure on the ERM currencies continued and on January 30, 1993² the Irish punt was devalued.

Key to keeping the ERM intact, in some form, has been France's determination to keep the French franc in the ERM and not to devalue it against the Deutschmark (Financial Times, March 11, 1993, p.14). This policy, dubbed "franc fort"³, has been supported by both the French and German policy-makers and has required the public cooperation of the French and German governments and central banks as reflected in the joint statements of these bodies (Financial Times, January

6, 1993, p.1). The survival of this policy is considered fundamental to the future of monetary union and perhaps political union. If France withdraws from the ERM "one is left basically with a German bloc, which will not long be able to justify the label European" (Financial Times, March 11, 1993, p.14).

The final event of importance is rejection of the French Socialist party with the election victory of the French conservatives in the spring of 1993 and the manner in which the new government of France may link the issue-areas of trade and monetary policy to pressure Germany to make trade-offs in exchange for France's continued participation in the ERM of the EMS⁴.

The reason these events have been highlighted as important is that it can be argued that they are directly linked to one of the following factors:

- a) Western Europe's post World War II desire to fulfil its aspirations to integrate as first laid out in the Treaty of Rome⁵;
- b) the costs of German unification and the social strains which this has put upon German domestic society⁶; and,
- c) old suspicions and fears about German domination of Europe⁷.

The identification of these linkages point to the underdeveloped areas in the regime literature such as how the domestic agenda of a country such as Germany or France directly and indirectly determine regime evolution. In addition, a case study of these events may further underline the role of transnational capital and point to the manner in which issue linkages may not only reinforce a regime but fundamentally re-configure the regime and its current functioning.

Finally, an examination of these events should support the conclusion that all four approaches examined in this paper, and in particular the theories and statements chosen to reflect these approaches, are important to understanding regime evolution.

ENDNOTES

1. Although the Swedish krona is a non-ERM currency the krona had been pegged to the ECU since May of 1991 (The Economist, November 28, 1992, p.87).

2. The Irish government was angry with the forced devaluation of the Irish punt and Mr. Bertis Ahern, the Irish finance minister, made public his views about his disappointment with the management of ERM and the lack of help for smaller members of the ERM who, unlike larger members, are unable to negotiate side agreements (Financial Times, February 1, 1993, p.1).

3. "The words [franc fort] are also a pun on the name of the city of Frankfurt where the Bundesbank is situated" (Financial Times, March 11, 1993, p.14).

4. The new Prime Minister of France is Edouard Balladur, a Gaullist with a pro-EEC view. All but two of his cabinet ministers is pro-EEC (Financial Times, April 1, 1993, p.3) but his finance minister, who is a member of France's centre-right party, has "championed a new approach in Franco-German relations, in which Germany would be asked to cement closer monetary co-operation and to pay more heed to France's reservations about trade negotiations in return for French backing for a permanent German seat on the United Nations Security Council" (Financial Times, March 31, 1993, p.2). The Germans, however, are uneasy "about being forced to choose between France as its natural ally and its wider national interest in seeing an early Gatt deal (Financial Times, March 23, 1993, p.17).

5. This is reflected in the comments of Mr Jacques Attali, president of the European Bank for Reconstruction and Development (EBRD), who calls Maastricht "the last treaty of the cold war" (Financial Times, April 8, 1993, p.15).

6. Innumerable articles and editorials concerning this appeared in both the Financial Times of London and The Economist over the fall and winter of 1992 and 1993. One such article appeared The Economist on October 3, 1992, p.49.

7. This fear is one of the reasons for the narrow victory by the Yes vote in France's September referendum concerning the Maastricht treaty. According to a survey conducted after the referendum "21 per cent of France's Yes voters and 40 per cent of [the] No voters, said that fear of Germany's domination of Europe had determined their voting stance. The chairman of one of France's largest banks says France still has a three or four-year 'window of opportunity' in which post-unity Germany will be 'vulnerable'. During this time, France will be able to negotiate with Bonn; afterwards, Germany will be too powerful" (Financial Times, April 8, 1993, p.15).

This fear of German domination was one of the reasons that France missed an opportunity to link its currency up with Deutschemark in 1990 as part of Germany's attempts to reassure France in the run-up to German unification. The

French missed this chance because it wanted "the British in the union with us [France]" (The Economist, December 12, 1992, p.88.)presumably as a counterbalance to their powerful German partner.

Denmark's rejection of the treaty was less driven by a fear of German domination in specific than a general fear of loss of national independence and character (The Economist, June 6, 1992, p. 52).

APPENDIX 1

THE PRISONER'S DILEMMA

To understand the prisoner's dilemma, it is first helpful to understand possible the payoffs faced by players and they are as follows:

- (a) CC - mutual coordination\symmetric cooperation)
- (b) DD - mutual defection\symmetric defection)
- (c) DC - unilateral defection\asymmetric defection)
- (d) CD - unrequited cooperation\asymmetric cooperation)

As outlined by Oye (1986), for coordination to be necessary DC must be preferred to CD ($DC > CD$). With this payoff structure, cooperation is not necessary in the three cases. The first of these being when CC prevails and there is harmony. The second of these is when $CD > DC$ and there is no incentive to cheat as the "pursuit of self-interest, without regard to the action of others, will automatically lead to mutual gains. For example, pure economic liberals....believe that unrequited openness is preferable to unilateral protection" (Oye, 1986, p.6). The second case is when $DD > CC$, that is "policy coordination' cannot lead to mutual gain" and thus coordination is inapplicable as in the case of a believer in autarky (Oye, 1986, p.6).

In the case of the prisoners' dilemma, two partners in crime are captured and then questioned separately by the authorities but the authorities only have enough evidence to lay minor charges. Consequently the payoff is as follows:

- (a) CC - payoff if neither squeals;
- (b) DC - payoff associated with the prisoners who squeals when the other does not and the squealer is set free;
- (c) CD - payoff associated with the partner who is victimized by the squealer and receives a heavy sentence;
- (d) DD - payoff associated if both squeal and both receive moderate sentences.

Given this game each prisoner's preference ordering for each is $DC > CC > DD > CD$. Therefore with only one play at the game, each prisoner will be better off squealing. This payoff structure drives the single-play of the game toward mutual defection, DD, although if the criminals had cooperated they both would have received lighter sentences, $CC > DD$ (Oye, 1986, p.6).

The game, however, changes with the promise of the game being replayed in the future and especially if the game is played on a "tit-for-tat" basis. In this case, a potential defector compares the immediate gain from squealing with the possible sacrifice of future gains that may result from squealing. The prospect of an iterated environment permits players to resort to strategies of reciprocity that may improve cooperation. Strategies based on reciprocity have a direct connection between present behaviour and anticipated benefits and in this manner a "tit-for-tat" strategy (Axelrod, 1984) increases

the likelihood of joint cooperation by shaping the future consequences of present cooperation or defection.

Given that cooperation can be improved with iteration the question becomes how can iteration be promoted. Oye summarizes a number of ways in which this can be done one such way is to employ strategies of issue linkage. Defection maybe deferred in a single play of the game in one issue if retaliation in another issue area is possible (Oye, 1986, p. 17). For example in the area of international monetary affairs,

a government fearing one-time reserve losses if another state devalues its currency may link devaluation to an iterated game. By establishing a direct connection between present behaviour in a single-play game and future benefits in an iterated game, tacit or explicit cross-issue linkage can lengthen the shadow of the future (Oye, 1986, p.17).

APPENDIX 2

THE CRITERIA FOR LEADER VERSUS SUPPORTER, SPOILER AND FREE RIDER

For the purposes of testing the proposition that "the theory of hegemonic stability forms the basis for a powerful and parsimonious explanation of foreign economic policy" Lake (1983) examined the case of U.S. foreign policy between 1887 and 1934. As a part of this procedure Lake (1983) constructed a framework based on a country's relative productivity and size to characterize the structural position of the United Kingdom, United States, France and Germany in the issue-area of international trade.

The structural position of these states are defined according to whether they were a hegemonic leader, supporter, free rider or spoiler. These terms are Kindleberger's (1981) but the criteria used by Lake to designate the role played by a particular state is based on both the work of Kindleberger (1981) and Gilpin (1975).

As outlined by Lake (1983, p.519) Kindleberger defines the role played by a state only by its size. Thus, a small country is identified as a free rider as it has no economic power and there is no necessity that it play a role in stabilizing the international economy and has no responsibility to do so. Middle size countries are not large enough to stabilize the system but by virtue of their size they have the ability to destabilize the system. Finally the hegemon is the only state large enough to have both the "capability and responsibility" for leading the system.

Gilpin's explanation of leadership, unlike Kindleberger's, is not altruistic and is based on state interests. This is reflected in Gilpin's criteria of political and military power and efficiency for designating the position of states as peripheral, growth nodes, and hegemonic leaders (Lake, 1983, p.520). According to this classification peripheral states are small and thus of no consequence. Growth nodes become challengers to the liberal regime but are of relatively low efficiency and hegemonic leaders are larger and efficient. Therefore, while both Kindleberger and Gilpin use size as a defining dimension Gilpin's criteria is more exacting in its consideration of efficiency.

Following in the tradition of Gilpin, Lake adopts two criteria for defining the position of states but refines Gilpin's two dimensions of political-military power and efficiency in an effort to develop the analytical tools necessary to "comprehend adequately the interests and policies of all countries within the international economy" (1983, p.521). To reflect the issue-area of international trade Lake chose relative size measured as a country's proportion of world trade instead of political-military power, and relative productivity as a measure of efficiency (1983, p.521). Using these criteria Lake identifies a hegemonic leader as being relatively larger and relatively productive. A supporter is relatively productive but of only medium size. A spoiler is less productive but of middle size, while a free rider is relatively small and of little consequence.

To characterize the structural position of states in this thesis and reflect the issue-area the criteria used are relative size and annual inflation. Annual inflation was chosen to reflect efficiency as in a fixed exchange rate system, without gold as a numeraire, it is most likely that the numeraire currency adopted will be the currency of the country with the lowest inflation. Low inflation, however, is not enough as the country would also have to be large enough to provide the system with the liquidity required to meet "gaps between the world supply and demand for reserves at given exchange rates on the

part of private holders" (Mundell 1969, p.23) and be of sufficient size to dominate the "world money multiplier". In his modelling of a world of fixed exchange rates Swoboda (1978) approximates this multiplier as a weighted average of money multipliers whereby the weights are the relative economic size of the countries composing the "world". The greater a country's relative size the more it dominates the "world money multiplier". Thus, given the importance of the issues of liquidity and money multipliers relative size, measured as a proportion of the total GDP of Germany, France, Belgium and Italy, was used.

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