Exchange Rate Stability and Political Accountability

in the European Monetary System

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ABSTRACT

The European Monetary System (EMS) created a policy standard—exchange rate stability—which domestic constituents could use to evaluate their government's policy choices. Domestic social coalitions in favor of macroeconomic discipline could punish governments that violated this standard. I test the argument that devaluations within the EMS negatively affect the devaluing government's approval ratings by using the London School/Hendry approach to model the approval ratings of the French prime minister and president from 1981–1992. The results indicate that devaluations did hurt the government's approval ratings. I contend that the domestic political cost for violating the focal point of exchange rate stability provided member governments with an additional incentive to pursue disciplined economic policies throughout the 1980s. The incentive to avoid currency devaluations also helped to shape the response to the twin shocks of German monetary unification and the Maastricht Treaty. Since realignment would have damaged their domestic popularity, member governments were unwilling to adjust their parities, leading to the collapse of the EMS.

EXCHANGE RATE STABILITY AND POLITICAL ACCOUNTABILITY
IN THE EUROPEAN MONETARY SYSTEM

Throughout the 1980s, the European Monetary System provided explicit guidelines for member states to manage their currencies. I argue that the rules of the EMS framed the issues surrounding monetary policy, shaping the way in which domestic publics evaluated their government's policy performance. In particular, the policy standard of exchange rate stability emerged as a focal point for domestic social coalitions in favor of macroeconomic discipline. These social coalitions looked to exchange rate stability since it provided an easily observable standard to evaluate policy and because maintenance of exchange rate stability had relatively predictable consequences for macroeconomic performance. These social coalitions could, therefore, punish governments that violated this standard. I evaluate the argument using the French case, testing whether devaluations negatively affected the government's approval ratings.

The possibility of electoral punishment for a devaluation altered politicians' *political* incentives over monetary policy and exchange rate cooperation. The domestic political cost for violating the focal point of exchange rate stability provided member governments with an additional incentive to pursue disciplined economic policies throughout the 1980s. The incentive to avoid currency devaluations also helped to shape the response to the twin shocks of German monetary unification and the Maastricht Treaty. Since realignment would have damaged their domestic popularity, member governments were unwilling to adjust their parities, leading to the collapse of the EMS.

The European Monetary System

Instituted in 1979, the EMS established an adjustable peg exchange rate system between most European Community member states and a floating rate with countries outside the system. The EMS agreement contained explicit rules governing exchange rates, intervention in exchange markets, and currency realignments. Each member state agreed to maintain the market exchange rate of its currency within fixed margins above or below a bilateral central rate,[1] usually within 2.25 percent around the official rate.[2]
The rules for currency realignments required that countries requesting a realignment appeal to the Monetary Committee, composed of officials from member state finance ministries and central banks, to negotiate the size and timing of the adjustment. In practice, the Committee always limited the size of a devaluation, making it smaller than the proposal made by the devaluing government. Additionally, the upper bound of the new parity always fell within the boundaries of the old parity, as a deterrent to speculators (DeGrauwe 1992). Finally, the Monetary Committee sometimes placed pressure on the devaluing government to tighten its economic policies to lend credibility to the new parity.

Despite the ability for national governments to pursue divergent monetary policies within the EMS, the EMS experience was marked by a

gradual convergence of monetary policy outcomes across member states.
Figure 1 illustrates the average annual inflation rate for selected EMS
member states since 1981. In each member state, inflation fell
throughout the early 1980s and remained relatively stable in the latter
half of the decade. Germany was the system's low inflation leader
throughout most of the decade. Since German monetary unification in
1990, however, other EMS countries, including France, have outperformed
Germany.

   As a result of this macroeconomic convergence, the frequency of
currency realignments within the EMS decreased (Gros and Thygesen
1992). During the first four years of operation (1979–1983), seven
currency realignments occurred, culminating with a general realignment
in March 1983. By the end of the period, the French franc had lost over
30 percent of its value against the D-mark. The next four years saw
only four devaluations. And, unlike earlier realignments, speculative
unrest in currency markets, rather than macroeconomic divergence,
precipitated the final realignment in January 1987. From 1987 until the
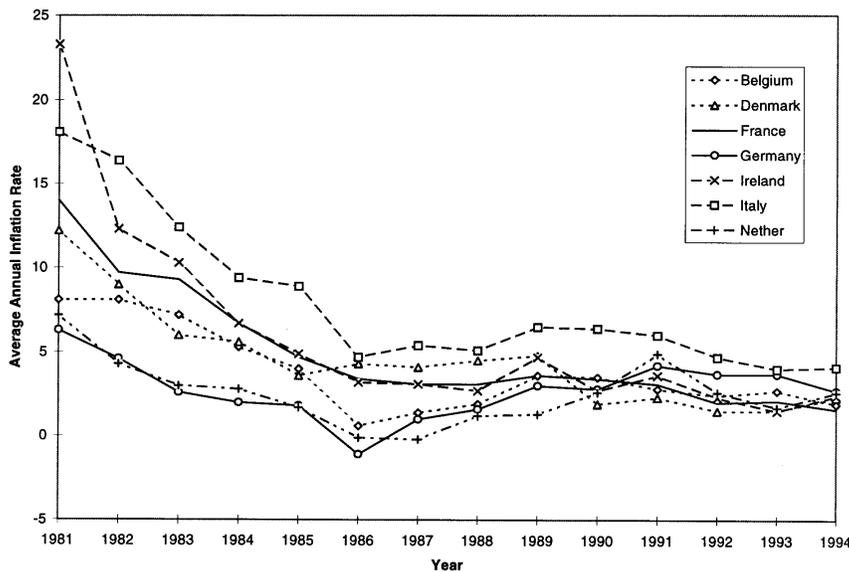crash of the EMS in September 1992, no devaluations occurred.

Figure 1. Average Annual Inflation Rates for EMS Member States.

The EMS as a Coordinating Device

I argue that the exchange rate stability within EMS emerged as a focal
point for domestic publics. Compliance with exchange rate stability had
predictable macroeconomic consequences that complemented the policy
goals of social coalitions in favor of macroeconomic discipline—that
is, greater fiscal responsibility and price stability. And, since the
EMS provided an easily observable standard, this social coalition could
punish governments that violated exchange rate stability, changing the
government's political incentives over monetary policy and exchange
rate cooperation.[3] This section considers the economic consequences of
fixed exchange rates in the EMS, the preferences of different sectors,
and the monitorability of exchange rate movements in the EMS to explain
why exchange rate stability emerged as a focal point.

Adherence to a fixed exchange rate implies a loss of monetary policy autonomy. According to the Mundell-Fleming model, countries can attain only two of the three following conditions: capital mobility, fixed exchange rates, or national policy autonomy. During the 1980s, both technological advances and regulatory liberalization of the financial sector throughout Europe dramatically increased the volume of international capital movement (Goodman and Pauly 1993; Sandholtz 1993). In a world of capital mobility, real interest rates must be the same across borders. EMS member governments, therefore, had to mimic the economic policies of the most disciplined country to maintain a fixed exchange rate, losing the ability to manipulate policy for domestic policy objectives. In practical terms, member states had to match the Germany's monetary discipline if they wished to maintain the exchange rate.

As a result of the differential rates of inflation across EMS member states, the commitment to fixed (nominal) exchange rates implied a relatively appreciated (real) exchange rate against the D-mark. This appreciation reduced aggregate demand generally, dampened economic growth, and worsened the current account balance. The appreciation also affected the relative prices of tradable and nontradable goods within each member state, raising the domestic prices of nontradable goods and services relative to the domestic price of tradables.

Devaluation offers relief from the macroeconomic pressures brought on by this real appreciation. By making exports cheaper and increasing demand for domestically produced import substitutes, devaluation can produce temporary improvements in employment and the current account (Cukierman 1992; Krugman and Obstfeld 1991). In the long-term, however, devaluation does not alter demand or supply conditions, instead producing only a proportional increase in the price level. Devaluation, therefore, indicates the government's economic policies were more expansionary than the country's key trading partners.

These macroeconomic and distributional consequences shape the preferences of various economic sectors over a fixed exchange rate commitment (Frieden 1994; 1991). International traders and investors as well as export producers who compete on nonprice dimensions value the stability of the exchange rate over domestic policy autonomy. Commitment to a fixed exchange rate implies greater predictability in foreign trade and exchange, reducing the riskiness of their transactions. Devaluations, however, introduce uncertainty about the exchange rate. In contrast, producers of tradable goods that compete primarily on price—either exporters or import competitors—favor a flexible exchange rate and a weak currency. Devaluation helps them compete with imports or in export markets.

Producers of nontradable goods have more ambivalent preferences over the commitment to a fixed exchange rate. Although the relative price effects of a relatively appreciated currency benefit them, nontradables place more emphasis on pursuing domestic policy objectives rather than maintaining a fixed exchange rate. Exchange rate volatility has few direct consequences for them. Instead, their domestic macroeconomic goals determine their stance toward the exchange rate commitment. If nontradables desire policies, which differ from potential partners in an exchange rate regime, then they will oppose a fixed exchange rate. But if nontradables have policy goals, which are similar to those

potential partners, they may look to a fixed exchange rate commitment as a way to insure that their government achieves those goals. In the EMS, a commitment to a fixed exchange rate with Germany implied more disciplined monetary and fiscal policies domestically. Consequently, producers in the nontradables sector who were exasperated with the high inflation of the late 1970s could consider the government's ability to maintain a fixed exchange rate as an indicator of the government's overall macroeconomic policy discipline.[4]

In the context of the EMS, devaluations and exchange rate stability provided an easily monitorable standard with which to evaluate the government's monetary policy decisions. Currency realignments were a media event. Newspapers and television covered the negotiations between the devaluing member state and the Monetary Committee. The discrete and sometimes dramatic nature of a devaluation focused attention on the government's economic policies (Alt 1991). Additionally, the media emphasis on devaluations meant that the public did not have to monitor the government's policy continuously. Instead, they could have confidence that the absence of a devaluation signaled that the government's macroeconomic policy was dedicated to the goals of price stability. Devaluation, on the other hand, sent a clear signal to the contrary.

Even in the absence of devaluation, however, the currency bands of the EMS provided a baseline with which to judge exchange rate movements. Newspapers and television throughout Europe regularly report exchange rates, often emphasizing the currency's standing against the D-mark. Sharp swings in the exchange rate or consistent trends in exchange rate movements toward one of the bands provided information about the government's policy choices. Without the currency bands around the bilateral rates within the EMS, the public lacked a common, observable standard with which to assess the movements in the exchange rate.

Exchange rate stability within the EMS, therefore, became a focal point for domestic publics. Maintenance of exchange rate stability had relatively predictable consequences for macroeconomic performance and it provided an observable standard to evaluate policy. Within EMS member states, domestic social coalitions in favor of macroeconomic discipline—internationally oriented actors, some exporters, and nontradables—soon realized that exchange rate movements signaled their government's monetary policy stance, quickly equating their goals of fiscal responsibility and price stability with exchange rate stability. A devaluation raised questions about the government's commitment to macroeconomic discipline.

Devaluation also hurts the government's overall credibility. To prevent currency speculation, a government has to issue assurances that it would maintain the currency's parity. After a devaluation, however, the government must justify the decision to devalue with its earlier defense of the exchange rate bands. These policy "flip-flops" raise doubt about the government's trustworthiness.

Since these domestic social coalitions could monitor their government's policy choices and punish the government electorally if it violated the standard of exchange rate stability, member state governments had short-term political incentives to maintain their

exchange rate parity, helping to maintain governments' policy
discipline.

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Government Accountability in the EMS:
An Empirical Examination

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To test the relationship between devaluations in the EMS, economic
outcomes, and government accountability, I examine the relationship
between government approval ratings and monetary policy in France.
Specifically, I test whether devaluations negatively affected the
government's approval ratings.

The French case is important for several reasons. First, the French
rejection of statist economic management in favor of macroeconomic
discipline is representative of a larger trend throughout Europe.
Although most observers point to Mitterrand's sudden shift to economic
"rigueur" as the turning point for French economic policy, Mitterrand's
U-turn actually represented a continuation of major reforms initiated
under his predecessors. By the mid-1980s, French policymakers had
abolished their system of credit controls and established broader and
deeper financial markets, culminating with the adoption of monetary
policy mechanisms based on indirect instruments designed to influence
interest rates (Loriaux 1991).

Second, France plays a major role in the European Union. During the
1970s and 1980s, France provided other member states with an
alternative to the German economic model. France's acceptance of
macroeconomic discipline reinvigorated Europe's development, sparking
the internal market program, clearing the way for the "hardening" of
the EMS in the late 1980s, and shaping the groundwork for monetary
union (McNamara 1995; Sandholtz 1993). It is important, therefore, to
understand how European institutions interacted with French domestic
politics to influence the Europe-wide policy consensus in support of
macroeconomic discipline.

The French Experience in the EMS

France was a founding member of the EMS in 1979. After the breakdown of
the Bretton Woods system in the early 1970s, France had participated in
the European Exchange Rate System, commonly called the Snake, a loose
agreement to align exchange rates among European countries. France,
however, left the Snake in 1974 after the first oil shock. It rejoined
the Snake in 1975 only to exit a second time a few months later in
March 1976. As part of his economic austerity plan in the late 1970s,
Prime Minister Raymond Barre attached great importance to a more stable
exchange rate with Germany, France's largest trading partner. Looking
to formalize exchange rate cooperation at the European level, President
Giscard negotiated the broad outlines of the EMS with German Chancellor
Helmut Schmidt (Goodman 1992; Loriaux 1991; Ludlow 1982).

Shortly after the initiation of the EMS, the Socialist party entered
office with a mandate for economic expansion. Undertaken during a
global recession, however, these reflationary policies immediately
increased inflation, worsened the trade balance, and caused capital
flight (Sachs and Wyplosz 1986). These factors combined to place strong
downward pressure on the franc within the EMS At first, the Socialist

government chose not to devalue, instead raising interest rates and tightening currency controls. By September 1981, however, the pressure to devalue was overwhelming. Anticipating an upswing in the international economy, Mitterrand and his prime minister, Mauroy, did not tighten monetary policy significantly in conjunction with the devaluation. The French economic expansion and the global recession, however, combined to send the trade deficit soaring, placing further pressure on the franc. The Socialist government devalued a second time in June 1982, imposing a four-month wage and price freeze and making budget cuts to prevent further economic deterioration.

The third devaluation, in March 1983, represented the turning point of the Socialist economic program. The pressure on the franc had caused deep divisions within the party and the government over France's continued participation in the EMS (Cameron 1996; Frieden 1994; Oatley 1994; Blanchard and Muet 1993; Goodman 1992; Loriaux 1991; Sachs and Wyplosz 1986). Critics argued that remaining within the EMS would prevent the Socialists from pursuing their domestic policy agenda. But, by 1983, many in the government realized that exiting the system would significantly weaken France's economic position, increase the foreign debt and, through higher import prices, increase inflation. Additionally, France would lose the cooperation of its ex-partners in the EMS. Reserves were already dangerously low and defending the franc outside the EMS would have required raising interest rates to all time highs (Loriaux 1991). After intense debate, the government announced a policy of economic "rigueur" in conjunction with the devaluation, raising taxes, cutting spending, limiting wage gains, and imposing controls on foreign transactions.
The decision to remain within the system had not only economic, but also political implications. Opposition to remaining in the EMS had come from the left wing of the Socialist party and its coalition partner, the Communist party. The Communist party appealed to blue collar workers in manufacturing industries—precisely those in the tradables sector hurt by the exchange rate commitment. By pursuing economic "rigueur," Mitterrand attempted to reshape the social coalition supporting the Socialist government, rejecting a focus on blue collar constituents and reaching out to middle-class professionals in the nontradables sector (Frieden 1994; Loriaux 1991). As part of this attempt to appeal to a new centrist social coalition, he elevated the technocratic wing of the Socialist party, including Fabius and Delors, to important leadership positions.

The next devaluation occurred in April 1986, a month after legislative elections returned the center-right to government, starting the period of cohabitation between Socialist President Mitterrand and Conservative Prime Minister Jacques Chirac. The realignment was carried out to give the new government room to maneuver. The government also announced steps to reduce the budget deficit and to continue the relaxation of capital controls, a policy initiated under the previous government.

The final devaluation came in a general realignment in January 1987. Officially, it was claimed that speculative unrest in the currency markets, rather than a divergence of member states' economies, had made the realignment necessary. The U.S. dollar had fallen drastically throughout the latter half of 1986. Outflows of funds from the dollar

raised the value of the D-mark within the EMS. At the same time, student strikes and unrest contributed to downward pressure on the franc. French monetary authorities were unable to maintain the value of the franc through intervention.

After January 1987, however, no realignments occurred in the EMS. Instead, the Socialist government, returned to office in 1988, decided to make *thefranc fort* (strong franc) the centerpiece of its economic policy. By 1991, inflation in France was even lower than in Germany—an achievement trumpeted by the government. At the same time, the Socialists' monetary discipline exacerbated a terrible recession.

Hypotheses

I expect devaluations, in general, to hurt the government's short-term approval ratings. Each devaluation will, however, have different effects. For example, French policymakers did not tighten monetary and fiscal policy in conjunction with the first devaluation in 1981. Therefore, we should not expect that devaluation to affect approval ratings as much as devaluations that were accompanied by austerity policies, including the 1982 and 1983 devaluations. The 1986 devaluation came immediately after the election that placed the Chirac's center-right government in office. Consequently, the government could not be held responsible for the devaluation. The 1987 devaluation presents an interesting test. Analysts attribute the January 1987 realignment to financial speculation. If that is the case, we might expect that the public would hold the government less accountable for the devaluation. On the other hand, if the 1987 devaluation hurts the government's popularity, it would indicate that the public punished the government for violating the focal point of exchange rate stability, regardless of the causes of the devaluation. Finally, due to cohabitation, we should not expect Mitterrand to be held accountable for the 1986 and 1987 devaluations.

Macroeconomic conditions also influence government approval ratings (Lewis-Beck 1988; Smyth and Dua 1988; Chappell and Keech 1985; Hibbs 1982). I expect both unemployment and inflation to have a negative association with government approval. Inflation is sometimes argued to have an ambiguous effect on approval ratings, since unanticipated inflation may produce temporary improvements in real economic variables. But unanticipated inflation distorts the price mechanism. Economic agents cannot be sure whether price signals represent changes in their relative price or changes in the general price level, creating uncertainty about their real position and preventing them from planning into the future (Lucas 1972). This confusion results in the misallocation of resources and keeps growth away from its underlying equilibrium path. Consequently, I argue that voters will be hostile to inflation, particularly at higher levels.

I also test for partisan differences in accountability for macroeconomic outcomes. Left and right governments differ in their economic policy goals (Hibbs 1982; Havrilesky 1987; Alesina and Sachs 1988). Left governments are traditionally more concerned with employment and wealth redistribution. Right governments place inflation and tax reduction at the center of their agendas. Voters are likely to hold parties responsible for their party agendas (Hibbs 1982). Right

parties, therefore, will be held accountable for inflationary outcomes while Left parties are judged by unemployment. I expect the Socialist party to be held more accountable for unemployment than the center-right Chirac government. Additionally, increases in inflation should hurt the approval ratings of the Chirac government more than the Socialist government.

Data

I examined the approval ratings of both the French prime minister and President Mitterrand from the second quarter of 1981, the beginning of the Socialists' tenure, until the end of 1992, just after the Italian and British withdrawal from the system. The approval data are from Gallup France/Institut Francais d'Opinion Publique. The dependent variable is the quarterly change in the (logged) percentage of respondents answering favorably to the question: "Are you satisfied or dissatisfied with X as prime minister (president)?"[5] Monthly data were averaged over each quarter.

   The independent variables consist of a mix of economic data and political dummy variables. Quarterly economic data for inflation and unemployment were drawn from *OECD Main Economic Indicators: Historical Statistics.* Inflation is the quarterly change in the (logged) average annual inflation rate as measured by the implicit price deflator. Unemployment is the quarterly change in the (logged) rate of unemployment. Both inflation and unemployment were multiplied by a dummy variable for the period of cohabitation, 1986:2–1988:1, to test for partisan differences during cohabitation. Additionally, inflation was multiplied by a dummy variable for the change in monetary operating procedures (i.e., the abolition of credit controls), from 1987:1 until the end of the data sample (inflation*post-1987).[6] I used a dummy variable for each devaluation, coded one in 1981:4, 1982:2, 1983:1, 1986:2, and 1987:1.

   I included dummy variables for legislative and presidential elections in the respective estimations. I also included a dummy variable for prime ministerial appointments not due to an election, covering the appointments of Fabius (1984), Cresson (1991), and Beregovoy (1992). Because the approval of each new appointment differed (notably the intense unpopularity of Cresson), I included specific dummy variables to examine their individual effects.

Methodology

I employ an econometric modeling strategy popularly known as the London School/Hendry approach (Hendry 1995; Granato 1991). This strategy includes a General-to-Simple specification search, a battery of diagnostic tests, tests for weak exogeneity, tests for dynamic specification (cointegration), and reduction theory. This approach to modeling allows the analyst to construct and test models based on theoretical criteria alone, rather than by correcting poorly behaved residuals. Additionally, this approach directly addresses the issues of parameter constancy and dynamic specification as well as the usual problems of serial correlation, heteroskedasticity, etc.

Parameter constancy over the entire data sample is necessary for valid inferences on hypothesis testing. Weakly exogenous models necessarily have constant parameters. Weak exogeneity implies that there are no cross-equation restrictions between a model for the process generating a regressor and the model for the endogenous variable (Engle, Hendry, and Richard 1983). Tests for parameter constancy can indirectly indicate whether models are not weakly exogenous, since parameter estimates which are unstable over time often indicate a structural change in the process generating the independent variables. To test for parameter constancy, I employed a Chow test.[7]

A second issue for time series analysis is dynamic specification. Time series data are generally not stationary stochastic phenomena. That is, the data series are often time dependent, said to be integrated or non-stationary. In contrast, a series is weakly stationary if its mean and variance are constant over the time period. Non-stationary series have damaging statistical consequences, limiting the possibility of valid inference. To combat the problem of nonstationarity, one can difference the data. Differencing the data, however, produces restrictions that limit models to short-term representations, ignoring the possibility of long-term relationships among variables. Instead, I use the method of cointegration to capture long-term relationships and achieve stationarity. Engle and Granger (1987) show that variables that are cointegrated can be represented in an error correction framework. Therefore, I employ an error correction model to capture both short-term and long-term relationships between variables. In an error correction model, the dependent variable is rendered stationary from a linear combination (in levels) of independent variables plus short-term factors. The stationary linear combination of independent variables (in levels) represents the long-term component.

The empirical model is developed in two stages. First, the long-term dynamics of the model are examined and an error correction mechanism is determined. Second, a general error correction model is specified and then "marginalized" in accordance with Hendry's reduction theory (Hendry 1995).

The first step determines the long-term dynamics of both presidential and prime ministerial approval. According to Dickey-Fuller unit root tests, prime ministerial approval, presidential approval, and the economic variables (in levels) are nonstationary for the sample period (Table 1). Next, I examined whether prime ministerial approval and presidential approval were cointegrated with the independent variables by regressing the (undifferenced) popularity measures on the (undifferenced) independent variables. If the variables are cointegrated, the regression coefficients should be significant and the residuals stationary. The results indicate that approval ratings for both the prime minister and the president are cointegrated with the level of unemployment, the level of unemployment*cohabitation, elections (presidential and legislative, respectively), and Cresson's tenure in office.[8] The static long-run equations, for the prime minister's approval and the president's approval, respectively, are (standard errors in parentheses):

$$\text{P.M. Approval}_t = 5.74 - 0.96 \text{ Unem}_t + 0.09 \text{ Unem*Cohab}_t + 0.54 \text{ Leg.}$$

Table 1: Dickey-Fuller Unit Root Test for Stationarity

Variable	t-ratio
Presidential Approval	-1.68*
Prime Ministerial Approval	-1.98*
Unemployment	-1.66*
Unemployment*Cohabitation	-2.25*
Legislative Elections	-3.12**
Presidential Elections	-2.87*
Cresson Administration	-0.23*

Note: All tests conducted with a constant but without trend.
*fails to reject null hypothesis of unit root, $p < 0.05$, critical value = -2.93
**fails to reject null hypothesis of unit root, $p < 0.01$, critical value = -3.59

$$\text{Elec.}_t - 0.16 \text{ Cresson}_t$$
$$(0.20)(0.09) \quad (0.01) \qquad (0.12) \qquad (0.06)$$

$$\text{Pres. Approval}_t = 5.36 - 0.76 \text{ Unem}_t + 0.17 \text{ Unem*Cohab}_t + 1.1 \text{ Pres.}$$

$$\text{Elec.}_t - 0.29 \text{ Cresson}_t.$$
$$(0.44)(0.19) \quad (0.02) \qquad (0.46) \qquad (0.15)$$

These equations serve as the basis for the error correction mechanisms (ECM$_{PM}$, ECM$_{Pres}$, respectively).

The second step employs this error correction mechanisms (ECM$_{PM}$, ECM$_{Pres}$) in general models of changes in prime ministerial and presidential approval. The ECM variables measure how quickly changes in approval are "reequilibrated" by the long-run cointegrating relationship. The models are:[9]

$$\Delta\text{P.M. Approval} = \beta_0 + \beta_1\Delta\text{Approval}_{(t-1)} + \beta_2\text{ECM}_{PM\ (t-1)} + \beta_3\text{Devaluations} + \beta_4 \Delta\text{Inflation}$$
$$+ \beta_5 \Delta\text{Inflation*Cohabitation} + \beta_6 \Delta\text{Inflation*Post-1987} + \beta_7 \Delta\text{Unemployment}$$
$$+ \beta_8 \Delta\text{Unemployment*Cohabitation} + \beta_9 \text{Elections} + \beta_{10} \text{P.M. Appointment}$$
$$+ \beta_{11} \text{Administration} + \varepsilon,$$

$$\Delta\text{Pres. Approval} = \beta_0 + \beta_1 \Delta \text{Approval}_{(t-1)} + \beta_2\text{ECM}_{PM\ (t-1)} + \beta_3\text{Devaluations}$$
$$+ \beta_4\Delta\text{Inflation}$$
$$\beta_5\Delta\text{Inflation*Cohabitation} + \beta_6 \Delta\text{Inflation*Post-1987} + \beta_7\Delta\text{Unemployment}$$
$$\beta_8 \Delta\text{Unemployment*Cohabitation} + \beta_9\text{Elections} + \beta_{10} \text{Cresson Appointment}$$
$$\beta_{11} \text{Cohabitation} + \varepsilon,$$

where Δ indicates a differenced variable. Since prime ministerial approval, presidential approval, and the economic variables are differenced, they are stationary. The respective ECM variables are stationary as well.

Following Hendry (1995), the general model is then "reduced," removing variables that do not provide any information to produce a more parsimonious model. Valid reduction must not result in a loss of information. I make data manipulations based on a number of criteria, including: 13 of removed variable, t-statistic of removed variable, residual variance, and the Schwarz criterion. Reductions and data manipulations are stopped if the Schwarz criterion ceases to move toward negative infinity. Three data manipulations are made in these models:

Table 2: Summary of Reductions: Model of Prime Minister Approval, 1981:2-1992:4

Variable Deleted	Coefficient	Std. Error	σ	Schwarz
Inflation*Cohab (t-1)	-0.22	0.20	0.057	-4.93
Fabius App't.	-0.11	0.10	0.057	-4.89
Inflation Change (t-1)	0.05	0.07	0.057	-4.84
P.M. Approval (t-1)	-0.01	0.05	0.057	-4.79
Inflation*Post 1987 (t-1)	-0.14	0.15	0.058	-4.70
Inflation Change (t-2)	-0.08	0.07	0.058	-4.66
P.M. Change (t-1)	-0.06	0.05	0.058	-4.62
Leg. Election	0.03	0.05	0.057	-4.60
1982:2 Devaluation	0.09	0.06	0.058	-4.54
Inflation Change	-0.03	0.08	0.057	-4.53
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Table 3: Summary of Reductions: Model of Presidential Approval, 1981:2-1992:4

Variable Deleted	Coefficient	Std. Error	σ	Schwarz
1983:1 Devaluation (t-1)	-0.01	0.11	0.071	-4.56
Inflation*Post 1987 (t-1)	0.02	0.10	0.072	-4.48
1981:4 Devaluation (t-1)	0.08	0.07	0.073	-4.39
1987:1 Devaluation (t-1)	-0.10	0.08	0.073	-4.35
Inflation*Cohab (t-1)	0.21	0.19	0.072	-4.31
Inflation*Cohab	-0.22	0.21	0.072	-4.27
Inflation (t-1)	0.09	0.18	0.072	-4.22
Unemployment*Cohab	-0.73	2.70	0.073	-4.16
Pres. Elections	-0.04	0.08	0.074	-4.08
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    1. If the variable(s) is not statistically significant, it is deleted.

    2. If sequential factors have opposite signs, variables are differenced (denoted by Δ in results).

    3. If sequential factors have the same sign, variables are averaged (denoted by Σ in results).

Tables 2 and 3 summarize some of the reductions in the modeling process. The final reduced version of the models is reported in Tables 4 and 5. For the model of prime ministerial approval, the final model contains 14 parameters as opposed to 34 in the original model, but the "reduced" model is superior in terms of the Schwarz criterion (-4.93 v. -3.89) with only a slightly higher residual variance. Similarly, the final model of presidential approval includes only 13 parameters as opposed to 33 in the original model, while the Schwarz criterion improves from -3.38 to -4.56.

    Each model is subjected to a battery of diagnostic tests, including tests for serial correlation (Durbin-Watson, Godfrey), heteroskedasticity (White), normality (Jarque and Bera), and omitted variable bias (RESET). Both models pass all diagnostic tests.[10] The final model of prime ministerial approval (Table 4) exhibits strong goodness of fit (R^2 = 0.94; F(13,33) = 36.749). The residuals approximate a normal distribution and are white noise, with no evidence of omitted variable bias. The results of the model for presidential approval (Table 5) are similar (R^2= 0.86; F(12,34) = 17.876). Again, the residuals approximate a normal distribution and are white noise with no omitted variable bias. Finally, neither model violates weak exogeneity conditions. The Chow tests indicate that both models have constant parameters.

Results

The results are consistent with the hypotheses. First, for the model of prime ministerial approval (Table 4), devaluations had an increasingly negatively effect on the government's approval ratings over time. The first Socialist devaluation, in 1981, actually slightly increased Mauroy's approval. The government, however, undertook no restrictive measures in accordance with this devaluation. In contrast, the next adjustment of the

Table 4: Model of French Prime Minister's Approval , 1981:2-1992:4
Dependent Variable: Quarterly Change in French Prime Minister's Approval

Variable	Coefficient	Std. Error
Constant	0.000	0.01
ECM_{PM} (t-1)	-0.21**	0.06
1981:4 Devaluation (t-1)	0.10*	0.06
1982:2 Devaluation (t-1)	-0.11*	0.06
1983:1 Devaluation (t-1)	-0.29**	0.06
1986:2 Devaluation (t)	0.20**	0.07
1987:1 Devaluation (t-1)	-0.34**	0.07
ΔInfl. Change*Cohab (t-1, t-2)	-0.51**	0.14
Unemployment Change (t-1)	-2.22**	0.55
Unem Change*Cohab (t)	-11.16**	1.86
Unem Change*Cohab (t-1)	10.73**	0.88
Prime Minister Change	0.49**	0.05
Cresson	-1.00**	0.08
ΔFabius(t, t-1)	-0.26**	0.05

Goodness of Fit Statistics
$R^2 = 0.94$
$F(13,33) = 36.749$ [p=0.0000]
$N = 47$
$\sigma = 0.057$
Durbin-Watson = 2.40

Diagnostic Test Summary
AR 1-4 $F(4,29) = 1.59$
ARCH 4 $F(4,25) = 1.39$
Normality Chi^2 (2) = 2.63
White $F(19,13) = 0.25$
RESET $F(1,32) = 3.83$
Chow $F(14,19) = 0.375$

Note: **p<0.05, two tailed test, *p<0.10, two tailed test

Table 5: Model of French President's Approval, 1981:2-1992:4
Dependent Variable: Quarterly Change in French President's Approval

Variable	Coefficient	Std. Error
Constant	0.02	0.01
Presidential Approval (t-1)	-0.36**	0.08
ECM_{Pres} (t-1)	-0.52**	0.08
1982:2 Devaluation (t-2)	-0.13*	0.07
Σ 1983:1 Devaluation (t-1, t-2)	-0.48**	0.10
1986:2 Devaluation (t-1)	0.15*	0.07
Inflation Change (t)	0.15*	0.09
Σ Infl Change Post 1987 (t-1, t-2)	-0.44**	0.18
Unemployment Change (t-1)	-2.29**	0.58
Unem Change*Cohab (t-1)	5.41**	1.00
Presidential Election (t-1)	-0.42**	0.09
Cohabitation	0.45**	0.07
Cresson App't. (t-1)	-0.44**	0.08

Goodness of Fit Statistics
$R^2 = 0.86$
$F(12,34) = 17.876$ [p=0.0000]
N = 47
σ = 0.070

Diagnostic Test Summary
AR 1-3 F(3,31) = 0.67
ARCH 3 F(3,28) = 0.69
Normality Chi^2 (2) = 3.49
White F(18,15) = 0.42
RESET F(1,33) = 1.66
Chow F(13,21) = 0.58

Note: **p<0.05, two tailed test , *p<0.10, two tailed test

exchange rate parity, in 1982, decreased the government's approval by a relatively small -0.10 of a point. The third devaluation under Mauroy in 1983 coincided with the Socialists' dramatic policy shift to economic rigueur. This devaluation resulted in a drop in approval for the government of nearly a third of a point. The next devaluation (1986) occurred in the period following the legislative elections, which returned the center-right to office. The proximity of this devaluation to the election appears to have limited the government's accountability for the realignment. The public believed that a more realistic parity would give the new government some breathing space to implement its economic policies. Finally, the 1987 devaluation again had a relatively large negative effect on the government's approval rating, even though most analysts argue that the currency realignment was caused by financial speculation.

Changes in inflation actually have no relationship with the approval ratings of Socialist prime ministers. (The variable was deleted in the reduction sequence.) During the period of cohabitation, however, inflation had a strong negative influence on the popularity of Chirac's center-right government (β = -0.51). For every one-point increase (decrease) in inflation, Chirac's approval ratings dropped (increased) by nearly half a point. Interestingly, the domestic reform of monetary policy operating procedures had no effect on the prime minister's accountability for inflation. Changes in unemployment also had a short-term negative relationship with the approval ratings of Socialist prime ministers (β = -2.22). The negative relationship between unemployment and approval was slightly more negative for Chirac during cohabitation (overall coefficient = -2.65).

The controls for elections and appointments also provide plausible results. Prime ministerial appointments not due to an election boost the prime minister's popularity. Differences in the popularity of Mitterrand's appointments, however, are evident in the results on prime minister change. Dummy variables for the appointment of Fabius and Cresson were both significant. The effect of appointing Fabius was mildly popular on the prime ministers' approval rating, while Cresson's appointment was extremely unpopular. Interestingly, legislative elections did not give a short-run boost to the prime minister's approval ratings. (Again, the variable was deleted in the reduction sequence). Instead, legislative elections provided a boost only through the long-run component. The coefficient of the ECM$_{PM}$ (β = −0.21) indicates that approval returns to equilibrium level relatively slowly—it takes over five quarters for a shock to dissipate.

The model of presidential approval has similar results, again consistent with the hypotheses. First, devaluations negatively affected Mitterrand's approval rating. The 1981 devaluation had no effect on Mitterrand's popularity. The variable was deleted during the reduction sequence. The next two devaluations, however, negatively affected the approval rating, as with the results of the prime ministerial approval model. The 1982 devaluation had a slightly negative effect on Mitterrand's approval. The 1983 devaluation, however, decreased Mitterrand's approval by almost half a point (β = −0.48), reflecting the political consequences of the decision to tighten economic policy in conjunction with the devaluation. The 1986 devaluation appears to have boosted Mitterrand's approval ratings slightly. Again, the proximity of this devaluation to the period of cohabitation makes interpretation difficult. Mitterrand's approval ratings benefited from cohabitation—his decision to cooperate with Chirac's new government made Mitterrand appear "presidential." Consequently, the results from the 1986 devaluation dummy may reflect public approval of Mitterrand's behavior during the first months of cohabitation. Finally, as expected, the 1987 devaluation had no effect on Mitterrand's approval. His decision to allow the center-right coalition to control economic policy insulated him from the consequences of this devaluation.

The results on inflation and unemployment are also interesting. Mitterrand's approval ratings had a slightly positive relationship with inflation until 1987 (β = 0.15). After 1987, however, the relationship between changes in inflation and approval becomes negative (overall coefficient = −0.29). Two interpretations of this change are plausible. First, the institutional reforms to French monetary institutions might have made the government's monetary policy choices more transparent to the public, allowing them to monitor the government's policies and predict their consequences more easily. Alternatively, the public's perceptions of the costs and benefits of inflation might have changed over time, as their experience with disinflation within the EMS modified their expectations of monetary policy. As with the Socialist prime ministers, Mitterrand's approval ratings also suffered from increases in unemployment. In fact, the coefficients are almost identical (β = −2.29 for Mitterrand, β = −2.22 for the prime ministers). During cohabitation, Mitterrand benefited from Chirac's inability to deal with unemployment. For every one point increase (decrease) in unemployment during cohabitation, Mitterrand's approval increased

(decreased) by over three points. In absolute terms, however, Mitterrand gained little during cohabitation from unemployment, since unemployment remained relatively stable throughout the period, fluctuating between 10.2 and 10.7 percent.

Finally, I included a set of control variables. Surprisingly, presidential elections had a negative short-run effect. This short-run effect may cancel some of the positive effect elections had on popularity in the long run. Mitterrand also received a boost in popularity for participating in the cohabitation arrangement. The Cresson appointment, however, cost him dearly. The coefficient of the ECM_{Pres} ($\beta = -0.52$) indicates that presidential approval reequilibrates relatively quickly after a shock, returning to its long-run path after only two quarters.

Domestic Political Incentives and European Monetary Integration

The EMS created a policy standard—exchange rate stability—with which the public, particularly the domestic social coalitions in favor of macroeconomic discipline, could evaluate their governments' monetary policy performance. The results indicate that devaluations negatively affect the approval ratings of both French prime ministers and the president, even in situations where speculation precipitated a realignment, as in 1987. The possibility of electoral punishment for violating the standard of exchange rate stability provided governments with a short-term *political* incentive to avoid devaluation. This incentive may help explain patterns of monetary policy and exchange rate cooperation in the EMS, including the disinflationary success of EMS member states, the failure of the system in 1992, and the Maastricht plans for a single currency.

The Disinflationary Success of EMS Member States

The EMS's causal role in member states' macroeconomic performance remains a contentious issue. Some political economists argue that the EMS functioned as a D-mark zone, helping to bring down inflation in member states (Gros and Thygesen 1992; DeGrauwe 1992). Others argue, not that the EMS caused disinflation, but that successful domestic disinflation programs allowed the EMS to function (Eichengreen 1992; Woolley 1992; Fratianni and von Hagen 1992). These political economists point to the disinflationary success of non-member states, arguing that member states would have brought inflation down regardless of their participation in the EMS.[11] A comparison of Figures 1 and 2 indicates that inflation performance in both EMS and non-EMS countries improved in the early 1980s.

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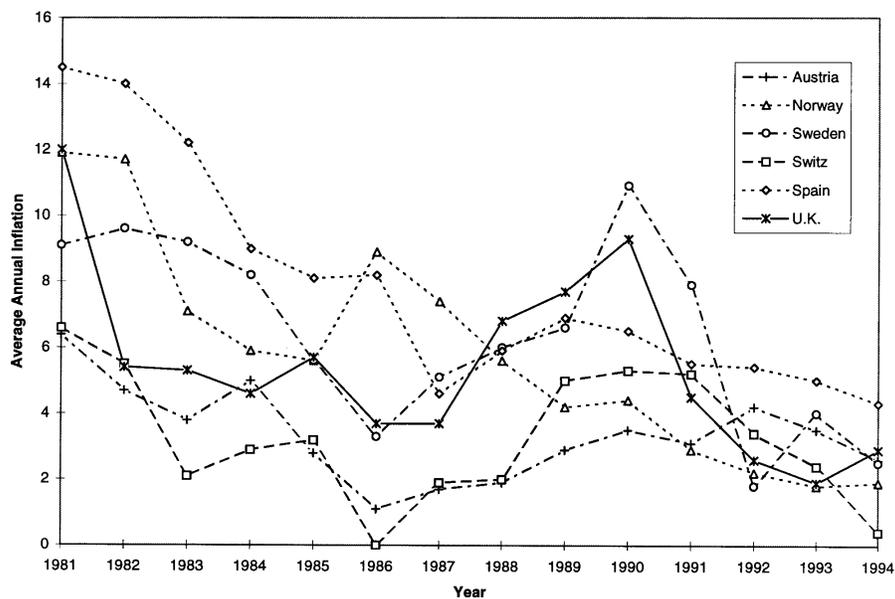
Figure 2. Average Annual Inflation Rates for Non-EMS European Countries.

   Closer inspection of Figures 1 and 2, however, reveals differences
in the inflation performance of EMS member states and non-member states
over the course of the 1980s. In the non-EMS countries, inflation
increased during the late 1980s, particularly in Spain (prior to 1989),
the U.K. (prior to 1990), and Sweden. In contrast, EMS member states
maintained their reduced inflation rates throughout the decade.[12]
Clearly, EMS member states enjoyed a more prolonged period of price
stability than non-EMS countries.

   The structure of the EMS allowed member governments to pursue
independent monetary policies by allowing for periodic currency
adjustments. Indeed, during the early years of the EMS, governments
resorted to devaluations fairly regularly. During the early 1980s,
however, both increasing capital mobility and the domestic political
consequences of a devaluation helped enforce discipline on EMS member
states. As governments learned that devaluations entailed short-term
political costs as well as costs from the exchange markets, they became
less willing to resort to the devaluation option, contributing to a
gradual reduction in the number of realignments in the mid-1980s and
the eventual hardening of the system in the late 1980s.

   The focal point of exchange rate stability can also help explain the
prolonged economic discipline of EMS member states in relation to non-
EMS countries. Exchange rate stability provided a focal point for the
fragile social coalitions in favor of macroeconomic discipline,
sustaining them over time and across partisan divisions, even after
inflation had been brought under control in the mid-1980s.
Consequently, these social coalitions were able to enforce monetary
policy discipline on their governments by threatening to punish them
for currency realignments. In countries outside the EMS, the public
lacked a policy standard to evaluate the Government's commitment to
price stability. As a result, once inflation had been brought down in

the early 1980s, the social coalitions in favor of macroeconomic discipline dissolved. Without the threat of political punishment from these social coalitions, governments allowed inflation to creep upward in the mid and late 1980s.

The 1992 EMS Crisis

After more than a decade of success, the EMS collapsed in 1992-93. During the period without any realignments after 1987, a number of currencies, including the lira (Italy), the pesata (Spain), and the pound (Britain), had gradually become overvalued (Johnson and Collignon 1994; Gros and Steinherr 1992). Germany's strategy of monetary unification placed extra pressure on the EMS. The generous exchange of D-marks for Ost-marks forced German monetary authorities to raise their own interest rates to thwart domestic inflationary pressures (Marsh 1992). Higher German interest rates, however, raised the interest rate floor for all the member states, contributing to a prolonged economic recession throughout Europe.

The Maastricht Treaty requirements for transition to the European Monetary Union (EMU) also strained the system. The Treaty's convergence criteria required that a member state have no devaluations for at least two years to qualify for Stage III. Speculators knew that several currencies were overvalued and that a general realignment was imminent given the Treaty's timetable. Consequently, they placed extra pressure on weak currencies, making a "one-way bet" that these currencies would be devalued. Further, the problems surrounding Treaty's ratification, including controversial public referenda in Denmark and France, created uncertainty about the future of monetary union.

Despite the economic pressures for a realignment (and German requests for one), however, member states refused to adjust the values of their currencies. I argue that the domestic political costs of devaluations may have contributed to the reluctance of member state governments to pursue a general currency realignment.[13] The twin shocks of German monetary unification and the Maastricht Treaty placed member state governments in a dilemma between the currency markets and their domestic publics. On the one hand, if member state governments had pursued a general realignment, the costs in terms of capital flows were likely to be temporary, since markets were probably capable of recognizing that a realignment reflected extraordinary economic and political circumstances. But governments faced the possibility that domestic publics, wedded to the focal point of exchange rate stability, would be less forgiving and, instead, punish them for devaluing. The possibility of currency speculation, however, prevented member state governments from justifying a currency realignment to their domestic publics in advance of any action. If governments had attempted to prepare public opinion for a general realignment, their statements would have unleashed an overwhelming wave of speculation in the exchange markets.

By the early 1990s, the perceived political costs of devaluation had increased in each of the major EMS member states—France, Italy, Britain, and Spain. These governments were already unpopular with the public, reflecting, in part, the Europe-wide economic recession. Moreover, each government had invested considerable time defending its

currency's parity. An about-face on the issue of devaluation would damage the government's public credibility in the short-term and their credibility in the transition to a single currency in the long-term. Given that each of the governments was due to hold elections in the early 1990s, a currency realignment could have had devastating political consequences for these governments—costing them not only public approval, but also their positions in office.

Rather than devalue, governments faced two options: they could continue to push up interest rates or they could exit the system. Higher interest rates would maintain exchange rate stability with the D-mark, but these rates would also contribute to the deepening economic recession. Exiting the system, on the other hand, would ease the recessionary pressures. Politicians could also use the EMS as a scapegoat for the economic slump, possibly helping to defray the political costs of breaking their commitment to the system. Exiting the system, however, did carry some risks, including higher inflation and renewed doubt about the member state's commitment to the Maastricht timetable. Each option—devaluation, maintaining the parity, exit— carried potential costs. The political circumstances of each government determined their decision.

In Britain, the high interest rates necessary to maintain the parity were hurting the Conservatives' approval ratings by exacerbating a private debt crisis. In Britain, government popularity is highly sensitive to interest rate changes, since home ownership is widespread and mortgages are tied to current interest rates (Clarke and Stewart 1995; Garrett 1992). Although devaluation might have eased these pressures, Prime Minister John Major had assured the markets and the public that the government would not devalue, claiming it was his intention to make the pound the anchor currency of Europe. A reversal on devaluation would have shaken public confidence in his government and unleashed criticism from the anti-Europe wing of his own party. Instead, exit became the least objectionable option, despite its potential costs. Leaving the system allowed the government to lower interest rates and spark a recovery. The move also appealed to Conservative Euro-skeptics.

Italy suffered from a public debt crisis. Throughout the early 1990s, the Italian debt-to-GDP ratio was around 100 percent (von Hagen 1992). The lira's weakness in the EMS stemmed, in part, from the inability of Italian politicians to address the debt crisis adequately. To preserve the value of the lira in the face of market pressure, Italian policymakers needed to raise interest rates. At the same time, however, higher interest rates worsened the debt crisis—the very reason that currency traders were reluctant to hold the lira in the first place. The government's inability to deal with the fiscal crisis reinforced the public's growing resentment of the entire Italian political system. A devaluation would have made currency traders unlikely to hold lira in the future and reinforced the popular image of government incompetence. Instead, exit became the most palatable option for the Italian government. The move helped reduce the pressure on the Italian economy brought about by the fiscal crisis.

In contrast, the Socialist government in France chose to remain within the system, reflecting both domestic and international political calculations. Domestically, the Socialist government could campaign for

the upcoming elections on few other economic successes beside *the franc fort.* Although a currency realignment might have eased the recession, a devaluation would have suggested that the hardships endured by the Socialists' constituents had been in vain. Additionally, voters might have interpreted a devaluation as a cynical ploy designed to sacrifice long-term economic goals for short-term political gains.

International interests prevented the Socialists from exiting the system entirely. Leaving the EMS would have doomed the EMU project and insured continued German dominance of European economic and monetary policy. French institutional reforms and tight money policies of the 1980s reflected, in part, a desire to establish France as Germany's equal in European economic affairs. Exiting the system would have indicated continued French subordination to German economic leadership, making those difficult reforms a failure. France did seek modifications in the EMS in the summer of 1993, shortly after the Conservative government took office. The Balladur government proposed a widening of the exchange rate bands to plus or minus 15 percent.

Exchange Rate Stability and EMU

The focal point of exchange rate stability also contributed to the development of EMU. First, the domestic political costs of a devaluation gave governments another incentive to explore the possibility of a single currency. By forcing a devaluation, speculation in the currency markets could directly affect government popularity—and even governments' political survival. A single currency would neutralize the markets' ability to influence government popularity in this manner by closing the currency markets between EMU countries.

Second, the EMS established a common policy standard across Europe, defining successful monetary policy as exchange rate stability with Germany. The acceptance of this policy standard extended a policy consensus in favor of macroeconomic discipline across member states, eventually serving as the foundation for the Maastricht Treaty (McNamara 1995; Sandholtz 1993).[14] As a consequence of these factors, member state governments began to explore the possibility of a single currency in the late 1980s.

Conclusion

Domestic social coalitions in favor of macroeconomic discipline employed exchange rate stability in the EMS as a focal point for their expectations of government policy. Exchange rate stability emerged as a focal point, in part, because maintenance of the exchange rate had relatively predictable macroeconomic consequences— consequences that meshed with the policy goals of these domestic coalitions. Maintaining parity with D-mark implied tight monetary and fiscal policies, designed to produce more stable inflationary outcomes. If participation in the EMS had not had such predictable consequences or if a domestic social coalition had not favored those consequences, then governments might have been less willing to maintain their commitments to the EMS.

Exchange rate stability emerged as focal point since it also allowed the public to monitor the government's policy behavior very easily. Devaluations and intra-marginal fluctuations signaled the government's

policy stance, particularly in relation to the system's low inflation anchor, Germany. The media focus on devaluations meant that the public did not have to scrutinize the government's policy continuously. In contrast, domestic constituents might have found it difficult to monitor the government's commitment with a less transparent indicator.

The EMS established a policy standard—exchange rate stability—with which domestic social coalitions could evaluate their government's economic and monetary policy. By framing the government's policy choices, this policy standard allowed these domestic social coalitions to enforce policy discipline on their governments, changing politicians' incentives over monetary and exchange rate policy. The results suggest that policy commitments can affect the relationship between voters and their elected leaders, making politicians more accountable for their policy behavior.

End Notes

1. Each currency within the exchange rate mechanism had a central rate, defined as the price of that currency in ECUs, a (weighted) basket of member state currencies. The ratio of central rates between two currencies served as the bilateral rate between currencies.

2. Italy was an exception to this relatively tight exchange rate band. The lira was allowed to fluctuate at plus or minus 6 percent around the central rate. Newer entrants to the system, Spain (1989) and Britain (1990), were also permitted to fluctuate within the wider +/- 6 percent band.

3. In contrast, Woolley (1992) suggests that the electorate will punish their governments for devaluations since they view international commitments as more serious than domestic policy commitments.

4. Frieden (1994) also recognizes that nontradables were indifferent about France's commitment to the EMS. He argues that support for a fixed exchange rate was achieved by linking the issue of monetary integration to further European integration.

5. The prime ministers of France during this period include Mauroy (1981:2–1984:2); Fabius (1984:3–1986:1); Chirac (1986:2–1988:1); Rocard (1988:2–1991:1); Cresson (1991:2–1992:1); and Beregovoy (1992:2–1993:1). Although conventional accounts claim that the president is the focus of decision making in France, Huber (1996) argues that the prime minister strongly shapes policy outcomes. This was particularly evident during cohabitation, when Mitterrand allowed the Chirac government to determine economic policy. Some observers suggest that this experience increased the visibility and prestige of the prime minister. The statistical results for Mitterrand and the Socialist prime ministers should be similar.

6. If the reforms have any effect, I expect them to increase the government's accountability for monetary policy, since they increased the visibility of the government's stance on monetary policy. Credit controls made it difficult for the public to monitor the policy stance of the government. Despite the announcement of anti-inflation policies, the government could easily employ exemptions and subsidies to insure that politically sensitive groups would not be hurt. Additionally, credit controls provided no clear indicator of the day-to-day implementation of monetary policy. The old system made the relationship between announced policy goals and policy outcomes tenuous. By moving to a market-oriented approach designed to influence interest rates, the government became more accountable for their policies and policy outcomes. The public could more accurately monitor the government's policy stance on inflation through real interest rates (Granato 1996). Additionally,

the reforms created a more direct link between policy announcements and inflation, increasing the credibility of monetary policy objectives.

7. The presence of the dummy variables, particularly near the end of the data sample, made the use of recursive residual tests and one and n-step ahead forecasting methods infeasible. Since the dummy variables and the constant were perfectly collinear, the variance-covariance matrix was not invertible.

8. According to Dickey–Fuller unit root tests, residuals for both equations are significant, indicating stationarity. For prime minister approval, the unit root test for the residual is −3.78, rejecting the null hypothesis of the unit root at the 0.01 level (critical value = −3.59). For presidential approval, the unit root test for the residual is −4.70, rejecting the null hypothesis of the unit root at the 0.01 level (critical value = −3.59).

9. Following Smyth and Dua (1988; Smyth et al. 1991), I also employed nonlinear specifications of unemployment and inflation. The results were similar to the linear specifications.

10. Due to the number of regressors in the initial models (k_{PM} =34, k_{Pres} =33) and subsequent models, the models may be overparameterized, resulting in collinearity. None of the independent variables, however, has a correlation with another independent variable of more than 0.4. Additionally, I regressed unemployment on lags of unemployment and devaluations to see if unemployment was endogenous to devaluations. Most devaluations did not have a significant effect on unemployment. The 1983 devaluation had a positive, significant effect on unemployment, while the 1987 devaluation had a negative, significant effect.

11. These political economists also argue that, if participation in the EMS had enhanced the anti-inflation credibility of member states, then labor markets should have adjusted more quickly to tighter monetary policies than those in non-member states. But unemployment in EMS countries during the 1980s compares unfavorably to unemployment in non-EMS countries. For the period between 1981 and 1988, average unemployment in the EMS countries stood at around 12 percent. For the sample of non-EMS countries (excluding Switzerland) during the same period, average unemployment was around 8 percent. This suggests that the EMS did little to dampen the costs of disinflation (DeGrauwe 1992).

12. From 198 1–1984, both EMS member states and non-EMS countries had similar levels of inflation. Average inflation was 8.7 percent for EMS member states and 7.8 percent for non-EMS countries. During 1985–87, both sets of countries had brought those levels of inflation down, with the EMS member states slightly outperforming the non-EMS countries (3.6 percent to 4.8 percent). In 1988–1990, the inflation performance of the EMS member states remained steady at around 3.4 percent. But the average level of inflation in the non-EMS countries crept upward to 5.6 percent. Recent empirical research has demonstrated an association between central bank independence and inflation performance (Alesina 1989; Grilli, Masciandaro, and Tabellini 1991). The average levels of central bank independence for the samples of EMS member states and non-EMS member states, however, are virtually identical, reducing the possibility that the differences in inflation performance are a consequence of domestic policymaking institutions. Using the Cukierman (1992) scale, the average level of central bank independence for EMS member states is 0.38. For non-EMS countries, the average level of independence is 0.37.

13. During personal interviews following the September crisis, several members of the European Commission complained that member state governments had been more concerned with their domestic political standing rather than making the adjustments necessary for the survival of the system (Personal interviews, Brussels, Spring 1993).

14. The plans for the transition to EMU recognize the importance of common policy standards to solidify the policy consensus underlying the Maastricht agreement. Entry depends on compliance with a number of criteria, including

convergence of inflation rates, convergence of nominal interest rates, exchange rate stability, and limitations on fiscal policies (Buiter et al. 1993; Eichengreen 1992). The clear, if economically arbitrary, convergence criteria provide the public with a baseline with which to evaluate policy and may frame policy choices in a manner, which generates political support for macroeconomic responsibility.

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