Domestic Pressures and the Exchange-Rate Regime: Why Economically Bad Decisions Are Politically Popular

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1. Introduction

With every currency crisis, the discussion on the optimal choice of the exchange-rate regime returns in different form. A common feature of the literature is to focus exclusively on this single policy issue while taking other institutional choices as given. Thus, the literature completely neglects the fact that the choice of the exchange-rate regime is only one of several institutional choices which jointly determine what this literature defines as social welfare. This is a serious restriction because there are major interdependencies between the labor market structure, the central bank constitution and currency arrangements which make the one-dimensional approach to institutional design inappropriate.

This paper departs from the one-dimensional welfare maximization approach and asks how the simultaneous choice of these three institutional elements affects welfare. This integrated view will lead us to new results concerning the social desirability of different exchange-rate regimes. We also go beyond the welfare maximization approach and ask how different politically influential interest groups are affected by those arrangements. This enables us to explain why the result of the political process is not one which would max-

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BNL Quarterly Review, no. 194, September 1995.

imize the standard formulation of welfare functions. Because the basic assumption of previous models is a one-sector economy without distributional conflicts and interest groups with declared positions on their preferred monetary and exchange rate systems, these models have a representative agent whose welfare function is maximized by a benevolent politician. Relaxing this heroic assumption and adopting a political-economic view of policy-making, where self-interested politicians are not welfare-maximizing but act for the benefit of interest groups, the discussion shifts to the interests of well organized groups and how they gain influence on economic policy-making.

The paper proceeds as follows. First, we briefly review the literature on each of the three dimensions: the labor market structure, the central bank constitution and currency arrangements. We then combine the three aspects and explain why they should not be separated. This part will derive the first-best welfare-maximizing regime. Subsequently, we turn to the positive side and show why interest groups will oppose the first-best regime.

2. Arguments concerning the desirability of fixed exchange rates

Contrary to what proponents of flexible exchange rates had expected, they do not lead to a stabilization of the real exchange rate.[1] Since the adoption of the managed float in 1973, world financial markets have been characterized by large movements in nominal exchange rates, assumed to be due to the effects of speculation. With frequently changing and misaligned exchange rates, foreign trade is exposed to uncertainty in addition to the unavoidable ones created by relative price and aggregate demand variations.

Although the evidence is mixed concerning the negative effects exchange-rate variability has on the volume of international trade, there is indeed evidence that the volume of trade is negatively affected by exchange-rate uncertainty when analyzing time-periods longer than one year (De Grauwe and de Bellefroid 1987; Perée and Steinherr 1989). Under pricing to market behavior, where exchange-rate changes directly translate into profit variability for firms, variability of currency parities also incurs costs for trading companies

[1] For a recent review of the positions concerning the stabilizing effects of floating exchange rates, see Aschheim *et al.* (1993).

(Krugman 1989). Moreover, there could be considerable long-term effects involved with exchange-rate uncertainty, as Dixit (1989) has shown.

For all these reasons, fixed exchange rates are expected to have a positive effect on trade and output in the tradables sector, also implying higher employment in that sector. On the other hand, fixed exchange rates remove an important instrument of adjustment in the presence of rigidities of other prices between countries by fixing the relative price between currencies. Therefore, costs and benefits should be weighed, giving rise to the discussion about optimal currency areas.

Mundell (1961) pioneered the analysis of the optimal currency area. In his contribution he focused on the degree of economic integration as a criterion for the desirability of monetary integration. In particular, he derived the important role of factor mobility, which could substitute for an insufficient degree of wage and price flexibility in response to shifts in regional or product demand and supply. Given the rigidity of wages and prices, only factor mobility could avoid prolonged unemployment. Mc Kinnon (1963) extended the analysis in more detail to the role of openness of an economy. In a small, very open economy (with a high ratio of traded to non-traded goods), a change in the exchange rate will have a substantial impact on the domestic price level, reducing the effectiveness of devaluation as an expenditure-switching device. In contrast, a large economy with low marginal propensities to import is a natural candidate for flexible rates. Kenen (1969), however, argued that diversified economies (which tend to be large) may be better prepared for fixed rates. Product diversity is the criterion because smaller, relatively specialized economies are subject to more frequent and larger terms of trade shocks and have thus a greater need for exchange-rate adjustment.

According to this early literature, hence, high factor mobility or flexibility of prices and wages make exchange rates no longer necessary as an adjustment mechanism. Given that these requirements are not fulfilled, the need for adjustments between countries determines whether they make an optimal, or at least viable, currency area. Therefore, the occurrence of shocks which affect countries asymmetrically would require flexible rates to cushion them.

The current literature, when discussing asymmetric shocks and the desirability of fixed exchange rates between countries, often assumes that shocks occur along national lines (for recent surveys see

Eichengreen 1993 and Tavlas 1993). This discussion, however, often misses an important point because the assumption that a change in the general price level might help specific industries to adjust to exogenous shocks is inappropriate. It might even result in further distortions in other sectors than that originally affected. This is because devaluation means that all domestic prices fall *vis-à-vis* foreign prices, restoring international equilibrium, instead of lowering the relative price of the domestic good actually affected. Thus, the derivation of the benefits of flexible exchange rates is based on incorrect assumptions, using a one-good model for the economy. Countries with diversified production structures, like the European economies, thus raise doubts about the appropriateness of exchange-rate changes as an adjustment device. If a good which is negatively affected by a demand shock is produced in only one EU country, but constitutes only a small share of the aggregate production of that country, the price of that good would only have to fall relative to all other goods produced in the union. Clearly, the exchange rate is the wrong instrument because it can only shift the whole price level of one country *vis-à-vis* the other countries. While leading to the desired change in relative prices, it would also change all other relative price relationships between domestic and foreign goods (Bofinger 1994).

Hence the adjustment function of exchange rates is given only for country-specific shocks which are increasingly unlikely to occur in Europe. Increasingly similar production structures and more intra-industry trade subject countries to similar shocks. Only for shocks which hit a whole nation asymmetrically in the form of monetary supply shocks, that is when one country inflates faster than others, or of nation-specific shocks to the velocity of circulation, to the stability of the banking system, to the level of wages or to the productivity of labor, are exchange rate changes an appropriate instrument for international adjustments.

In the 1980s, another aspect of the exchange-rate regime choice arose from the credibility literature initiated by Kydland and Prescott (1977), made prominent by Barro and Gordon (1983). Melitz (1988) and Giavazzi and Pagano (1988) claim that a country can instantaneously surmount the internal credibility problem by externally pegging the exchange rate to a country with a low-inflation central bank. Giavazzi and Giovannini (1989) argue that this might be less costly in terms of employment than appointing a new (conservative) central banker because, during the creation of an anti-inflation repu-

tation, inflation is overestimated by the public. Giavazzi and Pagano (1988) argue that the European Monetary System established in 1979 has worked as such a disciplinary device. Their argument is that the terms of trade deteriorations between realignments caused by excessive inflation hurt exports and therefore increased costs of inflation. Wyplosz (1989) objects that persistent deviations of the terms of trade from the equilibrium level, as assumed in Giavazzi and Pagano, "would mean continuous and permanent losses of competitiveness so that the system is dynamically unstable".

There are other reasons why the EMS may have been a credibility-conveying device that made excessive inflation costly: Melitz (1988) mentions the political unpopularity of devaluations, the costs of the burden of keeping the exchange rate fixed which requires capital controls, official reserve losses, or fiscal policy to maintain a higher interest rate.

There is, however, a problem with this credibility argument for fixed exchange rates: why should an external commitment be superior to an internal monetary rule? Why should a policy of pegging to a low-inflation currency be more reliable than a policy of maintaining a low growth rate for the domestic money stock under a regime of floating rates? This is only the case under two conditions: that the exchange rate is a more credible target than any other monetary target and that the international monetary system has a built-in feature that discourages global inflation (Giovannini 1993a).[2] Moreover, it is not at all obvious that the exchange-rate peg is a better solution to the trade-off between credibility and flexibility which has been discussed in the literature on monetary policy design. Additionally, Flood and Mussa (1994) have compared a variety of simulation models and derive the conclusion that direct income targeting is much more successful in terms of output stabilization than the exchange-rate target. In the next section, we therefore discuss the various internal mechanisms to solve the time-inconsistency problem, in order to evaluate the need for an external peg.

[2] Rogoff (1985b) argues that fixed exchange rates invite concerted inflation between countries.

3. The domestic solution of the credibility problem

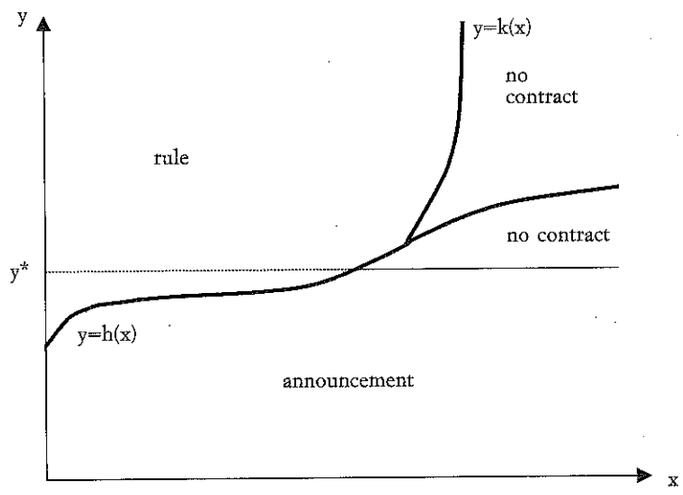
More than a decade after the appearance of the first time-inconsistency model on monetary policy, the question of how to solve the time-inconsistency problem by choice of optimal institutions for monetary policy is still open. Neither the idea of a natural solution for the problem via incentives to build up an anti-inflation reputation, nor the popular concept of the conservative and independent central banker could pass the test of a deeper theoretical analysis. It was shown that the positive results on the disciplinary effects of reputation found by Backus and Driffill (1985) were neither robust with respect to assumptions about the policy-maker's action space (Vickers 1986) nor with respect to the assumption of hysteresis in unemployment (Grüner 1993). The second prominent concept, the conservative and independent central banker, was criticized by Rogoff (1985a) on the grounds of the lack of flexibility of such a policy-maker when confronted with economic shocks. Giavazzi and Giovannini (1989) additionally criticized the concept of the conservative central banker because, they claimed, a switch to a conservative policy always induces a costly learning process about the type of central banker in office. Their critique led to the well-known discussion on EMS as a credibility-conveying device and to a large amount of empirical literature that tested for EMS credibility effects (for surveys on this literature, see Egebo and Englander 1992; Grüner 1995a). The discussion on EMS credibility over time became a purpose in itself, neglecting the possibility that internal mechanisms could also enable a government to resolve the trade-off between credibility and flexibility of monetary policy.

With the application of contract theory to monetary policy, a new literature on solution concepts emerged in the 1990s and the trade-off between credibility and flexibility introduced by Rogoff found particular consideration in this literature (see Walsh 1995; Lohmann 1992). Given the results from these models, it seems that the credibility argument is far from sufficient to support any particular choice of an exchange-rate regime. Lohmann (1992) shows that an internal mechanism, where the government can override the central bank's decision at a self-imposed cost, can significantly improve the results obtained with Rogoff's conservative central banker. Walsh (1995) even showed that it is possible to achieve the second-best outcome without inflationary bias but with an appropriate reaction to economic shocks if the contract imposed by the political principal on the central bank sanctions deviations from self-imposed target announcements of the central bank.

Although incentive mechanisms are theoretically an extremely powerful instrument to resolve the apparent trade-off between credibility and flexibility, the problem of the optimal implementation of contracts is not a trivial one. Grüner (1995a) discusses the case where the central bank's preferences on targeted inflation and unemployment may differ from those of the median voter and where the median voter's objective may change over time. In this setting, different forms of contracts have their specific comparative advantages. Announcement-based remuneration of the central banker delivers higher flexibility over time than a strict monetary rule if the median voter's objective changes. However, announcements also enable the central banker to follow private objectives at lower costs because errors due to wrong expectations do not arise. Depending on the relative importance of the volatility of the median voter's objective and the conflict on inflation within society, one can distinguish three regimes where different institutions (announcement based, rule-based, *laissez faire*) prove to be optimal. The regimes are characterized by different parameters concerning the probability distribution of desirable future inflation rates (see Figure 1). If the initial uncertainty about the future inflation objectives of the median voter is high, a strict monetary rule leads to high expected welfare losses. In such a situation, a target announcement is optimal. If, however, the median voter has relatively little control over the central banker's private inflation objective, a strict rule is better than a target announcement. Only if both uncertainties are important is no contract the optimal solution.[3] Hence, this discussion shows that there are a number of situations where contracts are at least as good as external mechanisms.

[3] Note that a potential difference between the median voter's and the central banker's inflation objective could easily be removed if central bankers were appointed in general elections. This would always make target announcements an efficient device.

FIGURE 1



The three regimes. x measures the initial uncertainty about the median voter's inflation objective. y measures the degree to which the policy maker's private inflation objective may differ from the median voter's. A higher x raises costs of (inflexible) rules while a higher y raises costs of (flexible) announcements. Above y^*, no contract is better than the target announcement. For $y > h(y)$, the optimal rule is better than a target announcement and for $y < k(x)$ no contract is better than the best rule.

4. Rigidities and unemployment

The literature we surveyed in the previous section states that contracts enable a government to solve the time-inconsistency problem domestically. We now have a look at institutions which lead to unemployment and which can therefore be seen as a second institutional foundation of positive rates of inflation because they give rise to incentives which stimulate output.

The literature on central bank credibility largely neglected that the removal of rigidities and the following reduction of unemployment would reduce incentives for central banks to create surprise inflation and that this would lead to the disappearance of any time-inconsistency problem linked to unemployment. One simple reason for this may be the particular specification of the central bank's objectives in the classic paper by Barro and Gordon (1983). They assume that the objective function of the central bank is linear

in the difference between actual and natural employment and, via the assumption of a linear Philips curve, linear in surprise inflation:

$$(1) \qquad z(\pi_t, \pi_t^e) = -\frac{a}{2}\pi_t^2 + b(\pi_t - \pi_t^e).$$

In this formulation, the importance of the employment target changes over time with the parameter b. This change in b, however, is exogenous. If one instead assumes (e.g. Rogoff 1985a) increasing marginal costs of unemployment, the relationship between unemployment and inflation can be endogenized. If we write the monetary authorities objective function as:

$$(2) \qquad z(\pi_t, \pi_t^e) = -\frac{a}{2}\pi_t^2 + \frac{b}{2}(\pi_t - \pi_t^e - u)^2$$

we see that the rate of unemployment that would prevail without surprise inflation, u, creates an incentive to inflate. Rigidities that create unemployment can therefore be seen as the ultimate cause for inflation if one follows the Barro-Gordon argument.[4] Not only does the level of unemployment determines inflation, hysteresis of employment also alters the choices of a central bank because it creates persistent gains from surprise inflation. In a game theoretical model of the interaction of insider-workers and a central bank, Grüner (1995b) shows that insider power does not only enter the reduced form for real wages but also the inflation equation. The impact of lagged unemployment on inflation is higher if insider power is high because then unemployment as an incentive to create surprise inflation will not be removed on the labor market.

Different reasons are currently offered on the market for theoretical explanations of high and persistent unemployment. The in-

[4] An alternative reason for inflation is the need to raise government revenue through seigniorage (Grilli 1989). However, empirical tests show that the seigniorage motive is not very convincing for the European countries (Cohen and Wyplosz 1989) and therefore cannot account for inflation rates in developed countries.

sider-outsider theory of unemployment (Gottfries and Horn 1987; Blanchard and Summers 1986) states that the incumbent workforce can disregard the existence of underbidding outsiders if turnover costs add to the wages of outsiders. Such costs are hiring, firing and training costs as well as those arising if remaining insiders do not cooperate with underbidding outsiders in the firm. Insider-outsider models predict that there are membership effects in wage-setting: wages will be low if the group of insiders is large and high if the group is small.

Even if there is no distinction between insiders and outsiders, wage negotiations can lead to unemployment (see Blanchard and Fischer 1989). This is the case when a union maximizes the expected utility of its members. The union faces a trade-off between certainty of employment and the wage level. The union chooses an interior solution under quite general assumptions, i.e. a solution with some risk of unemployment for each member and thus with unemployment in general.

Recent theories of individual job search and wage negotiations also exhibit equilibrium unemployment (Pissarides 1990). In such models, the number of contacts between firms and potential employees is a function of vacancies and unemployment (the so-called matching function). Workers who contact a firm may demand a higher than market-clearing wage because it costs the firm to wait for another employee. Thus both the search and the insider-outsider models are built on the assumption of transaction costs that enable insiders to acquire a quasi-monopolistic rent.

Another explanation often cited is the Shapiro-Stiglitz (1984) efficiency wage theory: firms set wages above the market clearing level in order to create incentives for employed workers not to shirk. If wages and unemployment are high, the opportunity cost of losing one's job is higher.

If one leaves aside the efficiency-wage theory, the current view is that rigidities in the form of hiring and firing costs, search costs and the existence of centralized rather than decentralized bargaining are the institutional soil on which high unemployment is likely to grow. Thus, if one believes Barro and Gordon, these institutional arrangements can also be seen as an ultimate reason for the existence of positive rates of inflation.

A final reason introduced by St. Paul (1994) is the existence of minimum wages. However, these are only relevant in some countries.

For example, in Germany they are not important, while in France they are. The problem with minimum wages is that, on the one hand, they tend to reduce inequality because they redistribute income from high- to low-skilled workers but, on the other hand, they also redistribute income from the low to lower-middle class workers because they create unemployment. St. Paul concludes that a tax system including negative taxes for low wage levels would create more employment but that it would be blocked by the unskilled workers. They might suffer from such a shift if they were not exposed to a great danger of unemployment, when they would of course prefer the *status quo* to a modest taxation of higher skilled workers. If the pivotal decision-maker is negatively affected by a change in the system, he will block it.

5. A welfare analysis

The conduct of monetary policy is affected by many different dimensions of the institutional set-up for monetary policy but also by the institutional set-up of the labor market. So far, we have argued that the three main decisions which have to be taken at the institutional level are:

1. determination of the degree of independence of the central bank and the degree of enforcement through contracts;
2. the choice of the exchange-rate regime;
3. decisions concerning the flexibility of the labor market.

If one approaches the problem of institutional choice from a normative point of view, and does not restrict oneself to the consideration of a single institutional component, with a standard welfare function of the Barro-Gordon type some conclusions are straightforward.

First, labor market flexibility is always desirable. This not only because flexible labor markets directly reduce incentives to inflate and thus partially solve the time-inconsistency problem. More importantly, theoretical work shows that rigidities which give rise to hysteresis undermine the importance of reputation for monetary policy-makers (Grüner 1993). Since wage flexibility reduces hysteresis, reputation effects again become important. Flexible labor markets also reduce the problems arising within a fixed-exchange rate regime if asymmetric shocks occur.

Given flexible labor markets, the credibility argument for contracts becomes relatively unimportant because incentives for surprise inflation are lower. However, contracts can still be beneficial if they hinder central bankers from pursing private or partisan inflation objectives, as well as creating a political business cycle.

Finally, labor market flexibility makes the case for fixed exchange rates overwhelming because it reduces transactions costs and might even generate dynamic efficiency gains.

6. Positive aspects of institutional choice

If one wants to examine why certain institutional arrangements are so prominent, one has to go beyond the standard welfare maximization approach and ask for partisan interests that lead politicians to choose certain arrangements. We consider the following important institutions and groups: central banks, trade unions, firms and the financial industry.

6.1. *Central banks*

There are several technical reasons why contracts are applied so rarely in actual monetary policy. First, the parameters that determine which contractual arrangement is optimal are not easily measurable. Second, it is not a trivial problem to find the optimal remuneration function for central bankers. Third, if incentive mechanisms refer to average performance per period, an undesirable end-of-period adjustment may occur when the central banker tries to improve his financial situation. All these are problems which the literature on mechanism design in monetary policy has not yet begun to tackle. Since they are not necessarily unsolvable, it is nevertheless very surprising that contracts play almost no role in the political debate on monetary policy in Europe or in the United States. One would hence conclude that there is no powerful interest group that gains from the implementation of a contract for monetary policy.

Political-economic reasons for the absence of contracts are that central bankers are likely to extract higher ego rents from independence than from being controlled by contracts and that contracts de-mystify their activities. This fits well with the fact that ego rents are likely to be important for individuals whose salaries are already very high. This explains why central bankers have no interest whatsoever in a contractual solution. More importantly, if the central bank to some degree supports the government, the government itself has no incentive to bind the bank with a contract.

The position of central banks with regard to monetary union as a special form of fixed exchange rates has been analyzed by Vaubel (1990). In his opinion, the movement towards monetary union is supported by the interests of central bankers. By collusion via a monetary union they can exclude that competition erodes their prestige when other central banks perform better in terms of monetary stability. Central banks gain influence on the stability-oriented Bundesbank, the role model of a successful anti-inflation policy in Europe, and thereby avoid any further criticism for not performing as well. In fact, it seems that most of the European central banks favor having a say in a common central bank, since they are more or less dependent on the Bundesbank at present (De Grauwe 1993).

For the same reason, one could conclude that the Bundesbank is reluctant to lose its dominant position in setting European monetary policy. Hefeker (1994) argues that the Bundesbank might have actively undermined the movement towards EMU by setting, as a counter to the inflationary effects of German unification, a tight monetary policy. When the largest European recession since World War II occurred, this left the other countries with no other political opportunity except to watch the EMS fall apart. Given growing political pressure on the other European governments (most visibly in the French and Danish referenda), financial markets started to expect governments no longer to be able to defend their EMS target and to loosen their monetary policy. Speculation ensued, leading ultimately to the collapse of the tight EMS and the drop-out of the Italian lira and the British pound.

6.2. *The trade unions*

Let us now turn to the labor market. Although the problem of unemployment and labor market rigidities is old, political-economic analysis of why there is no reduction of rigidities in a democracy occurred only recently with the work of Olson (1995) and St. Paul (1995). Their conclusions can be seen as a transfer of the insider-outsider theory to the political level where insiders vote against the removal of the rigidities which enable them to extract rents. It is also obvious that the unions who mainly represent insider workers oppose the removal of rigidities.

Given that labor unions favor labor market rigidities, they favor monetary flexibility to stimulate output and employment.[5] This has two implications: if one assumes that contracts for the central bank cannot completely resolve the credibility vs. flexibility trade-off, it becomes obvious that union leaders will favor no contractual arrangements if they have a very strong preference for monetary policy flexibility. Labor unions should hence oppose a possible contractual solution for the central bank and unite with central bankers and politicians in this position.

If one assumes that fixed exchange rates undermine the ability to react to country-specific aspects by active monetary policy, unions would oppose fixed exchange rates. It is here that a conflict arises between the tradable industry which prefers stable parities to enhance trade and profits and labor unions. On the other hand, if fixed rates entail efficiency gains and output increases, as argued in the next sub-section, unions also face a trade-off between opposing employment effects.

6.3. *The tradables industry*

It is generally perceived that large industry is behind the movement towards the common market (Casella 1992; Eichengreen and Frieden 1993). With exchange-rate variability, foreign trade is exposed to uncertainty in addition to the unavoidable ones created by relative price and aggregate demand variations (Perée and Steinherr 1989). Although it is often argued that short-term risk can easily,

[5] See Blanchard (1990) for a survey on output effects of monetary policy.

albeit not costlessly, be hedged in financial markets, this is much more difficult for longer than a one-year period as such forward markets are virtually non-existent. Furthermore, it is generally very difficult to buy insurance against this uncertainty since the pricing of this long-term risk is impossible (De Grauwe and de Bellefroid 1987).

It has, hence, frequently been shown theoretically that exchange-rate variability decreases the level of activity of a risk-averse firm if hedging is not available. The evidence that exchange-rate variability is destructive for the level of international trade is, nevertheless, far from being conclusive. When turning to time-periods longer than one year, however, the evidence is that the volume of trade is indeed affected by exchange-rate uncertainty (De Grauwe and de Bellefroid 1987; Perée and Steinherr 1989).

While it is debatable whether exchange rate changes really lead to reduced international transactions, it is undisputed that currency hedging involves costs. Aschheim *et al.* (1993) argue that the bid-ask spread for short-term transactions may be low, but tends to increase with the volatility of the exchange rate. Low or not, the added costs tend to increase the price of the traded good and thus decrease the demand for that good. Hedging costs are, however, not the only costs from varying exchange rates. Krugman (1989) refers to the widespread pricing to market behavior of international firms. Firms set prices in domestic currencies in the country in which they supply their product due to high competition in the foreign market which forces firms to fix their prices in the foreign country and not to adjust them according to exchange-rate changes. This implies that an exporting firm has to bear the costs of fluctuating currency values and a loss of profits if the exchange rate changes unfavorably.

Moreover, there are considerable long-term effects involved with exchange-rate uncertainty. Dixit (1989) argues that, when future exchange rates are uncertain, there is an incentive for a firm to adopt a wait-and-see attitude towards investment which in turn reduces the rate at which investment adjusts to fundamental factors. If a firm faces costs of entry and exit in a market, it will delay the investment even if appreciation and depreciation are equally likely. If some of these costs are irrecoverable, i.e. sunk, a sufficiently large swing in the exchange rate may have effects that persist after the swing has passed. Even if exchange-rate uncertainty does not lead to less trade, it implies too slow an adjustment to changing patterns of comparative

advantage and also influences the market structure in a given country, because potential entrants stay away, or, once in the market, stay there. Baldwin and Krugman (1989) show that, for large exchange-rate changes, a temporary overvaluation is followed by a persistent reduction in the equilibrium exchange rate, which is enough to correct the trade balance but not enough to regain once lost markets. If firms stay in a market even though it is temporarily unprofitable, however, they lose money. There are thus implicit costs of exercising an investment option which have to be added to the visible costs of investment. Consequently, firms invest less and this in turn implies opportunity costs which otherwise would not have been present. Therefore, we conclude that the tradables industry should be in favor of fixed exchange rates.[6]

6.4. *The financial sector*

Another reason for complete monetary union instead of only fixed rates is certainly that conversion costs can be reduced. Giovannini (1993b) cites estimates that currency conversion costs an average 2.5% for travellers and that they fall to 0.05% for transactions in excess of $ 5 million. Averaging across individuals and firms, he concludes that conversion costs amount to 0.4% of GDP for the EC as a whole. Although not a convincing motive for moving towards full monetary union alone, this effect contributes to the gains for the tradables sector from monetary union. As these costs constitute to a large extent profits for the financial industry, Giovannini (1993b) concludes that this industry tends to lose from monetary union. Others, however, identify this industry as being behind the movement towards monetary union (Eichengreen and Frieden 1993). Grüner and Hefeker (1994) offer a solution to this apparent paradox. They explain why large banks are especially interested in achieving full monetary union and argue that they gain from common banking regulations in a monetary union, because international financial business becomes cheaper and makes international cooperation more desirable. At the same time, scale economies might shift the market structure and enlarge their market share *vis-à-vis* small banks.

[6] See Hefeker (1995) on the position of the non-tradables industry with regard to the exchange-rate regime.

The resulting effects for banks, however, are not at all unambiguous: only large banks will gain from cooperation across borders because of their larger national market share for international transactions. There is hence a conflict between large and small banks in their position concerning EMU. Only the former can afford the costs arising from cooperation across borders because of their size; thus differences in size and reduction in variable costs by cooperation determine the position of a particular bank with regard to EMU. Even a uniform reduction of transaction costs for cooperating and non-cooperating banks due to the fact that exchange transactions are no longer necessary affects market structure and thus large banks' profits.

7. Conclusion

From a welfare maximizing point of view, it is optimal to have the following regime mix: contracts for the monetary authority, flexible labor markets and a fixed exchange rate. Contracts solve part of the credibility-flexibility trade-off and hinder the central bank from following private or partisan objectives. Labor market flexibility not only reduces unemployment but also inflationary pressure. In such a setting, fixed exchange rates are unambiguously welfare-improving because asymmetric shocks are completely absorbed by the labor markets.

We have seen that political pressure leads to different solutions which are sub-optimal from the point of view of a standard welfare analysis. Interestingly, the various interest groups are each mainly concerned with one aspect of the three dimensions we consider in this paper. This might be why there is relatively little discussion or conflict about these policy issues.

Although some interest groups are concerned with all three dimensions of institutional choice, there is a surprising coincidence of objectives. For example, unions, central bankers and the government, all three for different reasons, favor a non-contractual arrangement although it is evident that in almost every imaginable context con-

tracts would be welfare-improving. The conflict concerning labor market flexibility is obviously between unions and employers. With regard to exchange-rate flexibility, we have seen strong preferences by banks and firms in the tradable sector. Unions, on the other hand, face a trade-off which might explain their relative reservation in the debate about exchange-rate regimes.

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