Speculative Attacks on a Monetary Union?

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This paper develops the idea that full monetary union eliminates the channels through which private speculative attacks have typically ended fixed exchange rate regimes. Profitable speculation against the regime would require government actions following a regime change that are prohibitively costly to the government. The inherent stability of a full monetary union is not a feature of transitional arrangements as currently envisioned for the EMU. A relatively simple but unconventional policy initiative of 'euroization' can considerably reduce the vulnerability of transitional arrangements to speculative attack. © 1998 John Wiley & Sons, Ltd.

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INTRODUCTION

International monetary regimes have been born at a conference table and laid to rest in foreign exchange markets. The European Monetary Union may or may not prove to be the exception. This paper develops the idea that full monetary union eliminates the channels through which private speculative attacks have typically ended international monetary regimes. Alternative channels through which shifts in private expectations might force or induce the governments to dissolve a monetary union exist but would require government actions, and expectations of actions, following a regime change that are prohibitively costly to the government. This makes a monetary union much more stable than would be suggested by conventional estimates of the economic and political costs of maintaining as compared to dissolving the union.

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A monetary union is more effective in neutralizing private expectations than a perfectly effective capital control program. Dooley (1996) reviews the theory and evidence supporting the view that restrictions on access to capital markets can change trading opportunities for private investors and, in turn, alter the nature of speculative attacks, their probability of success, and their consequences. The evidence is that capital controls have important effects but are seldom effective in the face of strong incentives to circumvent the control program when a discreet parity change is anticipated.1

A full monetary union also limits the trading opportunities of private investors but does so in a fundamentally different and more effective manner. Capital controls limit access to national credit markets. Monetary unions enhance access to national credit markets but alter terms under which contracts are expected to be enforced. We argue below that this distinction implies that monetary unions will prove much more durable as compared to fixed exchange rate arrangements.
As a side benefit, speculative thinking about the nature of speculative attacks on a monetary union helps clarify an implicit assumption behind conventional models of attacks on fixed exchange rate regimes. The implicit assumption in various ‘generations’ of speculative attack models is that governments repudiate commitments to fix or manage exchange rates but do not repudiate their own financial contracts or their obligation to enforce private contracts. In a managed exchange rate system this is a rational choice for reasons discussed in the next section. It is this revealed aversion to ex post repudiation of contracts that ensures the stability of a full monetary union. In fact, the regime will be so stable that it will not be dissolved even if there are compelling reasons to do so.

The inherent stability of a full monetary union is not a feature of transitional arrangements as currently envisioned for the EMU. During the transition the national central banks face constraints and private speculators enjoy opportunities very similar to those associated with conventional fixed exchange rate regimes. During the transition to full monetary union, commercial banks are free to denominate assets and liabilities in the ‘new’ unit of account and the old currency unit. These contracts are the vehicles for profitable speculation. We argue below that a relatively simple but unconventional policy initiative of ‘euroization’ can considerably reduce the vulnerability of currency boards or transitional arrangements to speculative attack.

In the next section we develop the idea that the dissolution of a monetary union is very unlikely to generate expected profits for private investors. The section ‘Capital Controls’ compares fixed exchange rate regimes with capital controls to monetary unions. The section ‘Speculation During a Transition to Monetary Union’ develops the idea that during the transition national central banks face constraints similar to conventional fixed exchange rate regimes and that profitable attacks remain a possibility. Finally, the section ‘Is Complete Euroization an Option?’ offers a simple way to reduce the vulnerability of the regime to attack during the transition.

REGIME CHANGES AND PROFIT

How can a speculative attack yield profit opportunities to investors that anticipate the demise of a monetary union? Put another way, how do you ‘short’ a ‘weak’ national currency that no longer exists? There is an answer to this question but reaching it requires some patience. To clarify the issue we first show that the same mechanism generates expected profits (or minimized losses) in all conventional models of speculative attacks.

Two generic models have been emphasized in the literature on speculative attacks. First generation models develop the idea that private investors exhaust the government’s holding of international reserves when this is expected to be profitable and this forces the government to abandon the fixed exchange rate commitment. Second generation models emphasize the idea that shifts in private expectations change equilibrium market prices for the government’s existing and future debt and this, in turn, alters the costs and benefits of maintaining the exchange rate commitment. Under special conditions the shift in expectations can be self-fulfilling and force the end of the regime. In either case the motivation driving the model is the quest for profits by rational and competitive speculators.

In both types of conventional models the ability of private speculators to profit from changes in regimes depends on the institutional rules of the game for trading financial positions in the existing regime and in the status of financial contracts expected following a successful speculative attack. Private investors (speculators) can hold and issue financial assets denominated in two currency units before and after the regime change. The rules of the game are that governments always honor their obligations and enforce private obligations as defined in contracts but do not always honor their commitment to fix market exchange rates. The ‘rule’ that the government will allow the currency to float if it exhausts its international reserves is an important part of the regime examined in these models.

This set of assumptions about government behaviour is an appropriate description of observed regime changes involving industrial countries. Governments of industrial countries have repudiated one part of the regime, the fixed exchange

rate, though government action to alter the exchange rate by private means is also a possibility. The simplest way to see this is to realize that many speculators are the foreign central banks, who are not


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Speculative Attacks on a Monetary Union?

rate, but have not repudiated contracts even though this might also yield a capital gain for the government. Why have governments of industrial countries generally behaved this way? Speculative attacks are usually associated with substantial profits for private investors and losses for the government on a narrow set of private, speculative positions. The mechanism is simple. Relative to speculators the government is 'long' (has net assets denominated in) the home currency that falls in value and the private sector has the other side of the position. Why doesn't the government try to identify speculators and tax away their gains?

The obvious answer is that the government is also likely to have a large stock of domestic-currency-denominated liabilities outstanding. So there are really two winners from a devaluation. Even if the government has 'prepaid' the anticipated part of a devaluation by paying high nominal interest rates on long term bonds, it has a strong interest in enforcing these contracts following the regime change in order to recoup its prepayment.

So the government has incentives to repudiate the regime but also has strong incentives not to repudiate its financial contracts or its usual role in enforcing private contracts. This is an important distinction. In an accounting sense, the government's gain from devaluation must be equivalent to an outright default on some or all of its liabilities. But as Eichengreen (1990) has documented, governments of industrial countries have not chosen to repudiate contracts even in circumstances when the survival of the state was in doubt. Evidently equivalent defaults in terms of revenue are not equivalent in terms of lost reputation.

It is not surprising therefore that the fixed exchange rate 'regime' usually studied limits attention to one kind of government default, the exchange rate commitment, but assumes that governments enforce contracts. The exception, of course, is the sovereign debt literature that deals explicitly with default on sovereign debt contracts. This literature is probably rightly considered of very limited relevance to the future of the EMU.

We do not fully understand why governments of industrial countries have avoided the costs that are associated with rewriting contracts. We simply note that such costs are apparently very high. This observation is important because profitable speculation against a currency union would require that private speculators predict adjustments to contracts following a collapse of the union.

To see this we must first determine how a private speculative might try to profit from correctly guessing the union will be replaced by an alternative arrangement. This is possible but only to the extent that the government is expected to both pull out of the union and force the conversion of selected or all euro-denominated assets and liabilities into euros at a nonmarket rate of exchange. A profitable speculative position would be one in which a liability of the private investor is ex post 'devalued' in terms of euro assets (zeroed) while the speculator's assets are not devalued.

Garber (1997) provides a scenario in which speculation might be profitable. He points out that under the proposed rules for the EMU payments from one national banking system to another are automatically settled by credits among the central banks. If investors anticipated that France might leave the Union they could borrow euros from French banks and deposit the proceeds in German banks. The Bundesbank is obliged to finance the transfer of funds by lending to the Bank of France as long as it has acceptable collateral. Moreover, the usual interest rate mechanism to discourage the movement of funds from French to German banks cannot be called into play because of the common discount rate. If the Bundesbank refuses to grant unlimited credit the 'French' euro would not be convertible into German euros at a one to one exchange rate. The exchange rate would float and a new currency, the French or ex euro, is born.

But this does not ensure profits for the private investor. The government of France and the courts will have to decide which, if any, existing euro contracts are enforceable at the exchange value of the new currency. This is not an issue in a conventional fixed exchange rate system because the currency denomination of contracts is not changed. The government of France will, of course, be tempted to re-denominate its own debt in the new depreciated currency but this will be considered a sovereign default and history suggests that industrial country governments will resist the temptation. Is it reasonable to suppose that they will allow private debtors to re-denominate their liabilities in the new currency? This seems extraordinarily unlikely.
The lesson is that a speculative attack is possible in a full currency union but not very likely. Speculators would have to guess which contracts would be enforced as written following the end of the regime and which would not. But even if the government decides to default and rewire some contracts there is no reliable way to take a position that will turn out to be profitable against a government seeking vengeance. For example the government might decide to protect its banks by converting bank deposits but not bank loans. So we could well see speculative short positions ‘punished’ by simply leaving the denomination as it is in euros. In contrast deposits could be legally redenominated in euros.  

Currency unions can collapse. But this failure will not take the familiar form of a decision to default on an exchange rate commitment. For this reason the regime collapse will not have a predictable impact on the value of a well-defined set of public and private financial contracts. If pushed to a default on contracts rather than on the exchange rate, the government will, in general, treat different types of debt differently depending on the costs of default to various creditors.  

But in this case the government’s optimal behaviour is unrelated to the exchange rate regime that will emerge following the credit crisis. If, as seems likely, the final stages of an insolvency crisis involve the restriction of credit by other governments in the monetary union, the resolution of the crisis might well come at a conference table rather than in the foreign exchange market or the private credit markets.

**CAPITAL CONTROLS**

One way to illustrate the insulation power of a monetary union is to compare it to the system of capital controls. An effective capital control program limits the private sector’s ability to borrow the local currency in order to acquire foreign exchange. But even a fully effective prohibition on financial transactions can be circumvented if the private sector is willing to trade net exports of goods and services for the preferred currency. As Calvo (1987) shows, the different expected rate of domestic inflation before and after the regime change is enough to induce the private sector to substitute present consumption for future consumption. The associated current account deficits before the regime change will eventually exhaust the government’s willingness or ability to borrow from the rest of the world.

In a monetary union residents are free to borrow and lend in international capital markets. But as discussed above, such transactions do not contribute to the demise of the regime. By eliminating the vehicle for profitable speculation (an enforceable contract denominated in domestic currency) a monetary union is more effective than a capital control system that merely eliminates one set of transactions that give the private sector access to the speculative position.

**SPECULATION DURING A TRANSITION TO MONETARY UNION**

During a transition to full monetary union the vehicle for profitable private speculation remains. For this reason national central banks will face problems in many ways similar to those faced by currency boards. Since the transition to monetary union in Europe is an entirely new problem it might be useful to review the currency board literature to evaluate insights this literature offers. Caprio et al. (1996) provides an analytical framework designed to clarify the conflict between two important ‘commitments’ undertaken by currency boards.

The underlying problem for a currency board can be thought of as a conflict between two policy objectives and one instrument. The instrument is the board’s stock of international reserves. The first policy objective is convertibility of the board’s domestic-currency-denominated liabilities into foreign exchange at an exchange rate that is ‘permanently’ fixed. These liabilities typically include currency and commercial bank’s reserves held at the currency board. In most cases we think of this as a ‘fixed exchange rate commitment’ that appears to be credible because the board’s liabilities are backed by foreign exchange assets. The second policy objective is often implicit and is the maintenance of convertibility of some class of government bank deposits into currency or deposits at the currency board. We often think of this as a ‘lender of last resort’ commitment.
Speculative Attacks on a Monetary Union?

For a currency board, the existence of domestic-currency (peso-) and foreign-currency- (dollar-) denominated assets and liabilities on banks' balance sheets is an important source of solvency risk even if the commercial banks' currency positions are balanced. The problem is that the banks' main function in the system is to bear maturity risk. During a time period in which the board's commitment to the fixed exchange rate is not fully credible, any shock that increases the political cost of maintaining the fixed exchange rate increases the exchange risk premium component of domestic currency interest rates.

The rise in interest yields paid on domestic-currency-denominated assets depresses the market value of the banks' long term domestic currency assets. This reduction in the market value of long term assets is not matched by a reduction in the value of banks' short term domestic currency liabilities. Thus even a balanced foreign exchange position leaves the banks exposed to changes in exchange rate expectations.

If all the commercial banks' assets and liabilities were denominated in foreign currency, this risk would be eliminated, although changes in international interest rates would still generate capital gains and losses on banks' assets. Experience suggests that changes in international interest rates have been quite small relative to changes in domestic currency interest rates in countries that have adopted currency boards. In the very short run, depositors will not be able to distinguish banks that can survive a change in domestic interest rates from those that will not be able to do so. This is particularly true in cases where important bank customers also suffer from the rise in short term interest rates. This implies that a currency board with a mixed currency banking system is likely to be subject to unusual changes in asset valuation and possibly to bank runs that are indistinguishable from speculative attacks on the exchange rate regime.

During the transitional phase to the monetary union, national central banks would face very similar problems. They retain the obligation to act as a lender of last resort for their commercial banks. Their banks would remain free to take positions in both the old and the new currency. The market value of these positions would fluctuate with expectations that the union will survive. Finally, and most important in the context of our model, is that the presumption that the government will enforce these contracts if the regime collapses provides the vehicle for profitable speculation.

This source of instability during the transition cannot be eliminated by well-meaning statements to the effect that the old currency no longer legally exists once the euro is introduced. The only legal status of contracts denominated in the old currency and the euro that matters is that which follows a breakdown of the union. Our guess is that speculators will expect governments to behave as they always have when faced with the problem of enforcing contracts denominated in different currency units. This expectation makes the coexistence of the two currency units a powerful source of instability.

IS COMPLETE EUROIZATION AN OPTION?

Complete euroization of banks' assets and liabilities eliminates conversion risk during the transition. As long as the national currency exists, it is very unlikely that market forces alone will generate a completely euroized banking system. Any difference of opinion about the credibility of the exchange rate commitment will make private contracts denominated in the home currency attractive to some market participants. For this reason complete euroization of the EMU domestic banking system would have to be enforced by law. Banks might be licensed to operate only in euro-denominated assets and liabilities or contracts denominated in the old currency unit might be taxed.

Given that the authorities want to achieve a credible commitment not to debase the new currency, a completely eurobased system seems to be an effective regime. A shift in the private sector's expectations about devaluation cannot bring the system down. There is no reason to delay the introduction of the euro as a unit of account for commercial banks. The governments involved can continue to issue national currency for day-to-day transactions but discourage the use of national currencies as a unit of account for banks.
NOTES

1. See Dooley (1996) for a survey of the literature on controls over international capital transactions.

2. There are as yet unnamed third generation models (Flood and Marion, 1996) in which a change in the perceived riskiness of the system triggers a successful speculative attack.

3. A very similar convention is identified by Lucas and Stokey (1983). In their closed economy model governments default on their commitment not to utilize an inflation tax but not on their bond contracts. They note ‘Our analysis has focused exclusively on a situation...in which there are no binding constraints on future taxes but in which government debt is fully binding. Our interest in this case does not arise from features which are intrinsic to the theory, since the theory sheds no light on why certain commitments can be made binding and others not, but because this combination of binding debts and transient tax policies seems to come closest to the institutional arrangements we observe in stable, democratically governed countries.’

4. Buiter and Sibert (1997) argue that unlimited credits among national central banks will be available in Stage III as they are among Federal Reserve Banks in the US. This might be correct, but in our view the better assumption is that losses are more likely to accrue to German taxpayers than to residents of a Federal Reserve District. The expectation of such losses would eventually limit credits.

5. There is some precedent for just such a policy. Following the 1982 debt crisis, the government of Mexico converted dollar-denominated deposits at domestic commercial banks into pesos at a nonmarket exchange rate.

6. See Dooley (1998) for an analysis of debt management when default is an option.

REFERENCES


