



TI 2000-085/2
Tinbergen Institute Discussion Paper

The Political Business Cycles of EU Accession Countries

Mark Hallerberg
Lúcio Vinhas de Souza

Tinbergen Institute

The Tinbergen Institute is the institute for economic research of the Erasmus Universiteit Rotterdam, Universiteit van Amsterdam and Vrije Universiteit Amsterdam.

Tinbergen Institute Amsterdam

Keizersgracht 482
1017 EG Amsterdam
The Netherlands
Tel.: +31.(0)20.5513500
Fax: +31.(0)20.5513555

Tinbergen Institute Rotterdam

Burg. Oudlaan 50
3062 PA Rotterdam
The Netherlands
Tel.: +31.(0)10.4088900
Fax: +31.(0)10.4089031

Most TI discussion papers can be downloaded at
<http://www.tinbergen.nl>

The Political Business Cycles of EU Accession Countries.

by

Mark Hallerberg¹
University of Pittsburgh

Lúcio Vinhas de Souza²
Tinbergen Institute
Erasmus University Rotterdam

JEL Classifications: E52, E61, F02, P33.

Business Cycles, Euro, Enlargement, Exchange Rate Regimes, Monetary Policies, Mundell-Fleming Models, Political Cycles.

Abstract: This paper considers whether political business cycles exist in Eastern European accession countries. Section I introduces the overall objectives of the work. Section II provides a short introduction to the political business cycle literature. It also considers the role of exchange rates, capital mobility, and central bank independence in restricting or encouraging political business cycles. Section III lays out the accession process to date as well as the exchange rate regimes accession states have used. Section IV tests empirically whether there have been political business cycles during the time period 1990 to 1999 for the 10 Eastern European accession countries, with estimations based on a Mundell-Fleming model. It finds that countries with flexible exchange rates have looser monetary policies in election years than in non-election years in countries with dependent central banks. If a country has a fixed exchange rate regime, it manipulates its economy in election years through running larger budgets instead of through looser monetary policy. Section V concludes with some policy implications for the European Union's enlargement process and EMU.

¹University of Pittsburgh, 4T23 Posvar Quad, Pittsburgh, PA 15221, USA. Email: hallerb+@pitt.edu.

²Tinbergen Institute Rotterdam, Burg. Oudlaan, n° 50, 3062 PA, Rotterdam, the Netherlands. Email: desouza@few.eur.nl. This Author thanks the support provided by the FCT scholarship BD PRAXIS XXI/BD/1832.

The views expressed here, as all remaining mistakes, are of exclusive responsibility of the authors.

I. Introduction.

The European Union is currently involved in accession negotiations with twelve Eastern European and Mediterranean countries. Much focus has been given to the implications of this accession to a variety of European Union programs, such as the Common Agriculture Policy (CAP) or to the possible effects of greater labor mobility from the Accession Countries. There has also been some recent discussion of how EU enlargement may affect Economic and Monetary Union (see Vinhas de Souza and Ledrut, 2000, Vinhas de Souza, 2000, Vinhas de Souza et al, 1999 and Vinhas de Souza and Hölscher, 1999). While authors like De Grauwe and Aksoy (1999) argue in preliminary work that some of the applicant countries are already in principle part of an optimal currency area with the current members of the euroarea, which would imply that these countries could join EMU soon after they join the EU, while others, like the recent work by Vinhas de Souza and Ledrut (2000, *ibid*), casts doubts in such an optimistic view. The European Commission is also more cautious about the prospects of early EMU participation. It has warned that accession states should not join EMU at the same time they join the EU because of possible disruptions to their economies, and also because of the very legal structure of the Enlargement process³.

This paper considers whether political business cycles exist in Eastern European accession countries. Manipulation of the economy in election years is a common practice in most OECD countries, where budget deficits tend to become larger in election years and/or where monetary policy is looser than in non-election years. The presence of such cycles in Eastern Europe would have implications for the introduction of the Euro, both in terms of when the Euro should be introduced and what effects the Stability and Growth Pact (SGP) in its current form would have on the Accession Countries' economies⁴. Section II provides a short introduction to the political business cycle literature. It also considers the role of exchange rates, capital mobility, and central bank independence in restricting or encouraging political business cycles. Based on a Mundell-Fleming model, Clark and Hallerberg (2000)

³In its 1998 "Composite Paper", which presents an integrated analysis of the assessment performed in the applicant countries, the European Commission's phasing of EMU integration for future members envisage a three-phased process (See European Commission, 1998). The first is a pre-accession phase, during which the accession states shall fulfill general EU membership criteria. The second is the accession stage *per se*, in which the states, already in the EU but outside the Euroarea, shall nevertheless -according to the terms of the Treaty of the European Union, TEU- treat the "exchange policy as a matter of common interest" and eventually coordinate policy through a structure similar to the Exchange Rate Mechanism (ERM). The third and final phase is the actual Euro phase. This timing would *explicitly* exclude a simultaneous accession to the European Union and to the common currency framework, which is also implicit in the so-called *Maastricht Criteria* (see footnote 10). This clarifies the statements in the "Agenda 2000" (see EC, 1997), which, in principle, do not seem to exclude a two-phased process, in which the entry in both the EU and the EMU could be simultaneous, and where no exchange rate coordination framework was actually specified. These statements were confirmed by the 1999 version of the "Composite Paper", which didn't introduced any substantial modifications concerning EMU (see European Commission, 1999).

⁴To try to impose a more binding constraint on the fiscal behavior of the member countries of the European Union, a system of punitive pecuniary fines was introduced by the Stability and Growth Pact (SGP), through which -after a lengthy joint political decision process- individual EU member countries that incur in non-cyclical adjusted deficits that are deemed to be "excessive" -namely, over a 3% benchmark- would transfer up to 0.5% of their GDP to the Union.

indicate that the type of exchange rate regime affects the instruments governments use to influence the economy before elections. Assuming that capital is mobile, if the country has fixed exchange rates, then only fiscal cycles are expected. Conversely, if the country has flexible exchange rates then monetary cycles are expected. Independent central banks can eliminate such cycles even under flexible exchange rate regimes. Section III lays out the accession process to date as well as the exchange rate regimes accession states have used. Section IV tests empirically whether there have been political business cycles during the time period 1990 to 1999 for the 10 Eastern European Accession Countries⁵. We find strong evidence in support of the theory—countries with flexible exchange rates have looser monetary policies in election years than in non-election years in countries with dependent central banks. If a country has a fixed exchange rate regime, it manipulates its economy in election years through running larger budgets instead of through looser monetary policy. One finding that differs from Clark and Hallerberg (2000, *ibid*) is that, in countries with independent central banks, there is a monetary *contraction* in election years. This suggests that newly created independent central banks may use electoral years to send signals to markets that they are truly independent. Section V concludes, and it considers the policy implications for the European Union’s enlargement process and EMU.

⁵Namely, the countries studied here will be Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

II. Political Business Cycles.

The political business cycle literature considers how incumbent governments attempt to manipulate the macro-economy before elections. There have been in general two types of cycles reported in the literature. *Partisan* political business cycles occur when macro-economic policy varies consistently with the partisan hue of government. The standard assumption is that left governments prefer higher rates of growth and therefore tolerate higher inflation rates and/or higher budget deficits than right governments (see Hibbs, 1977 and Oatley, 1999). The governments are simply following the dictates of their core supporters, either labor for left governments or capital for right governments. While these arguments might make intuitive sense, there is little empirical support for it. While Oatley (1999) finds that countries did experience such partisan cycles before the 1990's, Clark and Hallerberg (2000, *Ibidem*) found no evidence of such partisan swings in terms of changes in monetary or fiscal policy in OECD countries.

The second type of cycles, *opportunistic* political business cycles, have more empirical support, and they are the cycles on which we will focus our research (see Nordhaus, 1975, MacRae, 1977, Tufte, 1978 and Keech, 1995). The basic assumption is that voters support incumbents when their economic position is healthy, but they support challengers when their economic position is weak. Governments therefore can gain votes if they can boost the economy shortly before elections.

There are two crucial assumptions to the model that are potentially subject to criticism, and before testing the model we should consider them. First, the model assumes that voters are *short-sighted*. They care only about their current economic position when they vote and do not factor in government manipulations of the economy and its future effects into their vote calculus. A second crucial assumption is tied to the first one, namely that governments *can* manipulate the economy. The Lucas critique contends that there is no such thing even as a *short run* Philips Curve which the government can exploit to boost output and jobs (see Lucas, 1976). Agents adjust their expectations based on the behavior of the government, and their adjusted behavior eliminates the positive effect of any manipulation of the economy. While this critique has been devastating to theories concerning long-run Philips curves, there is some empirical evidence that states do successfully manipulate the economy short-term (see, among others, De Grauwe and Aksoy, 1999, *ibid*, and De Grauwe, 1997), and a short-term real effect is all a government would need before an election (with such short-sighted agents/voters).

Exactly *how* governments boost the economy before elections is the subject of Clark and Hallerberg (2000, *Ibidem*). They consider the relevance of a standard Mundell-Fleming model for opportunistic political business cycles. The Mundell-Fleming model factors in the role of both the level of capital mobility as well as the exchange rate in determining the relative effectiveness of monetary and fiscal policy in influencing the macro-economy. When capital is not mobile, both monetary and fiscal policies affect economic growth. When capital is mobile, the exchange rate becomes an important variable. If the exchange rate is fixed, monetary policy becomes an ineffective policy instrument, and fiscal policy is the only way that the

government can influence the macro-economy. The opposite is the case when the exchange rate is flexible—monetary policy is effective but fiscal policy is not.

Clark and Hallerberg (2000, *Ibiden*) apply this framework to discussions about the presence or absence of opportunistic political business cycles. They also consider the importance of domestic institutions in preventing opportunistic political business cycles. Independent central banks are expected to eliminate cycles even when capital is mobile and exchange rates are fixed. Independent central banks do not adjust policy according to the whims of the electoral calendar, while dependent central banks do. Clark and Reichert (1998) find evidence that independent central banks *can* block *opportunistic* changes in macro-economic variables, like economic growth, according to an electoral calendar. Clark and Hallerberg (2000, *Ibiden*) find similar results for the importance of independent central banks based on changes in policy *instruments* such as the money supply. Clark and Hallerberg (2000, *Ibiden*) also consider the effects of fiscal policy institutions. Hallerberg and von Hagen (1998, 1999) find evidence that either delegation to a strong finance minister, or the setting of budget targets in the form of fiscal contracts among coalition partners reduces the size of budget deficits. Clark and Hallerberg (2000, *Ibiden*) find that these institutions also reduce the size of opportunistic fiscal cycles when capital is mobile and the exchange rate is fixed, although fiscal contracts are more effective than delegation to a strong finance minister.

In the empirical section of the paper we will concentrate on the effects of the exchange rate regime as well as independent central banks in reducing opportunistic political business cycles in Eastern Europe⁶. A summary of our predictions under conditions of capital mobility appears in Table 1 (below).

Table 1: Predictions about the Effects of Exchange Rate Regime and Central Bank Independence on Opportunistic Political Business Cycles.

	No Central Bank Independence	Central Bank Independence
Capital Mobility and Fixed Exchange Rates	Fiscal Cycles, No Monetary Cycles	Fiscal Cycles, No Monetary Cycles
Capital Mobility and Flexible Exchange Rates	Monetary Cycles, No Fiscal Cycles	No Fiscal or Monetary Cycles

Note: This Table also appears as Figure 2 in Clark and Hallerberg (2000, *Ibiden*).

⁶To date there is no published material on fiscal institutions in East Europe.

III. The Accession Process and the AC's Monetary and Exchange Rate Arrangements.

The European Commission, according to the provision of the Article O of the Treaty of the European Union (TEU), launched, in March 31, 1998, official accession processes with Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia⁷, through the mechanisms of the Accession Partnerships⁸ (AP). According to the terms of a Luxembourg European Council decision, the pre-accession process and its related questions will be dealt with via the APs and the respective National Programmes for the Adoption of the *Acquis* (NPAA), their counterparts at the accession-country level.

Substantive negotiations for Accession were opened on November 10, 1998, with Cyprus⁹, the Czech Republic, Estonia, Hungary, Poland and Slovenia, the so-called "first wave" countries. This set of countries was selected on the basis of their level of fulfillment of the economic and political criteria set out by the European Council held in Copenhagen in July 1993¹⁰ as benchmarks for future member countries. These 6 former "first wave" entrants would add over 63 million inhabitants to the current Union's population (almost two thirds of them in Poland alone) and over 240 Billion Euro to its GDP (again, over half of this figure in Poland). That will mean, respectively, a 17% increase in the Union population, but a mere 3% increase in its GDP. The so-called "second wave" entrants (Bulgaria, Latvia, Lithuania, Malta, Romania and Slovakia) would add to these figures roughly another 57 million people and 97 Billion Euros (or a 15% increase in the population of the Union, but an even more marginal increase of 1.2% to its GDP). This, of course, reflects the lower level of development of the two biggest countries in this group, Bulgaria and Romania.

This division was, in practical terms, ended by a series of new EU Commission's recommendations, published in 13, October, 1999 (see European Commission, 1999). In a wide-ranging modification of the EU accession procedures and foreign policy –approved by a European Council meeting, held in Finland, in December 1999, substantial negotiations for accession are now to be opened with *all* application countries in 2000. Turkey was also added to the Application Countries' list, but without any date for the opening of negotiations. The Balkans was added to the list of countries for *eventual* future integration. A new framework of cooperation is to be developed with all remaining EU-neighboring areas, from Eastern Europe to

⁷Malta was only added to this list in October of 1998, when the Council accepted Malta's request to reactivate its candidature, which had been presented in 1990 but withdrawn following the change in government in the island after the general elections of 1996. A new government, elected in September of 1998, reverted this position.

⁸See European Commission, 1998.

⁹It must be noted that the specific political situation in Cyprus, namely, its division between a Greek Cypriot south and a Turkish-occupied north, casts doubts on the final outcome of the accession negotiations.

¹⁰These criteria, know as "Copenhagen Criteria", are that the new entrants should present: "i) stable institutions, guarantees the rule of the law, human rights and the protection of minorities; ii) can be regarded as a functioning market economy able to cope with the competitive pressure and market forces within the Union in the medium term and iii) should be capable in the medium term of applying the *Acquis* provided it continues its efforts on its transposition and intensifies its works on its implementations". See European Commission, 1998.

the Mediterranean Sea. The official opening of substantive negotiations for Accession with the new Accession Countries occurred on February 15, 2000, in Brussels, during the Portuguese presidency of the Union.

In number of countries this will be the biggest wave of expansion of the Union since its birth in 1957, surpassing the North Sea Accession of 1973 (the Kingdom of Denmark, the Republic of Ireland and the United Kingdom), the Mediterranean Accession of 1982 (the Greek Republic), the Iberian Accession of 1986 (The Kingdom of Spain and the Portuguese Republic) and the Nordic-Central European Accession of 1995 (the Republic of Austria, the Republic of Finland and the Kingdom of Sweden). The complexity and duration of the related negotiation process could perhaps equal -and even surpass- the almost 10 year long negotiations of the Iberian accessions (see Vinhas de Souza, 1996), at least for some of the countries. Such a prolonged pre-accession period is even more likely when one remembers that the comprehensiveness and extension of European legislation, and realms of integration which are included in the current negotiations, surpass by far the ones covered on all previous expansion waves.

In this negotiation process, there is one major institutional difference, among the many from the previous expansion waves, that shall concern us here: namely, that the new entrants cannot benefit from the use of “Opt-out” clauses, which were used by the United Kingdom and the Kingdom of Denmark for EMU (Economic and Monetary Union), and also by the UK for the Social Chapter. Therefore, the *Acquis Communautaire* is expected to be, in time, *taken in full* by all future new entrants, including, of course, EMU participation and all the requisite “Criteria”¹¹. All future entrants are supposed to become, eventually but not immediately, members of the common currency area, which became a reality with the introduction of the Euro in 11 of

¹¹A number of numerical benchmarks were defined in the framework of the Maastricht Treaty. These so-called *EMU or Maastricht Convergence Criteria* aim to ensure monetary and fiscal stability in the joint currency area. The criteria force the countries which want to become full EMU members to converge in the monetary and fiscal sphere. Two of the criteria are monetary, one is linked to currency rate stability, and the final one is fiscal. The criteria are:

- i) *The Inflation Convergence Criterion*, defined as an inflation rate which should not exceed by more than 1.5% the average inflation rate of the three best-performing countries;
- ii) *The Interest Rate Convergence Criterion*, meaning that the average long-term nominal interest rate should not be more than 2% above the average interest rate of three countries with the lowest inflation rate;
- iii) *The ERM Criterion*, which postulates that the currencies of future EMU members should have been in the ERM (Exchange Rate Mechanism) without devaluation or revaluation for at least two years¹¹;
- iv) *The Excessive Debt Criterion* is composed of a *budget deficit* component, which declares that a country’s budget deficit should not exceed 3% of its GDP, and of a *stock of debt* component, which states that the stock of outstanding government debt should not exceed 60% of that country’s GDP (or otherwise be in a descending sustainable trajectory towards these benchmarks).

Additionally, an “operational” criterion was also set, concerning the legal and institutional features of the national Central Bank (CB), namely, its independence from government interference, a mandate towards price stability, the prohibition of monetary financing of deficits, and the availability of a set of market-based instruments that enable the CB to conduct monetary policy actions.

the 15 European Union (EU) member states, in January 1999¹². This is implicitly stated in the Amsterdam Treaty (AT), which declares that all future member countries “shall adhere to the goals of EMU”, and explicitly indicated by the general commitments in the pre-accession agreements signed by the new entrants with the European Commission.

Given this background, we will try to assess the question of the influence of the political cycle in the conduct of monetary policy. To do so, we will first determine the exchange rate regimes in place in the countries, and also consider the institutional structure of their domestic institutions, and in particular whether or not the countries have independent monetary authorities.

Monetary Authorities in Central Eastern Europe.

As a general rule, most transition economies adopted, at some point early in their transition process, macroeconomic stabilisation programs¹³ with some form of exchange rate anchor. Most of these initial peg strategies were later abandoned or softened in the face of growing external imbalances. Such changes happened either relatively swiftly, as was the case in Poland, or spectacularly in the midst of a speculative attack, as was the case in the Czech Republic¹⁴.

It must be noted that the learning curve of these countries had to be very steep: hardly ten years ago, the currently universal two-tier bank structure was not only absent, but irrelevant. The central bank, for all practical purposes, was a department of the Ministry of Finance, and its only real function was to produce the means of exchange to allow the trading of plan-determined quantities among individual consumers¹⁵. Several of these countries—namely Estonia, Latvia, Lithuania, Slovakia and Slovenia—were newly independent and had to build national institutions virtually from scratch, including their monetary authorities.

The development of the institutions able to carry out monetary policy actions, as well as the development of the necessary instruments to carry it through, took time. Initially, more blunt direct monetary control instruments were used (interest rate and credit caps, high reserve requirements, “moral persuasion”, etc.) since i) the monetary authorities themselves had not learned how to use modern monetary policy tools¹⁶, ii) the transmission channels for the proper use of those tools—namely, working financial

¹²The founding members of the euroarea are Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain. The currently non-participating member-states are Denmark, Greece, Sweden and the United Kingdom. Greece shall join the euroarea in January, 2000.

¹³These macro programs encompassed, of course, several different policy actions. On the monetary side, one of the main initial concerns was the elimination of the monetary overhang: centrally planned economies traditionally generated a surplus of legal tender, given the limited amount of goods and services available for consumption. A substantial part of this overhang was held by households outside of the former mono-bank financial system. The liberalization of prices and external trade, besides the macro balance and allocative micro-efficiency issues involved, aimed at eliminating part of this surplus.

¹⁴For a stylized description of the general trajectory, see Halpern and Wyplosz, 1997.

¹⁵Among the state enterprises and government departments, not even this mean of exchange function of money was necessary: barter –inter-unit transfers of goods and services for settlement- was used instead.

¹⁶Which, even in Western Europe, were only slowly and progressively introduced between the 1950s and the 1990s.

markets--were absent in these economies (and still are today, but to a much lesser degree) and iii) the lack of stable relationships among the central bank's target variables and its instruments. Only more recently have market-based indirect monetary policy instruments--repos, lombard facilities, government securities auctions--been introduced¹⁷.

A primary goal of a central bank is to maintain price stability. This can be accomplished through direct or indirect strategies. To try to meet a inflation target indirectly assumes some sort of stable links between the final target and an aggregate(s), which the central bank attempts to influence. These aggregates are the so-called intermediate targets, but inflation is the final target. There are two possible types of indirect strategies, one based on a stable rate of exchange between the domestic currency and the currency of a low inflation country, and the other based on controlling the growth rate of a domestic money supply aggregate. The use of any type of pegging regime is, therefore, equivalent to the use of indirect inflation targeting. No single exchange rate regime is optimal for all nations at every time, but, nevertheless, it is usually considered that only a free float is sustainable on a long-term perspective¹⁸, since other strategies are unstable to exogenous shocks and ultimately collapse¹⁹.

The extreme case of the peg strategy is the currency board arrangement (CBA), which requires the official foreign exchange reserves to be --at least- equal to the amount of domestic currency issued (at a given *fixed* exchange rate): under a strict CBA, there is no actual domestic monetary policy, since both the monetary base and the level of interest rates are endogenously determined. Modified CBAs, though, may perform limited monetary policy actions, through the use of some types of CB-like instruments, like lender-of-last-resort (LLR) facilities or limited open-market operations²⁰.

Usually, the choice of a CBA is linked to the need to give credibility to a stabilisation policy, or, in the case of Eastern Europe, to sheer inexperience in terms of conduct of monetary policy by the monetary authorities of these countries.

Among its stated advantages, a CBA entails automatic balance-of-payment adjustments (essentially in the same way that a gold standard exchange system would operate: in case of a deficit in the capital and current accounts, money supply is reduced, causing, *ceteris paribus*, the interest rate to rise, which will lead to i) reduced domestic

¹⁷It is estimated that, on average, only three years separated these two distinct phases: it was a much faster process than its counterpart in Western Europe (See Radzyner & Riesinger, 1998).

¹⁸A full fixing (like the Euro) merges the national currency in a composite currency that floats itself: in these terms, a full fixing to the Euro is actually a floating regime, from the point of view of the aggregate.

¹⁹The "shock-isolation" capabilities of a float regime can be intuitively demonstrated in a simple IS-LM analytical framework (see Visser & Smits, 1995). Both foreign demand and foreign price shocks are cushioned by a floating exchange rate. Nevertheless, a foreign interest rate shock is not cushioned nor by a float neither by a peg, but the shock works on opposite directions (in a float, a fall in the "world" interest rates cause a capital inflow and an appreciation of the exchange rate, leading the IS curve to shift to the left; conversely, in a peg regime), but, in the case of the float, an activist monetary policy can be used as an effective instrument by the domestic policy maker.

²⁰A comprehensive discussion of alternative exchange rate regimes, and of several other subjects related to the integration of the Accession Countries into the euro area, can be found at most recent publication of the Forum Report on Economic Policy Initiative, "Monetary and Exchange Rate Policies, EMU and Central Eastern Europe", CEPR, 1999.

activity and reduced imports, and to ii) an increase in foreign capital inflows,). It should also result in reduced inflation expectations (depending on the anchor currency chosen).

Among its drawbacks, a CBA means not only the loss of monetary policy as a counter cyclical tool, but it can actually be *procyclical* (reinforcing economic booms and troughs). The lack of LLR features by the monetary authority increases both the short run probability and effects of financial sector crisis (regardless of the beneficial long run effects caused by the reduction of moral hazard). The need to perform active policy actions is heightened in periods of market instability, as was clearly the case in Eastern Europe after last year's Russian crisis, and during the series of Baltic banking crisis of 1993-1995. A CBA also discourages the development of domestic money and capital markets²¹. Nevertheless, the most fundamental problem²² of a CBA lies in the question of its "exit strategy". There is no clear optimal path from virtually the absence of monetary policy under a CBA regime towards a fully-fledged and even independent central bank.

We present in the Table 2, next page, a summary description of current exchange rate arrangements used by the Accession Countries, and on Table 3, also next page, the estimated level of independence of their monetary authorities. On the Appendix, we provide a more detailed description of the recent monetary and exchange rate history of each individual Accession Country.

²¹Some specific examples could be supplied that contradict this last statement: the most famous case is, of course, Hong Kong, a CBA "country" which, even today, is one of the most dynamic financial markets in Asia. Nevertheless, its importance was partially derived from its special role as an intermediary in most financial transaction with the communist People's Republic of China (PRC), which may have more than compensated the disadvantages of the CBA system. The ongoing fall in importance of the Hong Kong market since its absorption into the PRC can be seen as supporting this conclusion.

²²Even other weaknesses of peg regimes are:

- it is very difficult to determine the equilibrium exchange rate of a national currency in a peg;
- the economy becomes vulnerable to shocks in the country to which the national currency is pegged;
- the destabilising effects of capital inflows, when a misaligned fixed exchange rate violates the uncovered interest rate parity condition (by creating exploitable "risk-free" interest rate differentials), forcing the CB to costly and ultimately ineffective sterilisation operations.

Table 2: Exchange Rate Arrangements of the Accession Countries.

Countries	Currency	Exchange Rate Regime	Date of Introduction
<i>Bulgaria</i>	Lev	<i>Currency board regime (anchor is the euro).</i>	July 1997
Czech Republic	Koruna	Managed float, with informal shadowing of the euro.	May 1997
<i>Estonia</i>	Kroon	<i>Currency board regime (anchor on the Euro).</i>	June 1992
Hungary	Forint	Sliding peg -0.3% monthly- with intervention bands (+/- 2.25%) towards a basket made of euro and the USD (70%, 30%).	March 1995
Latvia	Lats	Peg with the IMF's Special Drawing Rights, with intervention bands (+/- 1%).	October 1993
<i>Lithuania</i>	Litas	<i>Currency board regime (the anchor is the USD).</i>	March 1994
Poland	Zloty	Managed float with informal shadowing of the euro.	April 2000
Romania	Leu	Managed float with informal shadowing of the euro.	August 1992
Slovakia	Koruna	Managed float with informal shadowing of the euro.	October 1998
Slovenia	Tolar	Managed float with informal shadowing of the euro.	October 1991

Sources: Vinhas de Souza et al, 1999, ECB, EU, IMF.

Table 3: Central Bank Independence in the Accession Countries.

Countries	Monetary Authority Status	Independence Index
Bulgaria	CBA.	0.875(a)
Czech Republic	Legally Independent Central Bank *.	0.875(a)
Estonia	CBA.	1.000(a), 0.74(b)
Hungary	Legally Independent Central Bank *.	0.312(a)
Latvia	Legally Independent Central Bank.	0.85(b)
Lithuania	CBA.	0.125(a), 0.82(b)
Poland	Legally Independent Central Bank.	0.50(a)
Romania	Legally Independent Central Bank *.	0.50(a)
Slovakia	Non Independent Central Bank *.	n.a (assume low)
Slovenia	Legally Independent Central Bank *.	n.a (assume high)

Sources: Vinhas de Souza et al, 1999, IMF, ECB and respective National Central Banks; *: Lending to Government is still permitted; (a): Lougani and Sheets, 1997, (b): Äimä, 1998.

Äimä's index is based on the so-called "Cukierman's index", which can vary from 0 -no independence- to 1 -complete independence. Cukierman's is built as a linear combination of the following variables:

- 1.CEO:
 - a) Duration of term in office of CB's CEO;
 - b) Who appoints CB's CEO;
 - c) How CB's CEO can be dismissed;
 - d) If CB's CEO allowed to hold other offices.

- 2.PF:
 - a) Who formulates monetary policy;
 - b) Conflict resolution procedures with government;
 - c) CB's role in budget definition.

3. OBJ:
 - a) CB statutory objectives.

4. LM:
 - a) Limits on advances to government;
 - b) Limits on lending to government;
 - c) Who decides the terms of any lending;
 - d) Set of CB's potential borrowers;
 - e) Type of lending limits;
 - f) Maturity of loans;
 - g) Limits on interest rates;
 - h) Limits to primary market lending.

Cukierman uses both (arbitrarily) weighted and simple averaged combinations of the variables above. Äimä uses a weighted combination of (.20 for 1), (.15 for 2), (.15 for 3), and varied weights for items in 4). Due to questions of comparability amongst his set of countries, Äimä estimates an alternative index that completely leaves out 4), re-weighting the remaining criteria. These are the values presented above. Lougani and Sheets use a similar procedure, but put more weight on 1) and 2), which explains the sharply different results for Estonia and Lithuania.

IV. Empirical Results.

We expect that the policy instruments governments use to manipulate the economy in election years depend upon both the exchange rate regime and whether or not the central bank is independent. If the exchange rate is flexible, then fiscal policy is ineffective and monetary policy is the only tool that governments can potentially use. If central banks are politically independent from governments, then even this tool is not available. Conversely, if exchange rates are fixed monetary policy is an ineffective policy tool, and we anticipate that governments rely upon fiscal policy instead.

To facilitate comparisons with the results obtained by Clark and Hallerberg (2000, *Ibidem*) for OECD and current EU member countries, we match the regression models as closely as possible. We use all ten Eastern European accession countries for the years 1990-99. There are several non-trivial problems in doing this regression analysis that anyone reading these results should consider. First, there are some clear data restrictions (see footnote 28 for some details). Some countries simply do not have figures to report for some years. Second, ten years of data does not constitute a long time series. The results must therefore be considered fairly tentative. Yet one would also expect that, if anything, there was be a bias towards finding non-statistically significant results. Given the scale of the changes in East Europe over the decade there is likely plenty of “noise” in the regressions.

Monetary Cycles

Our regression equation for the monetary policy regression takes the form

$$M_t = \hat{\alpha}_0 + \hat{\alpha}_1 Election_t + \hat{\alpha}_2 CBI + \hat{\alpha}_3 Fixed_t + \hat{\alpha}_4 Election_t * CBI_t + \hat{\alpha}_5 Election_t * Fixed_t + \hat{\alpha}_6 CBI_t * Fixed_t + \hat{\alpha}_7 Election_t * CBI_t * Fixed_t + \hat{\alpha}_8 m_{t-1} + \hat{\alpha}_9 Prices_{t-1}$$

The dependent variable is M1. *Election* is a dummy variable coded as “1” if a legislative election took place either in the current quarter or in the previous three quarters, *CBI* is a dummy variable for Central Bank Independence, *Fixed* is a dummy variable coded as “1” if the country maintained a fixed exchange rate in a given quarter. We include two control variables, m_{t-1} , or a one period lag of the money supply, and $Prices_{t-1}$, which is a one period lag of the inflation rate. The central bank is presumably reacting to the latest information on prices when determining the current money supply.

Table 4: Monetary Political Business Cycles in Eastern Europe 1990-1999.

Variable	Coefficient and Standard Error
<i>Variables of Interest</i>	
Election	.14** (.06)
Central Bank Independent	.002 (.04)
Fixed Exchange Rate	-.02 (.03)
Election*Central Bank Independent	-.20*** (.07)
Election*Fixed Exchange Rate	-.15** (.07)
Election* Central Bank Independent*Fixed Exchange Rate	.15* (.09)
<i>Control Variables</i>	
Change in $M1_{t-1}$.64*** (.05)
$Prices_{t-1}$.001** (.0001)
Constant	.08 (.04)

N=262, R-squared=0.79

* p<.1 ** p<.05, *** P<.01

Regression with panel-corrected standard errors and country dummies (not reported). Alternative equations that include additional lags of the dependent variable and of *Prices* yield virtually identical results.

Table 4a: Conditional Coefficients for *Election* under Different Configurations of Central Bank Independence and Exchange Rate Regime.

Central Bank Independence	Exchange Rates	
	Flexible	Fixed
High	-.05* (.035)	.09 (.08)
Low	.14** (.06)	-.01 (.03)

* p<.1 ** p<.05, *** P<.01

Tables 4 and 4a above provide strong evidence that there have been regular monetary cycles in the considered Eastern European countries, but that these cycles depend upon the level of central bank independence as well as the exchange rate regime in place. Table 4 illustrates the standard regression. As expected, the two control variables (the lag of money supply as well as the lag in inflation) are both significant. Our variable of interest, *Election*, is both significant and carries the expected sign, but it alone cannot tell us all we would like to learn about the effects of elections. Because of the presence of interaction terms with both Central Bank Independence and with Fixed, the coefficient for *Election* in the regression indicates effects of elections on the money supply only when the other variables with which it interacts equals zero; in practical terms, this means *only when central banks are dependent and when there are flexible exchange rates*²³. This result is perfectly consistent with the theory examined here, but it does not examine whether central bank independence and/or the exchange rate regime matter as well.

Table 4a therefore computes the conditional coefficients for *Election* under different assumptions about central bank independence and the exchange rate. It is clear that the exchange rate regime plays a critical role. Regardless of the level of central bank independence, governments do not try to manipulate the economy through monetary expansions in pre-electoral periods when the exchange rate is fixed. The level of central bank independence, on the other hand, plays a role when the exchange rate is flexible, that is, under conditions where the Mundell-Fleming model tells us that monetary policy should be effective. When the bank is dependent upon the government, there is a strong increase in the money supply in pre-electoral periods. When the bank is independent, however, there is a tightening of the money supply (though smaller than the expansion under the alternative regime).

The finding that monetary authorities tighten monetary policy during electoral periods when exchange rates are flexible is somewhat of a surprise; in Clark and Hallerberg (2000, Ibidem) there is no statistically significant effect when the monetary authority is independent. While we do not have appropriate data to know for sure, we can speculate that newly created monetary authorities that were independent wanted to signal to markets that they were indeed independent from government decisions. Unlike with more established central banks in many OECD countries, markets would have little on which to judge the real level of independence of the new banks in Eastern Europe. Moreover, in a time a rapid change and seemingly fluid institutions, it would have been difficult for observers to know whether statutes dictating the independence of the central bank translated into an independent bank in practice. One visible way for banks to signal their independence would be for them to contract the money supply when one would expect dependent central banks to increase it.

The results for the ten Eastern European Accession Countries are remarkably consistent with those presented for a data set of OECD countries. *Monetary political business cycles exist only when the exchange rate is flexible and when the central bank is dependent upon the government.*

²³See Greene (1997) for a more detailed explanation of the proper interpretation of conditional coefficients.

Fiscal Cycles

The second set of regressions examines whether or not there are fiscal cycles when exchange rates are fixed. We rely upon a modified version of our earlier regression equation, which now takes the following form:

$$\text{Deficit Level}_t = \hat{\alpha}_0 + \hat{\alpha}_1 \text{Election}_t + \hat{\alpha}_2 \text{Flexible}_t + \hat{\alpha}_3 \text{Election} * \text{Flexible} \\ + \hat{\alpha}_4 \text{Deficit Level}_{t-1} + \hat{\alpha}_5 \text{GDP}_t$$

The dependent variable is the yearly deficit level as a percentage of GDP. The coding of *Election* follows the coding that Franzese (1996) suggests for yearly data. Instead of coding a year in which there is a legislative election as “1” and a year in which there is not an election “0,” we consider the proportion of an election year that falls before the election as well as the proportion in the previous year. This means, for example, that for an election that is held on July 1 we code the current year as .5 and the previous year as 0.5²⁴. As Clark and Hallerberg (2000, *Ibidem*) demonstrate, this more precise coding can reduce standard errors in regression equations in practice. *Flexible* is a dummy variable coded as “1” when there is flexible exchange rate in place.

There are some issues both in terms of data and in terms of the regression equation that are important to consider before continuing. The Clark and Hallerberg (2000, *Ibidem*) regression, which is in turn based on the widely-used Roubini and Sachs (1989) framework, uses changes in gross debt as its dependent variable instead of the current overall budget balance. Gross debt figures are generally preferable; they have more consistent accounting standards across countries than budget balances do. Yet gross debt figures are problematic for Eastern European Accession Countries for two reasons. First, it is difficult to consider what “gross debt” meant for former Communist countries at the beginning of the 1990’s, while yearly balances are based on current figures and are reliable²⁵. Second, many more countries simply do not report gross debt figures than do not report yearly budget balances²⁶.

Another set of issues concerns excluded political variables that appear in both Roubini and Sachs (1989) as well as in Clark and Hallerberg (2000, *Ibidem*). Roubini and Sachs (1989, *ibid*) include an index for the type of government in office, and they find that one party majority governments have the lowest deficits²⁷. In Eastern

²⁴We code legislative elections only. Presidents generally have limited powers to manipulate the money supply or the budget, in the mostly parliamentary systems one finds across Eastern Europe.

²⁵As examples of difficulties with the data, the Baltic countries start their new lives as independent countries with a virtually null stock of debt, given that the political agreement that led to the Russian Federation inheriting all former “Soviet” assets also implied that it assumed all the liabilities, including public debt stocks. Also, the “division” of debt stocks between Slovenia and the rest of Yugoslavia, and the Czech and Slovak republics, up on their respective separations, implied in non-economic reasons for their initial debt position (see Vinhas de Souza et al, 1999, *Ibidem*).

²⁶These restrictions on gross debt figures also make it difficult to compute expected interest payments on the debt, which is another independent variable that Roubini and Sachs (1989) include in their work. In empirical work, however, this variable is rarely significant (see Hallerberg and von Hagen, 1998 and 1999, *ibid*).

²⁷In particular, they code a one-party majority government as a “0,” a two or three party majority government as a “1,” a four or five party majority government as a “2,” and a minority government as a “3.” They find that as the value of the index increases there is a statistically significant worsening of

Europe, however, the government types were virtually the same—all had some form of a parliamentary system, and all had some form of coalition government—so this variable is not relevant for the regressions here. Clark and Hallerberg (2000, *Ibiden*) consider the effects as well of budgetary institutions by testing whether a strong finance minister or negotiated fiscal contracts eliminate fiscal political business cycles²⁸. They find that either institution prevents fiscal political business cycles, much like central bank independence eliminates monetary cycles. Yet there is little data available on budget institutions in Eastern Europe, and to our knowledge no one has yet to publish a comparative study for these countries.

Given these qualifications, we compute a regression that does include the relevant variables to test the hypothesis that governments engage in fiscal expansions shortly before elections. Table 5 presents evidence that *such fiscal expansions are indeed present*. The conditional coefficients indicate that budget deficit worsens 1.5% in pre-electoral periods in countries with fixed exchange rates. In countries with flexible exchange rates, there is a smaller move downward, but in this case the variable is not significant.

Table 5: Monetary Political Business Cycles in Eastern Europe 1990-1999.

Variables	Coefficient (Standard Error)
<i>Variables of Interest</i>	
Election	-1.5** (.8)
Flexible	-.71 (.61)
Election*Flexible	.76 (1.39)
<i>Conditional Coefficients</i>	
Election Flexible=0	-1.5** (.8)
Election Flexible=1	-.78 (1.1)
<i>Control Variables</i>	
Intercept	-.7 (.5)
d Deficit _{t-1}	.46*** (.11)
d Gdp	.05 (.03)

N=87, r-squared .27, * p<.1 ** p<.05, *** P<.01.

changes in the gross debt burden in OECD countries. Edin and Ohlsson (1991) break up the index into dummy variables and find only that minority governments have an effect. Clark and Hallerberg (2000, *Ibiden*) also use Edin and Ohlsson's (1991, *ibid*) formulation in their regression work.

²⁸For more details about these institutions see Von Hagen and Harden (1995), and Hallerberg and von Hagen (1998, 1999, *Ibiden*).

V. Implications of the Results for the Accession to the European Union.

This paper confirms that the Accession Countries' governments act very much like their OECD counterparts. They manipulate the economy before elections where possible, but the tools they use to do so depend upon the exchange rate regime and upon the institutional framework. If the country has a flexible exchange rate, the government relies upon monetary expansions, while if the country maintains a fixed exchange rate the government engages in fiscal expansions. Independent monetary authorities can eliminate such cycles in countries with flexible exchange rates.

These results should be instructive to European Union policymakers who are considering the impact of European Union Enlargement on the European economy. As long as states continue to have flexible exchange rates and dependent central banks, there will likely be a political cycle that the money supply, and by implication the inflation rate as well, will follow.

Over time, however, the ten Eastern European Accession Countries will all presumably join the euroarea. The road to EMU requires that the future member states implement truly independent central banks, and as such institutions are put in place, monetary political business cycles should disappear even before states become members of the euroarea. Once the Eastern European states become members, monetary policy will be set by the ECB and, for the purposes of this paper, exchange rates become irrevocably fixed. Like their Western European counterparts who are already part of the euroarea, the Accession Countries will give up their ability to manipulate monetary policy.

Therefore, political business cycles can continue under EMU, but only in the form of the use of fiscal policy. European policymakers then have two problems to deal with: first, will fiscal political business cycles have any negative effects on the euroarea as a whole, and, second, if so, what measures can be taken to prevent such cycles?

The initial evidence presented here indicates that states do have budget balances that are worse in pre-electoral periods than in electoral periods, but the scale of this cycle has been no worse than in the European Union members states before the Treaty of Maastricht. Clark and Hallerberg (2000, *Ibiden*) estimate that the gross debt burden worsened anywhere between 1.5 and 3 percentage points of GDP in the EU 15 that had fixed exchange rates during the time period 1981-92; the estimates here are that the budget balance worsened 1.5 percent of GDP in the 10 Eastern European states over a roughly comparable ten year period²⁹. Given that the original members of the euroarea were able to proceed and to meet the Maastricht Criteria despite the presence of such cycles, *there is no reason to believe that the cycles as they now exist in the Accession Countries should lead to any delays in EMU membership.*

Presuming that the size of the cycles remains roughly the same under EMU, whether the cycles themselves should be a concern once the Accession Countries join

²⁹The figure for the Clark and Hallerberg (2000) coefficient is the coefficient when there were fixed exchange rates and no fiscal institution (i.e., strong finance minister or negotiated fiscal contracts) in place.

EMU is debatable. On the one hand, the overall size of the new economies as a proportion of total EU GDP shall remain small long after enlargement (even assuming real convergence towards the EU average GDP levels, this would truly be a generation-long process: see Vinhas de Souza et al, 1999), and the theoretical impact of the Euro membership on any politically motivated fiscal expansion in any one Accession Country should be tiny. Yet, it is possible to imagine that markets could react negatively if a country's deficit crossed 3% of GDP and punish the whole Euro area. The reaction of the markets to the Russian default in 1998 indicates that negative news from even relatively small economies can have a broader impact. The Russian Federation's economy is currently half of the size of the economy of the Federal Republic of Brazil, yet its default spread panic across the globe. Furthermore, even something smaller than a full default could still theoretically impact the external value of the Euro: outside observers may read any deviance from the 3% norm as an indication that all states have the ability to ignore the European Union's fiscal rules.

If individual member states and/or the European Union decide that such politically motivated fiscal cycles should be avoided, the next question is what can be done. As both Clark and Hallerberg (2000, *Ibidem*) and Vinhas de Souza et al (1999, *Ibidem*) indicate, the Stability and Growth Pact (SGP) as it is currently constructed does not seem an adequate solution. The main problems are of timing of the process and, therefore, of its credibility. The SGP requires the European Commission to draft a recommendation to the Council of Ministers arguing that a state has an excessive deficit in order for the SGP's procedure to punish states to be initiated. If the Council judges that a state does indeed have an excessive deficit, it must make a non-interest payment relative to the size of the deficit over 3% of GDP. It then has 10 months to make a correction. Now consider a country that begins a fiscal expansion in an election year. The European Commission is likely to make a recommendation when it receives final figures for the previous year's accounts. In current EU countries these figures are generally available in March after the budget year. The punishment mechanism is therefore begun only after the elections have taken place, and, for an election held early in the year, any potential fines will not be levied until up to 18 months after the election is over. Politicians for their part likely have short time horizons before elections; if they do not win, they will be out of office, while if they do win they will have time to make corrections to the budget in a non-electoral period. Therefore, the SGP, as it is now constructed, *does not seem to us to be a credible constraint to prevent governments from overspending in election years.*

An alternative might be for governments to put in place domestic institutions, such as a "strong" finance minister or negotiated fiscal contracts, to lessen or eliminate the scale of fiscal political business cycles. Given that strong finance ministers tend to work best in countries with one-party governments –fortunately, currently a rarity in the European continent- or in countries where there are two clearly opposing blocks of parties (see Hallerberg and von Hagen, 1999, *Ibidem*), it is likely that only negotiated fiscal contracts will be effective institutions capable of such, not only for the Accession Countries, but for the EU as a whole.

Such fiscal contracts work as follows: the respective political parties that form the government negotiate *binding* budget targets for every ministry *before* portfolios are distributed to the parties in a coalition agreement. The negotiation of the targets ensures that the partners consider the full tax burden of their spending decisions, and

the process reduces the scope of the *common pool resource problem*, and along with it its deficit-increasing bias³⁰. The European Union, for its part, could also encourage the governments of the member states –*current and future*- to establish such fiscal targets. It can also use the Commission's monitoring of the member state performance through the SGP to provide regular information on a country's budgetary performance, and also use its annual assessments of the Accession Countries for a similar purpose. Yet it must be stressed that the coalition partners *themselves* should negotiate the detailed fiscal targets. While a general goal of a rough budget balance, as written into the SGP, is laudable, more detailed targets are needed to keep the individual ministries within the broader targets built into the SGP, and the Commission *should not* engage in such type of national micro-management.

³⁰See Velasco, 1999 and Hallerberg and von Hagen 1999, *Ibidem*, for formal explanations that aim to formally establish the relationship between increases in the common pool resource problem and increases in the budget deficit.

Appendix: Recent Monetary and Exchange Rate History of the Individual Accession Countries.

Bulgaria: Bulgaria uses a currency board regime, which linked its Lev to the DEM up to the end of 1999. It was introduced as part of a one-year stand-by IMF program in the Spring of 1997, which aimed to bring macroeconomic stabilisation into the country (one of its results was to almost immediately bring hyperinflation down from over 1,000% a year to around 5%). Starting from January 1999, the anchor currency of the arrangement became the Euro.

Bulgaria went through a conventional transition stabilization program in the early 1990s, which proved to be unsuccessful: neither disinflation nor external balance was reached. As a result, the IMF started to press the Bulgarian authorities, already by November 1996, to introduce a CBA, against the initial opposition of a skeptical BNB (Bulgarian National Bank). With the worsening of the crisis by the spring of 1997, this plan was finally accepted, as a part of a comprehensive package of stabilization reforms (including fiscal consolidation and wage and price reforms), and implemented by mid-1997. The CBA was installed upon the modified structure of the BNB, who phased out all its monetary operations, retaining only the minimum reserve requirement tool. The CBA-“entry” rate of the Lev was 1.000 to 1 DEM.

Broadly speaking, the short-lived CBA experience in Bulgaria is so far successful: inflation has been substantially reduced, external balance has been achieved and the economic contraction seems to have bottomed out. Due to the perceived fragility of the situation, though, no serious planning concerning the replacement of the CBA has been yet developed.

Czech Republic: The Czech Republic’s Koruna followed a peg to a DEM/USD basket until May 1997, which it was then forced to abandon after a speculative attack on its currency. The CNB (Ceska Narodni Banka or Czech National Bank) follows today a “dirty floating regime”, informally shadowing the DMark, while officially targeting domestic inflation rate³¹. As of the beginning of this year the Euro has become the informal target.

Among the Eastern European countries endowed with a CB, the Czech Republic can be singled out for its ability to hold on to a fixed exchange rate regime for a record period of time. The CZK held its basket peg in a very narrow +/- 0.5 band from December 1990 until February 1996 (when the bands were extended to +/- 7.5%). The system survived the Czechoslovakia partition of early 1993 without disturbances.

The monetary policy intermediate target evolved from the domestic credit volume target (1990) to a net domestic assets in the banking system target (1991/92), to,

³¹The CNB has indicated several times that the integration of the Koruna in the Euro framework is one of its aims. Nevertheless, the domestic situation, since the crash of the currency in 1997, is clearly its main short run concern. As an aside, the Czech Republic is a good example of the fragility of apparently positive macroeconomic developments in a transition economy that lacked adequate micro foundations. Those weaknesses were “... for all too long hidden behind a curtain of macroeconomic success” (see Buch, C., 1999).

finally, a M2 (money and quasi money) “corridor”. The initial phase of blunt direct policy instruments (rate and credit ceilings) lasted for only two years, essentially ending by October 1992.

The initial choice of a “nominal anchor” foreign exchange regime was actually defined by the stabilization program jointly designed with the IMF in 1990, with the peg being set after a substantial cumulative “entry” devaluation of 95%. This actually explains the longevity of the peg: that devaluation *deliberately* substantially undershoot the “equilibrium” entry level, creating a “cushion” that permitted a persistent real appreciation of the Koruna to be absorbed without changing the parity. The negative effects of that were i) a very high initial adjustment contraction of the GDP – a 16% fall in 1991 - and ii) the undervaluation “cushion” reduced incentives to real adjustment (i.e., the “nominal anchor” wasn't binding), with the mounting pressures spectacularly exposed by the currency crisis of 1997.

Classically, the violation of the uncovered interest rate parity condition led to the increase in short term foreign capital inflows between 1993 and 1995 (when they reached an amazing 17.4% of the Czech GDP), leading to equally classical and costly sterilisation interventions by the CNB (the costs were estimated to equal 0.5 of GDP in 1995 alone) and the subsequent fall of the inflows in 1996-97, when the situation was perceived to be increasing unsustainable, finally leading to the breakdown of the system.

Estonia: Estonia has a currency board system administered by the Eesti Pank (Bank of Estonia, BoE) which linked its Kroon to the Deutsch Mark by a rate of EEK 8 to DEM 1. Starting from 1 January 1999 the Estonian Kroon was fixed against the Euro, at the same conversion rate of the DEM in the common currency³².

When adopting a CBA in mid-1992, as a component of a stabilization and reform package, Estonia’s main aims were stability and credibility. The Ruble was replaced by the Kroon. The new, two-tier banking system was centered, from the very beginning, around a currency board type of monetary authority. Its main function is the acquisition of hard currency in the interbank forex market. Nevertheless, it also has some monetary policy tools: central bank bills (issued since 1993, but in very small amounts), (low) reserve requirements and (unused) standing deposit facilities. No LLR instruments are available, and the result of the 1992/94 banking crisis was that the number of banks operating in the country was reduced to a third of its original figure. Capital movements were fully liberalized already by late 1993.

Due to increasing capital inflows (parallel to an increasing trade deficit) and an economy near overheating, the real exchange rate has experienced that familiar peg phenomenon, a substantial real appreciation. The lack of a more sophisticated set of macro economic policy tools, which could enable the monetary authority to cool down the economy and achieve a sustainable external balance, may place some doubts on the long-term prospects of the CBA.

³²The Eesti Pank, in its last “Statement of the Board” before the introduction of the Euro, dated 10/12/98, declared that the introduction of the Euro and the related change of reference currency for the peg had no other implications in terms of monetary or exchange rate policy.

Hungary: The Hungarian Forint is, since 1995, in a crawling peg with a variable pre-announced devaluation rate (currently of 0.4% a month) towards a DEM/USD basket (with weights of, respectively, 70% and 30%), within a +/- 2.25% intervention band. This basket has been converted, since January 1, 1999, into an Euro/USD one, with the same relative shares. The MNB (Magyar Nemzeti Bank or National Bank of Hungary (NBH)) and the Hungarian Government have already announced their intention to switch to a full (100%) Euro crawling peg by January 1, 2000 (See MNB, 1998).

The two-tier banking system was established already in 1987 (Hungary was an early reformer), but the current legal framework for the NBH was introduced in 1991 (with several additions since). It defined the NBH's aims as safeguarding the internal and external purchasing power of the Hungarian currency. This implied the problem – clear between 1991 and 1994, the first phase of the transition- of too many final goals for monetary policy, which included both inflation control or external balance. In practical terms, policy emphasis shifted from one to the other. This problem was compounded by a postponement of fiscal adjustment. When the fiscal deficit reached 9% of the GDP in 1995, the situation became unsustainable, resulting in the adjustment program of March of that year. This also caused the clear selection of price stability as the ultimate goal of monetary policy, with the nominal exchange rate being used as an intermediate target: the Forint was devalued by 9% and the current pre-announced crawling band system introduced, as a replacement of the previous adjustable peg to a DEM/USD basket (with a 50%/50% composition).

The pre-announced devaluation aims to undershoot forward-looking inflation expectations, taking into consideration productivity improvements and underpinning disinflation. The sustainability of such a regime, of course, depends on the maintenance of fiscal balance and on a sensible wage policy. Currently, the country seems to be edging towards some sort of dirty floating regime.

Latvia: Latvia uses a peg regime, through which the Lats, the currency which replaced the temporary Latvian Ruble or “Rublis” (which was the country first step of monetary independence from the “Ruble Zone”, and lasted from May 1992 to October 1993), is linked to the IMF's fiduciary account unit, the Special Drawing Rights (SDR, which is actually basket of currencies of IMF member countries). The SDR's weights actually roughly reflect Latvia external trade composition (only a third of its foreign trade is with the Euroarea), but another reason for this choice is the fact the creation of the Latvian currency was one of the results of the IMF-backed stabilisation program of 1992 (see Nissinen, 1999). There are no immediate plans to change this arrangement (see Repse, 1998).

The Bank of Latvia (Latvijas Banka) uses the exchange rate peg to the SDR as an intermediate target and net domestic assets as an operational target. As a full-fledged central bank, it has the standard set of indirect monetary policy tools: repurchase agreements (“repos”), a treasury bill market, reserve requirements (uniformly held at the 8% introduced in July 1993), and also LLR facilities, which it chose not to use during the 1994/95 banking crisis, arguably the most severe of the wave of Baltic financial sector crisis in the first half of the 1990s: the 4 major banks among the 17 that collapsed accounted for 46% of all private deposits, and that in an environment

without deposit insurance. The Bank of Latvia decided instead to use that opportunity to introduce sweeping regulatory and prudential reforms to consolidate the financial sector.

Peculiarly, the Latvijas Banka, in spite of deviating in the surface from its Baltic neighbours on the use of a CBA strategy, has consistently emulated at least one feature of it, namely, it aims to keep near 100% of its domestic liabilities covered by foreign reserves (the lower point was reached exactly during the banking crisis period, when they reached 60-70%: see Äimä, 1998).

Lithuania: Lithuania uses a modified currency board arrangement, introduced in 1994, which pegs the Lithuanian Litas to the USD. Its monetary authority, the BoLi (Lietuvos Bankas, Bank of Lithuania) has available to it certain types of market based instruments, and it also has a clear strategy to evolve towards a full-fledged CB.

Lithuania, like its two Baltic neighbors, reappeared as an independent state in the early 1990s (in modern times, it had experienced only a brief period of autonomy from 1919 to 1940), with the collapse of the Soviet Union, to which it had been annexed after the military invasion of 1940.

The Ruble was initially replaced, as in Latvia, by an interim coupon currency issued by the newly created BoL, from May to October 1992, and then by the Talonas, which was, on its turn, replaced by the Litas in June 1993. The Talonas, initially in a float regime, lost over 50% of its value between its introduction and April 1993. Some exchange rate stability was regained with the introduction of the Litas. Nevertheless, the government, with the support of the IMF, decided to press for the constitution of an Estonian-type CBA already in October 1993, against the will and the advice of the BoL.

The CBA was finally introduced in April 1994 –*upon the unchanged administrative structure* of the BoL³³. Its CBA, therefore, since the very beginning, have to be

³³It must be noted that some authors (see Äimä, 1998) have a much more negative interpretation of the monetary policy developments in Lithuania and the very institutional design of the Lithuanian monetary authority, linking them to, in essence, a power struggle within the Lithuanian government.

According to this interpretation, the institution of the CBA *increased*, in practical terms, the margin of maneuver of the government in terms of economic policy, due to the elimination of a competing center of authority –the BoLi- with increasing domestic standing: this is possible because, almost uniquely among CBAs, the exchange rate of the Litas can be changed by a mere *government* decision, albeit one made in consultation with the BoLi (this has led some authors to question if the Lithuanian arrangement deserves to be called a CBA *at all*: see Äimä, *ibid*). Such a situation is actually the opposite of the expected outcome of a CBA.

Historically, the institution of the CBA was imposed upon the BoLi by a government decision against the Bank's advise, after it had achieved the stabilization of the Litas and without any real modifications of its internal structure. The high turn over of BoLi's Governors –*seven* since its founding in 1990, two of them temporary ones- grants it the lowest score in actual independence among the Baltic monetary authorities, according to the "Cukierman" index. Some of them were dismissed due to direct conflicts with the Lithuanian government (most famously in 1993, when the them Governor refused to allow the use of the BoLi profits to finance the government's budget; the following Governor, after an interim administration and already under the CBA legislation, even allowed the use of the BoLi's reserves as collateral for loans provided by private banks to the government).

characterized as a modified CBA, since some CB instruments (like reserve requirements and short term credit facilities, including for LLR operations: all those tools were necessary and duly used during the great 1995/96 banking crisis) were preserved³⁴.

The Lithuanian strategy, presented at the “Monetary Policy Programme for 1997-1999”, is to move towards a full-fledged CB. It has three phases: during the first one (already under way), the aim is to introduce and develop of open market operations and a Lombard facility with the currency board still in existence (1997-1999); during the second phase (1999-2000), the “Law on the Credibility of the Litas” is to be amended; the third and final phase (2000-onwards) would aim to link the Litas to the Euro or, temporarily, to a basket that would include it. At that moment, the BoL plans to be prepared to meet the requirements of ERM-2 membership

Recently, the BoLi has partially modified the timetable described above (see Bank of Lithuania, 1999). It has resolved to:

- a) not to carry out the planned re-peg of the Litas exchange rate towards the euro in 2000;
- b) to re-peg the Litas directly to the Euro in the second half of 2001, skipping an intermediate peg to a USD/Euro currency basket.

The pegging of the Litas directly to the Euro is defended on the basis that “no principal decisions concerning the Litas exchange rate will be taken in 1999-2000; therefore, in the future, this plan will have to be carried out faster”. Additionally, such a peg would be more transparent and easily understood by the agents, and, at the same time, would send a clear signal to them to increase the use of the euro in their international settlements in trade with the European Union.

Poland: The Polish Zloty was in crawling-peg against a basket of currencies, which was modified in early 1999 into a Euro/USD basket (the former basket included the Deutsch Mark, the American Dollar, the Pound Sterling, the French and Swiss Francs), weighted with, respectively, 65% and 35%. A float of the currency was finally introduced in April 2000.

The choice of a peg exchange rate regime in Poland was linked to the need to fight hyperinflation in the country in 1989/90 (i.e., the monetary/exchange rate policy was a part of a short-term stabilization program), at the moment that the two-tier banking system was introduced into the country. Additionally, the limited nature of instruments available at that time to the NBP (Narodowy Bank Polski or National Bank of Poland) - ceilings, reserve requirements, “moral suasion”- conditioned the choice for this policy option.

A very high liquidity in the banking system – caused by an unexpectedly positive situations in the balance of payments and the government budget- led to the imposition of very heavy reserve requirements of 30% in 1990 (the registered trade surplus was also a result of the substantial undershooting of the “entry level”

³⁴Almost uniquely among CBAs, the exchange rate of the Litas can be changed by a *Government* decision, albeit one made in consultation with the BoL. This has led some authors to question if the Lithuanian arrangement deserves to be called a CBA at all (see Äimä, 1998).

exchange rate chosen for the initial peg with the USD in 1990). Nevertheless, the sharp economic downturn characteristic of the initial stage of transition, experienced by Poland in 1991, led to another devaluation in May of that year and to the introduction of a crawling peg of the PLZ to a currency basket (USD, DEM, GBP, FRF, CHF) by October.

The 1992/95 period is one of slow desinflation with a parallel development of monetary instruments: money market operations and refinancing facilities became the most important policy tools. Capital flows were already highly liberalized by 1992. Additionally, the initial fall in GDP turned into sustainable export-led growth by 1993, albeit with high unemployment. The classical problem of foreign capital inflows and monetary expansion that developed was initially dealt with by the combined reduction of the crawl rate and sterilisation operations, and, in May 1995, by the introduction of a crawling band regime with +/- 7% intervention bands, increasing the ability of the NBP to perform active monetary policy while retaining the anchor features of the regime.

Romania: Romania uses a dirty float regime since 1992, with the National Bank of Romania (NBR) –the Romanian Central Bank- intervening in the market to support the Leu in a discretionary fashion.

The country has been plagued by systematic macro instability since the beginning of transition process. Even now, high and persistent inflation –making it *the* exception amongst all the Accession countries, incomplete privatisation, internal and external imbalances are all observed. This seems to be at least partially related to the particularly brutal way in which the formal authoritarian regime was overthrown there, and on the effects of this, even today, on the construction of a working political consensus amongst agents.

In institutional terms, several problems also remain. For instance, even after the new 1998 Central Banking law, with established that the NBR's "key objective is to ensure the stability of domestic currency with a view to maintaining price stability", which also granted the bank a larger degree of autonomy, the financing of the government is still permitted

Slovakia: Slovakia used a peg regime with intervention bands, through which the National Bank of Slovakia (Národná Banka Slovenska, NBS) pegged its Koruna to a basket made of the DEM and the USD (with weights of, respectively, 60% and 40%). The intervention bands had to be progressively widened since the introduction of the regime in 1996, from +/- 1.5% to +/- 7.0%. After a series of speculative attacks, the NBS was finally forced to abandon the peg and float the Koruna, in October 1998.

The Slovakian central bank was created only in 1992, and entered into operation in 1993, after the break up of the Federal Republic of Czechoslovakia. Its main objective is the stability of the Slovakian Crown ("Koruna", SKK). The exchange rate regime was initially a fixed peg to a basket (USD, DEM, ATS, CHF and FRF, with weights of 49.06%, 36.16%, 8.07%, 3.79% and 3.79%, respectively) in the Czech model, accompanied by a domestic M2 growth target ("supporting economic growth" was added to its list of aims in 1995) as intermediate target. The currency basket of the peg was modified to USD/DEM in July 14, 1994 (40%/60%).

The period 1993/1994 corresponds to the stabilization years for its new SKK, with a relatively small devaluation “entry” of 10% in 1993. The set of instruments initially used was more blunt than its Czech counterpart (credit limits, restrictions to the internal convertibility of the currency – which only became “Article VIII” compatible, i.e., convertible according to IMF requirements in October, 1, 1995 - and reserve ratios), in spite of the availability of the discount and Lombard rates and repo and Treasury bill auctions instruments since 1993. In 1996, to deal with the usual problem of capital inflows in peg regimes, reserve requirements were raised to a uniform level of 9%, the SKK bands were widened from 1.5 to +/- 3% and then to +/- 5%.

Slovenia: Slovenia uses a float system for its Tolar (created in 1991), administered by the Bank of Slovenia (Banka Slovenije, BoS), with the BoS targeting a domestic money aggregate (M3: money, quasi-money and time deposits), and informally shadowing the DEM. This system has been very successful so far (in spite of widespread indexation schemes in the country, specially of wages and interest rates, which have also a ceiling, set by a cartel of banks, some of them still state-owned: see Pautola, 1998), delivering both desinflation and external balance, with only minor exchange rate adjustments: during 1996/97, the Tolar experienced a nominal depreciation of 6.9% percent to the DEM.

The BoS is a full-fledged central bank, created as an independent entity after the separation of the country from the Federal Republic of Yugoslavia in the early 1990s. (It already existed even before independence, since the former Bank of Yugoslavia actually operated as a federation of regional central banks, uncannily similar to the ECB.)

Bibliography

- Äimä, K., "Central Bank Independence in the Baltic Countries", Review of Economies in Transition, n° 3, Suomen Pankki (Bank of Finland), 1998.
- Avramov, R., "The Role of a Currency Board in Financial Crises: The Case of Bulgaria", Discussion Papers, DP/6/1999, Bulgarian National Bank, 1999.
- Backé, P. & Radzyner, O., "The Introduction of the Euro: Implications for Central and Eastern Europe-The Case of Hungary and Slovenia", Österreichische Nationalbank, 1998.
- Baldwin, R., Francois, J. & Portes, R., "The Costs and Benefits of Eastern Enlargement: The Impact on the EU and Central Europe", in Economic Policy, 1997.
- Banka Slovenije, "Annual Report 1997", Bratislava, 1998.
- Bank of Lithuania, "Monetary Policy Programme for 1997-1999", Vilnius, 1997.
- Bayoumi, T & Eichengreen, B., "Shocking Aspects of the European Monetary Unification", in Giavazzi, F & Torres, F. (eds), The Transition to Economic and Monetary Union in Europe, Cambridge University Press, 1993.
- Benassy-Quere, A. & Lahreche-Revil, A., "The Euro as a Monetary Anchor in the CEEC's", 1998, mimeo.
- Borish, M., Ding, W. & Noël, M., "On the Road to EU Accession: Financial Sector Development in Central Europe", World Bank Discussion Paper, n° 345, 1996.
- Breuss, F., "The Economic Consequences of a Large EMU-Results of Macroeconomic Model Simulations", in European Integration Online Papers, v. 1, n° 10, 1997, Vienna, Austria.
- Buch, C. & Döpke, J., "Real and Financial Integration in Europe-Evidence for the Accession States and for the Pre-Ins", Kiel Working Papers, n° 917, 1999.
- Cecchetti, C., "Central Bank Policy Rules: Conceptual Rules and Practical Considerations", in *Current Issues in Monetary Economics*, Wagner, H. (ed.), Physica Verlag, 1998."
- Ceska Narodni Banka, "Minutes of the CNB Board Meeting", Prague, several numbers.
- _____, "Annual Report", Prague, 1998.
- Christoffersen, P. & Wescott, R., "Is Poland Ready for Inflation Targeting?", WP/99/41, IMF, 1999.

- Clark, W. & Hallerberg, M., “Strategic Interaction between Monetary and Fiscal Actors under Full Capital Mobility”, currently a “Revise and Resubmit” at the *American Political Science Review*, 2000.
- Clark, W. & Reichert, U., “International and Domestic Constraints on Political Business Cycle Behavior”, *International Organization*, n° 57, pp. 87-120, 1998.
- Czech Government, “Economic Strategy of Joining the European Union: Starting Points and Outlines of Solutions”, Prague, 1998.
- Daviddi, R. & Ilzkovitz, F., “The Eastern Enlargement of the European Union: Major Challenges for Macro-economic Policies and Institutions of Central and Eastern European Countries”, in *European Economic Review*, pp. 671-680, n° 41, 1997.
- Dedek, O., “Echoing the European Monetary Integration in the Czech Republic”, in *Inclusion of Central European Countries in the European Monetary Union*, De Grauwe, P. & Lavrac, V. (eds.), Kluwer Academic Publishers, 1999.
- De Grauwe, P. & Aksoy, Y., “Are Central European Countries Part of the European Optimum Currency Areas?”, in *Inclusion of Central European Countries in the European Monetary Union*, De Grauwe, P. & Lavrac, V. (eds.), Kluwer Academic Publishers, 1999.
- De Grauwe, P., “Paradigms of Macroeconomics Policy for the Open Economy”, in M. Fratianni et al., (eds.), *Macroeconomic Policy in Open Economies, Handbook of Comparative Economic Policies*, v. 5, Greenwood Press, 1997.
- Dornbusch, R., Favero, C. & Giavazzi, F., “Immediate Challenges for the European Central Bank”, *Economic Policy*, April, 1998.
- Dvorsky, S., Backé, P. & Radzyner, O. “The 1998 Reports of the European Commission on Progress by Candidate Countries from Central and Eastern Europe”, *Focus on Transition*, v. 2, ONB, Vienna, 1998.
- Edin, P. & Ohlsson, H., “Political Determinants of Budget Deficits: Coalition Effects Versus Minority Effects”, *European Economic Review*, v. 35 (December), pp. 1597-1603, 1991.
- Eesti Pank, “Statement of the Board”, Tallinn, several numbers.
- European Central Bank, “Annual Report 1997”, Frankfurt am Main, Bundesrepublik Deutschland, 1998.
- European Commission, “Composite Paper”, EC, Brussels, 1999.
- European Commission, “Composite Paper”, EC, Brussels, 1998.

- European Commission, "Agenda 2000", 1997.
- European Commission, "One Market, One Money: An Evaluation Of The Potential Benefits And Costs Of Forming An Economic And Monetary Union", *European Economy*, n° 44, October, 1990.
- Filosa, R., "Monetary Policy Framework in Central and Eastern Europe: The Relevance of Other Countries' Experience", Österreichische Nationalbank, 1996.
- Fischer, S., Sahay, R. & Végh, C., "How Far is Eastern Europe from Brussels?", IMF Working Papers, WP/98/53, IMF, 1998.
- Fischer, S., "Central Bank Independence Revisited", *American Economic Review*, May, 1995.
- Franzese, R., "The Political Economy of Public Debt: An Empirical Examination of the OECD Post-war Experience", paper presented at the annual meeting of the Midwest Political Science Association, Chicago, 1996.
- Freytag, A., "Getting Fit for EMU: A Currency Board for Poland", Institut für Wirtschaftspolitik, Germany, 1998.
- Gaspar, V. & Pereira, A., "The Impact of Financial Integration and Unilateral Public Transfers on Investment and Growth in EC Capital-Importing Economies", *Journal of Development Economics*, 1995.
- Greene, W., *Econometric Analysis*. 3rd Edition. Upper Saddle River, N.J., Prentice Hall, 1997.
- Hallerberg, M. & von Hagen, J., "Electoral Institutions, Cabinet Negotiations, and Budget Deficits within the European Union", in *Fiscal Institutions and Fiscal Performance*, Poterba, J. & von Hagen, J. (eds.), University of Chicago Press, pp. 209-232, 1999.
- Hallerberg, M. & von Hagen, J., "Electoral Institutions and the Budget Process", in *Democracy, Decentralisation and Deficits in Latin America*, Fukasaku, K. & Hausmann, R. (eds.), OECD, pp. 65-94, 1998.
- Halpern, L. & Wyplosz, C., "Equilibrium Exchange Rates in Transition Economies", IMF Working Papers, WP/96/125, IMF, 1996.
- Hibbs, D., *The American Political Economy*. Cambridge, MA: Harvard University Press, 1987.
- Hibbs, D., "Political Parties and Macroeconomic Policy." *American Political Science Review*, v. 71 (December), pp.1467-1487, 1977.
- Horvath, J. & Jonas, J., "Exchange Rates Regimes in The Transition Economies: Case Study of the Czech Republic 1990-1997", ZEI Working Papers, B11, 1998.

- Hrněš M., “Monetary Policy in the Czech Republic: Strategies, Instruments and Transmission Mechanisms”, Österreichische Nationalbank, 1996.
- Hutchinson, M., “Northern Light: Do Optimal Currency Area Criteria Explain Nordic Reluctance to Join EMU?”, CEPR, 1998.
- International Monetary Fund, “Annual Report on Exchange Arrangements and Exchange Restrictions”, 1998.
- _____, “Country Staff Reports”, Several, 1997, 1998.
- Janackova, S., “Convergence for European Union Accession: Challenges for Czech Monetary Policy”, in Prague-Economic-Papers, v. 7, n° 1, 1998.
- Kaser, M., “The Eastern Länder as a Transition Economy”, in *East Germany's Economic Development Since Unification*, Hölscher, J. & Hochberg, A. (eds), McMillan, 1998.
- Keech, W., *Economic Politics: The Costs of Democracy*. New York: Cambridge University Press, 1995.
- Kokoszcyński, R., “Monetary Policy in Poland: Strategies, Instruments and Transmission Mechanisms”, Österreichische Nationalbank, 1996.
- Kopits, G., “Implications of EMU for Exchange Rate Policy in Central and Eastern Europe”, WP/99/9, IMF, 1999.
- Korhonen, I., “A Few Observations on the Monetary and Exchange Rate Policies of Transition Economies”, Review of Economies in Transition, n° 3, Suomen Pankki (Bank of Finland), 1997.
- Krzak, M., “Estonia, Latvia and Lithuania: From Plan to Market-Selected Issues”, Österreichische Nationalbank, 1998.
- _____ & Schubert, A., “The Present State of Monetary Governance in Central and Eastern Europe”, Österreichische Nationalbank, 1998.
- Kuus, T., “Estonia's EMU Prospects”, in Russian and eastern European Financial Trade, v. 34, n° 5, 1998.
- Lavrac, V., “Lecture on Slovenia: Monetary Policy and Monetary Integration into the EU”, Österreichische Nationalbank, 1999.
- Lehmussaari, M., “A Statement”, Bank of Estonia, 1999.
- Lipschitz, L., “Monetary Policy in Central and Eastern Europe: Strategies, Instruments and Transmission Mechanisms”, Österreichische Nationalbank, 1996.

- Loungani, P. & Sheets, N., “Central Bank Independence, Inflation and Growth in Transition Economies”, *Journal of Money, Credit and Banking*, v. 29, n° 3, 1997.
- Lucas, R., “Econometric Policy Evaluation: A Critique”, in Brunner, Karl, and Alan Meltzer, Eds. *The Phillips Curve and Labor Markets. Carnegie-Rochester Conference Series Public Policy*, pp. 19-46, 1976.
- Lythe, C., “What Does the Experience of German Monetary Union Tell Us About the Theory of Monetary Union”, *International Review of Applied Economics*, v. 9, n° 2, 1995.
- Magyar Nemzeti Bank, “Monetary Policy Guidelines 1999”, MNB, Budapest, 1998.
- Makúch, J., “Monetary Policy in Slovakia: Strategies, Instruments and Transmission Mechanisms”, Österreichische Nationalbank, 1996.
- Matos, J., “Recent Experience with Successful Transformation-The Case of Portugal”, Österreichische Nationalbank, 1996.
- MacRae, C., “A Political Model of the Business Cycle”, *Journal of Political Economy*, v. 85 (April), pp. 239-263, 1977.
- Ministério das Finanças, “O Impacto do Euro na Economia Portuguesa”, Lisboa, 1998
- Mundell, R., “Updating the Agenda for Monetary Union”, in *Optimum Currency Areas, New Analytical and Policy Developments*, Bleijer, M., Frenkel, J., Leiderman, L. & Razin, A. (eds.), IMF, 1997.
- _____ “A Theory of An Optimum Currency Area”, *American Economic Review*, pp. 657-665, 1961
- Narodowy Bank Polski, “Monetary Policy Guidelines for 1999”, NBP, Warsaw, 1998.
- _____ “Medium Term Strategy of Monetary Policy (1999-2003)”, NBP, Warsaw, 1998.
- Nemenyi, J., “Challenges of Monetary Policy in the run-up to European Union Accession”, 1998, mimeo.
- _____ “Monetary Policy in Hungary: Strategies, Instruments and Transmission Mechanisms”, Österreichische Nationalbank, 1996.
- Nissinen, M., “Latvia’s Transition to a Market Economy”, MacMillan, 1999.
- Nordhaus, W., “The Political Business Cycle”, *Review of Economic Studies*, v. 42 (April), pp 169-190, 1975.

- Oatley, T., "How Constraining is Mobile Capital? The Partisan Hypothesis in an Open Economy", *American Journal of Political Science*, 1999.
- Orlowski, W., "Real Exchange Rates and Growth After the EU Accession: The Problems of Transfer and Capital Inflow Absorption", in *EU Enlargement and its Macroeconomic Effects in Eastern Europe*, Gabrisch, H. & Pohl, R. (eds.), MacMillan, 1999.
- Pagan, A., "Three Economic Methodologies: A Critical Appraisal", *Journal of Economic Survey*, 1987.
- Pautola, N., "Optimal Currency Areas, EMU and the Outlook for Eastern Europe", *Review of Economies in Transition*, n° 1, Suomen Pankki (Bank of Finland), 1998.
- _____ & Backé, P., "Currency Boards in Central and Eastern Europe: Past Experience and Future Perspectives", *Österreichische Nationalbank*, 1998.
- Polanski, Z., "Poland and International Financial Turbulence of The Second Half of The 1990s", mimeo, 1999.
- _____ "The Challenge of European Monetary Integration and the Polish Monetary Policy", in *Meeting the Converge Criteria of EMU: Problems of the Countries in Transition*, Polish Economic Society, Warsaw, 1997.
- Radzyner, O. & Reisinger, S., "Central Bank Independence in Transition: Legislation and Reality in Central and Eastern Europe", *Österreichische Nationalbank*, 1998.
- Repse, E., "The Implications of EMU for the Policies of the Bank of Latvia", Speech by the Governor of the Bank of Latvia, Vienna, 1998 (a).
- _____ "The Implications of Euro for Central and Eastern Europe", Speech by the Governor of the Bank of Latvia, Lisbon, 1998(b).
- Ribnikar, I., "Monetary Arrangements and Exchange Rate Regime in a Small Transitional Economy (Slovenia)", in *Inclusion of Central European Countries in the European Monetary Union*, De Grauwe, P. & Lavrac, V. (eds.), Kluwer Academic Publishers, 1999.
- Roubini, N. & Sachs, J., "Political and Economic Determinants of Budget Deficits in the Industrial Democracies", *European Economic Review*, v. 33 (May), pp. 903-933, 1989.
- Šarkinas, R., "Lithuania: A Monetary Strategy for EU Accession", Speech by the Chairman of the Board of the Bank of Lithuania, Bank of Lithuania, Vilnius, 1999.
- Tufte, E., *The Political Control of the Economy*, Princeton University Press, 1978.

- Tullio, G., "Exchange rate Policy of Central European Countries in the Transition to European Monetary Union", in *Inclusion of Central European Countries in the European Monetary Union*, De Grauwe, P. & Lavrac, V. (eds.), Kluwer Academic Publishers, 1999.
- Velasco, A., "A Model of Endogenous Fiscal Deficits and Delayed Fiscal Reforms." In Poterba, James, and Jürgen von Hagen, (eds.), *Fiscal Institutions and Fiscal Performance*, University of Chicago Press, 1999.
- Vinhas de Souza, L., & Ledrut, E., "An Optimal Currency Area Estimation for the Accession Countries", paper prepared for the NAKE Research Day 2000, Dutch Central Bank (DNB), Amsterdam, The Netherlands, 2000.
- _____, "Alternative Exchange Rate Regimes for pre-EMU Integration: A Preliminary Estimation for Selected *Accession Countries* in Eastern Europe", proceedings the Meeting "Financial Crises in Transition Countries: Recent Lessons and Problems yet to Solve", Institute for Economic Research (IWH), Germany, 2000.
- _____, Eden, H., Ledrut, E., Groot, A., and Romijn, G., "EMU and Enlargement: A Review of Policy Issues", Economic Affairs Series, Working Paper ECON 117 EN, Directorate General for Research, European Parliament, Luxembourg, 1999.
- _____, and Hölscher, J., "Exchange Rates Links and Strategies of New EU Entrants", forthcoming in *The Journal of European Integration*.
- _____, "The Portuguese Legal Framework for Foreign Direct Investment", in Dimon, D., Tomlinson, A. & Nichols, S. (eds), *Competitiveness in International Business*, vol. I, A & M. University, USA, 1996.
- Walsh, C., "Optimal Contracts for Central Bankers", *American Economic Review*, v. 85, n° 1, March 1995.
- Wdowinski, P. & van Aarle, B., "EMU and its Effects: The Case of Poland. A Study for Fixed and Flexible Exchange Rates", mimeo, 1998.
- Von Hagen, J. & Harden, I., "Budget Processes and Commitment to Fiscal Discipline." *European Economic Review*, v. 39, pp. 771-779, 1994.