

Some State-Contingent Scenarios for Post-EMU Institutional Architecture

Patrick M. Crowley

May, 1999.

Extremely Preliminary

Presented at the European Community Studies Association meetings, Pittsburgh, USA.

June 2-6, 1999.

ALL COMMENTS WELCOME!

Abstract

The third stage of EMU was successfully launched at the beginning of 1999. There are likely to be institutional implications of EMU, particularly if the process is successfully completed. This paper evaluates state-contingent scenarios for the final outcome of EMU and evaluates the possible institutional implications which stem from each scenario. Obviously there are ramifications which stem from the institutional development of EMU for member states, in terms of re-gaining or losing autonomy over further policy instruments or the requirement that certain policies be harmonized. In addition, there are clearly implications for the development of EU institutions that might occur.

Affiliation:

St. Mary's University, Halifax, Nova Scotia, Canada.
Middlebury College, Middlebury, Vermont, USA.
Fellow, Athenian Policy Forum.

Contact details:

Patrick Crowley,
Department of Economics,
Middlebury College,
Vermont, 05753
USA.

Tel: (802) 443-2536
Fax: (802) 443-2050
email: Patrick.Crowley@middlebury.edu

JEL Classification:

F15, F31

Acknowledgements

A previous version of this paper was presented at University of Missouri at Columbia at conference organized by the EU center on the current EU agenda. Thank you for the comments given by the participants at the session on EMU at this conference. Many thanks to Mitchell Smith (EUI and University of Oklahoma) for comments on the original version of the paper. Also thanks to Elizabeth Cassidy (Middlebury College) for some research assistance.

I. Introduction

The launch of the euro on January 1, 1999, marked a profound change in EU institutional and economic arrangements, and probably marks the most important development in the international financial system since the Bretton Woods conference in 1944. European Monetary Union (EMU) is the final stage in the integration of European Union markets, as it effectively eliminates the last official barriers to trade in the single market.

In Brussels in 1998, Jacques Delors, in a speech to the ECSA-World conference, issued a challenge to the academic community to forecast the effects of a “clash” of different institutional cultures in the European Union, notably the newly-formed European Central Bank (ECB), a federalist type institution where representation is by country and by appointment and voting on the Central bank council will be by majority vote; the European Council, an intergovernmental institution where voting is either by unanimity or by qualified majority vote; and the European Parliament, where the institution is of a representative parliamentary type and voting is by majority vote. The Amsterdam Treaty (1998) implicitly takes no absolute powers away from institutions, but grants a significant amount of new power to the European Parliament particularly in the realm of co-decision and for recourse to inquiry. This institutional configuration, in and of itself, is interesting and in fact unique, but the “clash” (as Delors described it) is not in terms of open conflict between institutions but rather in terms of representation and decision-making. The evolution of this structure will either come about through further inter-governmental agreement or by specific events which cause more responsibilities to be passed up to a supra-national level.

Through EMU, monetary policy and exchange rate policy are major macroeconomic policies decided on at a supranational level in the EU, but the EU has very limited fiscal powers, and has no fiscal sovereignty, so that fiscal policy is decentralised with the Growth and Stability pact acting as a crude fiscal coordination mechanism together with the surveillance procedures that were put in place as part of the Maastricht Treaty. This multi-level macroeconomic policy coordination problem could be a major source

of instability and political conflict in the future and hence this is a major focus of this short paper.

In the economics literature, the Growth and Stability pact has already been the subject of a similar debate to that which took place surrounding the fiscal criteria of the Maastricht criteria. Three schools of thought have emerged: those who agree and support the notion of supranational constraints on fiscal policy (see Artis and Winkler (1997)), those that support the constraints during the transition period (Crowley (1997)) and those that are against any constraints (notably Willem Buiter).

Further problems arise in terms of completion of EMU and the three remaining member states who have not yet committed to joining the third phase of EMU. The third phase of EMU will not be complete until July of 2002, so there is still scope for instability and conflict in the intervening years, and some commentators claim that the well-documented political conflict in Germany is just a pre-cursor for further potential conflict over the next few years. Indeed caution should be watchword over the next three years, as success of EMU is not assured yet: although the launch of the single currency was relatively untroubled, a successful launch is no guarantee of successful completion!

Exchange rate policy could also be a source of conflict, as responsibility for this important macroeconomic instrument is divided between the ECB and Ecofin. This model of shared responsibility is also characteristic of the arrangements for exchange rate policy in Germany, and conflict between the Bundesbank and the Ministry of Finance is already well documented in this case.

This paper is divided into four further sections. Section II looks at the allocation of policy responsibilities between EU institutions, while section III looks at state-contingent scenarios based on Crowley and Rowley (1998). Section IV looks at the possible institutional implications coming out of the scenarios, and then section V concludes.

II. Institutions

The allocation of policy responsibilities in any state structure is a matter of history, bargaining between institutions, initiatives to concentrate certain specified responsibilities under new domains, and the principles under which countries allocate responsibilities between different levels of government. The EU is rather unique in this respect, as responsibilities are not allocated between local, state and national levels of government with perhaps some constraints being imposed at an international level (IMF conditionality springs to mind here), but are allocated (with some overlap) between national and supranational levels. Wessels (1998) has explored some of the implications of EMU for political union, and here specified the inter-institutional two-level relations between organizations for policy responsibility. Here the state and national level responsibilities are largely ignored so that we can focus on supranational responsibilities.

The European Council is an intergovernmental decision-making body, which votes by unanimity on all important issues, and by qualified majority vote on certain specified issues. The Council is responsible for the overall direction of economic policymaking, as national governments, the ECB and the Commission all report to the Council and/or participate with voting rights.

The conclusions of macroeconomic decisions at the Council are usually delegated to the Ecofin committee, which has four subcommittees - an informal, a restricted, and a plenary Ecofin, as well as the newly formed Euro-11 council (which here will be dealt with separately). The Ecofin has the responsibility of coordinating policies among member states, and in particular has the responsibility for monitoring pan-EU fiscal policies and exchange rate policies, again either by unanimity or by qualified majority vote, depending on the issue being dealt with. Here, particular responsibility for the operation of the ERM2 also should be recognized.

Following the launch of the single currency in the third stage of EMU, a new committee, the Euro-11 committee, is responsible for the coordination of fiscal policies of member states participating in EMU.

Each EMU-participating member state is represented on the committee, and the ECB is represented on this committee for obvious reasons, as it is in all Ecofin meetings. This ECB participation is without voting rights, however.

The ECB Council is the main decision-making body of the ECB, and deliberates the monetary policy of the ECB, with a mandate to maintain price stability in the euro area. All member states have a vote on the Council, but several representatives are appointed from the supranational level. Voting on the Council is by majority vote on all issues. The ECB clearly also has an interest in the exchange rate policy for the euro, and is expected to coordinate exchange rate policy with Ecofin and the Euro-11 committee.

Both the European Commission and the Parliament have little direct active role in macroeconomic policymaking, but have a large influence on the design of any new initiatives, and also have subtle ways in which they can impinge on policymaking (through preparation of requested reports, economic evaluations, and ensuring that the single market functions properly through competition policy etc.).

Lastly, the Growth and Stability pact acts as a constraint on national fiscal policies for EMU participants from the supranational level. Fines can be levied by the European Council, following a detailed process, which can last for a significant period of time before such fines are imposed. A member state has to run a budget deficit of 3 percent of GDP for fines to be levied, but this restriction can be lifted under certain circumstances. The restriction is automatically lifted in the case where a member state experiences a fall in GDP of 2 percent or greater during the course of the year. In a case where GDP falls by between 0.5 to 2 percent for fines to be levied a unanimous vote on the Council (excluding the member state under consideration) is required. Several points should be noted here. First, the budget deficit measure in question is the non-cyclically adjusted deficit, so that in fact the pact in effect requires that the 3 percent of GDP restraint is met at the bottom of the business cycle, unless the amplitude of the business cycle is particularly large, in which case the member state will likely be granted an exception under the above "recession" clauses. It is widely recognized that this implies that member states should aim to run a

zero budget deficit over the business cycle, so that automatic stabilizers can be allowed to work. Second, if a member state has a fall in GDP of between 0 and 0.5 percent of GDP and a budget deficit of greater than 3 percent of GDP, then this is likely to cause significant tensions, as governments usually allow automatic stabilizers to act to boost government spending so as not to exacerbate the situation. This could limit the scope for responding to a fall in GDP, and prompt the government concerned to limit the response of automatic stabilizers so as to ensure that the following year, if another recession is registered, then the pact restrictions on budget deficits would likely be lifted. Lastly, the pact is an intergovernmental agreement, and although binding on the current signatories, it is not clear that it carries the same weight as Treaty obligations. In short, it is not clear what the legal enforceability of the pact is. This particular issue is explored below.

The restrictions on national fiscal policies as part of the Growth and Stability pact are supplementary to the coordination work done in Ecofin, so it is interesting to ask what justifies the pact. Two rationales have been put forward for the pact: first that the pact is necessary as a crude mechanism for coordination of national fiscal policies to counter the fact that there are no other formal restrictions on fiscal policy at the supra-national level; and second that the pact is necessary (and although arbitrary) is required to ensure the credibility of the ECB in carrying out monetary policy.

III. Theoretical framework

In order to define state-contingent scenarios for the outcome of EMU, a theoretical framework is required. Our framework is the optimal currency area (OCA) literature for EMU, which is voluminous, and has largely reached similar results in terms of the which member states are deemed most suitable for membership of an OCA.

Two seminal papers on optimal currency areas (Mundell (1961) and McKinnon (1963))

outlined the conditions under which several administrative jurisdictions might be suitable to be subject to the same monetary policy. Further refinements of this approach were subsequently made by Kenen (1969) and Krugman (1990). Bayoumi (1994) also offered a formal model of optimal currency areas (OCAs) with microeconomic foundations to underscore Mundell's original thesis. The conditions for an OCA are that members of the currency union should experience mostly symmetric shocks and that economic cycles should be synchronous (see De Grauwe (1992) for a laymans summary of the optimal currency area approach and Masson and Taylor (1993) for a thorough survey of the issues). If countries experience asymmetric shocks or have asynchronous business cycles then the costs of being subject to a single monetary policy may be significant, and may outweigh the costs. To offset asymmetric shocks or asymmetric business cycles, then certain currency area characteristics may ameliorate costs, notably i) a significant degree of labour mobility, ii) fiscal transfers through a "federal" level of government and iii) flexible wages and prices. Part of the reason why the OCA literature has been such a focus of interest in the context of the EU has been due to the fact that "euroland" cannot be characterised as possessing these characteristics to the same degree that say the United States does, and that participation in EMU was determined largely by satisfaction of economic criteria.

The empirical time-series literature on OCAs can be divided into three strands¹ - a strand that uses basic regional data (from a sub-national level) to evaluate whether countries use exchange rates to offset shocks, with the implication that similar exchange rate volatilities would imply similar shock magnitudes, while at the same time evaluating whether participants possess the three offsetting characteristics (see De Grauwe and Vanhaverbeke (1993)); a strand that uses structural vector autoregression (SVAR) time series methodology (following Blanchard and Quah (1989)) to identify demand and supply shocks (see for example Bayoumi (1993), Bayoumi and Eichengreen (1993, 1994) for the EU and North America and

¹An excellent survey of recent developments in the optimal currency area literature can be found in LaFrance and St-Amant (1999).

Kuszczak and Murray (1987), Lalonde and St-Amant (1993) and DeSerres and Lalonde (1994) for Canada) and then look at the correlation of these shocks across countries or regions. Lastly, another strand of the literature evaluates the synchronicity of business cycles across prospective currency union members (Baxter and Stockman (1989) and Artis and Zhang (1997a and b)).

The first strand of OCA empirical research has been criticised for being largely descriptive, while the second (SVAR) methodology has been criticised (see Buiter (1998)) for being arbitrary in terms of the restrictions that are required for identification of monetary and real shocks (usually the assumption that shocks that are neutral in the long run are monetary shocks). The third strand of research also responds to another criticism of the VAR methodology: that a shock approach ignores long run business cycle synchronicity - the synchronicity approach typically uses a Hodrick-Prescott filter to discern detrended cyclical components in GDP and then uses the correlations in business cycles to draw out implications about relative suitability as constituents of an OCA. The obvious drawback here is that this approach completely ignores the incidence of temporary shocks and does not consider the ability of exchange rates to also compensate for shocks.

A recent development in the OCA literature has been recognition that *ex-ante* evaluations of which countries constitute an OCA might ignore the Lucas critique, in that new members of an OCA might a) modify policy to be better suited to an OCA (see Tavlas, G. (1993)) or b) be more suited to being in an OCA *ex-post* (Frankel and Rose (1997)). The latter approach takes into consideration factors which usually do not appear in the *ex-ante* OCA approach, such as trade intensity, real interest rate cycles, and fiscal policy coordination².

In this paper, as a way of deriving state-contingent scenarios, the theoretical framework of the OCA approach is used. Two particular lines of argument stem from this literature, and are particularly

² Neumeyer (1998) also considers the notion that political shocks could be incorporated as another variable contributing to the factors which might suggest an optimal currency area.

important in the analysis presented below, so these are reviewed for purposes of clarity:

- i) most of the OCA literature finds that there is a “hard” core of member states that satisfy the OCA criteria according to any of the approaches outlined above. This “hard” core roughly consists of Germany, the Netherlands, Austria, Belgium, Luxembourg, France and Denmark; a “softer” periphery is usually thought to include Spain, Italy, Sweden, Ireland, UK, Portugal, Greece and Finland. Denmark is sometimes not in the “harder” core, and Ireland sometimes is. Nevertheless, there is virtual unanimity on Germany, the Benelux countries and Austria forming an OCA;
- ii) one of the criticisms of the OCA literature (made by Buiters (1997)), states that it matters what types of asymmetric shocks a member state experiences. The usual distinction made in the OCA literature is between supply and demand shocks, but from the point of view of economic policy, it is more important to know whether the shocks were IS (real/goods market) or LM (financial/money market) shocks (following the usual “Poole” analysis in macroeconomics). With a single market in capital, asymmetric LM shocks are not damaging to a member state’s membership of a currency union, as long as capital can flow between member states so as to equilibrate interest rates. Asymmetric IS shocks, however, are potentially damaging, as to offset such shocks the usual arsenal of offsetting economic characteristics (wage flexibility/labor mobility) or policy programs (fiscal transfers/equalization) have to be in place.

The second line of argument needs extending for our purposes though. If all asymmetric shocks in the EU were IS shocks (for example very high unemployment resulting from a lack of investment and economic activity in a certain member state), then this could lead to severe problems in EMU, as the GSP would not allow government intervention unless a recession was deemed to have occurred. If all asymmetric shocks were LM shocks, then although capital can flow freely between member states to ensure

that liquidity shortages were eliminated, there could be circumstances when the institutional structure of the financial services sector and the arrangements under the European System of Central Banks (ESCB) such that a member state might temporarily experience problems. One example of this might be in a country that has a fragile financial services sector and experiences a run on its banks, which might then lead to a greater need for lender of last resort facilities than are normally provided. Also, financial markets are not perfect, so even though liquidity shortages may appear in some parts of the system, capital flows may not, for whatever reason, materialise. So asymmetric LM shocks could lead to member states experiencing problems, but clearly the single market should take care of most of these. Hence these are ignored in the analysis below.

IV State-contingent scenarios

To derive state-contingent scenarios, the OCA literature is assumed to be correct. That is, the current EMU configuration is assumed to be unsustainable over long run, unless “euroland” turns out to be an endogenous OCA. This implies that either a) the single currency project will collapse, or b) there will be some endogenous changes to current arrangements or c) there will be new policy competencies assigned to the supranational level.

The state-contingent scenarios are as follows:

- a. **“Nirvana”** - in this scenario an endogenous OCA comes to pass, in that there is symmetry of shocks and synchronicity of business cycles. Also economic convergence occurs following the “economist” model of approaching a currency union;
- b. **Recognition of IS asymmetric shocks** - in this scenario EMU forms an OCA for financial

markets, but goods markets experience asymmetric shocks which are not eliminated through trade linkages. In this instance several member states call for the GSP to be scrapped, as it puts a large constraint on a national government's ability to respond to these shocks;

c. **Threat of process reversal** - in this scenario the GSP or ECB monetary policy causes one member state or a collection of member states (the "soft" periphery are likely candidates) to threaten to leave unless some institutional/policy changes are made. The threat could be due to either IS asymmetric shocks, asynchronous business cycles or economic divergence. The possible changes could include, but are not limited to:

- scrapping the GSP;
- endogenous development of prescriptive fiscal policies
- a change in exchange rate policy

As such, appropriate changes in institutional arrangements/policies are made in order for these member states to remain in EMU.

d. **Process reversal** - as above except that appropriate changes are not made in order for these member states to remain in EMU. This could be due to an unwillingness to be subject to either the GSP or to ECB monetary policy. In addition a "pull" factor could be at work if the current "outs" demonstrate economic advantages to non-membership in EMU.

e. **"Collapse"** - in this scenario EMU collapses as there are emerging battles over monetary policy on the ECB Council (perhaps following a large asymmetric shock) and economic divergence in EMU. Also, many believe that Feldstein's "war" scenario stemmed from a belief that fines according to the GSP could be a significant source of conflict. But in addition, if "process reversal" began to

occur, speculation in the foreign exchange market could cause significant strains on the conversion rates, breaking EMU apart.

One of the scenarios, the “threat of process reversal” requires further elucidation. As the GSP is a Council document, it can be scrapped by a unanimous vote in Council. This would appease any member state that wishes to have a greater degree of fiscal latitude in addressing aggregate demand deficiencies. Endogenous development of prescriptive fiscal policies includes any measure which eases fiscal constraints at the supranational level such as:

- i) the introduction of equalisation payments
- ii) an expanded supranational budget
- iii) permitting supranational budget deficits
- iv) supranational fiscal sovereignty

Clearly each of these measures is not mutually exclusive.

IV. Institutional Implications of EMU Scenarios

Implications

For each of the state-contingent scenarios defined above, we now explore what the institutional implications would be, with the caveat that these institutional implications take the current institutional configuration at the supranational level as a given.

- b. **“Nirvana”** - in this scenario the EU is able to claim complete success for EMU, and integration projects can proceed in other areas (such as EDU, for example). This scenario would likely spur the integration process in other areas, but would not lead to increased economic policy

competences being passed up to the supranational level.

- c. **Recognition of IS asymmetric shocks** - in this scenario market-determined penalties are applied to member state debt, reflective of fiscal policy stance (as in Canada and the US). Here, Ecofin is weakened, as it is relegated to purely an oversight role, and Euro-11 could, for all intent and purpose, be disbanded. Clearly responsibilities given to the Council under the GSP would no longer be applicable;

- d. **Threat of process reversal** - in this scenario scrapping the GSP would be as above in b, and a change of exchange rate policy could be enacted very easily through a qualified majority vote in Ecofin, potentially giving the Euro-11 committee a greater role. As for the endogenous development of prescriptive fiscal policies, this is little more complex:
 - i) the introduction of coinsurance/equalisation payments - this would presumably be by formula (as in Canada) and would likely give the Euro-11 committee a role in designing and implementing such a program. Perhaps the Commission might have some oversight over the scheme as well;
 - ii) an expanded supranational budget - this would now have to wait until the Ecofin/EU Council review of the EU budget in 2006. If the budget were expanded then it would likely give the Commission and the European Parliament additional responsibilities and oversight;
 - iii) permitting supranational budget deficits - this would require an IGC to change the Treaty of Union. It might give additional responsibility to the Commission and Ecofin to ensure that the EU budget is balanced over the business cycle;

- iv) supranational fiscal sovereignty - this would also require an IGC, and would probably give the European Parliament the greatest additional responsibilities, although the EU Council and the Commission may also garner further responsibilities and oversight.

- e. **Process reversal** - perhaps this may occur by referendum. Here Ecofin and the Euro-11 will clearly be directly be weakened, as their failure to maintain an EMU of 11 members would clearly affect their credibility. Obviously there would be indirect ramifications for all EU institutions.

- f. **“Collapse”** - here complete collapse of EMU would cause an institutional crisis in the EU, with both the Euro-11 committee and the ECB being disbanded.

Discussion

The EU is clearly not at present an OCA, but a significant part of it is (the “hard” core). Therefore, even if we accept the OCA approach, it is likely that scenarios d. and e. can largely be thrown out. But if we accept the OCA approach, then it is likely that we would also have to throw out scenario a. as well. This leaves scenarios b. and c. as most likely candidates. Each of the sub-scenarios under c. (which actually includes b. as a possibility), has very different implications for institutional development in the EU. An alternative way to divide these options is to distinguish between an initiative which gives more fiscal autonomy to national governments (scrapping the GSP), versus the alternative which is to pass up some fiscal competencies to a supranational level. Then the apparent contradiction in c. (the inclusion of the scrapping of the GSP in the Threat of Process Reversal scenario) is resolved. The threat could be responded to by either giving more competencies to national governments or by allowing new initiatives at the supranational level to offset the constraints at the national level.

The response to a threat to leave EMU then is important to the institutional implications for the EU. It is not appropriate to speculate on the bargaining stances that might exist when a threat to leave EMU is addressed. It is likely that only the threat of a large amount of member states leaving EMU would cause a unanimous vote on the EU Council to scrap the GSP. Thus, if a small number of member states, or a single member state threatened to leave EMU, it is most likely that c. would be the response. But of course scrapping the GSP might occur if a single member state threatened to block all votes (as the UK did under Mrs. Thatcher).

In c. though, multiple equilibria are possible here, but there is the example of a large disparate confederation, in the form of Canada using a formula based fiscal transfer to offset a “fiscal gap” at the provincial level. Such equalization payments were put in place to offset shocks and to promote convergence in Canada. In the EU context, embarking on a new program such as equalization would require an increase in the EU budget, but the size of the budget increase would not be great (see Italianer and Vanheukelen (1997)).

Another interesting aspect of integration to come out of this research is the notion that perhaps recognition of suitability for formation of an OCA with other member states may increase the desirability for increasing the competencies of supranational institutions among the administrative elite in member states. Clearly, opinion polls in many “hard core” member states do not find full general public support for EMU, but nonetheless, these member states do appear to be the most enthusiastic about EMU. Does this imply that similar economic fortunes tends to increase the desire to pass up more competencies to the supranational level?

One large caveat must be placed on all the above analysis, however. While the OCA literature is fast expanding, there is significant disagreement as to its real applicability. It is noteworthy that both Canada and the US are not OCAs, and yet they are completely viable political entities. Also, research by Helliwell (1999) shows that the Canadian border does matter for trade - the majority of trade that provinces

do is inter-provincial, and not international. Thus the formation of the single market may be much more important for EMU than many economists anticipated, and might lead to an endogenous OCA being formed.

V Conclusions

In this paper the OCA literature was used as a theoretical basis for defining state-contingent scenarios for EMU. Once these scenarios were defined, a qualitative analysis of the institutional implications for the EU was undertaken.

The scenarios focused on how EMU would develop, with five specific scenarios being fleshed out to illustrate the events that might unfurl given specific economic trends or events. The five scenarios then gave different implications for what new competencies might be given to EU institutions, or existing ones taken away.

The most likely scenarios were for either the GSP to be scrapped due to a recognition of the difficulties of adjusting to asynchronous real business cycles or asymmetric IS shocks, or for endogenous development of prescriptive fiscal policies due to a threat for a member state or a group of member states to leave EMU. In the former case EU institutions will lose responsibilities, and in particular the Euro-11 committee, the Ecofin and the EU Council. In the latter case various combinations of different policy initiatives could yield differing new responsibilities, with different distributional implications among the EU institutions. Such initiatives might include a) equalization payments, b) an expanded supranational budget, c) supranational budget deficits to be permitted and d) the granting of supranational fiscal sovereignty.

The paper ends by asking some questions for future research. Does eligibility for membership in an OCA might engender greater willingness to pass up economic responsibilities to the supranational level? Also, does the fact that the single currency was launched on the back of the single market imply that there

is a greater likelihood that the EU may become an endogenous OCA?

References

- Artis, M. and Winkler, B. (1997), "The Stability Pact: Safeguarding the Credibility of the European Central Bank", *CEPR Discussion Paper* 1688, CEPR, London, UK.
- Artis, M. and Zhang, W. (1997a), "International Business Cycles and the ERM: Is There a European Business Cycle?", *International Journal of Finance and Economics*, 2, January, pp1-16.
- Artis, M. and Zhang, W. (1997b), "On Identifying the Core of EMU: An Exploration of Some Empirical Criteria", *CEPR Discussion Paper* 1689, CEPR, London, UK.
- Artis, M. and Zhang, W. (1998), "Core and Periphery in EMU: A Cluster Analysis", *EUI Working Paper RSC No. 98/37*.
- Baxter, M. and Stockman, A. (1989), "Business Cycles and the Exchange-Rate Regime", *Journal of Monetary Economics*, Vol. 27, pp377-400.
- Bayoumi, T. (1994), "A Formal Model of Optimum Currency Areas", *IMF Staff Papers*, Vol.41, No.4, pp537-554.
- Bayoumi, T. and Eichengreen, B. (1993), "Shocking Aspects of European Monetary Unification", in Giavazzi, F. and Torres, F., *Adjustment and Growth in the European Monetary Union*, Cambridge University Press, Cambridge, UK.
- Bayoumi, T. and Eichengreen, B. (1994), "One Money or Many?: Analyzing the Prospects for Monetary Unification in Various Parts of the World", *Princeton Studies in International Finance* 76, Princeton University, USA.
- Bayoumi, T. and Eichengreen, B. (1997), "Ever Closer to Heaven? An Optimum-Currency-Area Index for European Countries", *European Economic Review* 41, pp761-770.
- Bayoumi, T. and Masson, P. (1994), "Fiscal Flows in the United States and Canada: Lessons for Monetary Union in Europe", *CEPR Discussion Paper* 1057, CEPR, London, UK.
- Bayoumi, T. and Prasad, E. (1997), "Currency Unions, Economic Fluctuations, and Adjustment: Some New Empirical Evidence", *IMF Staff Papers*, Vol.44, No.1, pp36-58.
- Beetsma, R. and Uhlig, H. (1997), "An Analysis of the Stability Pact", *CEPR Discussion Paper*....., London, UK.
- Blanchard, O. and Katz, L. (1992), "Regional Evolutions", *Brookings Papers on Economic Activity*, No.1

- Blanchard, O. and Quah, D. (1989), "The dynamic effects of aggregate demand and supply disturbances", *American Economic Review* 79, pp655-673.
- Boadway, R. and Hobson, P. (1993), "Intergovernmental Fiscal Relations in Canada", *Canadian Tax Paper* 96, Canadian Tax Foundation, Ottawa, Canada.
- Boadway, R. and Keen, M. (1997), "Efficiency and the Optimal Direction of Federal-State Transfers", in Wildasin, D. (ed.), *Fiscal Aspects of Evolving Federations*, Cambridge University Press, Cambridge, UK.
- Buiter, W., Corsetti, G. and Roubini, N. (1993), "Excessive Deficits: Sense and Nonsense in the Treaty of Maastricht", *Economic Policy* 16, pp58-60.
- Buiter, W. (1998), "The Economic Case for Monetary Union in the European Union", *Review of International Economics*,
- Canzoneri, M., Cumby R. and Diba, B. (1998), "Fiscal Discipline and Exchange Rate Regimes", *CEPR Discussion Paper* 1899, London, UK.
- Commission of the European Communities (1990), "One Market, One Money", *European Economy* 44, Directorate-General for Economic and Financial Affairs, Brussels, Belgium.
- Commission of the European Communities (1996), *Reinforced Convergence Procedures and a New Exchange Rate Mechanism in Stage Three of EMU*, Communication from the Commission to the Council, COM(96) 498 final, Brussels, Belgium.
- Commission of the European Communities (1997), *Dublin European Council Presidency Conclusions: December 13 and 14, 1996*, SI(96) 1000, Brussels, Belgium.
- Committee on the Study of Economic and Monetary Union (1989), *Report on Economic and Monetary Union in the European Community (Delors Report)*, (with Collection of Papers), Office for Official Publications of the European Communities, Luxembourg.
- Corsetti, G. and Roubini, N. (1993), "The Design of Optimal Fiscal Rules for Europe after 1992", in Torres, F. and F. Giavazzi (eds), *Adjustment and Growth in the European Monetary System*, Cambridge University Press, Cambridge, UK, pp46-82.
- Council of the European Communities (1992), "Treaty on European Union", Office for Official Publications of the European Communities, Luxembourg.
- Courchene, T. (1993), "Reflections on the Canadian Federalism: Are there Implications for the European Economic and Monetary Union?", *European Economy*, Special Issue 4, Economics of Community Public Finance, pp23-166.
- Crowley, P. (1996), "EMU, Maastricht and the 1996 IGC", *Contemporary Economic Policy*, Vol. XIV, No.2, pp41-55.

- De Grauwe, P. (1992), *The Economics of Monetary Integration*, Oxford University Press, Oxford, UK.
- De Grauwe, P. (1993), "Is Europe an Optimal Currency Area: Evidence from Regional Data", in Masson, P. and Taylor, M. (eds.), *Policy Issues in the Operation of Currency Unions*, Cambridge University Press, Cambridge, UK, pp 111-129.
- Department of Finance (1997), "The Equalization Program", Federal-Provincial Relations Division, Government of Canada, July.
- Dupasquier, C. and Jacob, J. (1997), "European Economic and Monetary Union: Background and Implications", *Bank of Canada Review* (Autumn): 3-28.
- De Serres, A. and Lalonde, R. (1994), "Symétrie des chocs touchant les régions canadiennes et choix d'un régime de change", *Document de travail* 94-9, Banque du Canada.
- Eichengreen, B. (1990), "Is Europe and Optimum Currency Area?", CEPR Discussion Paper 478, London, UK.
- Eichengreen, B. (1993), "European Monetary Unification", *Journal of Economic Literature* 31, pp1321-57.
- Eichengreen, B. (1997), "Saving Europe's Automatic Stabilizers", *National Institute Economic Review* 159, 1/97, pp92-98.
- Eichengreen, B. and von Hagen, J. (1995), "Fiscal Policy and Monetary Union: Federalism, Fiscal Restrictions and the No-bailout Rule", CEPR Discussion Paper 1247, CEPR, London, UK.
- Eichengreen, B. and Wyplosz, C. (1998), "The Stability Pact: More than a Minor Nuisance?", *Economic Policy* 26, pp65-114.
- European Commission (1996), "Conclusion of the Presidency - Dublin European Council, 13 and 14 December, 1996", SI (96) 1000, Brussels, December 14, 1996.
- Feldstein, M. (1997), "The Political Economy of the European Economic and Monetary Union: Political Sources of an Economic Liability", *Journal of Economic Perspectives*, Vol.11, No.4, pp23-42.
- Frankel, J. and Rose, A. (1997), "Is EMU more justifiable ex post than ex ante?", *European Economic Review* 41, pp753-760.
- Fratianni, M., von Hagen, J. and Waller, C. (1992), *The Maastricht Way to EMU*, Essays in International Finance 187, Princeton University, New Jersey, USA.
- von Hagen, J. and Hammond, G. (1995), "Regional Insurance Against Asymmetric Shocks: an Empirical Study for the European Community", CEPR Discussion Paper 1170, London,

UK.

- Jacquemin, A. and Sapir, A. (1995), "Is a European Hard Core Credible? A Statistical Analysis", *CEPR Discussion Paper* 1242.
- Kenen, P. (1969), "The Theory of Optimal Currency Areas: An Eclectic View", in (eds), Mundell, R. and A. Swoboda, *Monetary Problems of the International Economy*, University of Chicago Press, Chicago, USA.
- Krueger, M. (1999), "Some Canadian Lessons for EMU", Unpublished manuscript, University of Western Ontario.
- Krugman, P. (1990), "Policy Problems of Monetary Union", in (eds) de Grauwe, P. and L. Pappas, *The European Monetary System in the 1990s*, Longman, Harlow, UK.
- LaFrance, R. and St-Amant, P. (1999), "Optimum Currency Areas: A Reviews of the Recent Literature", Paper presented at the Canadian Economics Association meetings, Toronto, Ontario, May 28-30.
- Lalonde, R. and St-Amant, P. (1995), "Zones monétaires optimales: le cas du Mexique et des Etats Unis", *Document du travail* 93-12, Banque du Canada, Ottawa, Canada
- Masson, P. (1996), "Fiscal Dimensions of EMU", *Economic Journal* 106, pp996-1004.
- Masson, P. and Taylor, M. (1993), "Currency Unions: A Survey of the Issues" in Masson, P. and Taylor, M. (eds.), *Policy Issues in the Operation of Currency Unions*, Cambridge University Press, Cambridge, UK, pp 3-51.
- McKinnon, R. (1969), "Optimum Currency Areas", *American Economic Review*, No. 53, pp717-55.
- McKinnon, R. (1997), "EMU as a Device for Collective Fiscal Retrenchment", *American Economic Review*, Vol.87, No.2, pp227-229.
- Melitz, J. and Zumer, F. (1998), "Regional Redistribution and Stabilization by the Centre in Canada, France, the United Kingdom and the United States: New Estimates Based on Panel Data Econometrics", *CEPR Discussion Paper* 1829, London, UK
- Mundell, R. (1961), "A Theory of Optimum Currency Areas", *American Economic Review*, Vol. 51, pp657-675.
- Neumayer, P. (1998), "Currencies and the Allocation of Risk: The Welfare Effects of a Monetary Union", *American Economic Review* Vol. 88, pp691-98.
- Sala-i-Martin, X. and Sachs, J. (1992), "Fiscal Federalism and Optimum Currency Areas: Evidence for Europe from the United States", in Canzoneri, M., Grilli, V. and Mason, P. (eds), *Establishing a Central Bank: Issues in Europe and Lessons from the United States*,

Cambridge University Press, Cambridge, UK.

Tavlas, G. (1993), "The 'New' Theory of Optimum Currency Areas", *The World Economy*, Vol. 16, pp663-85.

Thygesen, N. (1996), "Should Budgetary Policies be Coordinated Further in Economic and Monetary Union - and is that Feasible?", *Banca Nazionale del Lavoro Quarterly Review* 196, pp5-32.