Optimum currency areas and asymmetric shocks

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1 April 2006

COLLEGE OF EUROPE

COLLEGE D'EUROPE

Ludwig van Beethoven Promotion 2005-2006

European Macroeconomic Policies

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Comparison of two studies:

- **Krugman Paul** (1993) "Lessons from Massachusetts for EMU" in Torres, F. & Giavazzi, F. (Editors) Adjustment and Growth in the European Monetary Union London: CEPR and Cambridge University Press.

and

- **Frankel Jeffrey and Rose Andrew** (1996) "The Endogeneity of Optimum Currency Areas" CEPR discussion paper 1473, NBER Working Paper 5700

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Introduction

Optimum currency areas are a determinant part of integration processes literature and debates whether or not such construction can be achieved. Modern theoretical analyses give chance as well as doubt to their realization in practice because of contradicting influences to their existence predominantly by asymmetric shocks.

The purpose of this elaboration is to give conclusions on the basis of comparison of two important studies. On the one hand there are important conclusions made by Krugman (1993) which shadow fusibility of the concept of European Monetary Union, and on the other hand there is the study of Frankel Jeffrey and Rose Andrew (1996) that opposes to such findings.

I. **Krugman Paul (1993)** "Lessons from Massachusetts for EMU"

a) Effects

The evidence given by Krugman (1993, "Lessons from Massachusetts for EMU") confirm that US is an entity that has large adverse shocks only because of the high level of integration and common currency. The given example is based on New England's case study, taken as a highly specialized region that has had demand shifts away. Hypothetically the author argues that as a sovereign state the region would have had to introduce currency devaluation or explanatory monetary policy. However, since that is not the case the conclusion is that a way out is not possible.

In addition when facing the facts, Krugman gives four conditions that cause regional crises. The first one is *regional specialization*, meaning greater specialization is created by integration which leads to the second condition, *instability of regional exports*, producing shifts in exports mainly because of technology shocks. Additionally, to these two there is a third condition that has to be taken under consideration, *pro-cyclical capital movements*, the frequency of the capital movements increases rapidly owing to economic and monetary integration creating *divergent long-run growth*, taken as a last condition, harnessed by a high factor mobility menaces to strengthen in Europe (after 1992 EMU).

The main point of Krugman's analyze is that 1992/EMU will evolve close if not the same " to make American style regional crises more common and more severe with the European

Community"[1]. Furthermore, Europe will have grave problems with the American style slumps lacking fiscal federalism. Therefore, the author foresees policy reform needed in order to avoid such complications.

Key features of the study are integration, regional specialization and regional stability. Regional specialization relies on export clusters that are likely to form in a more integrated economy. Additionally, another point of the analysis is the reinforcement of the link within the clusters and reduction of the transaction costs which creates divergence between regions and inside their industrial structure. The outcome is that increased integration leads to geographical concentration of industries.[2] This affects the factor mobility and long – run growth. In the study, Krugman formulates two points concerning the effect of increased factor mobility. On one hand, the increased factor mobility tends to magnify regional economic fluctuations, and on the other both tied capital and labor tend to produce divergent economic growth over time.[3]

b) The adjustment process

When comparing the United States economy with that of the European Community, must be stressed three main pints a propos the connection between integrated markets and monetary unions must be stressed. Firstly, greater specialization comes because of increased integration which creates magnified short – run regional instability at a second stage, and finally at the end " long – run growth tens to be more divergent in an integrated market with high factor mobility."[4]

According to Blanchard and Katz (1992), US states adjust with migration, rather then with changes in wage rates, when they are hit by large enduring shocks. On the other side, the European Community countries have dissimilar process of adjustment. Migration has very modest contribution to in the adjustment streams, and as an alternative real wages adjust with height of unemployment "at roughly the rate of natural increase of the employable population." [5]

Therefore, it fallows that as Europe approaches US levels of regional specialization and factor mobility, disparities in economic growth rates increase substantially.

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[1] **Krugman, Paul** (1993) "Lessons from Massachusetts for EMU" in Torres, F. & Giavazzi, F. (Editors) Adjustment and Growth in the European Monetary Union London : CEPR and Cambridge University Press, p. 243
[2] **Krugman, Paul** (1993) "Lessons from Massachusetts for EMU" in Torres, F. & Giavazzi, F. (Editors) Adjustment and Growth in the European Monetary Union London : CEPR and Cambridge University Press, p. 245
[3] lbid. p.247
[4] lbid. p.249
[5] lbid p.254

c) Monetary Union and Stabilization policy

Stabilization policies take form of fiscal intervention in a monetary union. The regional governments in a highly integrated economy "will be unable to pursue counter-cyclical fiscal policies, and will tend to act pro-cyclically. Therefore, the accent to fall on higher level and the fiscal federalism has the role of stabilization. Contrary to US, the small size of the EU budget is simply not enough to be a stabilizer in such situations.[6]

The primacy of fiscal policy is in fact caused by the immobility of local fiscal policy. The local fiscal policies in the US have not often played their role, so the automatic stabilizing function of the Federal Budget has always been predominant.[7] Thus, the *federalism takes effect as an automatic stabilizer:* " … a system with little fiscal federalism will have a harder time coping with the instability of exports from highly specialized regions then the system like that of US." [8]

At the end, Krugman concludes that destabilization problems will tend to burden the regional level in EMU.

II. Frankel Jeffrey and Rose Andrew (1996) "The Endogeneity of Optimum Currency Areas"

a) Endogeneity

The study argues that "*countries with closer trade links tend to have more tightly correlated business cycles*"[9], on the bases of endogenouity. Therefore, there is a clear gain by introducing a common currency, to be run/executed by members of an optimum currency area (OCA). Hence that means that the countries with "symmetric" cycles are surly to be members of an OCA. In contrast, amalgamation in EMU means also costs of not being able to use independently the monetary policy as a stabilizing instrument, when faced with asymmetric business cycles that take place in currency union.

[6] **Krugman, Paul** (1993) "Lessons from Massachusetts for EMU" in Torres, F. & Giavazzi, F. (Editors) Adjustment and Growth in the European Monetary Union London : CEPR and Cambridge University Press, p. 255
[7] lbid. p. 257
[8] lbid. p. 258
[9] **Frankel, Jeffrey and Rose, Andrew** (1996) "The Endogeneity of Optimum Currency Areas" CEPR discussion paper 1473, NBER Working Paper 5700, p. 1

The main point that the authors are aiming at is that a "naive examination of historical data gives a misleading picture of a country's suitability for entry into a currency union since the criteria are *endogenous"*[10].

According to Krugman (1993) intensification of trade between countries results with increased specialization across regions, thus that creates vulnerability to industry-specific shocks, follow-on with asymmetry in business cycles. Nevertheless, the study argues that if intra-industry trade becomes prevail the effect is that business cycles may become *more* analogous across countries with intensive trade relations. The analyses mostly use United States as a point of reference when analyzing the criteria for entering into OCA, which is unsound given that the OCA criteria *are jointly endogenous.* Using the "Lucas Critique" ("naive to try to predict the effect of a policy experiment based on correlations in historical data"[11]), it is stated that European countries joining the EMU and the Euro has to be considered in such light.

b) The OCA Paradigm - inter-industry v.s. intra-industry

The most important decisive factors of OCA are openness, which leads to intensification of the trade, and high marginal affinity to import that decreases output variability which eliminates the necessitate for national monetary policy, while openness is an automatic stabilizer. In addition, the assumption is that the monetary policy cannot enduringly influence the real income level or growth rate[12], as a result "EMU itself may promote intra-European trade."[13]

The model that is taken contains examination of the impact of the trade barriers and the business cycles, also the model is "stochastic with roles for both industry-specific and aggregate shocks"and tests the "inter-sectoral trade (so as to be able to accommodate specialization) and intra- industry trade (since the effects on the latter of opening trade are thought to be large and different from those on inter-industry trade)".[14] Krugman's findings on specialization are contradicted with the constitution that when most of the trade is *within* rather than between industries, the specialization is likely to be minor. The most of the study focuses on the intra-industry trade and is taken as the main segment of international trade.

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[10] **Frankel, Jeffrey and Rose, Andrew** (1996) "The Endogeneity of Optimum Currency Areas" CEPR discussion paper 1473, NBER Working Paper 5700, p.2

[11] Available at: http://en.wikipedia.org/wiki/Lucas_critique

[12] **Frankel, Jeffrey and Rose, Andrew** (1996) "The Endogeneity of Optimum Currency Areas" CEPR discussion paper 1473, NBER Working Paper 5700, p.4

[13] Ibid, p.5

[14] Ibid, p.6

As far as the country-specific aggregate shocks are evaluated the estimations are that demand shocks will be inclined to elevate, but on the other hand the finality might be expressed in spread of productivity shocks, augmenting the international consistency of business cycles. On the contrary, the integration raises the industrial specialization and therefore asymmetric business cycles. However, this is the case when largely trade is inter-industry rather than intra-industry. The *net effect* determines the coherence of the business cycles. It is therefore estimated that if there is dominance of the second (intra-trade) the outcome is “closer trade integration to result in more synchronized business cycles”.[15]

c) Results

The empirical evidence and studies state that countries in turn to benefit on the exchange rate stability will intentionally tie their currencies to their main trading partners. Hence to that the monetary policies will be tied closely and the final outcome is fulfilling the conditions of OCA.[16]

A turning point that must be stated is Bayoumi-Eichengreen’s study which claims “*that the high correlation among European incomes is a result not of trade links, but of Europeans’ decision to relinquish monetary independence vis-à-vis their neighbors.*[17]

The endogenuity of the OCA criteria in combination with the Lucas Critique, for the countries taken as “poor candidates” for EMU admittance, creates a paradox: “*EMU entry per se, for whatever reason, may provide a substantial impetus for trade expansion; this in turn may result in more highly correlated business cycles. That is, a country is more likely to satisfy the criteria for entry into a currency union ex post than ex ante”.*[18]

Conclusion

Both studies point out strong evidence. Krugman (1993) gives excellent conclusions about the possibility of large adverse shocks because of the high level of integration and common currency. Regional specialization creates concentration of industries which affects the factor mobility, creates asymmetric shocks and threats the long – run growth. The fiscal

[15] **Frankel, Jeffrey and Rose, Andrew** (1996) "The Endogeneity of Optimum Currency Areas" CEPR discussion paper 1473, NBER Working Paper 5700, p.9
[16] lbid , p.15
[17] lbid , p.20
[18] lbid , p.22

federalism as automatic stabilizer characteristic for US is lacking in Europe which will create troubles in future.

On the other hand, Frankel Jeffrey and Rose Andrew (1996), state that trade intensification causes correlated business cycles. Naive examination of historical data is misleading when judged the appropriateness for entry into a currency union given that the criteria are endogenous. The net effect depends on the relation between in inter-industry and intra-industry relations. They conclude that a country is more likely converge to the EMU standards after the entrance.

As a conclusion it can be said that coherence of the business cycles with intra- industry relations, backed by premature entry might be what everyone is after.

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