THE REGIONAL CURRENCY AREA AND ECONOMIC SUSTAINABILITY

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Sustainability must balance between its three dimensions: social, environment, and economy. Sustainable development requires cross-border connections built on information, integration, and participation among regional partners. This paper centers on economic (financial) integration through national/regional currencies. Given the important relationship between regional currency areas and economic development, the paper explains advantages and disadvantages of currency areas and the sustainability characteristics supportive of a currency area. Focus includes: (1) Theoretical and empirical determinants of sustainable currency areas; (2) Identification of variables and their sources which provide objective measurement of those determinants.

Keywords: economic sustainability, exchange rates, optimum currency areas, euro, Visegrad Four

Introduction

Economic development must be considered in the framework of the three pillars of sustainability. Environmental, social, and economic emphasis can lead to balanced stability. However, each of these pillars is founded on numerous connections and supporting conventions. This study is directed to one of those connections, that between a common currency area and economic development. If stable currency relationships facilitate sustainable economic output and growth, and promote human development, then it is important for nations to adopt stable and sustainable currency relationships. (The authors would prefer to build the case for considering the Human Development Index [HDI] as the objective rather than economic growth, but the limited space requires that topic be covered in another paper.)

The financial system facilitates economic interactions. A stable financial system, based on sound relationships, can lead to positive economic growth and human development. However, the system must be built on sustainable relationships or the economic output, growth, and human development will not be sustainable. A key financial relationship between countries is that of the rate

of exchange between the currencies of those countries. Since the exchange rate is the link between prices and rates of return of the countries, it plays a significant role in the economic relationships of the nations.

In a recent paper, the authors addressed the financial crisis from the viewpoints of Hungary and the United States (Collins & Kacsó, 2009). The emphasis was on differences and similarities in the way the crisis entered and affected both countries as well as in the corrective actions the countries took. It was a global crisis, but the impact affected countries differently. Our work also stressed the connections between countries. The integrated nature of financial markets transferred the crisis worldwide.

The effects of the crisis can rightly be called shocks to the nations, and those effects were not uniform across nations. They were asymmetric shocks. Neither were nations' abilities to react to the shock symmetric. Some countries were able to sustain economic output or rapidly return to pre-crisis output level, while most were not.

One possible policy tool to apply to the impact of an asymmetric shock is an exchange rate change, an automatic change if freely floating, or an administrative change if a pegged rate. However, exchange rates which change leave business firms facing uncertainty. Furthermore, those nations within the European Union have or are expected to surrender their national currency to join in the common currency of the Euro.

The Visegrad Four

Nations joining the European Union are expected to progress toward joining the common currency, the Euro. This will be most advantageous when a nation is ready, when its economy is compatible with being a member of a common currency area, specifically the Euro area. We consider this question in general and from the viewpoint of the "Visegrad Four," the Czech Republic, Poland, Hungary, and Slovakia. These four, so named for an historical trade relationship dating from 1335 and recently a summit in 1991, all entered the European Union May 1, 2004. Requirements for joining in the Euro are:

1. To follow the Exchange Rate Mechanism (ERMII) by maintaining the currency within ± 15% of a central rate with the Euro.
2. Adhere to the other convergence criteria:

   a. Price stability: The inflation rate of a member state must not exceed by more than 1.5 percentage points that of the three best-performing member states.

   b. Control government finances:

      i.) Annual: Government deficit must not exceed 3% of GDP.

ii.) Debt: Government debt must not exceed 60% of GDP. If it does, it must be approaching 60% at a satisfactory pace.

c. Long-term interest rates: Nominal long-term rates must not exceed by more than 2 percentage points the average long-term rates of the three best-performing countries based on price stability.

As Table 1, illustrates, the Visegrad Four have taken quite different paths toward joining the Euro. Slovakia has already met the requirement (January, 2009), but the others have yet to join the ERMII. As Table 2 illustrates, none including Slovakia actually met the convergence criteria in 2011.

Table 1

Exchange rate mechanisms – the example of the "Visegrad Four" (from the beginning of the EU membership)

Country/year	2004	2005	2006	2007	2008	2009	2010	2011
Czech Republic	Managed float							
Poland	Floating							
Hungary	Currency-stripe ± 15%				Floating from 26. 02.	Floating		
Slovakia	Controlled Floating	Controlled floating ERM II (28.11.2005)		ERM II		Joined Euro (01.01.09)		

Note. Adapted from Annual Report on Exchange Arrangements and Exchange Restrictions, International Monetary Fund. Various years.

Table 2

Meeting the Convergence Criteria – Visegrad Four

		Price Stability		Government Budgetary Position		ERM II	Long–Term Interest Rate	
		HICP Inflation	Ref Value	General Govt. Surplus (+) or Deficit (-)	General Govt. Gross Debt % GDP	Currency Participating ?	Long–Term Interest Rate	Ref Rate
Czech Republic	2008	6.3	3.2	-2.2	28.7	No	4.6	6.5
	2009	0.6	3.2	-5.8	34.4	No	4.8	6.5
	2010	1.2	1.0	-4.8	38.1	No	4.7	7.8
	2011	2.1	1.0	-3.1	41.2	No	3.9	7.8
Hungary	2008	6.0	3.2	-3.7	73.0	No	8.2	6.5
	2009	4.0	3.2	-4.6	79.8	No	9.1	6.5
	2010	4.7	1.0	-4.2	81.4	No	7.3	7.8
	2011	3.9	1.0	4.3	80.6	No	7.6	7.8
Poland	2008	4.2	3.2	-3.7	47.1	No	6.1	6.5

		Price Stability		Government Budgetary Position		ERM II	Long–Term Interest Rate	
		HICP Inflation	Ref Value	General Govt. Surplus (+) or Deficit (-)	General Govt. Gross Debt % GDP	Currency Participating ?	Long–Term Interest Rate	Ref Rate
	2009	4.0	3.2	-7.4	50.9	No	6.1	6.5
	2010	2.7	1.0	-7.8	54.8	No	5.8	7.8
	2011	3.9	1.0	-5.1	56.3	No	6.0	7.8
Slovakia	2008	3.9	3.2	-2.1	27.9	Yes	4.7	6.5
	2009	0.9	3.2	-8.0	35.6	In Euro	4.5	6.5
	2010	0.7	1.0	-7.7	41.1	In Euro	4.8	7.8
	2011	4.1	1.0	-4.8	43.3	In Euro	3.9	7.8

Note. Adapted from Eurostat, Statistics, European Commission.

Financial Interaction

Financial interaction is conducted through the international monetary system, "the institutional framework within which international payments are made, movements of capital are accommodated, and exchange rates among currencies are determined" (Eun & Resnick, 2012). Since 1944, the multilateral body with oversight for the international monetary system has been the International Monetary Fund (IMF). Currently 188 countries are members of the IMF.

Among other responsibilities, the IMF has oversight responsibilities for exchange rate arrangements. Countries may allow their exchange rate to be freely floating; attempt to fix or peg their currency to another currency or basket of currencies; or employ a managed floating model somewhere in-between. While experts differ on the definitions and numbers, approximately 110 currencies could be considered fixed, 46 managed float, and 33 freely floating. Many of the currencies in the fixed exchange rate set are fixed against the currencies of neighboring or regional countries. Stable currency relationships may facilitate sustainable economic activities in the region. Rogoff, Husain, Mody, Brooks, and Onmes (2003) find developing economics show more growth under fixed rates.

Characteristics of exchange rate arrangements considered most desirable include: stable currency value relationships; markets open to international financial flows; and independent monetary policy. Unfortunately, these three characteristics are incompatible; only two of the three can exist in a country at a time. To have stable rates and be open to financial flows denies a country the use of its monetary policy. The Euro-area countries face this scenario. China reflects the case of stable currency and the ability to use monetary policy, but at the cost of having a financially closed economy. The United States is representative of

the third case, open financial markets and monetary policy control but unstable (floating) currency.

Both fixed and floating rates have advantages. Business seeks the stability of fixed rates, and proponents argue that lack of that stability leads to a reduction in international trade and investment. They claim the resulting resource allocations fail to maximize output and growth.

Arguments for floating rates, determined through the interaction of supply and demand, are really arguments for automatic adjustment. Changes in underlying supply and demand conditions in the goods and capital markets can lead to significant effects on the real economy. If a country experiences a negative shock causing widespread unemployment, a correcting drop in real wages is required. However, in most economies nominal wage rates are relatively inflexible downward. The exchange rate, as a link between price levels in the countries, can help make the adjustment effectively and quickly. The necessary adjustments will be transferred rapidly through the economy.

Fiscal, monetary, foreign exchange, and administrative policies (such as price controls or limits on capital mobility) all may be utilized to bring about adjustment in an economy. With floating rates, the foreign exchange policies are not available to policy makers, but supply and demand in the market lead to (almost) automatic adjustments. Fixed rates allow a government to use foreign exchange policy, but only on an occasional basis and usually only by making large incremental changes.

Currency Areas

A currency area is "a domain within which exchange rates are fixed." (Mundell, 1961, p. 657). The fixed rates of the currency area may float against the rest of the world but remain set against one another. Still, "there will be a major difference between adjustment within a currency area which has a single currency and a currency area involving more than one currency" (Mundell, 1961, p. 658). Discussions of the optimum currency area usually assume the former, a currency union wherein all member countries surrender their national currency and adopt one common currency.

Several members of the European Union became a common currency area beginning in 1999 with the establishment of the Europe Monetary System and the adoption of the Euro. Now 17 countries are full members in the Euro area. They have surrendered their national monies monetary policies to the European Central Bank. Twenty-seven other countries use the euro as a currency anchor; 24 that are tightly pegged and three with a managed float. Included in the 24 are the 14 members of the CFA franc zone. The CFA franc zone consists of two common currency areas: the West African Economic and Monetary Union with

eight countries; and the Monetary Community of Central Africa with six countries. They share the CFA franc which is pegged to the Euro.

The Eastern and Caribbean Currency Union has six members. They share a common currency, the East Caribbean dollar which is pegged to the US dollar. In addition to these six countries, six others either use the dollar as their legal tender or have adopted a currency board and pegged their currency to the U.S. dollar.

The currency areas with a common currency must surrender independent monetary policy, as do those countries which have adopted a currency board. Rates which are truly pegged must do that also. Briefly, the advantages and disadvantages of a common currency area are presented as follows.

The arguments put forth by the European Union in support of the Maastricht Treaty and the European Monetary Union were: reduced transaction costs from currency conversion; reduced currency exposure; increased transparency of prices and enhanced competition; capital market developments, including depth and liquidity leading to reduced costs of capital; and improved political cooperation (One Europe, One Economy, 1991). Later, Frankel and Rose (1998) added the benefit of a reduction in asymmetric shocks resulting from increased economic integration.

Costs for joining a common currency area stem from the loss of independent monetary policy. Centralized monetary policy leaves individual countries (or regions) with fewer tools to use to react to a shock. If the shock is symmetric, affecting all nations in the common currency area roughly equally, the central monetary authority can take actions to benefit all countries in the currency union. However, an asymmetric shock, affecting the countries differently, most likely cannot be addressed with a single tool or policy that affects each country positively. The recent financial crisis is an example of such as asymmetric shock. Greece had a much stronger reaction than Germany, and Greece had few ways to react, easy money and a reduction in interest rates were unavailable.

The magnitude of costs and benefits depend on specific factors. The extent a country or set of countries has or shares certain characteristics will determine the benefit/cost menu. Another way to state this is, specific country characteristics support joining a currency area or remaining independent with either a freely floating or managed floating currency. Understanding and assessing these factors is a necessary step in the analysis of the decision to join a currency union or not, in answering the question, “How can we decide if Hungary or other Visegrad countries should join the Euro-Area?”

Determinants of Common Currency Area Compatibility

Mundell is usually given credit for introducing the question of the optimum currency area, “What is the appropriate domain of a currency area?” (Mundell 1961, p. 657). A number of other scholars followed. Two who receive credit as

original contributors include McKinnon (1963) and Kenen (1969). A useful approach is to identify and briefly discuss factors cited as favorable or unfavorable for a common currency area by key scholars. In doing so, we draw on the excellent summary by Tavlass (2009).

Mundell's (1961) path breaking contributions to the theory of optimum currency areas include a change of thought from a country to a region. He explained factor mobility, labor or capital, provides an adjustment mechanism when a shock affects the economy. He further argued wage/price flexibility also could be a source of adjustment. In addition, he identified asymmetric shocks as having an inverse relationship with a strong common currency area.

McKinnon (1963) added the levels of openness and integration as determinants of how suitable a currency would be for a common currency area. He argued open economies have built-in adjustments through the relative prices in the markets and so could function with fixed exchange rates, or join a currency area. Those open economy countries trading with one another were particularly strong candidates to form a common currency area. Economies that are relatively closed need the currency adjusting features of a floating rate arrangement.

Kenen (1969) brought fiscal integration into the analysis; closer fiscal integration makes monetary integration more compatible. He also introduced diversification in production and consumption. He added the argument that without factor mobility, across sectors and geographic areas, diversity may be inadequate to provide recovery from shocks. A More comprehensive set of determinants supporting the common currency would include:

- High labor mobility
- High capital mobility
- More wage/price flexibility
- More open economy
- High trade integration
- High fiscal integration
- Sustainable fiscal integration
- Greater product diversity
- More similar economic structure
- Less frequent asymmetric shocks
- Smaller economy is more suitable for fixed rates

Assessing Suitability

Many of the factors identified in section V have been tested in earlier papers. In this section, we discuss factor assessment models that would meet the overall objective of reaching a decision: Should a country give up its currency and join a common currency area? The output of our factor assessment would provide

economic input into a decision that is both economic and political. The authors do not intend to address political factors.

Factor Mobility, Labor: If labor is willing and able to move from one industrial sector to another or from one geographic area to another, within the common currency area, that process will allow adjustment to asymmetric shocks. For example, in the United States, a recent boom in the energy industry of North Dakota has led to significant migrations. However, measurements of mobility vary, and it is unclear what measure is most meaningful: any movement; cross-border migration; or migration between regions within a country.

Recent data sources on mobility include the Eurobarometer (GESIS) and the European Labor Force Survey which are relatively new sources of data on migration. A recent study by Bohin et al., (2008) presents significant correlation between lifetime job changes and internal mobility based on this data. These sources should provide relative data for Hungary or other countries considering joining the Euro area.

Factor Mobility, Capital: Although the data is presented in summary form and generally on an annual basis, capital account balance of payments data is available from reliable and consistent sources including the International Monetary Fund and the United Nations as well as the European Union. While the analysis between different sub-categories may be necessary, assessing relative capital mobility should be straightforward based on the capital flows.

Wage/Price Flexibility: The wage/price flexibility in a country depends on a number of things including labor laws and collective bargaining agreements. Multi-employer collective bargaining agreements have a much higher percentage of covered workers and low wage flexibility. Single-employer agreements yield lower percentages of covered workers and are thought to have higher wage flexibility.

The European Industrial Relations Observatory on-line, published by Eurofound, a European Union body, has data by country on collective bargaining agreements. For several sectors it shows the percent of workers covered by union contracts, and whether a sector uses multi-employer or single-employer bargaining agreements in that country.

Open Economy: McKinnon (1963) first introduced the concept "of the openness of the economy, i.e., the ratio of tradable to non-tradable goods" (McKinnon, 1963, p. 717). It was his argument that a more open economy is better suited for a fixed exchange rate regime than a freely floating one. A more open economy is better suited for a common currency area with its trading partners. A standard measure of openness is imports as a fraction of Gross Domestic Product (Import/GDP). (See Kotil et al., 2009 for application of that measure.)

There are numerous sources of reliable balance of payment data one may use to construct this measurement for individual countries, areas, and benchmark comparisons. Among them are the United Nations, International Monetary Fund, and the World Bank.

High Trade Integration: Most countries maintain trade data by country on exports and imports. This data will be used to assess the level of trade interaction between a country and other countries in a potential common currency area.

High Fiscal Integration: Two of the original Maastricht Treaty convergence criteria are fiscal measures. The requirement that any fiscal deficit may not exceed three percent of GDP puts a limit on the current fiscal conditions. The requirement that public debt may not exceed 60 percent of GDP limits the fiscal policies over time. These fiscal measures, even though they were (possibly) not met by all of the original Euro members in 1999 and are not met by all 17 now, are two available and basic values for consideration. Others include average tax rates as a percent of income, total tax as a percent of GDP, and total government spending as a percent of GDP. All this data is readily available from national sources and also through the European Union.

Sustainable Fiscal Integration: In order for fiscal integration of independent nations to be sustainable, there should be requirements or guidelines, written and understood, which the nations follow. In a one nation currency area, such as the United States, this coordination is easy as there is one government. In the Euro area there are 17 governments. The European Union "Treaty on Stability Coordination and Governance" currently in the approval stage could be such a statement of guidelines and agreement.

Assessment of the fiscal sustainability of fiscal integration should include longitudinal examination of those convergence measures mentioned above, namely annual deficit as a percent of GDP and total debt as a percent of GDP.

Less Frequent Asymmetric Shocks: Frenkel and Nickel (2005) examined shocks for EU and Central and Eastern European countries based on real GDP data obtained from the IMF's International Financial Statistics and Eurostat. Shocks may be specified as supply shocks or demand shocks. Correlations between countries or between one country and sets of countries, such as the Euro-area may be performed. Correlations between the types of shock (supply or demand) determine the levels of asymmetric shocks.

Summary and Further Research

Foreign currency exchange is a vital connection between nations, and a vital link in supporting financial development. Forming the link between the prices and rates of return in different countries, stability in the exchange rate mechanism is a key factor in that economic development. One mechanism, of upmost concern

for countries in Central Europe such as the Visegrad Four, is the common currency of the European Union, the Euro.

How does a country measure its readiness to give up its national currency and fix its rate and monetary policy to currency area money? The most significant measures are listed and discussed earlier in the paper. Key among them are factor mobility, fiscal integration, and the sustainability of that integration. This paper identifies measurable variables and sources for those variables.

Summarizing those factors which support joining a common currency area and identifying variables and sources of those variables are the contribution of this paper.

The next step in this research is to collect the data and present a complete assessment for the Visegrad Four with special regard to the Euro-based evaluation of Slovakia. To estimate the sustainable economic development we will use the HDI (Human Development Index) as well. We would like to note that all of the nations considered in this analysis have higher HDI rankings than their GDP per-capita rankings. E.g.: in 2011 the HDI world rankings were: USA 4th; Czech Republic 27th; Slovakia 35th; Hungary 38th; and Poland the 39th. The ranking of these countries by GDP per-capita is the same but they are in a much lower position: USA 10th, Czech Republic 47th, Slovakia 51st, Hungary 57th, and Poland 58th (CIA, 2011.). We also will direct our future examination on the reasons and background of the above-mentioned deviations.

References

BOHIN, HOLGER ET. AL. (2008). Geographic mobility in the European Union: optimizing its economic and social benefits, *IZA Research Report, 19*. Bonn, Germany.

CIA WORLD FACTBOOK (2011). Retrieved from https://www.cia.gov/library/publications/download

EUN, C. S. & RESNICK, B.G. (2012). *International Financial Management.* 6th edition, New York: McGraw-Hill/Irwin.

ERDŐS T. (2011). Számít-e a valutaárfolyam? *Közgazdasági Szemle, 58*(May), 445-559.

EUROFOUND (Agency of European Union). European Industrial Relations Observatory on-line. Retrieved from http://www.eurofound.europa.eu/eiro/country_index.htm

EUROPEAN COMMISSION. EUROSTAT Retrieved from http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

EUROPEAN UNION (2012). *Treaty on Stability, Coordination and Governance*. Retrieved from http://european-council.europa.eu/media/639235/st00tscg26_en12.pdf

FRANKEL, J. & ROSE, A. (1998). The Endogeneity of the Optimum Currency Area Criteria *The Economic Journal, 108*, 1009-1025.

FRENKEL, M., & NICKEL, C. (2005). How Symmetric are the Shocks and Shock Adjustment Dynamics between the Euro Area and Central and Eastern European Countries? *Journal of Common Market Studies*, *43*, 53-74.

HDI RANKING Retrieved from http://hdr.undp.org/en/statistics/gni/#top

COLLINS. J. M. – E. H. KACSÓ (2010). National Characteristics and Sector Impacts of the Global Financial Crisis, *Periodica Oeconomica, 3,* 7-20. Retrieved from http://www.gti.ektf.hu/PO2010_1.html

KENEN, P. B. (1969). "The Optimum Currency Area: An Eclectic View", In R. Mundell & A. Swoboda (eds), *Monetary Problems of International Economy.* Chicago: University of Chicago Press.

KOTIL, E., KONUR, F., & CAKIC, K. (2009). Assessment of the Euro Zone According to the Criteria of the Theory of Optimum Currency Areas. *International Research Journal of Finance and Economics*, *27*, 29-39.

LEIBNIZ INSTITUTE FOR THE SOCIAL SCIENCES. GESIS: German General Survey Series. Retrieved from http://www.gesis.org/eaurobarometer/survey-series

LŐRINCZNÉ I. H. (1999). Robert Mundell, avagy egy "nonkonformista közgazdász Nobel díja. *Közgazdasági Szemle, 46*(December), 1116-1132.

MCKINNON, R. (1962). Optimum Currency Areas. *American Economic Review, 51*, 717-725.

MUNDELL, R. A. (1961). A Theory of Optimum Currency Areas. *American Economic Review*, *51,* 656–665.

NEMÉNYI J. – OBLATH G. (2012). Az euro bevezetésének újragondolása. *Közgazdasági Szemle, 59(June),* 569–684.

One Europe, One Economy. (1991, November 30). *The Economist*, pp. 53-54.

ROGOFF, K., AASIM M. HUSAIN, ASHOKA MODY, ROBING J. BROOKS, & NIENKE ONMES, (2003). "Evolution and Performance of Exchange Rate Regimes", *IMF Working Paper 03/243*, International Monetary Fund.

SZLÁVIK J. (2006). A nem fenntartható növekedés és a fenntartható fejlődés jellemzői. In M. BULLA & P. TANÁS (Eds.), *Fenntartható fejlődés Magyarországon* (pp. 212-235). Új Mandátum Könyvkiadó.

TAVLASS, G. S. (2009). Optimum-Currency-Area Paradoxes. *Review of International Economics, 17*(3), 536-551. Doi: 10.111/j.1467-9396.2009.00832.x

UNITED NATIONS (2012). *Human Development Report, 2011.* Retrieved from http://hdr.undp.org/en/reports/global/hdr2011/