

Enrichment in OCA theory: Towards a Robust Model for Optimum Currency Area by Inclusion of Culture Criteria

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Abstract: Human civilization has an inevitable link with money. Metaphorically, as tree contains leaves, a civilization has currency. Currency plays vital role in evolution of civilizations. During the process of human evolution the stage of transformation of barter system into currency system is regarded as the turning point. During the marathon of history at various milestones, nations kept trying to establish a single currency. The idea of a common regional currency was initially floated by Mundell in 1961. The concept was so prompt as well as useful that it triggered into the emergence of the European Union (EU) on November 1st, 1993. The theory of Optimum Currency Area (OCA) turned into the focus of research and it went through a number of periods of achievements by various researchers in the years to follow. The present state of OCA theory is founded upon criteria having eight principles termed as; 1) Mobility factors regarding production including work, 2) Adaptability in price and wage, 3) Incorporation in the financial business sector, 4) The scale of monetary openness, 5) The expansion tendency in production and consumption, 6) Common trends in inflation rates, 7) Fiscal integration, and 8) Political integration. In this regard after its birth the European Union had to face numerous issues. It was found by many researchers that a number of those issues emerged due to cultural heterogeneity among the EU member states. The present study focuses upon the same missing link in the OCA theory and recommends an additional criteria, the ‘culture homogeneity’ and its inclusion into the OCA theory. In this regard an integrated model has been created which makes the model more robust by including culture homogeneity factor. The new model establishes a reality based upon latest scenario having social, economic, cultural and political issues faced by the EU countries during their effort to practically have some successful common currency mechanism.

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1. Introduction:

Common currency idea was frequently discussed among researchers since 1950s. It was Friedman (1953) who published an important paper on the subject of mechanism of exchange rates. The paper titled “The Case for Flexible Exchange Rates” got great popularity among economists.

Friedman (1953), Meade (1957) and some other researchers had worked upon the exchange rate system but the concept of regional currency in the shape of Optimum Currency Area (OCA) was put forward for the first time by Mundell in his paper titled “A Theory of Optimum Currency Areas”(Mundell 1961). Just after its publication in 1961, the theory turned into the topic of the day for the researchers and scholars in the science of Economics worldwide. While other researchers were of the view that there should be a global currency, Mundell came with a new idea: he promptly proposed that OCA should be formed at regional level. Ideas rule the world, and the idea resulting into Mundell’s OCA model changed the pre-European Union world into the world having EU! He earned a noble prize for his excellent work. Discussions and research continued, and ultimately

the theory turned into a reality as it was implemented with the inception of European Monetary Union. Mundell was further acknowledged for his work being honored as “Intellectual Father of European Monetary Union”.

OCA theory also provide explanation that when a country is optimum for a common currency when it is suitable for the country to have an independent currency. The initial argument of OCA theory was emphasizing the wage and price flexibility to absorb the demand shocks. Mundell also argued that if a region is having a wage and price flexibility, the exchange rate changes are not required in that region. The OCA theory explains the criteria and also the benefits and cost of establishing a common currency area. The OCA theory also provides an answer for the question of how to establish an optimum exchange rate system. Any specific algorithm was not provided, through which it can generate the criteria for a country fit for joining the common currency area. However, several methods are presented by researchers who were inspired by OCA theory.

A number of researchers played role in the establishment of OCA theory but McKinnon (1963)

and Kenen (1969) have emerged as the more distinct ones. OCA theory evolved with the contribution of many researchers putting forward eight prerequisites for developing a Common Currency Area. The prerequisites, known as factors have been interchangeably availed by researchers with given its meanings. The pre-requisites are: 1) Mobility factors regarding production including work, 2) Adaptability in price and wage, 3) Incorporation in the financial business sector, 4) The scale of monetary openness, 5) The expansion tendency in production and consumption, 6) Common trends in inflation rates, 7) Fiscal integration, and 8) Political integration.

The Euro is the practical implementation of OCA theory. After its launch Euro faced a number of problems. The key criterion is labor mobility in OCA theory. It was notably lesser than expected in European states. Some economists blame culture as prime factor for reducing labor mobility. Language barrier, a cultural factor was regarded an important hurdle in labor mobility in European states. As factor, GDP in a few European states is blamed as well. Another culture barrier in European states is inter-state rivalry, as that of the old rivalry between German and Greek has turned to be a reason of low labor mobility.

However, the OCA theory does not consider culture as a criteria to form Currency area. So, after analysis of the problems confronted by the European Union (EU) this research concludes that 'culture' is not only a vital factor, but a missing link in the OCA model and it has enough weightage to be considered while establishing an OCA in the second decade of the 21st century. After in-depth literature review of OCA theory as well as analyzing current issues and problems faced by the EU, the researcher considering the existing eight elements vital, recommended another criterion 'culture' as ninth one to be included while forming an OCA. Finally, a model is proposed to form the latest version of the OCA.

2. Literature Review:

Friedman (1953) published a very important paper on exchange rate mechanism titled as "The Case for Flexible Exchange Rates". The role of exchange rate mechanism was primarily discussed in the said paper. Friedman (1953), Meade (1957) and a number of other researchers discussed various aspects of the exchange rate system. As discussed earlier that the concept of Optimum Currency Area (OCA) was first of all published by Mundell in 1961. The article was titled "A Theory of Optimum Currency Areas". In his paper he discussed Currency Area as a region and not as a country. At that time it was taken as a different as well as useful idea. The theory also explains that when a country is considered as optimum for a common

currency and when it suitable to have an independent currency.

The initial argument by OCA theory was to give prime importance to wage & price flexibility to grip the demand shock. Mundell argued if some region has a wage & price flexibility, then, exchange rate changes are not needed in the region. In the years to follow, the OCA theory was worked upon and upgraded by a number of researchers. In 1970's and 1980's the research on OCA was melted down.

As European Union was formed the same issue turned to be the problem of the day. In the same scenario, the research work as well as publications on OCA can be assembled in two groups: the pre-1970's traditional research, and the post-1970's modern research on the OCA theory.

2.1 Traditional Research on OCA Theory:

Although Mundell paper was highly cited, at the same time many researchers criticized his theory which helped to develop the theory in its current shape. McKinnon (1963) assessed it differently. He treated 'mobility factor' by focusing upon two distinct angles: mobility factor between industries; and mobility factor between regions (same as OCA theory). He discussed a case where there is zero mobility between more than one regions. It is also hard to differentiate between the then inter-industrial as well as geographical immobility. Say, if region B contains a negative demand shock then simultaneously the B type-product demand will drop. On the other hand if the Product A type demand increases and if simultaneously Region B develops the A type product, then the mobility between both regions will not have positive effect. Now, if the Region B has no capability or capacity for production of Product A, then the mobility between the two regions could turn to be an adjustment factor which may reduce the risk of income fall in the Region B. In this regard McKinnon too approves OCA theory at the ground that such a region should form a common currency area.

McKinnon (1963) had also a marvelous contribution in the OCA theory. He contends for the degree of openness and reflects it as a vital criterion among OCA criteria. McKinnon regards it as a ratio between non-tradable and tradable. To him, an open economy suits more for a fixed exchange rate system, while for close economy a flexible exchange rate system is more useful.

Kenen (1969) stretched the argument of mobility factor. His argument was: "When regions are defined by their activities, not geographically or politically, perfect interregional labor mobility requires perfect occupational mobility. And this can only come about when labor is homogenous (or the several regions belonging to a single currency area display very similar skill requirements). In consequence, Mundell's

approach leads to the sad certainty that the optimum currency area has to be small. It must, indeed, be coextensive with the single-product region” (Kenen, 1969, p. 44).

Kenen also opposed Mundell by questioning him that even mobility factor does not provide solution to employment problem, but it can re-establish an excellent payment balance in regional trade. He put forward ‘product diversification’ as a substantial criteria for the creation of OCA. Kenen (1969) considers that, since labor mobility does not differ, so it turns to be an important criteria to deliberate during the foundation of OCA. An expanded economy also has an expanded export sector. Every industry in the market has always threat of some shock. If such shocks are not linked, then as a consequence negative shock cancels a positive shock in some other industry and which leaves no impact upon the overall impact on the total export which shows more stability, (Kenen, 1969).

Besides Mundell (1961), McKinnon (1963) and Kenen (1969) which are regarded as prime researchers in the creation of OCA, some other researchers also contributed to OCA theory. Corden (1972) explains a common currency area as a merger of complete exchange rate. Corden debates that the countries which participate in the common currency will ultimately have their exchange rates out of control losing grip over their monetary policies. That was Ishiyama (1975), who was among the early researchers to admit that it is impossible to form OCA on the base of just a single criterion. To Ishiyama, for a country it is better to initially assess cost and benefits and then enter an OCA agreement. He suggests that some other criteria to be considered, for example differences of wage structures and inflation rates in member countries. Tower and Willet (1976) proposed to add another criterion in the OCA. Their argument was that OCA was not a specific theory but an approach emphasizing upon the factors which initiate fixed and flexible exchange rates as well as relative costs for member countries.

2.2 Modern Research on OCA Theory:

Research on OCA was squeezed in 1980’s. The OCA theory invigorated with the making of European Monetary Union (EMU), which was a practical illustration of OCA theory. Soon after the announcement of EMU, research and development work on OCA theory abruptly started. Even some scholars titled it as a ‘New OCA Theory’. The classic researchers stuck to the traditional approach focusing upon potential costs, and the modern researchers started focusing upon the utility and the benefits of common currency areas in terms of socio cultural perspective as additional factor.

Tavlas (1993) regarded OCA theory as an evolutionary step in Macroeconomics theory. He says, “These developments have allowed the original optimum-currency-area approach to be cast in a new light”. He emphasized that OCA theory was too reviewed with the advancement of economics. De Grauwe (1992) called the establishment as “New theory of optimum currency area”. In this regard the latest research was conducted by Commission of the European Communities (1990). In that research their starting point was calling the common currency area as “One Market One Money”. The concept was basically the OCA idea. A number of researchers contributed in it besides criticizing it.

Tenreyero (2002) finds out that when the “costs of giving up monetary independence are the lower, the higher the association of shocks between countries becomes.” In contrary, Méliz (1991) views “If countries in OCA face similar shocks, every country will have to respond with diverse policies because of their original economic position.” The theory of Calvo and Reinhart (2002) which became famous as “fear of floating” argues that if a country is unable to adopt the monetary policy properly then the loss of monetary policy will not bear significant cost.

Frankel and Rose (1997) put forward an article titled “Indogeneity vs Specialization hypothesis.” Their point of view is that higher volume of trade among the countries of common currency area, could be the basis of increased industrial specialization among regions for the goods of having comparative advantage giving rise to asynchronous business cycles which may result in industry-specific shocks. To them, higher trade can also cause increased correlation among business cycle in the countries if common demand shocks prevail. Frankel and Rose (1997) also argued that income correlation and openness cannot be considered separately since the business cycle correlation among countries depends on trade integration. Frankel (1999) discusses that as per endogeneity of OCA criteria some parameters e.g. income and openness correlation are not irreversibly fixed. They can be changed as per exogenous factors and fundamental policies of the countries. So, if a potential candidate for OCA is even below par at the time of joining, later, the trade integration and income correlation can be higher and the country can move forward. De Grauwe (2003) winds up saying that it will be too costly to make an OCA for countries with a variety of labor market institutions.

Extensive research has already been done on the subject, but still, sky is the limit for further studies. According to Krugman (1995) most of the research about OCA is about balance of payment, adjustment cost under flexible and fixed exchange rates etc. On the other hand not sufficient research has been

conducted on microeconomic factors. A latest study by Alexai et.al (2014) in the paper global monitoring system suggested the rebuilding of existing currency system. The monetary union is still a hot topic and a research by Olga et. al (2014) concluded that monetary union between Commonwealth of Independent States (CIS) is beneficial. Olga et. al (2014) also examined the possibility of common currency among BRIC countries. Kamaludin et. al (2013) also used OCA theory while examining the feasibility of a monetary union among the East African Community members. Mundell's OCA theory emphasized one main factor i.e. mobility. It also evolved eight major factors, to be discussed in detail in the following section.

2.3 Important Factors in OCA Theory:

There are following eight factors of OCA theory.

2.3.1 Mobility of Factors of Production Including labor:

Mundell (1961) discusses that under disturbance situations the requirement for changing nominal exchange rates and real factor prices between countries is nominal if there exists a high factor market integration. Trade theory says that the welfare and efficiency are directly proportional to the production factor mobility. Such results are long term, and unclear in short period of time. Production mobility factor contains limited pace due to which direct investment is made by the 1st country and captivated by the 2nd one. Simultaneously labor mobility is expected to be low for shorter time due to the factors such as retaining and migration. However, increase in mobility is likely in medium and short periods of time and enhances ease of the permanent shock adjustment.

2.3.2 Price and Wage Flexibility:

When the countries planning a single currency have flexible wages and prices between them, the conversion towards correction after a shock has little chances to be associated with persistent inflation in one and unemployment in other country. In return it would reduce the requirement for nominal exchange rate adjustments. Otherwise if nominal wages and prices are rigidly descending, few actual flexibility indicators may be achieved by adjustment of the exchange rate. In such circumstances the price to be payed is the loss of direct control over nominal exchange rates.

2.3.3 Financial Market Integration:

Ingram (1962) realized that the need for adjustment of exchange rate can be condensed by financial integration. When countries are financially highly integrated, a little change in interest rate can aggravate capital movement equilibrium among partner countries due to which the Long Term Interest rates can be cut short. This would also relax the

external imbalances financing. It could only be happened if resources allocation fosters effectively as well as efficiently. A few researchers have cautioned that the financial integration may result into destabilization of capital movements. Other vital contribution in OCA theory was by Mundell himself (1973). It was related to the "role of financial integration in the shape of cross border asset holding for international risk sharing". It was also discussed deeply by McKinnon (2004). Such uneven shock probability could be reduced in countries sharing a common currency by varying their revenue sources.

The major argument of Mundell was that countries sharing financial integration and common currency, may not always have resemblance of shocks. The second amendment of Mundell's OCA theory has been commented positively by many researchers who found it nearer to the creation of EMU. The second amendment has useful consequences for the argument raised in favor of financial integration which was supposed to be a new common currency shared by various countries and those could subject to asymmetric shocks if they "insure" one another by private financial markets. It explains the stress on the utility of consolidation of financial integration.

2.3.4 The Degree of Economic Openness:

McKinnon (1963) proposed that higher degree of openness would cause more fluctuations in international costs of commodities and the change would transfer till domestic cost of living. For salaried persons it will cut the potential for money or exchange rate magic. He raises arguments that the devaluation will have more abrupt effects on the cost of living as well as price of commodities, contrasting its required effects. As a result the nominal exchange rate may not prove to be very influential as adjustment instrument.

2.3.5 The Diversification in Production and Consumption.

Potential impact of certain shocks to any specific sector can be weakened and reduced. Due to high diversification existence in the production and consumption as 'Portfolio of Jobs' as well as high divergence in exports and imports, the potential impact of shocks to specific sectors would also be weakened. So, high diversification offers 'insulation' against many disturbances and so lessens the requirement to make amendments in the trade circumstances and rules by the nominal exchange rate (Kenen, 1969). As consequence of undermining nominal exchange rate changes among highly varied partner countries, they are supposed to have reduced costs, enjoying single common currency benefits.

2.3.6 Similarities of Inflation Rates.

The ups and downs in national inflation rates give rise to difference in the areas like labor market, structural development, social preferences (e.g.

aversion from inflation) and economic policy which may lead to outside inequities. Fleming (1971) argued that the terms of trade continue to be relatively stable among countries, if there is a resemblance in inflation rate, remaining low over time. Besides this, the result of stability and similarity in inflation rate would result into the squeeze in the need for modifications in the nominal exchange rate. It will also encourage balanced trade as well as current account transactions.

2.3.7 Fiscal Integration.

Kenen (1969) described that a well-knit monetary transfer system may extend partial help in adjustment of minor exchange rate for countries which suffer from a severe asymmetric shock. Though, it is likely if the countries agree to share risk and there is good political integration among those.

2.3.8 Political Integration

It was explained by Mintz (1970) that besides other necessities to have a common currency among countries, the most important need is to have political resolve for integration. Cooperation on such grounds of several economic policies, enhancing institutional bonds and abiding by the commitments among partner countries could be strengthened through political will. However, if partner countries want transformation to have a fruitful common currency group, it is severely needed to have resemblances regarding political attitudes followed by policies between them as stressed by Haberler (1970). For successful execution of OCA, decision makers are supposed to try hard for creating harmonious balance between the goals and objectives (Tower and Willett, 1976).

3. The Issues of Monetary Union not Covered in OCA:

The EU is the solitary illustration of real life achievement of OCA theory. According to Kristin (2014) "The European Union (EU) is a political and economic partnership that represents a unique form of cooperation among 28 member states, namely; Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom" (Kristin Archick 2014).

The European Monetary Union (EMU) is an exclusive union in the world. The EMU was put into reality successfully and still this union stands valid but at time many issues and problems were faced by its member states.

Lane P. R. (2006) writes about across the border labor mobility among EU states. He comments "both international and cross-border labor mobility are much lower in Europe than in the United States: language differences and other cultural barriers, together with non-coordinated pension and entitlement systems, are major barriers to an integrated labor market". Mongelli F.P., (2002) criticizes the low labor mobility among the EU states. He blames social, cultural and administrative matters behind low geographic mobility.

Mark Carney (2014), the Governor of the Bank of England, also realizes the presence of different barriers including language, culture, labor mobility etc. within the EU zone. Table 1 displays that the labor mobility in EU is too less in comparison with other countries.

Table 1: Labor Mobility Estimates, 2010

Regions	Annual gross migration flows/population, %
US: between 50 states	2.4
Australia: between 8 states/territories	1.5
Canada: between 10 provinces/territories	1
Scotland/rUK	0.6
EU27: between 27 countries	0.3

Source: The economics of currency unions: Mark Carney (2014)

Fürutter Martina (2012) argues that there was no constraint as per borders, policy, currency etc. besides labor mobility which remained very less for the EU citizen. She blames fault lines among culture, language and social security system as a cause of low labor mobility. Mario Draghi (2014), President of the European Central Bank, openly mentioned in a speech that labor mobility is nominal among EU states and it is due to primarily due to cultural barriers. He goes on saying that as a result it gives little escape valve from high level of local unemployment in the EU area.

Philip Arestis (2003 p.47) while analyzing in his book on OCA theory and EU, says that as per OCA theory the Common Currency Country will save it from shock due to labor mobility. In his book Philip criticizes Mundell by saying that mobility is not practically possible excluding cultural homogeneity. Bertola (2000) analyze that unemployment as well as low labor mobility emerged in EU countries as per some social, cultural, and administrative matters. Blanchard (1999) also questions the issues of cultural and language barriers among EU states.

Jan Fidrmuc et.al (1999) while discussing the division of Czechoslovakia in his paper accuses religious, cultural and linguistic barriers major cause of disintegration of monetary union. Khanh P. Ngo (2012) views about a part of the deceleration issued by Association of Southeast Asian Nations (ASEAN), that, they learned a lesson from EU case and did not put in agenda some proposal for common currency because of the level of mistrust and doubt based on the historical as well as cultural differences among the ASEAN members. Charles N.O. Mordi (2008) discusses Economic Community of West African States (ECOWAS) and he cautions that social cultural barriers may look minor, but they have serious consequences on a long term viability of a monetary union. Obviously, culture differences among EU countries may cause various hurdles.

4. The Proposed Optimum Currency Area Model (POCAM).

The literature review conducted during the present study exposes some problems faced by the European Union after the implementation of OCA theory. Mundell (1973) debates that where there is redundancy or slump in one area of the union, the labor may migrate to some other areas which require

such labor. The prime factor of OCA theory is “labor mobility” which turns to be the lowest in the EU in comparison with any other monetary union. This factor seems to occur primarily due to cultural heterogeneity; EU member states speak various languages, they have different religions, they do have political rivalries between themselves etc. Besides cultural heterogeneity, some other factors as economic imbalances etc. do add various problems to the EU countries.

The present study proposes that addition of “cultural homogeneity” factor in the OCA theory will further strengthen, rather complete the theory. The researcher, thus comes forward considering all the OCA theory factors in the Proposed Optimum Currency Area Model (POCAM), along with an additional factor of cultural homogeneity. This additional factor along with rest of the OCA factors makes the model more robust, updated and complete. The proposed model will play its role in finding out some workable solution to the cultural issue being faced by the European Union since its inception. Figure 1 displayed the POCAM model. Table 2 shows some vital differences among the EU states with reference to their respective cultures.

Table 2. Differences Among EU Countries

Factors	European Countries
Demography	Heterogeneous
Language	Diverse
Religion	Roman Catholic, Protestants, etc.
Governments	Kingdoms, Sovereign Republics and Democracies
Political power	Diffused
Chief Resources	Different resources
Economy	Production oriented

(Source: Compiled by author from various GCC resources)

Keeping in view various socio-politico-cultural factors discussed in the preceding sections, the researcher establishes a conceptual model (Figure 1) to reveal the possible interplay of various factors for implementation of a common currency.

“Labor and factor of production mobility”, the prime criterion in OCA theory is included in POCAM model through “Travel zones for all” and “Free Trade” factors. Financial Market integration, another vital factor of OCA theory has also been included in the model, represented by “Domestic Financial Market Integration” plus “Openness of Domestic Financial Markets” in POCAM model. “The Degree of Economic Openness”, another important factor in OCA theory is also by the addition of factors like Free Trade, Travel Zone for all, common market etc. Product diversification factor in POCAM model is

denoted by “Diversification of Production and Consumption Factor”. “Similarity in inflation rate” of OCA, a main criterion in the Maastricht Treaty titled as product stability is also included in the proposed model. The researcher also put “Product Stability Factor” in the POCAM model. The model also includes “Fiscal Integration”, which proved quite useful when Germany provided financial support to Greece to evade excessive budget deficit. This same criterion was also considered by suggesting a Common Central Bank with some common fund to deal with such situation. “Political Integration”, another key factor in OCA theory always played vital role in the creation of any monetary union has been also included. The ‘Political will’ with direct impact, is too included in the POCAM model.

The missing link of ‘cultural homogeneity’ is the crown of the POCAM model, the absence of which

from the EMU caused serious problems while its implementation. There is another factor included in the POCAM model and which is highly specific to Islamic countries and is not applicable to other banking system, is interest-free banking. As most Muslim countries are practicing interest free banking, the researcher believes that this factor can positively

contribute towards Common Currency in Muslim states i.e. Gulf Cooperative Council (GCC) countries. Other factors have been derived from OCA theory while illustrating EMU structure. In this regard ‘Interest rate convergence’, and ‘Fiscal Prudence’ are also put as integral parts of POCAM model.

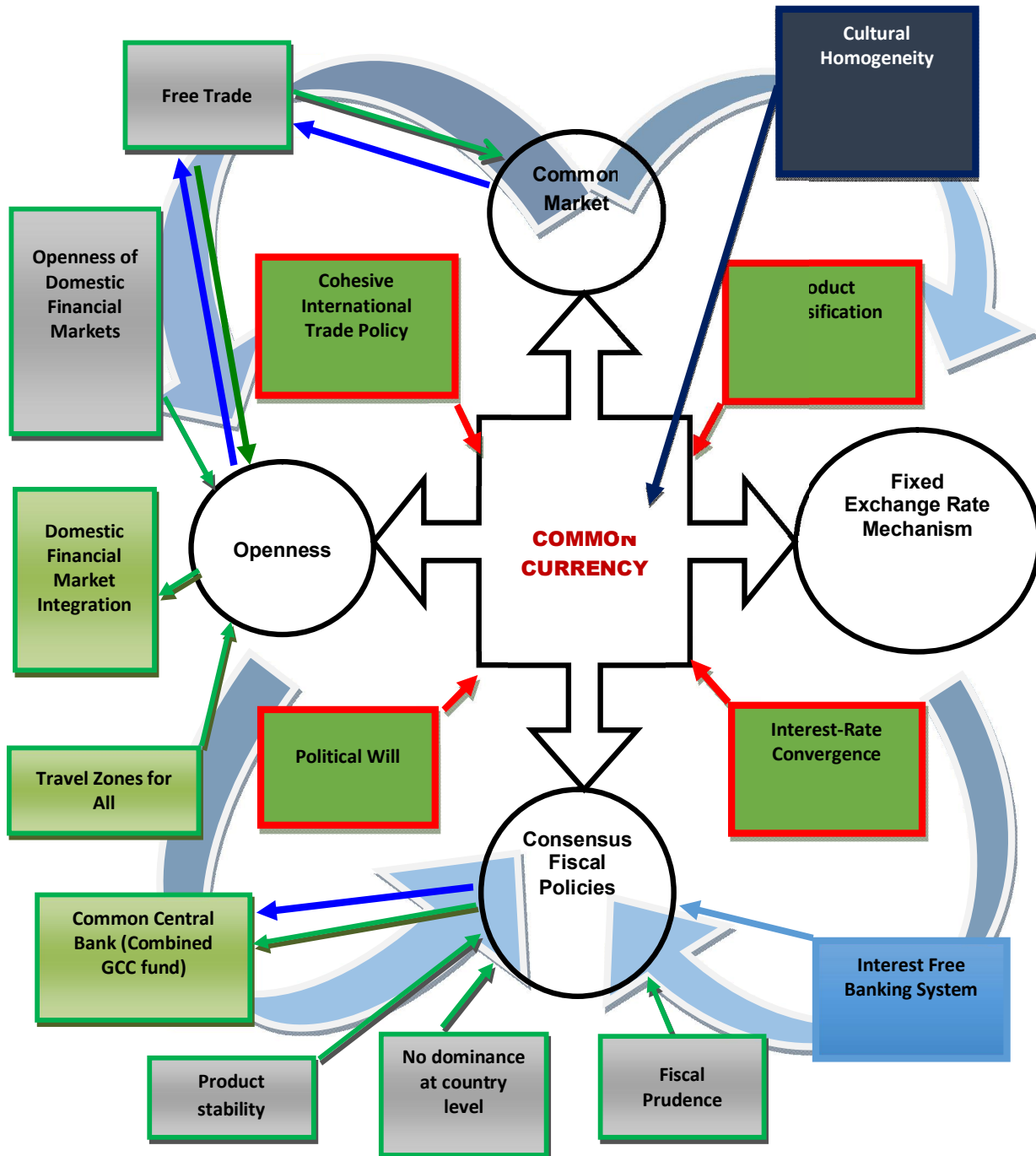
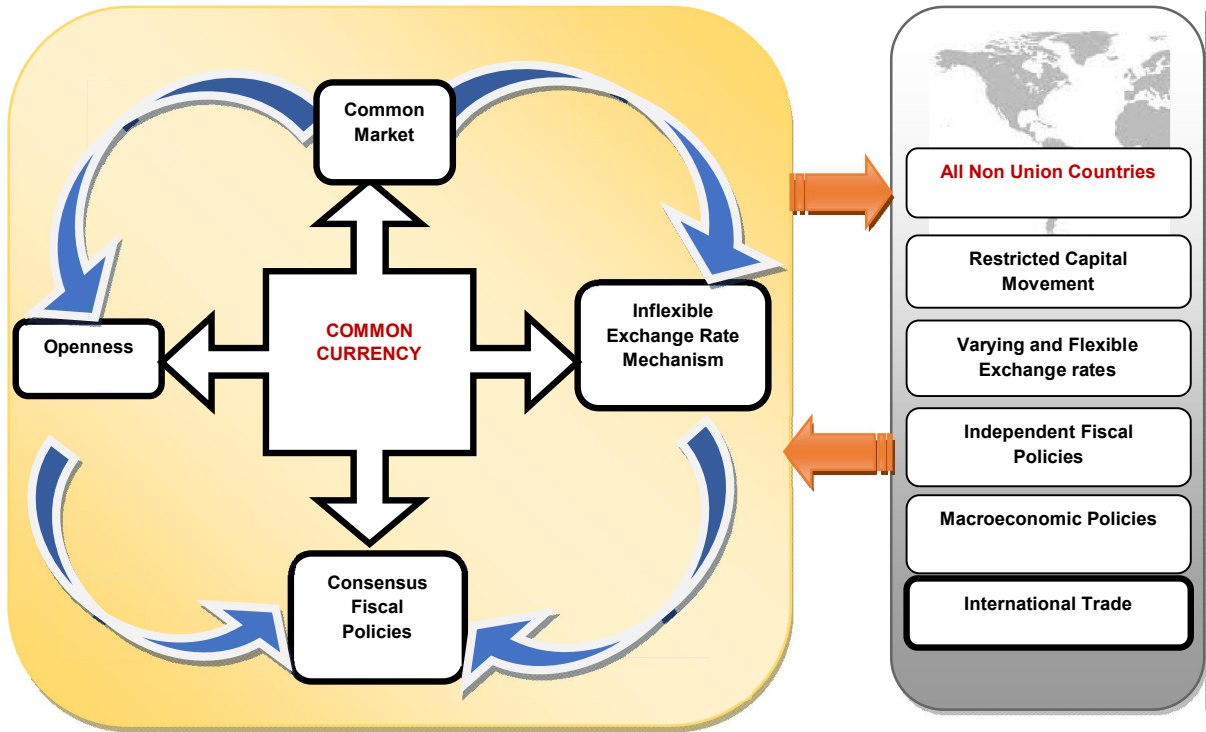


Figure 1: Detailed Proposed Optimum Currency Area Model (POCAM).



5. Conclusion:

Today, to determine the Optimum Currency Area the OCA model stands upright as the most celebrated one. OCA was criticized as well as enhanced by numerous researchers after its development. The successful practical implementation of OCA actually revealed by the formation of EMU. In recognition of his marvelous contribution in economic integration of countries, Robert A. Mundell, the father of OCA theory was awarded Nobel Prize in 1999 in the domain of Economic Sciences. Observing current issues encountered by the EMU and studying the previous literature, the researcher concluded by addition of 'culture' factor will solidifies the original OCA model more vigorous. The researcher also designed and proposed the modified OCA model that incorporates 'culture' as a critical factor, a missing link in OCA model, completing the marvelous mural: the paragon of the modern science of Economics.

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