

## THE THEORY OF AN ‘OPTIMUM CURRENCY AREA’

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### INTRODUCTION

The conception of an optimum currency area was elaborated by Canadian economist R. Mundell in his famous article published under the same title in the *American Economic Review* in September 1961. This theory has been further developed by other economists (R.I. McKinnon, P.B. Kenen and H. Grubel), who refined Mundell’s reasoning. The main goal of this paper is to analyse and distinguish the main components of the optimum currency area. Taking into consideration the experiences from the current crisis in the euro zone, the question arises if the theory of an ‘Optimum Currency Area’ correctly explains the conditions for a functioning monetary union, and if the present euro zone crisis can be explained through it. From the point of view of the EU Member States, it is also interesting to see how this theory, elaborated mainly in 1960–1970, applies to the four freedoms of the European Single Market. In other words, if the economy of a Member State (Poland included) corresponds to the assumptions of the optimum currency area. In every economy, monetary and fiscal policy as the state’s two main economic policies must act in harmony. So the question thus arises of how the fiscal policies in partner states in conditions of a common currency would work. Lack of proper coordination between the centralized monetary policy of the European Central Bank and decentralized fiscal policies in Member States is treated as one of the causes of the current crisis in the euro zone.

### I. THE CURRENCY AREA THEORY OF R. MUNDELL

R. Mundell’s research is the pillar upon which the theory of an optimum currency area rests and helped to introduce the euro. In his groundbreaking article he analyzed the conditions that are necessary to introduce a common currency between different regions or partner countries, and the benefits and costs of a country’s exchange rate policy (flexible and fixed) towards third countries<sup>1</sup>. He described different

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<sup>1</sup> RA Mundell, ‘A Theory of Optimum Currency Areas’ (1961) 4 *American Economic Review*, 657-665.

complex situations involving the factors of mobility or immobility between regions and countries and the consequences of such for monetary policy. In his view, a flexible exchange rate policy is used mainly to overcome a lack of factor mobility. Following the arguments of classical economists like R. Ricardo, Mundell assumed firstly that each nation has internal mobility of factors of production and external factor immobility. If there is high geographic factor mobility across all regions of the same country, then the country's regions compose an optimum currency area. Changes in demand and production among the different regions can then be easily accompanied by migration of workers to take up jobs in new locations. A change in demand between exports of partner countries would also reduce demand in one country for its capital and labor and would increase demand for capital and labor in the partner country. The new demand would result in the necessity to transfer factors of production from one country to the other. It may take the form of capital and foreign direct investment, as well as of migration of workers. Capital and workers can migrate in the same direction to the most profitable location. It should also be remembered that capital can substitute for the migration of labor, so to some extent one flow can intersect the other.

In today's liberal global economy, capital is highly mobile, not only internally but also internationally. Changes in the balance of payments leads to international disparity in interest rates among countries and to an equilibrated flow of capital. However, there are always difficult obstacles in labor mobility as far as international migration is concerned, and these obstacles may significantly hinder emigration and immigration flows. Hence the real problems in Mundell's theory concern the mobility of labor: countries use flexible external exchange rates to make up for the lack of migration of workers rather than capital between their markets. Mundell also examined the effects of insufficient labor mobility, both domestically and internationally. If labor is not internationally mobile, then the best policy for a country involved in international trade is to keep a flexible exchange rate for its currency. When there is not enough domestic labor mobility, then a country does not fulfill the conditions for qualifying as an optimum currency area, and it would better for that country to establish different currencies among its regions. Furthermore, if there is perfect factor mobility across national borders, it might be useful to establish a common currency among them. When workers can move freely between countries, than those countries can form an optimum currency area. Therefore, Mundell argues that the world can be divided into regions that constitute separate currencies fluctuating freely against all other currencies, within each of which there is factor mobility and between which there is factor immobility.

Regions with high mobility of factors of production are not necessarily defined by national boundaries. Optimum currency areas may be composed of several states and there may be optimum currency areas within the states. Mundell's famous example is that of the eastern and western United States. The east region produces cars and the west region produces lumber. Suppose now that there is a shift of demand in favour of lumber and decrease of demand for cars. This shift causes unemployment in the east region because workers are laid off from car factories, and

inflationary pressure in the West due to growing demand for lumber production. To prevent unemployment in the east, the Federal Reserve might expand the money supply and demand; however, doing so will increase the average inflation level across the whole country. The Federal Reserve might also decrease inflation in the west region by decreasing the supply of money; however, doing so will increase unemployment. Thus, in a common currency area unemployment can be prevented at the expense of inflation or inflation can be prevented at the expense of unemployment. If the US were divided into two currency areas, then the negative consequences of a shift in demand may be avoided by a devaluation of currency in the east region and an appreciation of exchange rates in the west region. Depreciation of the west's currency, where the external balance is in deficit, could take the place of unemployment, while appreciation of the east's currency, where the external balance is in surplus, could replace inflationary pressure<sup>2</sup>.

Therefore, given high geographical mobility of capital and technology, Mundell recommended that a division of the world economy into new currency areas should be based on the high mobility of labour. When workers are able to move freely between any pair of countries, these two countries form an optimum currency area and they can set up a common currency. This division of the world economy into optimum currency areas would maximize the possibility of income and employment in all countries<sup>3</sup>. If there is no mobility of factors of production between regions of individual nations, maintaining full employment and price stability throughout the nation may be difficult. In some extreme cases, dividing a national economy into separate monetary areas may be useful. Their currencies should fluctuate against each other in order to effect necessary changes in their terms of trade. Then that nation would not need to rely on rather complicated internal economic policy to fight against unemployment or inflation.

Consider the situation of two countries A and B when consumers shift their preferences from goods produced in country A to goods produced in country B. As noted in Graphs 1 and 2 (Figure 1), this shift is represented by a downward movement of the demand curve from D<sub>0</sub>-D<sub>1</sub> in country A and an upward movement of the demand curve in country B from D<sub>0</sub> to D<sub>2</sub>. As a result of the demand shift the domestic production of country A declined from Y<sub>1</sub> to Y<sub>0</sub>, but the output in country B increased from Y<sub>1</sub> to Y<sub>2</sub>. Employment decreased in country A, but increased in country B. Now country A has a current account deficit, but country B shows a surplus on its current account. Thus, both countries face adjustment problems. These disequilibrium problems in trade balance might be avoided by a devaluation of the exchange rate of country A's currency and a revaluation of the exchange rate of country B's currency. An advantage of flexible exchange rates is that citizens of country A may be more willing to accept changes in their real income due to variations in the exchange rate than changes in real income through drops to their wages or

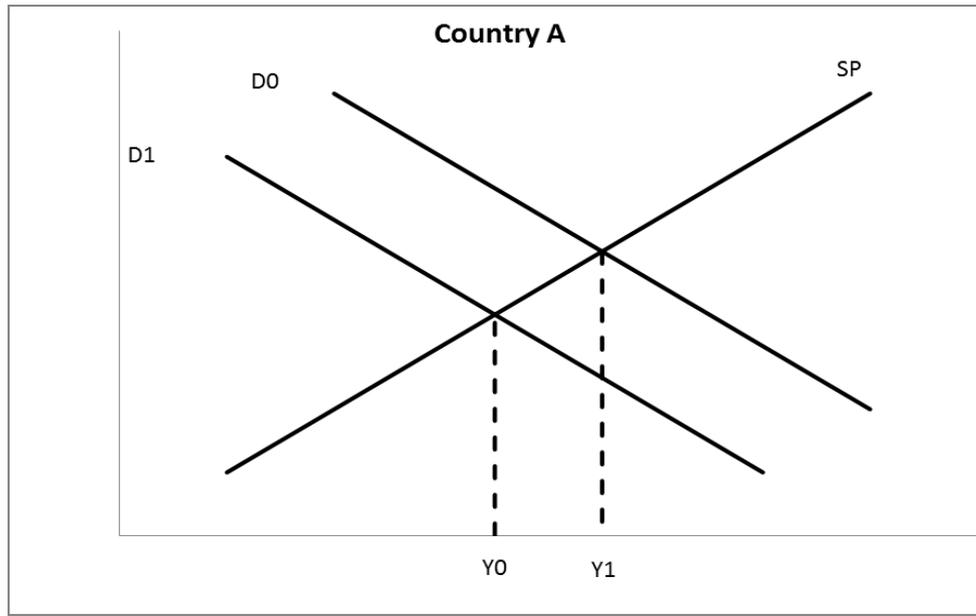
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<sup>2</sup> *ibid* 659-660.

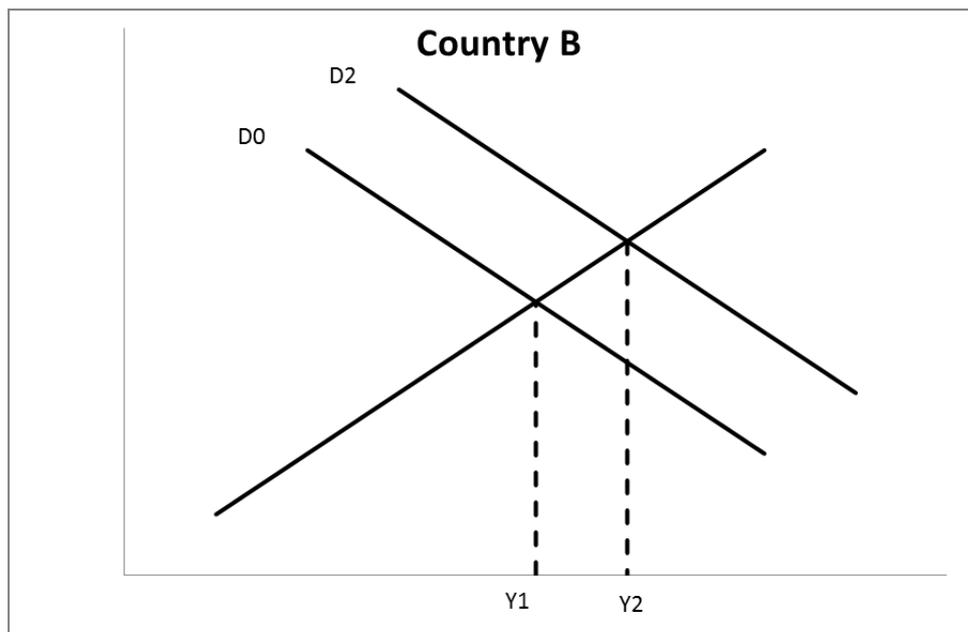
<sup>3</sup> *ibid* 657-665.

increased price levels. However, changes to exchange rates that are especially deep and frequent are also associated with real economic costs that must be borne. So the question arises if this equilibrium could be restored without the country having to resort to mechanisms of devaluation or revaluation.

Graph 1



Graph 2



According to Mundell a new equilibrium in the balance of exchange between countries A and B can also be attained by the mobility of labour. If, after international demand shifts occur between countries A and B, the

labor force emigrated from country A to country B, then unemployment problems would disappear in the country with a trade deficit (country A), and additional demand for labor in the country with a trade surplus (country B) would be met. In addition, the new migration stream of workers may generate new income flows, as the citizens of country A who work in country B would spend their income on goods produced in country A. The current account disequilibrium would also decline if the workers who emigrated from country A were to spend money in country B's market, which would reduce country B's export capabilities and transform external demand into domestic demand. Therefore, perfect mobility of labor would alleviate the situation not only in regard to the labor market of both countries, but also their current account balances. When perfect mobility of labor exists, it may be assumed that the balance of accounts between countries are similar to the balance of income and spending inside a country, thereby making a national currency exchange rate mechanism unnecessary. Mundell asserted that when factors are mobile across national boundaries, flexible exchange rates become not only unnecessary but even harmful. He posits that this is the situation that existed between Canadian and US dollars in the 1960s, when flexible exchange rates failed to function efficiently for Canada as far as stabilization was concerned. Due to the low mobility of labor, especially between Quebec and the English-speaking provinces, the external growth of demand for the products of one province (for example Quebec) would bring about an appreciation of the value of Canadian dollar. This appreciation would cause a drop in competitiveness of the products produced in the English-speaking provinces and growth of unemployment. Every change in demand for the products of one province induced opposite changes in the other provinces. These disturbances cannot be eliminated completely by altered exchange rates of the national currency<sup>4</sup>.

It should be emphasized that international mobility of labor is connected with and may be substituted by flexibility of the labor market. Flexibility of the labor market mainly means mainly wage elasticity and interregional or intersectoral mobility of labor. Wage elasticity seems to be the best instrument, as it may substitute mobility of labor in its function to restore equilibrium in external balances. If the partners of a monetary union show flexibility in their labor markets, they will not experience serious adjustment costs after shifts in international demand. On the contrary, countries in which labor markets are not flexible will face huge structural problems after asymmetric shocks, so they need to keep some degree of exchange rate flexibility. If wages are flexible in countries A and B, then after an asymmetric shock the unemployment in country A would put downward pressure on wage claims in the labor market. The excess of demand for labor in country B would push up the wages of their labor force. The reduction of wages in country A will make its products more competitive and stimulate demand for them in country B. The increase of wages in country B would increase costs and prices on its market and make products produced by its producers less competitive internationally. This

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<sup>4</sup> *ibid* 664.

upward shift in the country A aggregate demand curve and downward shift in the country B aggregate demand curve, connected with growth and decrease of wages, would tend to restore equilibrium in the balance of accounts in both countries. Mundell's hypothesis was crucial in the development of the theory of international integration and monetary union. He concludes that the essential ingredient of the theory of an optimum currency area is a high degree of labor mobility. On the basis of Mundell's theory, one of the leading theorists of international integration, J.E. Meade, contended in 1960 that conditions for the introduction of a common currency did not exist in Europe at that time because of the low mobility of the labor force. He shared the opinion that under conditions of low mobility of factors of production a system of flexible exchange rates would be more effective in promoting balance of payments equilibrium among European countries, and consequently their internal stability<sup>5</sup>. However, it should be kept in mind that mobility of factors of production is a relative rather than an absolute concept. Among the factors of production, capital and technology seem to migrate relatively freely in the global economy. Although the mobility of labor may be limited by different factors connected with social, cultural and language differences, this situation is likely to change. The mobility of factors of production, including labor mobility, change over time together with alterations in political and economic factors<sup>6</sup>. For example, a common market and free migration of the factors of production serve to increase labor mobility between partner countries, and an increase in the degree of mobility of the labour force makes a monetary union more attractive for some or all of its members

A flaw in Mundell's hypothesis is the focus his analysis on labor mobility alone, while omitting the equilibrating function of capital movement. In the view of T. Scitovsky, equilibrium in capital flows among regions is probably the main reason why little is heard about balance of payments difficulties in interregional relations. In a country with an integrated capital market, that market redistributes savings and investment on the basis of the most profitable opportunities to supplement one region's insufficient savings by transferring capital from another region's excess savings. This autonomous capital flow is a true equilibrating factor, which restores and maintains full equilibrium in the interregional balance of payments<sup>7</sup>. B. Balassa adds that despite differences in interregional and intra-union relations, essentially the same solution applies to equilibrating balance of payments problems in both cases<sup>8</sup>. If the balance of payments deficit of a country or region originates from economic expansion, higher yields will be obtained in this region than in the others, so in an integrated capital market differences in yields would induce capital to move there. In intra-union relations the movements of short term securities may appear as the main equilibrating factor in the case of temporary balance of payments imbalances. If imbalances persist between countries and regions for a

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<sup>5</sup> JE Meade, 'The Balance of Payments Problems of a Free Trade Area' (1957) 67 *Economic Journal*, 379-396.

<sup>6</sup> RAS Mundell (n 1) 662.

<sup>7</sup> T Scitovsky, 'The Theory of the Balance of Payments and the Problem of a Common European Currency' (1957) 10 *Kyklos*, 24-30.

<sup>8</sup> B Balassa, *The Theory of Monetary Integration* (Homewood 1951) 252-257.

longer time, movements of long term funds may become necessary. In order to achieve balance of payments equilibrium inside a monetary union, B. Balassa distinguished various measures which need to be applied: first, the free circulation of short term and long term capital movement between partner countries; second, eligibility requirements concerning holding of securities issued by other member states. In connection with this measure, quality standards should be established for different types of securities. Third, the creation of institutional frameworks that make it possible and desirable to hold foreign short term securities by central banks, commercial banks and financial intermediaries. Legal agreements are also required between partner countries in the event of economic crisis and default<sup>9</sup>.

R. Baldwin and Ch. Wyplosz also criticize Mundell's argument about mobility of labor as a criterion of an optimum currency area, but from a different perspective. Their argument comes from the conventional assumption that capital is mobile between countries and that real hurdles in international mobility are connected with the lack of mobility of labour. Baldwin and Wyplosz stress that although financial capital moves freely and quickly across national frontiers, physical capital is not mobile and it takes time to upgrade or build a new factory in a partner country. So even if labor is mobile in a common market, it is not so easy to transfer production from one partner country to another; by the time it is accomplished, the asymmetric shock may well have evaporated<sup>10</sup>.

R. Baldwin and Ch. Wyplosz raise an important question about the frequency of asymmetric shocks. Most of these shocks are related to shifts of demand that are the consequences of changes in consumer tastes (German beer consumers change their preferences to red wine produced in France), to the introduction of new technology by firms or to the introduction of new products to the market that attract new consumers. Shocks connected with rapid technological development occur every day and it is difficult to treat them as some kind of unique disturbance. In Baldwin and Wyplosz's view, asymmetric shocks occur randomly and may today concern only less-developed countries that specialize in a narrow range of goods like coffee or cacao<sup>11</sup>. However, it should be taken into consideration that even today a sudden increase in the price of oil and gas hurts different countries in different ways. For example, in the EU such increases would be negative for most member countries, except for the United Kingdom and the Netherlands, both of which can profit from oil crises. Moreover, when partner countries face symmetric shocks, there may be political disagreements between them regarding what their proper policy should be; one partner may prefer to use a monetary response, but another may be in favour of a fiscal response. Because each country may want to pursue different policies, symmetric shocks would bring about disagreements between them as well as different economic effects

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<sup>9</sup> JC Ingram, 'State and regional Payments Mechanism' (1959) 73 *Quarterly Journal of Economics*, 630.

<sup>10</sup> R Baldwin, Ch Wyplosz, *The Economics of European Integration* (Berkshire 2006) 356.

<sup>11</sup> *ibid* 355-357.

## II. MCKINNON'S REFINEMENT OF THE OPTIMUM CURRENCY AREA THEORY

R.I. McKinnon wanted to know what further additional conditions should be fulfilled in order to treat a region as an optimal area in which to introduce a common currency. He posed questions about the economic characteristics of a region that expanded the definition of openness of the economy as a precondition of qualifying as an optimum currency area<sup>12</sup>. In his view, countries that are the most open are also the most fit to create a common currency between them. The openness of an economy can be judged on the ratio of tradable to non-tradable goods. The ratio of tradable to non-tradable goods is a concept that classifies tradable goods as those that can enter into foreign trade, while non-tradable goods cannot enter into foreign trade due to factors such as high transportation costs. Tradable goods are produced domestically, and they can be exported or substituted by foreign imports. Because it is not possible to determine what proportion of various goods should enter into international trade in order to treat an entire sector as tradable, it seems more accurate to take into analysis the actual volume of exports and imports. Thus, according to McKinnon, knowledge of total import and export volumes will give a good start in determining the degree of openness of a national economy.

Some economists have developed McKinnon's idea further and defined openness as the share of economic activity devoted to international trade. They assert that the best measure of involvement of a national economy in international relations is the ratio of exports and imports to the Gross Domestic Product (GDP). The ratio of exports to GDP measures the proportion of domestic production that is exported, and the ratio of imports to GDP measures the proportion of domestic spending devoted to foreign goods. The average of these two ratios gives an idea about the trade openness (X) of a given country towards all or some of its partners, where Ex means the volume of exports of country A to partner countries and Im means the volume of imports of country A from partner countries, and P means the Gross Domestic Product of country A.

$$X_a = \frac{Ex + Im}{P}$$

In other words, an open economy means high participation of exports and imports in the total production of goods and services. If the yardstick X is higher in country A than in country B, it means that country A has an economy more open to international economic flows than country B. If X grows over a period of time it means that country A is becoming more open. There are economists who see this yardstick as a measure of the degree of integration. To be correct, however, this measure should also be enlarged to include the other elements of international flows, such as capital migration, and especially foreign direct investment, trade in services and migration of labor. In later publications McKinnon defined an optimum

<sup>12</sup> RI McKinnon, 'Optimum Currency Areas' (1963) 4 American Economic Review, 717-725.

currency area as a group of countries not only closely linked by trade, but also by investment flows; they also agree that exchange rate stability is of paramount importance<sup>13</sup>.

The optimum currency area is used by McKinnon to describe a state of affairs in which monetary-fiscal policy and flexible exchange rates can be used effectively to maintain: 1. full employment in the internal market; 2. the balance of international payments; 3. a stable internal average price level<sup>14</sup>. In this context, he also tries to find an answer to the question of whether external exchange rate flexibility is more suitable to maintaining external equilibrium than internal fiscal and monetary policy. In other words, he wonders which kind of public intervention would be better suited to shifting production and expenditures between tradable and non-tradable sectors. According to McKinnon, in an economy that is open to international trade and investment flows, flexible exchange rates lose their effectiveness as a control mechanism for external balance. They may even become damaging to internal price stability, because to avoid instability over a sufficiently large area substantial relative price changes in tradable to non-tradable goods are necessary to maintain external balance. Hence, in a highly open economy with full employment, improvement in trade balances can be better accomplished by domestic absorption. Reduction of public spending would occur mainly by tradable goods and decrease of imports at the cost of small reductions of employment in the non-tradable sector. In a country with an open economy, fiscal policy seems to be more appropriate to reestablish external equilibrium than currency exchange rate changes. The smaller the non-trade sector in an economy is, the smaller the immediate negative impact of reducing expenditure on domestic employment and total production will be. The reduction of public spending would first and foremost limit the level of imports from partner countries. Less international trade would allocate resources into the tradable goods sectors. Moreover, capital movement among small open economies is needed more in an environment of stable currency values to promote efficient economic specialization. Speculative movements of short-term capital is more probable in a floating exchange rate environment than in the case of fixed exchange rates or in a common currency regime. Fixed exchange rates between countries also requires to some extent coordination of their macroeconomic policies. There is little coordination of economic policies among partners unless they are committed to exchange rate targets.

Overall, an open economy may more easily reduce its deficit in foreign exchange via budgetary policy. The impact of public spending through a higher multiplier on foreign imports is more effective in an open economy than in an economy that is relatively closed. We shall assume that  $B$  is the value of the multiplier,  $S$  means propensity to save and  $M$  means propensity to import.  $S$  and  $S_x$  are the same in the more open economy and in the economy relatively closed, denoted by  $X$ <sup>15</sup>.

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<sup>13</sup> RI McKinnon, 'The Fiscal Constrain' in PB Kenen (ed) *Understanding Interdependence, The Macroeconomics of the Open Economy* (New Jersey 1995).

<sup>14</sup> McKinnon (n 12) 717.

<sup>15</sup> P Rollet, F Huart, *Du grand marche a l'Union Economique et Monetaire* (Paris 1995) 100.

$$B = \frac{M}{S + M} \quad \text{and} \quad B_x = \frac{M_x}{S_x + M_x}$$

Suppose now that propensity for consumption is 0.2 for both countries,  $M = 0.6$  for the more open economy and  $M_x = 0.2$  for the more closed economy, and that multiplier  $B = 0.75$  and  $B_x = 0.5$ . If both countries act against a trade deficit of 100, the more open economy has to decrease its public spending by 133, but the more closed economy by far more - 200.

On the other hand, when a country is less open to international trade, the production of non-tradable goods is very large in comparison to imports and exports. According to McKinnon, under these conditions a flexible exchange rate is the most adequate tool for accomplishing the aforementioned goals of economic policy for a given area. Flexible exchange rates would then lead to equilibrium in foreign exchange without much damage to prices in the non-tradable sector of the economy. The monetary implications of flexible exchange rates for changing prices in the tradable and non-tradable sectors under these conditions is less satisfactory. After a devaluation of its currency, a country with a trade deficit will experience at least a temporary rise in the competitiveness of its exports. However, the transmission of this rise of prices on a large non-tradable sector seems to be less than in an open economy. If fiscal policy is applied to reduce domestic demand and to maintain trade balance, unemployment in the less-open economy would be much higher when this country devaluates its domestic currency to the level needed to restore equilibrium between exports and imports. Moreover, if there is rigidity in resource allocation, the trade balance would not improve as fast through the use of fiscal policy as it would through exchange rate changes. If the depressed area is large enough and has a small proportion of tradable goods, a separate monetary system particularly seems to be more preferable as a device for maintaining full employment and external balance<sup>16</sup>.

According to M. Freedman, exchange rates are an undesirable guide for such a huge economy as that of the United States. Because of the tiny percentage of its production consisting of foreign trade, it is not necessary to adopt its domestic monetary policy tools to the conditions of foreign exchange in the rest of the world. By allowing floating dollar exchange rates, the US economy adjusts only 5% or so of its resources that are devoted to international trade to global conditions, while reserving monetary policy to promote the effective use of the remaining 95% of resources engaged mainly in domestic production<sup>17</sup>.

McKinnon also put forth the question whether a separate currency would be helpful to improve the economic situation of a less-developed small area. Suppose that West Virginia is the least developed area in the USA. It has developed no excess demand for its goods from no tradable labor sector of the economy, and there is also an excess of demand for the tradable goods imported from the other partner states, all of which

<sup>16</sup> McKinnon (n 12) 720.

<sup>17</sup> SF Qverturf, *Money and European Union* (New York 1997) 134; M Friedman 'The Role of Monetary Policy' (1968) 58 *The American Economic Review* 15.

generates a deficit in West Virginia's external trade. If West Virginia decided to introduce a separate currency with a view to improving its balance of trade, the eventual devaluation of its currency would be associated with large domestic price level increases. The illusion of issuing money would hardly be accepted by workers, as the price increases would cut real wages on the West Virginia labor market; workers employed there would like to have a level of remuneration comparable to those in the other states. In such a small, less-developed country that does not have money which is held as foreign reserves, capital flight may occur to a country with a stronger currency. If the depressed area is small and the ratio of tradable to non--tradable goods is high, a separate monetary system may be a less-preferable device for maintaining full employment of the labor force and equilibrium in external balance<sup>18</sup>.

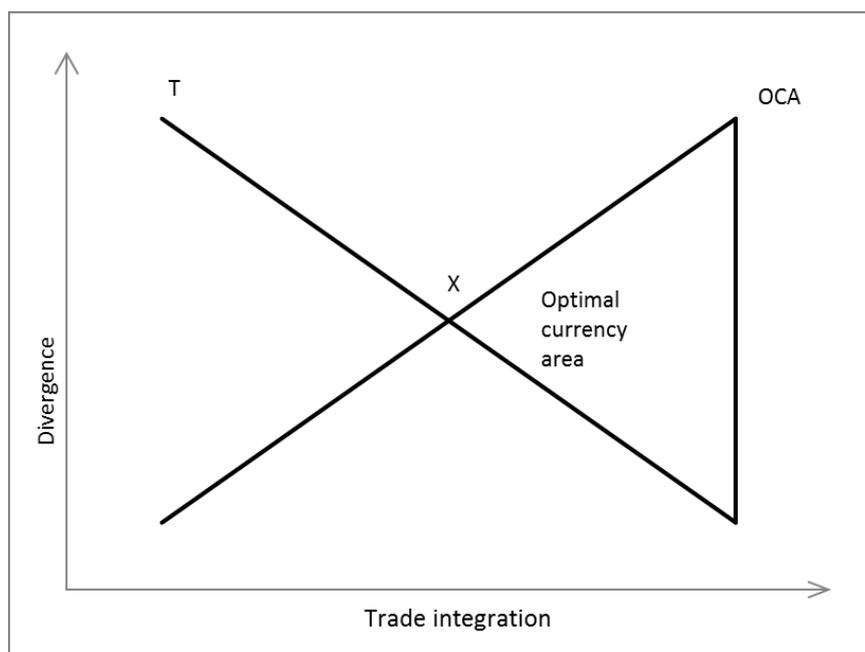
It is worth noting that regional integration helps member countries to develop mutual trade and to increase trade openness. Elimination of trade barriers between partners boosts export demand for new exchanges of goods and services (trade creation effects) and causes substitution in favor of imports from new members over imports from third countries (trade diversion effect). The dynamic growth of trade between partner countries may then enable them to satisfy the conditions of an optimum currency area. The gains from a monetary union are likely to increase with the degree of a given economy's openness. For example, transaction costs would weigh heavier in small, open economies which exchange a large volume of goods and services with partner countries. McKinnon argues that when a country changes its position from a closed to an open economy, exchange rate policy becomes less effective as a means of controlling for external balance equilibrium. A fixed rate of exchange or a common currency would be optimal tools for resource allocation and less damaging to internal price stability.

On Graph 3, the vertical axis measures the degree of divergent movements of output and employment between groups of partner countries, while the horizontal axis measures the degree of their trade integration. As integration processes and trade between the partner countries develop, asymmetric shocks will occur less frequently. Income and employment will tend to diverge less between integrated partners which have developed mutual, intensive trade relations. When trade integration develops beyond point X, the business shock converges to such a degree among the partners that these countries form an optimum currency area (OCA) and can benefit from introducing a common currency.

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<sup>18</sup> McKinnon (n 12) 723.

Graph 3



Source: P de Grauwe, *The Economics of Monetary Integration* (Oxford 1997) 81.

If countries are open to international exchange and trade intensively with one another, the distinction between domestic and foreign goods may lose much of its significance. Strong import competition equalizes the prices of most goods between partner countries and any change to a country's nominal exchange rate must be followed by a change in local currency prices to ensure that prices worldwide are the same. In an environment of flexible prices, where real exchange rates remain unchanged, creating a currency union by giving up nominal exchange rates entails no serious economic problems.

It may be concluded that increasing the openness of a national economy would give it an opportunity for larger gains with its partner countries by establishing a monetary union. The benefits from monetary integration are likely to produce different results depending on the degree of their trade openness towards potential union partners. The more open an economy is, the greater the expected benefits from giving up the national currency will be. The countries most ready to establish monetary union are those with the highest coefficient of participation of export and import in the GDP. A single market serving to intensify trade in goods and services between partner countries would also lead them to set up a monetary union. Taking into consideration the intensive flows of international investment in modern economies and the possible substitution of export of goods by export of investment, it seems that the definition of openness should be enlarged to combine the exchange of goods and capital. International firms often decide to export foreign direct investments abroad instead of exporting goods. Therefore, to define the openness of any economy, not only the volume of international trade with partner countries, but also the

flow of capital between them must be taken into consideration. It is possible that countries less open to international trade can draw more benefits from monetary union due to their 'openness' to international investment flows. On the one hand, a common currency would bring about more benefits for economies joined by intensive trade and capital exchange. On the other hand, a common currency is not recommended for partners with less open economies, where there are weak links between tradable and non-tradable goods and which do not participate intensively in international capital movements.

### III. KENEN'S ECLECTIC VIEW OF THE OPTIMUM CURRENCY AREA

P.B. Kenen analyzed issues associated with the functioning of exchange rates so as to define the criteria for an optimum currency area within which exchange rates should be permanently frozen or replaced by a common currency. He disagrees with Mundell's approach to defining optimum currency areas by the criteria of perfect labor force mobility, because such mobility in reality rarely prevails<sup>19</sup>. To mark the frontiers of a currency area, other criteria must be distinguished besides the mobility of one or two factors of production. In Kenen's opinion, the essential element of an optimum currency area is diversity in a country's products mix. The number of single-product regions contained in a single country may be more relevant than labor mobility. This is so because well-diversified national economies are more able to withstand abrupt changes in international transactions. Diversification in production and exchange serves to average out external shocks and to stabilize domestic capital formation. When national economies are highly diversified, industry-specific shocks need not become country-specific shocks. Economic diversification reflected in export diversification may serve to lessen frequent changes in the terms of trade and rates of exchange. So, diversity in production in partner countries and their regions is – in Kenen's opinion - the crucial feature of optimum currency areas. Kenen gives three main arguments to support his thesis:

1. A well-diversified national economy does not have to undergo changes to its terms of trade as often as a more specialized, single-product national economy. A country that engages in multiple activities is also able to export a wide range of products. If a single given export is subject to disturbances that are independent and do not affect the other products, then the effect on overall export, global exports and unemployment will be relatively mild. In a country where the economy and exports are diversified, a drop in exports in one group of products can be compensated fully by a growth of exports in other groups of products. The law of large numbers will come into play. Such a country's aggregate exports will be more stable than those of a country in which the economy is less

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<sup>19</sup> PB Kenen, 'The Theory of Optimum Currency Areas: An Eclectic View' in R Mundel, A Svoboda (eds), *Monetary Problems of International Economy* (University of Chicago Press 1967) 41-60.

thoroughly diversified. On the other hand, if an economy is highly specialized in one or few products, then a decrease of external demand for one of them may result in dropping aggregate demand and serious structural problems. This could cause a decrease of global production and growth of unemployment.

2. A country's comparative advantages and various economic resources lead to diversification of export structures so that more goods are exported to and imported from partner countries. If a well-diversified economy were to suffer a drop in demand for one of its principal exports, unemployment would not rise as sharply there as it would in a country with a less-diversified economy. Diversification of output does not merely diminish the likelihood of economic shocks, but it also mitigates the damage done by economic shocks in terms of growth of unemployment and drop of total production. A drop in proceeds from the export of one good may be offset by growth in export of another good, while a decrease in the import of one good may be compensated by an increase in import of another. The extra stability that is afforded by a diversified economy derives from the mere fact that the country has more industries and services at its disposition. Taking into consideration all of the circumstances surrounding a wage increase that is more rapid than an increase in import prices, each country must adjust its exchange rate to stabilize interior production and employment. The required devaluation must equal the difference between the rate of growth of wages and that of import prices. In the case when exogenous disturbances affect a small diversified economy, that economy will suffer a smaller decline in employment if its export industry has larger elasticity of demand for labor with respect to real wages. If the diversified products produced in the country have similar factor requirements, then workers who are laid off due to an export reduction may be readily absorbed into other activities. In the case of a large diversified economy, the larger the fraction of the labor force engaged in production competing with imports, the smaller the change in employment caused by a change in the terms of trade.

3. In diversified economies there are weaker links between not only external and domestic demand, but also between the dynamics of exports and level of investment. This is an important problem because a decrease in domestic employment under the influence of external shocks may be greatly aggravated by such additional factors as variations in capital formation. If the exports of a given country are diversified, than an increase in demand for any single product may increase investment in that industry, while a decrease in demand for the export of another product may bring about either equal or less decrease in investment. If export diversity is present, external shocks may be partly absorbed by investment activity on the internal market. Global public and private investment may be sustained at previous levels or may decrease less than export. Much depends on the capital intensities of the nation's export and import industries and on investors' assessments of the duration of export disturbances. In this way, diversity in exports protects an economy from external shocks and helps to stabilize capital formation and the level of investment.

In short, countries whose production patterns are highly diversified and have similar export structures form an optimum currency area. Kenen

concludes that fixed exchange rates are most appropriate for currencies of countries that have well-diversified national economies. Diversification of trade structures between partner countries comes from comparative cost advantages as well as their levels of development. The specialization of a country in the production of many products is not only an output effect of various factors of production, but also of economies of scale, monopolistic competition and development of intra-branch specialization between partner countries. Diversification of production and of the structure of exports and imports serves to average out external shocks. Diversification stabilizes internal capital formation and level of investment. In such diversified economies, high factor mobility with a great deal of employment mobility opportunities may occur. The greater the degree of diversification of mutual exchange or economic similarity is, the smaller the cost of one country's accession to monetary union will be. It is obvious that well-developed economies have a more diversified economic structure than less-developed countries. Less-developed countries - being less diversified, less well-equipped in capital and having a lesser qualified labor force - should follow a policy of flexible exchange rates. This policy can better help to absorb external shocks than a fixed rate of exchange, despite the fact that frequent and large exchange rate misalignments can be costly; not only because of their adverse effects on the allocation of economic resources, but also because they can produce protectionist pressures<sup>20</sup>.

First and foremost, there is the question of how diversified the integrated markets are in terms of sectors of industry and mutual exchange. It is usually assumed that high levels of intraindustry trade between partner countries speaks to their diversified industrial base. Division of labor on the single market includes various kinds of goods from the same industries, their parts and accessories. Comparative advantages present in the same industries bring about a similar structure of mutual trade. When the structure of trade is such that partner countries buy and sell to each other the same categories of goods, than demand shocks will affect these countries in a similar way. Hence, a well developed intra-industry division of labor in international trade means that no single country is more or less exposed to asymmetric shocks than the others<sup>21</sup>. For example, when there is intra- industry export and import in the automobile industry between country A and country B, if consumer demand for cars is reduced, they will buy fewer cars produced in A as well as fewer cars and accessories produced in country B. However, when partner countries have developed interbranch specializations, then a growth in demand for one group of products from country A may be accompanied by a drop in demand for those products produced in country B.

Secondly, according to the preference hypothesis developed by S.B. Linder, as a rule a country exports those products for whose sale it has a sufficiently large domestic market. Product distribution in the domestic market must be large enough to enable firms to start profitable production and to achieve economies of scale. Firms firstly try to introduce new

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<sup>20</sup> R Baldwin, Ch Wyplosz, *The Economics of European Integration* (Berkshire 2006) 356.

<sup>21</sup> HG Grubel, *International Economics* (Homewood 1977) 459, 460.

products domestically before trying to break into foreign markets. Therefore, the most promising markets for exports are foreign markets in partner countries that have income levels and tastes that are generally comparable to those of the exporting countries. Including Linder's hypothesis with the theory of an optimum currency area, it can be said that countries with nearly the same level of per capita income and similar consumer preferences are the best-suited to join a monetary union<sup>22</sup>. They are less exposed to asymmetric external shocks, prepared to exchange the same goods and able to develop intra-industry specializations between different markets.

#### IV. GRUBEL'S MODEL OF AN OPTIMUM CURRENCY AREA

A currency area is defined by H. Grubel as a territory with one or several currencies whose relative values are fixed permanently, but whose external values are determined by free market forces. A country may join a common currency by freezing the rate of exchange of its currency or by issuing a new currency. The central banks controlling the money supply and managing the exchange rates are crucial institutions designed to internalize the externalities coming from economic instabilities<sup>23</sup>. In Grubel's model it is also possible that two territories of one sovereign nation are separated into different currency areas, and each can be given an independent monetary authority<sup>24</sup>. Any agreement about common currency areas established between different countries must ensure that intra-national payment imbalances are corrected in the long run, either through automatic or discretionary income and price adjustment. An automatic mechanism of balance regulation may be mitigated through such institutions as a supra-national lending and borrowing agency. In the case of disintegration of one country into different currencies it is also possible that the new currency areas will continue to share a common fiscal authority and law-making government.

Grubel's original purpose was to consider an optimum currency area from the point of view of welfare economics. He described the optimum currency area as a monetary union between countries or regions that improves the welfare of the populations above the level they enjoyed when each of them had their own separate currency. This idea means that national welfare is not necessarily best served by monetary sovereignty. If country A and country B establish a monetary union (either by the creation of one monetary authority or by linking their currencies permanently) and their citizens' economic welfare improves; they can be said to have formed an 'optimum currency area'. In other words, country A and country B compose an optimum currency area if the net welfare gain from the common currency for the population of both countries is greater than zero, taking into consideration both its negative and positive effects. However, to

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<sup>22</sup> SB Linder, *An Essay on Trade and Transformation* (New York 1961).

<sup>23</sup> Grubel (n 21) 459, 460.

<sup>24</sup> HG Grubel, 'The Theory of optimum currency areas' (1970) 3 *Revue canadienne d'Economie* 318-324.

fully assess the influences of monetary union on the net welfare of the world economy, the effects of monetary union between countries A and B on the economic welfare of country C must be taken into account. These net effects on the world economy may be positive as well as negative.

Grubel posits that the welfare of the populations of countries forming a new currency area is a function of three elements: real income, the stability of real income and independence in choice of target unemployment levels and rates of economic growth<sup>25</sup>. Firstly, a monetary union between countries eliminates instabilities and uncertainties associated with the functioning of national currencies. Reduced instability through the introduction of common money serves to generate more efficient trans-frontier capital allocation throughout the new currency area. Producers acting in a monetary union treat the market of all members as their single market territory, and they can make more effective use of marketing methods in selling their products. A common currency area permits the companies of the member countries to exploit internal scale economies and to purchase factors of production on the foreign market. Increased trade transaction volume adds to deeper specialization and growth of production as well as greater income in partner countries. A currency area enlargement tends also to increase price level stability, because disturbances in external partner countries are likely to be offset internally. It can also result in smaller exchange rate fluctuations with the currencies of third countries. Furthermore, price stability increases the usefulness of money as a medium of exchange, unit of account and store of value. Positive externalities associated with increased use of money raises the welfare of the population of partner countries above the level they enjoyed before forming their monetary union. Secondly, external trade imbalances exert pressure on government policymakers in each country to act with a view to change the levels of domestic wages, income, prices and taxes. It is relatively simpler to enact such policies if tradable goods represent a smaller share (for example 20%) in workers' consumption basket than one twice as large. When trade deficits force a country to devalue its currency by 10%, then the price index based on the standard worker's consumption basket must increase in domestic currency by terms 2% in the first case, but by 4% in the second case. This money illusion is more acceptable in conditions of lower inflation, because workers might not immediately realize the implication of the devaluation and ask for an increase in money wages. Therefore, according to Grubel a larger currency area seems to be able to achieve payments equilibrium more easily and with few negative welfare effects for partner countries resulting from downward floating. Thirdly, the partner countries cannot pursue policies of different inflation rates beyond a level acceptable for the entire monetary union. This imposes upon each country an obligation to adequately manage the policy mix composed of fiscal policy and common monetary policy. However, changing fiscal policy also has economic costs: higher taxes, public sector deficit and increases in interest rates, all of which discourages investment and economic growth. If the national policy mix of

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<sup>25</sup> Grubel (n 21) 446-454.

monetary and fiscal policy was optimal for the welfare of a national economy, any move from this mix due to the introduction of a common currency may cause a reduction in welfare.

A common currency may also affect the economic growth of the partner countries owing to more efficient allocation of their economic resources. If flexible exchange rates could negatively affect the structure of the economies by putting foreign trade at risk and diverting resources into non-tradable production, a common currency leads to higher economic growth of partner countries through their specialization in exports to areas of comparative advantages and by increasing their imports from low-cost sources<sup>26</sup>. More trade and specialization, additional investment flows, more intensive competition and trans-frontier concentration of enterprises may all increase the national products of partner countries integrated in a monetary union.

The benefits that flow to a country from flexible exchange rates are that the country can choose the most desirable dimensions of unemployment and inflation as well as levels of interest rates and growth on the internal market. It can manage a growth-oriented policy without being concerned about its balance of payments. However, when a country forms a monetary union with other countries, its inflation level, interest rates and capital formation may not be consistent with the policy applied by trading partners. The common currency may require that one or more partner countries accept lower levels of public spending or higher taxation. These actions can lead to less growth of production, higher unemployment and to reduction in welfare in comparison to a scenario in which the monetary union was not established. Thus, the breaking up of countries into separate currency areas seems to be desirable from the perspective of growth of production and higher employment. The question arises, though, of what the welfare gains would be for such a large economy as, for example, the USA, and how interstate trade would look if there were different currencies issued by individual states. In Grubel's opinion, it would not be desirable to set up a separate currency for West Virginia aside that of the USA with a view to combating the problem of unemployed coal miners using a floating exchange rate. Gains in employment coming from devaluation and the increase of export competitiveness would be probably negligible in comparison with huge welfare losses for West Virginians resulting from the reduction of competition and of scale economies, capital outflows and price instability. With the dominant coal mining industry in West Virginia in the 1960s, under which nearly all of its industrial goods were tradable for goods from other states, depreciation of its exchange rates would have brought about the same level of interior inflation. However, high inflation rates would hardly have been acceptable for the local labor force<sup>27</sup>.

The externalities arising from financial instability and foreign trade support the establishment of a currency union among different countries. Every economic integration group should find an answer to the question of whether the benefits from introducing a common currency outweigh the

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<sup>26</sup> Overturf (n 17) 141.

<sup>27</sup> Grubel (n 21) 459, 460.

costs of a monetary union and will have a positive influence on the economic welfare of partner states. Grubel distinguished different sources of welfare resulting from monetary union: setting up a common and more sensitive price system that encourages the use of money as a medium of exchange, elimination of uncertainty about prices in partner countries, reduction of the cost of valuation and portfolio management, elimination of foreign exchange rate uncertainty in order to encourage the export of capital to optimal locations, decreasing the ration of tradable to non-tradable goods in all areas of the single market and reduction of the magnitude of the price impact of external disturbances, increased international exchange and specialization, higher income of member states, more efficient allocation of economic resources and growth of production and employment. These benefits are compared with the costs of increased economic regional instability coming from the constrained use of a common monetary policy shaped for an entire monetary union<sup>28</sup>. Fiscal policy as managed by national governments may not be a perfect substitute for a monetary policy designed to resolve regional problems. The most important shortcomings of Grubel's welfare economics analysis is its view on common currency from the point of view of the Phillips curve. The welfare losses caused by monetary union might come from reduced policy freedom on the part of a partner in choosing the optimum balance of inflation-unemployment. As monetary theory has indicated, the Philips curve can act only in the short run, when money illusion can decrease the temporary real income of workers and increase the level of employment, but after that the economy will return to its natural level of unemployment.

#### **V. A CURRENCY AREA'S FISCAL AND MONETARY POLICY**

The traditional theory of optimum currency area also deals with the problem of fiscal policy as conducted within the framework of monetary union. As governments can use monetary policy to influence the level of aggregate demand, fiscal policy changes the level of government spending or taxation. On the one hand, an increase in the money supply may cause higher inflation, a depreciation of the currency, an expansion of output or an increase of employment, while on the other hand fiscal expansion can also raise output and employment, but pushes up interest rates and the value of the currency. These two most important government economic policies should act in harmony to keep a country in external and internal equilibrium and to efficiently counteract economic disturbances. It is interesting to analyze how fiscal policies that differ between partner countries work within the framework of monetary union where monetary policy is managed by a Common Central Bank. The relinquishment of national monetary policy in a monetary union puts more weight on fiscal policies in partner countries in respect of stabilizing their economies.

There are two different models of fiscal policy used in monetary union, and their reactions to asymmetric demand shocks can differ. In the

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<sup>28</sup> *ibid* 319-322.

first model, fiscal policy is centralized among the partners with a common budget that collects essential parts of their tax revenues. The income taxes are levied by some kind of common integrated government. Funds for the joint budget may come from indirect taxes, direct national taxes or even new common taxation. A social welfare benefit system may also be organized at the supranational integration level. If an asymmetric crisis arises in some countries of the economic block, the centralized budget works as a shock absorber. Suppose that in partner country A unemployment increases because output declines, and in partner country B unemployment declines because output increases. The income taxes collected by the common budget decline in country A, and the unemployment benefits paid to its unemployed workers increase. The opposite occurs in country B, where tax collection increases more than public spending. In this way the common central budget in integration groupings redistributes income between countries A and B to alleviate the social consequences of asymmetric shocks. One may take as an example the state of Michigan in the USA, which underwent an economic crisis. Federal budget funds helped this state to get out of the crisis by a reduction in federal tax revenue and transfer of unemployment benefits for laid-off workers<sup>29</sup>. According to calculations made by Sachs and Sala-i-Martin, for every decline in every state income of 1 dollar the US Federal budget is able to transfer back 40 cents<sup>30</sup>.

The theory of an optimum currency area supports the centralization of a significant part of national budgets at the supranational level. A common budget of member states in integration groupings may enable regions that are hit by asymmetric shocks to mitigate negative consequences by allowing for the automatic transfer of financial resources. Failure to establish significant centralization of budgetary power may be connected with great social strains in some parts of the monetary union. It is worth adding that a well-known report delivered by Macdougall for the European Commission predicted a gradual increase in resources transferred from the Member States to the common budget: from 2-2.5% of GDP in the pre-federation stage to 5-7% in the period of 'federation naissante', and up to 20-25% in the structure of federation 'bien etablie'. The report also suggested that a Community budget equivalent to at least 7% of the GDP would be necessary to tackle 40% of existing inequalities among European regions. The report proposed six types of actions as methods for absorption of asymmetric shocks: 1. reinforcement of regional policy and aids for development; 2. strengthening the Community's actions on the employment market; 3. creation of a common unemployment fund; 4. proportional distribution of taxation; 5. adoption of a transfer business cycle system; 6. creation of a fund for business cycle convergence<sup>31</sup>.

In the second model of monetary union there is neither a supranational government nor a common budget set up by the partner

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<sup>29</sup> P de Grauwe, *The Economics of Monetary Integration* (Oxford University Press 1997) 80.

<sup>30</sup> J Sachs, X Sala-i-Martin, *Federal Fiscal policy and Optimum Currency Areas* (Harvard University Working Paper, Cambridge 1989) 80.

<sup>31</sup> *Rapport MacDougall, Rapport du groupe de réflexion sur le rôle des finances publiques dans l'intégration européenne*, Bruxelles 1977.

countries. When asymmetric shocks arise in this model, each member country should deal with the crisis separately. Negative demand shocks in country A would bring about a decrease in tax receipts and increase payments of unemployment benefits. The government of country A will thus increase its budget deficit and public debt. Growth in demand in country B would bring about growth of employment and budgetary surpluses. National fiscal policies in partner countries are used in flexible means for budgetary spending to get through a crisis using automatic stabilizers. If capital markets work efficiently in all integration groupings, the bonds issued by government A to finance its budget deficit can be easily sold in country B, which accumulates increasing savings. Unfortunately, such policies may at times conflict with domestic policies of full employment or stable prices, in particular if a country has both a large payments deficit and high unemployment. Moreover, there is also much criticism against unlimited flexibility and autonomy of national fiscal policy in the framework of monetary union.

Monetary policy in a common currency area must take into consideration the level of inflation and economic activity in the entire area, but not in particular countries and regions. This overview of the economic situation in the entire area may limit country-specific effects of monetary policy. Moreover, the influences of active monetary policy used to have a duration of one to two years from their inception to changes in economic activity. If an economic crisis in a common monetary area touches specific sectors, as, for example, Nokia in Finland or the tourism sector in Spain, it is thought that fiscal policy can absorb demand shock more effectively than monetary policy. The stabilization function of the budget relies on putting automatic stabilizers into motion: expenditures or revenue items that automatically respond to changes in national income, e.g., unemployment benefits and income taxes. Government fiscal policy that is managed effectively in a monetary area may be even more effective than in the framework of national states, because it does not significantly influence the interest rate set by the common central bank in the interest of all participants<sup>32</sup>. However, expansive fiscal policy in one or a few member countries of a single market might create negative externalities for partner countries. Partner countries might not undergo an economic downturn, and so additional demand for their exports would stimulate higher inflation. Therefore, an important issue in a common monetary area is the proper coordination of fiscal policy among the governments of the member countries. Different methods of cooperation are possible in a monetary union, ranging from exchanges of viewpoints and recommendations, introduction of common automatic rules and elaboration of common guidance for economic policy, to establishment of a federal government and a common budget with its own source of income. One of the conditions for entering into monetary union may be reduction of excessive budget deficits and public debt in the partner countries. To accomplish this stabilization function the national budgets of partner countries should run financial surpluses or be in a position close to equilibrium. With a healthy,

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<sup>32</sup> Agnes Benassy-Quere, Benoit Coeure, *Economie de l'euro* (Paris 2002) 71.

balanced national budget to finance discretionary spending, a country can fight effectively against asymmetric shocks by offsetting the leaks created by reductions in consumer demand. If no common fiscal policy is possible in a monetary union, it may mean that the partner countries are not interested in avoiding huge budget deficits and public debt. Political cycles may bring excessive budget expenses in the periods surrounding elections. The lack of discipline in fiscal policy in one country can generate negative feedback effects throughout the union.

Fiscal problems in a monetary union do not only consist of the 'convergence problem' of public debt and budget deficit at a common level acceptable among the partners. If national budgets' outlays exceed revenues, the governments must finance their deficits by borrowing money and selling bonds. By borrowing rather than taxing, governments have a better chance of expanding spending. A budget deficit covered by government debt must, of course, be repaid in the future. However, the main problem with budget deficits is sustainability: governments are rather unwilling to reduce public spending or increase taxation. Because the debt overhangs are at the national level there is also the problem of servicing the debt, for some partners may judge it to be excessive. If the interest rates on government debt exceeds the growth rate of that partner's GDP, then its debt-to-GDP ratio GDP may increase without limits<sup>33</sup>. Government spending generated in this way can crowd out private investment, thereby putting the burden of repaying debts on future generations. To stop debt accumulation, a partner country in a monetary union must turn to reduction of its budgetary deficit, no matter if its economy is experiencing a boom or is in crisis. Being forced to reduce a budgetary deficit may limit a country's stabilization functions for getting out of an economic crisis. Hence, in conditions of excessive public debt, at the national level a government might experience some inconvenience deriving from the control of its national bank by a supranational authority. Because of the loss of sovereign control over monetary policy, the partner country cannot reduce the value of its debt by increasing the rate of inflation. McKinnon observed that public sector debt, once accumulated, can be safely managed only if a government retains control of its central bank. A government can always avoid defaulting on the value of its obligation by seignior policy: using the supply of money and an inflation tax to pay interest and principal. However, monetary union would disallow a national government from using an inflation tax and devaluation to solve its debt problems.

The theory of optimum currency area stresses the desirability of establishing a common budget that accumulates significant financial resources from partner countries to accommodate asymmetric shocks. The financial transfers between partners and their regions should be sufficiently high and used temporarily to build up automatic stabilizers of counter-cyclical nature. Moreover, for a monetary union to run smoothly the national debts of partner countries are transferred to a common government, whose quarantine ensures that the fiscal regime will act in harmony with the monetary regime. If a significant centralization of national budgets is not possible in the framework of a monetary union,

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<sup>33</sup> Grauwe (n 29) 194.

national budgets assume the function of asymmetric shock absorbers. To accomplish this task, they must accumulate sufficient resources to allow for discretionary spending as needed. In this case, integration theorists indicate that monetary integration requires some coordination in the fiscal policies of member states. When budgetary intervention brings about serious budget deficits in a partner country and growth of its public debt, the danger arises of outright default by the partner country and the stoppage of interest payments on outstanding debt. The risk premiums for countries that face fiscal breakdown may exceed those in the other partner countries and those for high-grade private debt<sup>34</sup>. Thus the partner countries with increased tax revenues and accumulated surpluses in their national budgets may be forced to provide financial aid to the partner countries running deficits in public finances and experiencing rising public debt.

Therefore, if it is not possible to accumulate the taxes and other revenues of member states in a common budget, national fiscal policies remain a primary element of the economic policy of such a union. As such, they must also act effectively, flexibly and harmoniously with the monetary policy applied independently by the Common Central Bank. If an asymmetric shock arises, the efficiency of the member countries' reaction when hit by a drop in production and an increase of unemployment depends on their ability to adequately and quickly increase the budget deficit and implement tax cuts, with a view to activating their automatic stabilizers. However, it should be emphasized that a shift in fiscal policy of member countries is often accomplished only after lengthy legislative deliberation and procedures. One of the obstacles to discretionary budget intervention may also be an excessive budget deficit and public debt, unable to act as automatic stabilizers. Traditional low-cost financing of national debt may not hold in the case when a national government loses control over its central bank. A country experiencing a fiscal breakdown would have great leverage on partner countries, and strong financial integration in a monetary union speaks for bailing out defaulting governments through the financial institutions of partner countries. In order to prevent bank failures and financial dislocation arising from one government's insolvency, the partner countries with better fiscal positions might be forced to bail it out, whether by asking the Central Bank to fund it or by asking for financial assistance. The theory of an optimum currency area does not explain how to deal with the risk of default of indebted partner countries, nor what the cost would be of dissolving a monetary union. It seems that the key lies in effective fiscal coordination in a monetary union to prevent excessive budget deficits and public debt in partner countries. Full-fledged monetary union should also be equipped with a common stability fund for those occasions when it is necessary to help a partner country financially, when it needs credit or is having trouble selling bonds to finance its deficit.

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<sup>34</sup> PB Kenen, *Understanding Interdependence. The Macroeconomics of the Open Economy* (1995) 93-95.

## VI. A CURRENCY AREA'S EMPLOYMENT AND MONETARY POLICY

The European Single Market can reach its full potential if business investment decisions are taken with full assurance that capital flows will not be disrupted by any hindrances, including exchange controls and exchange rate revisions. The interest rate in the common capital market should be determined at the point where the accumulated stock of loanable funds is allocated between the accumulated stock of securities and the supply of money. Under these conditions, an increase in the stock of loanable funds tends to depress interest rates, and an increase in the stock of securities tends to raise them. The cumulative rise of security yields in one region showing excess investment and import surplus should be matched by a gradual and cumulative fall in security yields in other regions showing excess savings and an export surplus. These changes in yields tend to restore the balance of payments equilibrium between regions by capital mobility acting as a true equilibrium factor.

The international flow of capital prompted by international differences in yields also acts as a factor tending to maintain the balance of payments equilibrium among countries. Changes in countries' trade balances lead to international disparities in interest rates and thus to an equilibrating flow of capital. Therefore, in T. Scitovsky's view a common capital market and common employment policy are prime requisites of a common currency between partner countries. Both policies are desirable: an integrated capital market would optimally allocate economic resources and facilitate the exploitation of economies of scale. However, an integrated employment policy is in Scitovsky's view the more important of the two. There are four arguments in favor of establishing a common employment policy in a monetary union: firstly, the cost of having uncoordinated national employment policies among the countries rises when national multipliers are smaller and foreign leakages are greater; secondly, employment policy is an indispensable factor in equilibrating the balance of intra-group payments; thirdly, investments in public utilities must be coordinated on a common market basis to ensure that private profitability coincides with social utility; fourthly, some public investments may be too costly to be financed by the country where they are best located. Therefore, in Scitovsky's opinion it is necessary to set up a supranational authority that be responsible for stabilizing employment in member countries, deciding when and to what extent to relieve local unemployment problems and coordinating major public investment on an all-group basis. To finance such a program the authority must have the power to spend, borrow and to tax, and to issue securities acceptable by all partners' financial institutions<sup>35</sup>.

B. Balassa adds that free trade and freeing the movements of factors would reduce wage disparities between partner countries according to the Heckscher-Ohlin theory, although psychological and sociological obstacles to migration and incomplete information on employment possibilities would continue to generate wage inequalities. In a common market there is no need for full wage equalization, complete harmonization of working

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<sup>35</sup> Scitovsky (n 7) 24-30.

hours or overtime payment, all of which are more likely to distort rather than correct competitive cost relationships, thereby leading to balance of payments difficulties among members. There is also no need for harmonization of social charges, because companies' wages and social charges are two of the elements of labor costs and should not be considered separately. The wages in partner country enterprises are determined mainly by levels of productivity, and so long as differential rates of productivity persist, wage levels and their increases will not display uniformity across the common market<sup>36</sup>.

In order to set up a monetary union there must be automatic forces and external reserves to ensure long-run equilibrium in the balance of intra-union payments. In the opinion of T. Scitovsky, the free movement of capital and a common employment policy are important equilibrating forces: reserves must be large enough to ensure long-run equilibrium, and employment policy must redistribute income among partner countries with a view to effectively fighting unemployment. This may imply coordination of employment policy in member countries and a transfer of some national resources to a common budget for financing intervention in the labor market. A good example of such intervention is the activity of the European Social Fund (ESF), the oldest EU structural fund, established in 1960, which has become the main instrument for carrying out European social policy. Its task is to contribute to the priorities of the EU as regards strengthening economic and social cohesion by improving employment and job opportunities, encouraging a high level of employment and more and better jobs. Within the framework of the Convergence and Regional Competitiveness task the ESF supports many diverse actions aimed at increasing employment and the adaptability of workers, supports jobseekers, outplacement and mobility initiatives, self-employment, social inclusion of disadvantaged people and participation by women and migrants in the job market, enhances human capital development, research, innovation and much more. However, resources devoted to common social funds must be adequate to these goals with a view to accomplishing a full-fledged employment policy in the single market.

## VII. OPTIMAL SIZE OF AN OPTIMUM CURRENCY AREA

An important issue associated with monetary integration is determining what the size of a single market should be in order to function as an optimum currency area and why a large currency area is desirable. The world economy might of course benefit from having only one universal currency that would be accepted everywhere. That was the case under the gold standard and the currencies that all were made from gold. If it is not possible to cover the entire global economy with one currency, the question arises of whether the world economy could function effectively if it were divided into independent currency areas. If floating exchange rates provide governments the freedom to pursue stabilization policies, then why

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<sup>36</sup> Balassa (n 8) 252-257.

would it not be optimal to assign every small region into a currency area where governments manage their own policy mix. A currency that is used in very small single market areas is just not very useful or functional as a means of exchange. R. Baldwin and Ch. Wyplosz are in favor of joining small currency areas into common currency areas, since the usefulness of a currency grows with the size of the currency area<sup>37</sup>. Note in Graph 4 that marginal benefits are the highest from the enlargement of a small currency area into a bigger one, but they are still positive in a large area. On the other hand, as a currency area grows larger, it becomes more diverse in terms of GDP and standard of living levels, the structure of the economy, levels of unemployment, inflation, etc. More diversity means more costs in connection with the functioning of the common currency. Because marginal costs rise with the size of the single market, the world economy is not necessarily an optimum currency area that corresponds to a situation in which marginal costs intersect the benefits curve. Baldwin and Wyplosz assert that the world could rather be divided into several regional currency areas which show a balance between marginal costs and benefits, like the USA, the euro zone and China. Mundell states that an optimum currency area is a single market region in which there is high mobility of factors of production, but there is no mobility outside the region. In other words, the size of an optimum currency area is defined by the mobility of factors of production, especially the migration of workers. He also adds three additional factors that influence the size of a currency area: 1. from the point of view of the function of money as a means of exchange the optimal area is the world economy as a whole (with one currency there are no transaction costs); 2. the currency area must be large enough to avoid potential problems due to speculation by one economic player; 3. the optimum currency area must be large enough to limit monetary illusion in state policy and the reactions of trade unions against increased inflation and exchange rates which lower the real incomes of the citizens of member states<sup>38</sup>.

D.A. Snider argues that an optimal currency area should create conditions so that adjustment processes act perfectly, thereby leading to full employment and to internal and external equilibrium. The optimal adjustment processes in any economy cannot work smoothly without full coordination of monetary and fiscal policy. Therefore, in Snider's view the frontier of an optimal currency area is limited by the possibility of conducting effective fiscal and monetary policy between different regions and partner countries. This means that an essential condition for monetary integration is the creation of one common economic institution for all regions that will make it possible to manage coherent monetary and fiscal policies. This coordination can help to avoid problems with the application of contradictory measures and the negative effects that result from the carrying out of different policies<sup>39</sup>.

H.R. Heller claims that with regard to external balance disequilibrium each country should decide on a system of exchange rates

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<sup>37</sup> Baldwin, Wyplosz (n 10) 351-352

<sup>38</sup> Mundell (n 1) 630

<sup>39</sup> DA Snider, *Optimum Adjustment Processes and Currency Areas* (Princeton 1967) 13-17.

for its currency by taking into consideration either the marginal costs of adjustment processes by using the instruments of monetary and fiscal policy or the marginal costs of exchange rate fluctuations. Marginal costs of changes in both policies are connected with the size of the monetary area. However, as can be discerned from Graph 3, the marginal costs of adjustment processes connected with changes of income rise faster than the marginal costs of changing the currency's rate of exchange. This is due to the fact that the larger area has a lower propensity to import than the smaller area (lower participation of tradable goods), and such a region also shows higher elasticity of export for price changes (higher diversification of production). Heller points out that there is an optimal point for forming an optimum currency area - point X, where the two curves A and B intersect. If in the small region the marginal costs of adjustment processes connected with changes of incomes are lower than the marginal costs of changes of a currency's rates of exchange, the country should decide to join the monetary union with the other countries. Monetary union is not recommended for the countries in which economic potential crosses the point x of the optimal size of the monetary union, where the marginal costs of changing the exchange rate are lower than the marginal costs of adjustment processes in its fiscal and monetary policy<sup>40</sup>.

For small countries with open economies it seems profitable to join a monetary union with partner countries. To be efficient, a monetary union should not be so small that it covers only a limited number of economic transactions. It should enlarge to new countries and regions to the point where marginal costs intersect with marginal benefits. If it is not possible to divide the world economy into several groups of currency areas, then the monetary system cannot act smoothly when it consists of small currency areas without any one performing the function of a leading currency as under the gold standard.

## CONCLUSIONS

Overall, the theory of an optimal currency area indicates some essential elements as preconditions for the successful introduction of a common currency: high mobility of labour, openness of the economy defined as a high proportion of tradable to non-tradable goods and high diversification of a country's production before joining the union. These factors are not exclusive, but may be treated jointly as complementary elements. The monetary union seems to be more promising if it unites more open countries displaying high participation of mutual trade in their GDP with broadly-diversified economies, coupled with high labor force mobility between them. Some factors may substitute for one another: market elasticity may substitute for labor force migration, and diversification of production may substitute for high mobility of labor. If decreased exports reduce income in the partner countries, capital imports into the region cannot be expected to remedy the situation, so labor migration and import reduction may act as substitutes for capital movements and as equilibrating

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<sup>40</sup> HR Heller, *International Monetary Economics* (New Jersey 1974) 203.

factors. The single market area should be large enough to bring about benefits from the common currency as a means of transaction, measure of value and storage of wealth. The benefits from a common currency are similar to the gains from the freezing exchange rates. Before the establishment of a common currency, each country should compare the benefits and costs of such an initiative. The essential problems of maintaining an optimum currency area lie in safeguarding the equilibrium of balance of payments inside the union under the conditions of common currency. The drawback of the theory of an optimum currency area seems to be the total omission of the role of productivity, which can compensate for inflation pressures in different regions and countries. Structural reforms and growth in productivity may act to increase competitiveness and exports in countries running deficits, in order to improve their balance of payments position. The main problem with a common currency area is thus the adjustment to imbalances, which cannot be performed through exchange rates. Other missing elements of the theory include the role of the mobility of capital in correcting inter-regional balance of payments disequilibria. In a monetary union which transforms 'national securities into generalized claims', securities held by financial institutions may also become a means for settling a balance of payments deficit. If imbalances persist for a long period, international investment flows may act to fulfil their equilibrating role; they can also indicate the degree of an economy's openness. Nevertheless, private capital movements may not provide remedy for disequilibria in balance of payments in the cases of depressed areas with a poorly-developed capital market. In these situations there is a need for reduced consumption, migration of workers, adequate intergovernmental transfer and direct aid between member states. Therefore, an optimal currency area can cover the area of a single market with the four freedoms, where setting up a common currency does not aggravate regional structural problems. In a common currency area without a common budget, national governments are the only available instruments to confront asymmetric shocks. To accomplish this task, fiscal authorities must have sufficient flexibility for taxing and spending. They can play the role that automatic stabilizers would play, but only under conditions of reduced public debt and budget deficits. However, a full-fledged monetary union should be based on coordination of the monetary and fiscal policies of partner countries. Monetary union seems to be improperly constructed if it lacks a common budget with sufficient own resources. Monetary union also needs supranational funds with credit-granting powers equipped with common resources on the occasion of financial crises, with a view to helping member countries experiencing problems with budget deficits and repayment of their public debt. The theory of an optimal currency area does take account of the importance of coordination between fiscal and monetary policy and the necessity of redistribution of resources among partners. However, it does not say much about the methods applied, how to deal with debt crises and what the costs are of a potential breaking up of the monetary union.