The Cost and Benefits of a Swedish EMU Membership

An analysis of the consequences for Sweden to had opted out of the European Monetary Union

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ABSTRACT

The 2008/2009 world financial crisis, as well as the 2010 onwards European sovereign debt crisis, retriggered the debate on costs and benefits of a European Monetary Union membership. This thesis examines whether Sweden experienced net costs or benefits in opting out the EMU, especially in comparison to Finland due to the close link between both economies, as well as cultural and geographical similarities. While both countries were drawing a convergent economic path from the 1990’s, in 1999, with the Euro adoption in Finland, the two Scandinavian economies chose different tracks in terms of monetary policies. Sweden opted to remain outside the EMU and maintain the floating exchange rate and the control of domestic monetary issues, while Finland chose to relinquish monetary policy autonomy and started to follow the rules and constraints of the European Central Bank. Furthermore, the paper analyzes the economic development of UK in comparison with France, due to the approximate size of both economies (one EMU member and the other an outsider), and also Germany, the EMU leader, and the Euro area as a whole. The data base from Eurostat and the Synthetic Counterfactual Method have shown that there were net benefits for Sweden not to had joined the EMU. Moreover, the paper presents the Theory of Optimum Currency Area, first introduced by Mundell in 1961 as the starting point on the discussion of costs and benefits of an EMU membership.

Key words: Sweden, Finland, EMU, Monetary Policy, OCA
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LIST OF ABBREVIATIONS

ECB  EUROPEAN CENTRAL BANK
EMU  EUROPEAN MONETARY UNION
EU   EUROPEAN UNION
GDP  GROSS DOMESTIC PRODUCT
SCM  SYNTHETIC COUNTERFACTUAL METHOD

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1- INTRODUCTION

It is commonly regarded that entering a monetary union such as the Eurozone would imply costs and benefits. The main cost is the loss of monetary policy autonomy while the main benefits would emerge from the increasing trade, higher financial and political integration.

The recent European sovereign debt crisis and the prior 2008 / 2009 world financial crisis has brought back to the spotlight rather the EMU implies in more benefits than costs for its members or vice-versa. The lack of historical track in such a complex monetary union makes the subject even more intriguing as the projections can hardly be based on any other experience of the past.

According to Korkman and Suvanto (2015), after its first decade in existence of EMU, it was widely considered a success. However, from 2008 onward the Euro area was risking financial collapse while mostly of its members were facing recession followed by a substantial unemployment rate. Hence, political tension has risen between and within member states as there still is a disagreement concerning the proper mission and mandate of the European Central Bank.

Sweden and Finland have historically been similar countries in terms of economy, politics, and culture. However, in 1999 Finland opted to join the Euro area and consequently abandoned its currency and its monetary policy autonomy, while Sweden opted to stay out two times (in 1999 during the Euro creation and in the 2003 referendum) and kept the Swedish Krona. In the Finnish case, the political integration discussion outweighed the economic argument, since the country wanted to clarify its geopolitical identity towards the EU and the EMU after having lived under the rules of the Soviet Union for many decades. These two distinctive paths produced different outcomes, what will be further investigated in this paper.

Comparing Sweden and Finland in terms of economic development and costs and benefits of an EMU membership is the main goal of this paper. Notwithstanding, conclusions could have been shallow if Germany, as the main EMU country and most dynamic economy in the block, would have been out of the comparison. Moreover, the comparison was expanded to France and UK, as similar economies in size but with very different outcomes and economic structure. Again, one EMU member and one outsider.

This paper is organized as follows. The first section reviews the theoretical literature on the Optimum Currency Area. Second Section analyzes the EMU and its overall costs and benefits. The third section reviews the rules of Maastricht Agreement and the Stability and Growth Pact (SGP). Section four starts some empirical analyses of the EMU. Section five briefly reviews the recent history of Sweden and Finland in the EMU. Section six and seven empirically analyzes the costs and benefits of EMU by expliciting macroeconomic indicator comparisons. Section seven presents the results of the Synthetic Control Method. Section eight concludes.

1.1- DATA COLLECTION

The data set used in this paper was gathered from Eurostat, European Central Bank, World Bank, and Trading Economics. Literature sources can be found in the references.
2- OPTIMUM CURRENCY AREA

The theory of optimum currency area was first introduced by Robert Mundell in 1961 and helped to elucidate the pillars of the European Monetary Union. He points out that this theory was developed as an alternative to the floating exchange rates to adjust economies in disequilibrium.

Mundell (1961) fulfills his theory about the Optimum Currency Areas enhancing that:

1- if the impact of shocks in particular areas was symmetric, fixed exchange rate or monetary union could be applied;
2- in case of countries to experience asymmetric shocks, then high labor mobility and/or flexible wages and prices would be the way to restore equilibrium.

Gottfries (2002) argues that the best way of analyzing the EMU is to apply the theory of OCA, whereby benefits and drawbacks are weighed against each other.

“The benefits are to be found mainly at the microeconomic level in the form of reduced transaction costs, elimination of the uncertainty caused by fluctuations in exchange rates, simpler price comparisons and enhanced competition in the Internal Market. The main drawback is that national governments waive the right to adapt monetary policy to the current economic situation in their own country.” (GOTTFRIES, p. 2, 2002)

Though, it is important to highlight that the European Monetary Union is not an Optimum Currency Area (OCA) due to many differences regarding economic, political and cultural activities among members. Asymmetric shocks are top priority problems to be solved so that a region which aims to get closer to an OCA (such as the EMU) takes one step ahead towards economic integration. In the EMU, to minimize these shocks it is needed fiscal transferences among members coordinated by the European Central Bank in order to compensate the lack of labor and capital mobility, which is a clear example of the Eurozone not being an OCA.

According to Mundell (1961), the purpose of money is “a convenience” and therefore the ideal currency area would be the whole world, regardless of the number of regions of which it is composed. Despite, given some macroeconomic shock, an area would need a separate currency if the economic costs of adjustment through a change in wages, price level and factor mobility as labor and capital would be higher than a change in the exchange rate. As pointed out by the Commission of the European Parliament (1998), “The case for separate currency areas holds good only if the impact of a shock varies between areas”. So that, if the cost of adjustment would be the same for all countries there would be no reason for adopting different currencies.

The Commission of the European Parliament (1998) points out that the Optimum Currency Areas theory implies that any two countries experiencing symmetric shocks and with a high percentage of GDP traded bilaterally should fix their exchange rates. Then, costs related to the existence of different currencies would disappear and, consequently, these countries would become more efficient.

Mundell (1961) analyzes the possible mechanisms of adjustment when countries or regions face exogenous country-specific shocks. When he examined the case of USA and Canada
Mundell concludes that only changing the exchange rate didn’t solve the problem of unemployment and inflation in both regions since the main asymmetry was inside the respective country (an east and west divide) and not in between USA and Canada.

Assuming two regions, A and B, each one producing a good. Suppose there is a change in preferences that cases demand of produced goods in A to decline vis-a-vis an increase in demand of produced goods in B, causing the demand curve in A to shift down and demand curve in B to shift up (as demonstrated in figure 1).

FIGURE 1 – Asymmetric shock and demand shifting in 2 regions

The result is on one hand higher unemployment and deflation in A and on the other hand higher employment and inflation in B. As these economies are facing different kinds of disequilibrium, a common monetary policy would not solve the problem of inflation in B and unemployment in A at the same time. A restrictive monetary policy might reduce inflation in B but worsen unemployment in A and an expansionary monetary policy might solve the unemployment in A but worsen inflation in B.

According to the Commission of the European Parliament (1998), to reestablish the equilibrium in countries A and B there must be a change in relative prices. If these two economies have separate currencies and flexible exchange rates this can be done by an adjustment in the exchange rate as follows: Country A could devaluate its currency and, therefore, recover its competitiveness due to lower real wages and lower prices.

In the case the two countries have the same currency or have fixed exchange rates, to restore the equilibrium in country A it has to implement an expansionary fiscal policy, a fall in nominal wages and prices (what leads to real fall in wages and prices) or an upward shift in the supply curve that can be caused by labor migration from country A to country B, as showed in figure 2.
Figure 2 – Restoring equilibrium

In the case of flexible exchange rates if demand shifts from products of country B to products of country A, a depreciation by country B or an appreciation by country A would correct the external imbalance and relieve unemployment in country B and also restrain inflation in country A. Flexible exchange rate system plays an ultimate role in reestablish the equilibrium.

Mundell (1961) also put forward the hypothesis that those who in a country not willing to accept losses in their real income through adjustments in wages or inflation could accept the same changes in its real income through a currency devaluation. Stabilization argument for flexible exchange currencies would only be valid if based on regional currency areas within each of which there is a factor mobility and between which there is a factor immobility.

Mundell’s analyses describe how a flexible exchange rate system is usually presented by its proponents, “as a device whereby depreciation can take the place of unemployment when the external balance is in deficit, and appreciation can replace inflation when it is in surplus.” (Mundell, 1961, p. 657). The main question posed by the author after this statement is if common market countries with plans for economic union should allow each national currency to fluctuate or a single currency area would be preferable?

The author describes a currency area as a domain within which exchange rate is fixed. In a single currency region, a single central bank is in charge of all monetary policies, including note-issuing powers, but in a currency area with more than one currency a cooperation is needed to establish the supply of means of payment. Therefore, no central bank could expand its own liabilities much faster than the others without losing reserves and impairing convertibility, what leads to a difference between interregional adjustment and international adjustment.

“In a currency area comprising different countries with national currencies the pace of employment in deficit countries is set by the willingness of surplus countries to inflate. But in a currency area comprising many regions and a single currency, the pace of inflation is set by the willingness of central authorities to allow unemployment in deficit regions.” (MUNDELL, 1961, p.659)
Mundell (1961) argues that flexible exchange rate is a good tool to reestablish equilibrium in deficit or surplus country. Despite, he also says that if flexible exchange rate system does not serve to correct the balance-of-payments between two regions if under the same currency. For that, national currencies should be abandoned in favor of a regional currency and these new regional currencies would float according to the deficit or surplus in each region.

According to Mundell (1961), a common currency system in multiregional would be compared to the Gold Standard, which was blamed to have partly caused the world depression in 1929. Following this argument, he analyzes that, under a common currency, depression in one region would be transmitted to other regions, similarly to the gold standard. Despite, it could be argued that an interregional liquidity could be supplied by the national central bank, what would not be possible in the Gold Standard.

The author concludes that a flexible exchange rate system should be based on regional currencies instead of national currencies, as it would better represent the similarities of the region instead of clustering different regions in the boundaries of a country. Then, he points out that the optimum currency area is the region, not the country.

“If regions cut across national boundaries or if countries are multiregional, the argument for flexible exchange rates would only valid if currencies are reorganized on a regional basis.” (Mundell, 1961, p.661). As currencies reflect national sovereignty the theory of optimum currency areas would only be feasible if followed by profound political changes. Hence, it would only be possible where the political organization is in a state of flux. Thus, an essential ingredient of a common currency area is a high factor mobility, such as capital mobility and labor mobility. A currency area should only work if members would be able to solve the trade-off between inflation and unemployment with no need to use exchange rate depreciation and appreciation.

Mundell (1961) says that it is not feasible to suggest that currencies should be reorganized as a currency domain is partly an expression of national sovereignty. Despite, the validity of the argument for flexible exchange rates hinges on the closeness with which nation correspond to regions.

Several authors analyzed Mundell’s Optimum Currency Area theory and added some new perspectives to it and tried to establish a link between the OCA and a possible common currency area in Europe. Mc Kinnon (1963), found in Blimkie (2005), says that the size and degree of openness of a currency area facilitate inter-industry production shifts. Kenem (1969), found in Blimkie (2005), emphasizes that a diversity in a nation product mix could minimize effects in the employment rate in moments of external shocks. He also points out the need for a budgetary policy in a context of loss of monetary policy autonomy, what leads to a fiscal policy agreement. Also, members of a currency area should establish a supra-national fiscal transfer system to redistribute funds to countries affected by asymmetric shocks. Mintz (1970), found in Blimkie (2005), enhances that political will is the key point for adopting a common currency. According to Fleming (1971), found in Blimkie (2005), for a common currency area, countries should have similar inflation rates and, therefore, lower exchange rate variations. Diniz and Jayme Jr. (2012) say that in a currency area the fixed exchange rate intra-block reduce uncertainty and, therefore, increase people’s well-being. The higher stability in prices makes economic agents to plan better investment, production, and consumption.
2.1 - TYPES OF SHOCKS IN A COMMON CURRENCY AREA

The Commission of the European Parliament (1998) points out several types of shocks and how should countries act according to their different characteristics. The analyses start with country-specific shocks. In this case, the exchange rate could only be a good instrument if it affects the real aggregate demand. In case of a country-specific financial shock fixed exchange rates would better solve the problem as well as a common currency.

The analysis continues with the exogenous and policy-induced shocks, which are caused by outside events which the authorities in one country have no direct control and arising from internal policies. These shocks can be caused by political cycles (e.g. an artificial stimulation of the economy right before elections) or due to rise in wages as a result of the work of labor unions, which would be accommodated by monetary or fiscal expansion. According to Eichengreen (1994), if domestic policy is a source of disturbance, a monetary union with countries less susceptible to it might be beneficial for the more susceptible country to achieve equilibrium as it would not be possible to “adjust” the economy disturbing the nominal scale, e.g. disturbing exchange rate and using expansionary monetary policies such as money creation in pre-election moments.

The Commission of the European Parliament (1998) says that the treatment to asymmetric shocks varies from case to case. As an example, a major natural disaster or the immediate effects of political events are unpredictable and therefore would not be logical to establish separate currencies in order to deal with that. It doesn’t apply nor even for a country more susceptible to natural disaster due to the high cost of valuate and devaluate the currency.

According to the Commission of the European Parliament (1998), in the case of the EMU the Lucas critique (it argues that if something new happens, there may be a little to be learned from past experience) enhances that shocks may have a smaller asymmetric effect than hitherto due to the convergence criteria needed for a country to become a member of the block. Therefore, common institutional arrangements may play an important role in minimizing the differences between countries as national governments would lose their capacity to deal with shocks separately.

To assess the effects of asymmetric shocks outside and within a monetary union, several macroeconomic indexes must be analyzed. The exchange-rate change is the most common approach since the realignment of them reflects the asymmetry and is the mechanism of adjustment. Despite, the difficulty in using this method is that exchange rates change for a variety of reasons and not only because of asymmetric shocks, what makes it difficult to isolate the effect of a particular event and consequently, difficult to set it as a “perfect” tool in measuring asymmetric shocks. Another problem is that exchange rates can only be used to analyze asymmetric shocks between currency areas and not within a monetary union.

Another way of measuring the effects of asymmetric shocks within and without a currency area is analyzing differential movements of consumer prices, unit labor cost, and assets prices. Furthermore, rates of unemployment might have a better role in measuring these effects as it these data are available at the local level to the aggregated one. Despite, another difficulty in assessing the asymmetric shocks is that an event may have asymmetric consequences for one index such as employment, but not for inflation, or, as another example, a reduction of interest rates may be asymmetric for asset prices but not for wages.
3- THE EMU AND ITS COSTS AND BENEFITS

For Mongelli (2006) since the launch of the Euro in 1999 and the introduction of Euro notes in 2002 two central concerns received considerable attention: the payment structure of the Euro and the establishment of a common monetary policy among members.

Portes (1990) categorized the main aspects of an international monetary system in three levels. The first is the reserve regime, related to international money, unit of account, means of payment and store of value functions; the second, the exchange rate regime, related to the exchange rate of the European currency and other international currency; the third, adjustment obligations, that has to do with coordination between fiscal and monetary policies.

For European Union countries outside the European Monetary Union, the decision of joining or not the currency area presents significantly costs and benefits.

According to Gyoerk (2017), benefits of the monetary integration include reduced exchange rate volatility, trade uncertainty, and relative priced variability, harmonization of interest rates, increased welfare from the augmented international competition. The unique currency is revealed as the linkage to competitiveness, enhanced trading opportunities and greater output, which are the main goal of a monetary integration. Mongelli (2006) shows that the Euro reduce trading costs among members both directly and indirectly, e.g., by removing exchange rate risks and the cost of currency hedging.

According to Portes (1990), it is expected that the EMU reduces uncertainties that impede policy coordination and therefore contributes to a more symmetric global policy coordination among industrial economies, despite the increasing difficulty in coordinating fiscal policies.

Mundell (1961) points out, nations that joined the Eurozone which had closer synchronized business cycles with the EMU members have a better performance if compared with those which had desynchronized business cycles. He says that benefits of a common currency area are increasing the more the business cycles of members are synchronized. If business cycles are not similar, the use of a common monetary policy becomes less effective.

“Indeed, common monetary policy can in this case exacerbate the business cycle fluctuations of union participants by on one hand being insufficiently accommodative for a member state approaching a trough while on the other hand not being tight enough for a booming economy, leading to even stronger boom and bust dynamics.” (GYOERK, 2017, p. 896)

One important issue to be analyzed in terms of business cycles synchronization is the case of specialization. The recent discussion has two different views of the subject, whether or not EMU is resulting in higher sectoral specialization across euro area countries. It is known then that higher degree of specialization might imply greater vulnerability in terms of business cycles convergence due to vulnerability to deal with asymmetric shocks and the greater need of relative price adjustment. On one hand, Krugman (1993) suggests that as trade barriers are reduced, inter-industry trade increases and opportunities for exploiting economies of scale and specialization should arise whenever a country has a comparative advantage. This would cause
less diversification and leads to increasingly vulnerable to asymmetric shocks and, consequently, business cycles would become less synchronized. On the other hand, the EMU would lead to greater intra-industry trade integration and more similar economic structure, leading to a convergence in business cycles.

According to Micco et al. (2003), EMU membership has a *ceteris paribus* augmenting effect on trade among members from 10% to 15%. Also, there is a positive spillover effect of increasing trade among members and non-members by 8%, what suggests that the EMU works as a catalyst to trade.

For Mongelli (2006), one of the difficulties in assessing the EMU benefits is that it should be disentangled from other sources of development and integration such as liberalization of international capital movements, financial deregulation, globalization, and the advancement in information and communication technology.

Costs of the EMU for its members include loss of monetary policy autonomy and budgetary policies. The consequences of these losses are that the national monetary authority cannot combat idiosyncratic shocks and adopt monetary anticyclical policies to smooth business cycles such as currency devaluation to increase competitiveness. Portes (1990) emphasizes that without independent national monetary policies, there is more pressure for individual countries to use fiscal policies for domestic stabilization. Hence, Mongelli (2006) explains that one of the main challenges of the EMU was (and still is) fitting a new macroeconomic policy framework that fits countries still very diverse in terms of economic and financial development, labor and product markets, and track record of economic policies.

Moreover, according to Korkman and Suvanto (2015), one problematic caveat against EMU is the possibility of the block to be transformed into a “transfer union” if the sovereign debt crisis of the Euro area is seriously mismanaged, causing donate countries to be transferring money to weaker economies to also deal with different business cycles and asymmetric shocks and not getting any positive spillover from it, in other words, not experience any benefits a monetary union.

Beetsma and Giuliodori (2010) argue that another problem of the EMU arises from the discoordination between fiscal and monetary policies, as fiscal authorities (national level) may pursue different macroeconomic objectives from the ECB (supranational level). While the ECB primarily pursues low inflation rate, national governments are more concerned with high and stable level of activity.

Furthermore, a credible European central bank is supposed to support wage moderation by helping to limit excessive wage inflation. In the national ambiance of a Euro outsider, there is a higher risk of uncontrolled wage inflation that might trigger a tightening in monetary policy that could possibly lead to a recession. Due to the absence of nominal exchange rate flexibility, economies suffering from a slacking competitiveness can easily trigger some debt-deflation spiral as a consequence of impossibility of exchange rate devaluation. In this case, the ECB plays an important and expensive role (expensive for the donator countries such as Germany) to minimize recession in in-depth countries and maintain the stability of the union.

Costs of a monetary union due to the loss of monetary policy are higher as the degree of asymmetry increases. On the other hand, the integration is a benefit from a monetary union.
“(...) the greater the degree of integration the more the member countries benefit from the efficiency gains of a monetary union. Thus, the additional (macroeconomic) costs produced by less symmetry can be compensated by the additional (microeconomic) benefits produced by more integration.” (MONGELLI, 2006, p. 13)

Andrew Rose (2000) has described that monetary integration can lead to a very significant deepening of trade by several multiples. The so-called “Rose Effect” says that “Countries which join EMU, no matter what their motivation may be, may satisfy OCA properties ex-post even if they do not ex-ante”. (Frankel and Rose, 1997). According to the authors, the Eurozone might turn into an OCA despite not being close to it at the moment of its creation.

For Frankel (2006) explains that the association between monetary union and trade deepening arises from a third factor, such as colonial history, remaining, remaining political links, complementary of endowments, or accidents of history.

“In a monetary union if shocks become more persistent, large and idiosyncratic (i.e. less synchronized or asymmetric) this could pose a challenge to policy-making – at least to the extent that such shocks are not insured through international risk-sharing.” (Mongelli, 2006, p.21)

The reason of the increased synchronization of cycles among euro-area countries is not so clear. Some authors present that this synchronization is due to the creation of the EMU and others defend that it is due to globalization. The problem of measurement is the difficulty in separate both outputs since they bring the same results.

3.1 - MAASTRICHT AGREEMENT AND THE STABILITY AND GROWTH PACT

3.1.1 - CONVERGENCE CRITERIA TO THE EUROZONE

The Maastricht Treaty was signed in 1991 by the EU Member States as part of the preparation for the introduction of the Euro. For that, the convergence criteria were set to formally determine the target for macroeconomics indicators to be followed and achieved prior to the adoption of the common currency. According to the European Central Bank the indicators measure:

1- Price stability: to guarantee that inflation is controlled through Consumer Price Inflation Rate (not more than 1.5% above the rate of the three best performing Member States);
2- Soundness and of public finances: measured through limits on government borrowing and national debt as a percentage of GDP to avoid an excessive deficit (not more than 3% of annual deficit as a percentage of GDP);
3- Sustainability of public finances: Not more than 60% of public debt;
4- Durability of convergence: measured by the long-term interest rate (not more than 2% above the rate of the three best performing Member States in;
5- Exchange rate stability: measured through participation in the Exchange Rate Mechanism for at least two years without considerable deviations from the ERM II central rate

Maastricht Treaty establishes that, for a Euro-member candidate to enter the EMU, every one or two years the Euro Commission and the ECB assess the progress made by them and publish their conclusions in respect convergence reports.

3.1.2 - THE ERM I AND II AND THE STABILITY AND GROWTH PACT

The Exchange Rate Mechanism (ERM) was established in 1979 as a fixed, but adjustable, exchange rate system for the EU countries. The ERM II was set up on January 1th, 1999 as a successor to ERM. According to the ECB, the main reason of the mechanism was to ensure that exchange rate fluctuations between the Euro and other EU currencies do not disrupt economic stability within the single market. Also, it was designed to help UE but non-euro-area countries to prepare themselves to join the monetary union. It is required for a euro-candidate to participate in the ERM II as part of the convergence criteria. Nowadays, the only currency participating in the ERM II is the Danish Kroner, since 1999. Therefore, it can only have a narrow fluctuation band of more 2,25%.

In the ERM II, the exchange rate of a non-euro area Member State is fixed against the euro and is only allowed to fluctuate within set limits. According to the ECB, the mechanism covers the following:

1- A central exchange rate between the euro and the country’s currency is agreed. The currency is then allowed to fluctuate by up to 15% above or below this central rate;
2- When necessary, the currency is supported by intervention (buying or selling) to keep the exchange rate against the euro within the ±15% fluctuation band. Interventions are coordinated by the ECB and the central bank of the non-euro area Member State;
3- Non-euro area Member States within ERM II can decide to maintain a narrower fluctuation band, but this decision has no impact on the official ±15% fluctuation margin unless there is agreement on this by ERM II stakeholders;
4- The General Council of the ECB monitors the operation of ERM II and ensures coordination of monetary- and exchange-rate policies. The General Council also administers the intervention mechanisms together with the Member State’s central bank.

A successful participation on the ERM II for at least two years is considered to be a confirmation of economic sustainability and convergence to the Euro.

Coming back to Sweden and the adoption or not of the Euro, the only convergence criteria the country has not met yet is the membership in the ERM II. Despite that, Swedish Krona has been aligned with the Euro within 15% band since 1999 (except in 2009 due to the global financial crisis), what would make ERM II readily implementable in the country. It turns out that
so far there is no political will for Sweden to enter the ERM II and, consequently, to enter the Euro.

The Stability and Growth Pact was created in 1997 and aims to set some rules to prevent fiscal policies from heading in potentially problematic directions, and also to correct excessive budget deficits or public debt burdens in the UE. Yearly, the European Commission and Council of Ministers issues a recommendation for policy actions to ensure a full compliance with the SGP also in the medium-term. All EU members are obliged to submit an SGP compliance report for the scrutiny and evaluation of European Commission and the Council. Roughly, the SGP set limits to government deficit (3% of GDP) and government debt (60%) of GDP.

3.2 - EMPIRICAL ANALYSES OF THE EMU

According to Gyoerk (2017), we can observe mainly three problems of the EMU. First is the absence of a common fiscal policy; second, the application of the same monetary policy without a mechanism to promote the business cycles of members to converge; third, the failure of overseeing financial stability.

Fiscal policy discipline in the Eurozone, ensured by the Maastricht Criteria and the Stability and Growth Pact, was not respected by many members and there was a lack of pressure in doing that by the European authorities. Hope (2016) argues that the no-bail-out clause was broken multiple times, especially during the 2009 onward sovereign debt crisis. Therefore, the EMU membership became associated with protection from risk for smaller countries, allowing them to have access to cheap loans and, consequently, putting fiscal policy discipline in shock. Arghyrou and Kontonikas (2012), quoted by (Hope 2016) argue that sovereign risk mispricing was supported by the perception of currency union membership irreversibility and mutualization of fiscal debts. Despite the “no bail-out” clause embedded in the euro foundation, Frankel (2013), also quoted by Hope (2016) argues that the compression of risk premia occurred due to the expectation of European Central Bank bailouts troubled economies. However, the extremely benevolence of the ECB, the periphery of the EMU harsh austerity measures leading to prolonged recession and rising political tensions within and in between members.

Maastricht agreement didn’t prevent countries (especially smaller economies of the EMU) to keep an irresponsible fiscal policy. Greece, for example, never met the criteria for budget deficit below 3% threshold and public deficit never decline from 100% of the GDP, way beyond the 60% limit. Furthermore, as it will be further demonstrated in this paper, the core countries of the EMU, Germany, and France, are constantly breaking the Maastricht agreement rules without any sanction from the ECB and the EU.

Gyoerk (2017) points out that the EMU may have failed in establishing a common fiscal policy and effective controls, what has led to the sovereign debt crises. Hence, a single monetary policy was applied without mechanisms to promote business cycles to converge among members, leading to financial instability. He supports this argument using the Synthetic Counterfactual Method (SCM), which will be better analyzed in the last chapter, comparing real data from Sweden (actual Sweden) with a synthetic Sweden (a counterfactual Sweden in case it had joined the EMU). In the SCM, the real data for Sweden is compared to a synthetic curve composed of a statistically derived weighted average of macroeconomic indicators of the eleven original Euro members. In other words, each of the Euro countries is statistically weighted according to the similarity of one indicator to the respective Swedish one prior to the
introduction of the Euro, in 1999. Weights are chosen in a way to make the synthetic series to be as closer as possible to the real series prior to the treatment (1999) in order to make Synthetic Sweden to be meaningfully representative of the hypothetical scenario. For instance, Finland was the closest link to Sweden in most of the macroeconomic aspects, making the synthetic Sweden to be composed in greater part of Finnish data, except for labour productivity. The percentage of weights in each of the macroeconomic indicators analyzed is presented in the last chapter.

One of the specific roles of the European Central Bank was to keep financial stability and bank supervision. However, the 2008/2009 global financial crisis has shown that competent authorities responsible for bank supervision in the world (including the ECB) could not ensure the banking and financial safety of the system. The lack of supervision and regulation of ECB led to an excessive accumulation of credit alongside diminishing loan quality, e.g. Greece.

The Euro crisis forced many EMU economies to face a painful adjustment, including deep recession and extremely high unemployment rate for European standards.

The correction of euro area macroeconomic imbalances was particularly asymmetric, with the bulk of the adjustment falling on current account deficit countries through a strong contraction in domestic demand, with limited support from a higher demand contribution from current account surplus countries, despite those countries being less affected by the crisis. Growth in the surplus countries, including Germany, became even more export-oriented. (Praet, 2018, member of the executive board of the ECB)

According to Praet (2018), Euro area real GDP has been expanded for the past five years after the economic problems triggered by the 2008 financial crisis and lately European sovereign debt crisis. He points out that recent positive economic cycle in the EMU block is partly due to monetary policies strategies adopted by the ECB.

For Praet (2018), one positive lesson from the Euro crisis is the awareness that the block had insufficient tools at its disposal to prevent unsustainable asset prices boom. Therefore, he points out that ECB should focus on creating and enforcing better financial regulations and the
urgently establish a bank union, which would make the adjustment process less asymmetrical
between creditors and debtors.

The recent history of Europe shows a certain convergence in business cycles from
1980’s. Some studies enhanced that currency union membership contributes endogenously to
better business cycle synchronization due to increasing trade. Despite agreeing that there is an
increasing synchronization of European countries business cycles, some authors such as De Haan
et al. (2008) point out that significant desynchronization remains. Giannone and Reichlin (2006)
enhances that, in general, output levels are not converging in Europe, but they are clearly not
diverging either. They also say that U.S. regions display a similar pattern of EMU members and
cyclical asymmetries are relatively smaller than in the USA. Hence, national business cycles
within the euro area are shown to be larger than the euro area and the rest of the world.

3.3 - SWEDEN AND THE EMU

Studying the Swedish case in the context of the EMU is specifically emblematic given
that the country stances as the second largest economy of the EU outside the Eurozone, right
after the UK.

According to Höpner (2017), European Union is putting pressure on their members to
join the Euro if all convergence criteria are met. Despite, by looking at the macroeconomic
indicators, Sweden is clearly doing well outside the eurozone and, therefore, joining the
monetary union might be not politically viable for the moment. The author ventures that there
is nothing to benefit from the lower risk premia on government bonds and the country would
lose their remaining degree of freedom in setting interest rate and exchange rate policy.

In the EU only 9 countries are still not in the Euro (UK, Denmark, Sweden, Bulgaria, Czech
Republic, Croatia, Hungary, Poland, and Romania. With the exemptions of Denmark and UK
(which is about to leave the EU), all others are obliged to adopt the common currency under the
EU rules if they meet the criteria.

In the referendum in 2003, 56.1% of Swedish voters decided to stay outside the euro
area, but the decision should nevertheless be reviewed from time to time. Sweden should be
prepared to clearly explain why it intends to be in or out, especially after the declaration of the
President of the European Commission, Jean-Claude Juncker, which expressed his view that the
formal obligation to join the Euro should be taken seriously in the near future.

After the Brexit, the political power inside the EU will be rebalanced, since the non-Euro
members would represent about 16% of GDP of EU against 40% that it represents now including
the UK. Höpner (2017) says it means that the political voice of the non-euro-countries will shrink
and could lead to a new economic environment.

The Flash Eurobarometer 453 carried out in April 2001, has shown that the major part
of the Swedish population is not in favor of the adoption of euro since 74% of respondents said
that the country is not already prepared to a currency change, whether 51% expect Sweden
never to join the eurozone.

Another reason why Swedes are not willing to abandon the Swedish Krone is the fact
that the domestic economy is outperforming the EU economy. The country weathered the 2008
financial crisis better than the EU, the GDP growth is higher since then and the unemployment
rate is lower. Besides, since the recession on the early 1990s, public debt is declining to actual 41.7% (2016) with the implement of strong fiscal policy and budget target framework.

Due to the fact of Sweden being a small, export-oriented and productivity above average country, it would make more sense if is to be compared with similar countries inside the Euro area, like Finland. Even though, Sweden outperforms the Finnish economy with better growth rate, slightly lower unemployment rate and lower debt quota. Höpner (2017) also points out that the Swedish inflation rate remains constantly below its 2% target with a lower point of 0,2% in 2014 and significant current account surpluses. Hence, the Riksbank (the Swedish Central Bank) has accumulated significant foreign currency and gold reserves that sum SEK 464.8 billion or about $55.4 billion.

Inside the Euro, Sweden would lose their capacity of de- and revalue the currency in case of the crisis inside and outside the block. Comparing the Swedish inflation rate and the Eurozone averages it is possible to infer that the country is clearly able to prevent inflation from overshooting.

Höpner (2017) explains that adopting the Euro affects the cost of refinancing public debt. “The nominal devaluation risk vis-à-vis the euro area vanishes as soon as the respective country joins” (Höpner, 2017, p. 3). Hence, by having a sovereign currency, Sweden is without bankruptcy risk as long as their debt is in Swedish Krona, as the country can print more money to deal with higher debt.

According to the author there are three possible scenarios: 1- The Eurozone may relax the macroeconomic surveillance and increase the transfer programs; 2- The Eurozone would sharpen the correction procedures and keep more macroeconomic surveillance and, consequently, reducing transnational transfers; 3- The Eurozone would be stuck in the institutional immobility trap and stick to its current structure. In any of these cases, Sweden would stay on the side of donor countries and, therefore, transfer more tax money to other Europeans countries.

Höpner (2017) concludes that it is not feasible for Sweden to join the Eurozone in the near future as Sweden is performing better than the others macroeconomically speaking. Therefore, it is likely to observe that the great majority of Swedish population would not vote for a Eurozone integration.

Reade and Volz (2009) start their analysis coming back to the 2003 referendum that has kept Sweden outside the Eurozone. For them, Swedish voters hadn’t seen the Euro as a treat despite voting “no”, but they feared that future decisions of major importance would be taken by Frankfurt and Brussels (the central cities of Eurozone) by policy makers with dubious roles.

Unlike Denmark and the UK, Sweden is required by EU laws to adopt the Euro as soon as the country fulfills all convergence criteria. However, by not joining the ERM I nor the ERM II, which is needed to be part of to fulfill the Maastricht criterion to join to EMU, Sweden has clearly opted to stay out of the Eurozone.

According to Reade and Volz (2009), public opinion in Sweden was turning in favor of joining the euro, at least in the years before the deepening of European sovereign debt crisis. The debate is still ongoing and the main argument against the Swedish Eurozone membership, according to the authors, is the apparent loss of monetary policy independence. Nevertheless, they discuss that the Sveriges Riksbank (Swedish Central Bank) has closely followed the
guidelines of the European Central Bank from 1999 to 2009, what would make the effects of the loss of monetary policy autonomy, if Sweden had adopted the Euro, less costly. Despite, the macroeconomic situation of the EMU members has changed significantly after 2009 and the disparities in between ECB and Riksbank actions have increased.

3-4 - CALMFORS REPORT AND THE 2003 REFERENDUM

In October 1995, a government commission was appointed to prepare the decision on whether or not to participate in the monetary union and to stimulate the public discussion, since the decision would be not only economically-based but also politically-based. Thus, five economists, including Lars Calmfors (chairman and economy professor at the Stockholm University) and three political scientists were in charge of guiding the studies. The Commission was designated to analyze the following issues: 1- General consequences of a monetary union; 2- Consequences for Sweden of participating versus not participating in the monetary union; 3- Appropriate economic policies in Sweden in the cases of participation and non-participation in the monetary union; 4-Appropriate exchange-rate arrangements between participants and non-participants in the monetary union.

Calmfors (1996) discusses that for many EU, joining the EU was a strategy to achieve price stability. However, before the introduction of the Euro, the union could have developed in different ways depending on the EMU members. If it consisted only in Germany and a few other countries then the price and exchange rate stability would be the main purpose, but it would not be the case if most of EU members adopted a common currency due to the risk of increasing political conflicts.

According to Gottfries (2002), member of the Calmfors Commission, in the discussion of the Swedish EMU membership it is important to remember that the country only joined the EU in January 1995, but still, the margin of victory in the national referendum of 1994 was small. Thus, “in the years that followed, anti-EU sentiment ran fairly high in Sweden. The Swedes are still unused to the idea of being citizens of Europe.” (Gottfries, p. 1, 2002)

Calmfors argued that the uncertainties of entering the EMU in its first wave were too large:

“Economic researchers often disagree on crucial aspects, such as the evaluation of the fiscal-policy rules in the Maastricht Treaty or whether fixed or floating exchange rates are preferable for countries staying outside the monetary union – although they do seem to agree that institutional changes to increase the credibility of low-inflation policy is desirable both inside and outside the monetary union.” (CALMFORS, p. 5, 1996)

The Commission’s opinion about the loss of monetary independence was that it would not ordinarily create any great problems, but if Sweden were to stay out of step with the rest of Europe, the common interest and exchange rate would have a destabilizing effect. Hence, higher transaction costs would be the “insurance premium” of opting out. Regarding political implications, the report pointed out that staying outside the EMU would weaken its position in the UE as the country would be removing itself from the EU most important project to date.
Despite, Calmfors Commission recommended an alternative scenario instead of the Swedish membership in the EMU, which was the continuation of floating exchange rate, greater independence of the Riksbank, and low inflation rate. “The report took the view that such a course, together with a restructuring of government finances, would inspire such credibility that Sweden would eventually acquire interest and inflation rates roughly on a par with those in EMU.” (Gottfries, p. 2, 2002)

Roughly, the Commission’s conclusions were that there wasn’t any economic reason for Sweden participation in EMU while political arguments did exist. However, in overall assessment, in the short-term the arguments against the EMU outweighed those in favor based on the following reasons: 1- High risk of increases in unemployment rate, which was already high in that period; 2- Greats risk of fiscal imbalance; 3- It was needed more time for a broad public debate; 4- As many EU members did not meet the convergence criteria, political costs would be reduced in the first wave of the monetary union.

Despite the recommendation of opting out of the EMU, Calmfors report was more positive for Swedish participation in the long-term if unemployment and fiscal situation stabilize. Also, the political costs of not joining would increase as the number of countries were to meet the criteria to adopt the Euro. For Gottfries (2002), “the Commission’s recommendations have sometimes been erroneously described as ‘wait and see’ when in fact they were ‘yes, but later’.” (Gottfries, p. 2, 2002)

Adopting the Euro would bring small advantages due to reduced transaction cost and exchange rate uncertainty in one hand but would bring stronger competition on the other hand. The conclusion of the commission was that relinquishing the monetary policy independence would be too risky due to the potential stabilization role the independent monetary policy has. Hence, Sweden should not immediately enter the EMU upon its creation in 1999 and evaluate the situation in a further stage of it. In December 1997, the Riksdag (Swedish Parliament) decided to opt out of the EMU (at least in its first wave) based on Calmfors Commission report.

With the creation of the Euro in 1999, almost all members of the EU at that time joined the common currency area except Denmark, Greece, Sweden and United Kingdom. Among them, only the Swedish case is still open until today, what put an extra pression in the Nordic country to join it in the near future, especially due to the fact that it has already met the criteria previously settled.

In the fall of 2003, a referendum was carried out in Sweden for the citizens to decide whether joining or not the Eurozone as the country was considered “prepared” to join in terms of macroeconomic indexes, as established in EU laws. The result was that 55.9% of voters voted no for Swedish EMU’s Membership against 42,0% saying “yes”. This was the last referendum regarding this question since nowadays, but an extra pressure of the EU for the Swedish membership is being put. Despite, there seems to be no foreseeable referendum to be carried out in Sweden in the near future as the majority of voters saying “no” is higher due to the continuation of the Euro crisis and the good development of the Swedish economy. In June 2017, a survey from SCB (Statistics Sweden) was carried out with 4808 persons to assess whether or not Swedish population is willing to adopt the Euro. The result showed a strong negative tendency in joining the EMU as 70,6% of responders were against the Euro adoption, 16,5% declared pro-Euro and 12,9% didn’t know. Despite, compared to the previous survey carried out in November 2016, the percentage of voters against the Euro adoption and the EU declined.

According to Czech (2015), the guideline for the Swedish decision of staying outside the Euro started with the first Calmfors report in 1997. The report presented much more negative factors than positives, e.g. the risk of rising unemployment and growing budget deficit due to
the lack of monetary policy control. Also, the report presented some risks in not adopting the Euro, such as political marginalization, unfavorable currency fluctuations, and higher transaction costs while trading with Eurozone countries. The conclusion of Calmfors’ report was that the adoption of the Euro should be postponed until the problems of the Swedish economy (especially the recession of the 1991-1993 period) would have been solved, which turned out to be solved in the 1990s and 2000s. Czech (2015) shows that unemployment fell to 4%, there has been budget surplus since 1998 and inflation was low and stable which renders the Calmfors report objections invalid.

Reade and Volz (2009) describe that a second government commission report was published one year before the 2003 referendum. It was highlighted again that the membership in the monetary union would mean the loss of monetary policy autonomy and it would not be possible to use this instrument to stabilize the economy.

The discussion of integration or not the monetary union is still alive. Arguments pro-EMU enhances that joining the EMU would increase trade and lead to financial integration. Besides, the Swedish business cycles have been closed correlated to the euro area since the mid-1990s, what could lead to the conclusion that the Swedish monetary policy autonomy didn’t have any major role to stabilize the economy.

Flam et al. (2008) argue that the Swedish Central bank has closely followed the European Central Bank’s monetary policy and, therefore, Swedish economic performance would have been quite similar to its actual performance in case it had joined the Euro in 1999. Hence, the stabilization of the exchange rate and the increase in trade with eurozone countries would have caused positive outputs for Sweden.

Reade and Volz (2009) have concluded that Sveriges Riksbank was following the European Central Bank in terms of monetary policy since the creation of the euro. For then, it represents no monetary policy autonomy of the Swedish Central Bank, but a clear dependency. Thus, joining the Euro would culminate in the Swedish Central Bank to have a seat on the ECB’s governing council and therefore have a greater role in the European monetary policy decisions. “Instead of being passive bystander to the ECB’s interest rate decisions, the Riksbank could play an integral part in European monetary policy making”. (READE AND VOLZ, 2009, p. 26)

Reade and Volz (2009) quoting Mundell (1961) say that the more synchronized business cycles of different countries are the less the need for an independent monetary policy as a common monetary policy would suit these countries reasonably well. Reade and Volz (2009) also emphasize that the disparities of Sweden and the Eurozone in terms of GDP growth rate reduced significantly after 2002.

Sweden has managed to implement a monetary policy framework that delivers a lower inflation rate than the Eurozone countries. So that, the authors say the country would not benefit from entering the EMU in terms of inflation control as other countries who had higher inflation rate before joining the Euro.

Concerning the long-term interest rate, Reade and Volz (2009) say that between 1999 and 2009 there were no major differences in the yields of government bonds emitted by Sweden and the Eurozone. Supported by this data, the authors point out that the convergence that has taken place suggests that it would have been no significant difference if Sweden had joined the Euro. The exchange rate between the euro and the Swedish Krona might also reflect the closeness of the Swedish and eurozone-economies since there were no big variations since the
creation of the Euro, remaining in the 15% fluctuation band with the exception of 2009, as shown in figure 10.

Reade and Volz (2009) conclude that many macroeconomic variables for Sweden and the Eurozone have converged since 2009, what gives a positive outlook in the Swedish Eurozone’s membership. Also, they argue that keeping outside the EMU would imply giving up benefits a small open economy with internationally exposed financial sector would have from adopting an international currency.

For Korkman and Suvanto (2015), differently from the conclusion of the Swedish Calmfors Commission for Sweden not to join the EMU, Finnish Pekkarinen commission did not directly take a stand on whether the country should join, but rather discussed measures to improve fiscal consolidation and resilience in the face of shocks. The economic considerations of these expert committees were not decisive in the EMU membership since political factors were more relevant for the population in both countries.

“Finland joined the EU in order to clarify its geopolitical identity, having lived for many decades in the problematic shadow of the Soviet Union. Given the possibility, the Finnish political and economic establishment wanted to join not only the EU but also its “hard core”, the EMU. (KORKMAN AND SUVANTO, p. 300, 2015)

4- MACROECONOMIC INDICATOR COMPARISONS

To have a deeper understanding in how the Euro changed some economies since its creation, this study will compare two countries outside the Euro area but inside the EU – Sweden and United Kingdom (is important to highlight that the UK is still a member of the EU since the terms of the Brexit are not finished yet) with similar economies that currently use the Euro. Sweden will be compared mainly to Finland and France will be compared to the UK.

Comparing Sweden and Finland is pertinent due to economic, cultural and geographical similarities. As neighbor countries, they share approximately the same geographical conditions and therefore similar agricultural productivity. Both are export-oriented and host many start-up companies and other high-tech companies. Culturally, as Scandinavian countries, they share many common habits, level of education and development. Also, the recent economic history of both countries is partly convergent, considering that they have experienced similar recession from 1990 to 1993 and have similar business cycles. Gyoerk (2017) also enhances that both countries have the same primary export goods as chemicals, machinery, and timber, besides having common exports partners such as Germany and the USA, what makes them to be exposed to similar trends and shocks.

Korkman and Suvanto (2015) explain that both countries have faced a banking crisis and serious depression in early 1990’s, and its effects were strongly responsible for profound effects on economic policies such as pursuit of price stability and sound public finances. In 1995 both countries joined the EU, but a different decision was made in 1999 when Finland decide to join the EMU and Sweden opted to stay out. Though, despite exceptional structure similarities, Finland and Sweden started drawing different paths by adopting different monetary regimes.
Looking back for the early 1990’s crises, from 1990 to 1993 GDP in Finland fell by 13%, unemployment increased five-fold, from 3% to 16% and government debt scaled from 14% to 58%, more than 300%. In Sweden, despite smaller consequences, it was still a dramatic issue. In the same period, the Swedish GDP fell by 5%, unemployment rose from 2% to 9% (also more than 300%) and government debt went from 40% to 75%. Furthermore, stock prices and house prices declined 20% and the currency devaluated 20% as soon as the floating exchange rate was established in November 1992. For Korkman and Suvanto (2015), both crises were preceded by rapidly growing indebtedness and the explanation for a more severe recession in Finland despite the countless economic similarities was largely due to the significant loss almost overnight caused by the Soviet Union in 1991.

Since 1990’s both countries have switched from persistent deficit to sizeable surpluses in the current account. Despite, Finish economy experienced a deficit in 2011 and the country is losing comparative advantages in two main sectors: the paper industry and the ICT (information and communication technologies).

As both countries are export-oriented, they suffered the consequences of a sharp decline in international trade (both exports and imports) and consequently major GDP loss. The main difference emerges from the recovery phase, as the Swedish economy recovery was sharp and reached a pre-crisis level in 2011 while Finland still drifts to recover. “Finland’s relative underperformance vis-à-vis Sweden during the recovery phase can be accounted by mainly weak export growth and anemic investment.” (Korkman and Suvanto, 2015, p. 285)

Finland and Sweden adopted floating exchange rates with inflation targeting in the early 1990’s, what proved to be a success. Despite, in 1996 Finland started to orient itself towards the EMU by adopting the ERM and adopted the Euro in 1999 while Sweden kept the national currency.

According to Korkman and Suvanto (2015), the decisions on EMU membership were not due to differences in economic structures, but differences in political appreciations of the EMU.

The authors conclude that both Scandinavian countries have outperformed the EMU regardless the EMU membership, what implies that adopting or not the Euro can hardly explain the differences in economic performance after 1999, but the quality of institutions, the flexibility of the economy and economic policies pursued is what matters. Despite this argument, the data set further analyzed implied a considerable difference between these countries, what might be interpreted also as a consequence of an EMU membership. Nevertheless, it is commonly regarded that only this issue cannot answer all questions separately.

Comparison in between Euro Vs Non-euro countries would be definitely more complete if not only comparing small economies such as Sweden and Finland but comparing central role countries in the EU member and not a member of the EMU. As we could conclude from the table above, the UK and France have almost the same level of total GDP and GDP per capita, what would make the historical comparison of all other macroeconomic indicators since the Euro release even more reliable.

The comparison will take place between analyzing the possible effects of using an international currency vis-à-vis national currencies – the Euro, the Swedish Krone and the Great British Pound. In other words, this paper will assess how the decision of staying in or out the Eurozone affects the economies in terms of costs and benefits, in special the Swedish economy compared to the Finnish economy.
4.1 - GROSS DOMESTIC PRODUCT

The starting point of the analyzes is the GDP. As one of the main macroeconomic indexes, analyzing the total production and its percentage terms in the past years is important to understand the cost and benefits of joining or not a monetary union.

Below, table containing GDP of the economies/area mentioned above in 2017 at market prices.

Table 1- GDP and GDP per Capita – Current Prices

<table>
<thead>
<tr>
<th>GDP and main components (output, expenditure and income)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last update</td>
</tr>
<tr>
<td>Extracted on</td>
</tr>
<tr>
<td>Source of data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNIT</th>
<th>Current prices, million euro</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA_ITEM</td>
<td>Gross domestic product at market prices</td>
</tr>
<tr>
<td>GEO/TIME</td>
<td>2017</td>
</tr>
<tr>
<td>Euro area</td>
<td>11.168.630,4</td>
</tr>
<tr>
<td>Germany</td>
<td>3.263.350,0</td>
</tr>
<tr>
<td>France</td>
<td>2.287.603,0</td>
</tr>
<tr>
<td>Finland</td>
<td>223.522,0</td>
</tr>
<tr>
<td>Sweden</td>
<td>477.857,5</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2.324.293,1</td>
</tr>
</tbody>
</table>

Source: Author’s organization, based on data from Eurostat.

4.2 - REAL GDP PER CAPITA

GDP per capita is one of the best instruments to assess people’s well-being and level of development of a country. By comparing relative terms, it also helps to measure productivity. In all countries analyzed we can draw an increasing line in real GDP per capita since 1997, despite the 2008 / 2009 financial crisis.
In the graph above we can see the evolution of this variable after the creation of the Euro. There is a clear tendency of all indicators to move in the same direction (all countries faced a sudden drop of GDP per capital in 2009) and therefore, they are all similarly influenced by crisis and moments of boom. Above there is the percental drop in GDP per capita during the financial crisis.

**TABLE 2 – GDP PER CAPITA ANNUAL PERCENTAGE VARIATION**

<table>
<thead>
<tr>
<th>TIME/GEO</th>
<th>Euro area</th>
<th>Germany</th>
<th>France</th>
<th>Finland</th>
<th>Sweden</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>27.800</td>
<td>30.600</td>
<td>30.000</td>
<td>33.900</td>
<td>33.300</td>
<td>27.600</td>
</tr>
<tr>
<td>Δ%</td>
<td>-3,81%</td>
<td>-3,47%</td>
<td>-3,23%</td>
<td>-7,12%</td>
<td>-12,83%</td>
<td>-13,48%</td>
</tr>
</tbody>
</table>

Source: Author’s organization, based on data from Eurostat.
One of the reasons the Swedish and UK higher GDP per capita decrease in 2008/2009 is the higher risk of these economies by using the Swedish Krona and the GBP. As the currencies are not an international media of exchange, in moments of crisis investors tend to withdraw their international investments from higher volatility countries and demand more Dollars and Euros, that might be considered safer currencies, causing a depreciation of national currencies. This movement leads to less money invested in the country and consequently reduces GDP and GDP per capita. Hence, the devaluation of the currency also affects the real GDP per capita, since it is measured in Euros.

Finland’s GDP per capita was growing in a fast path until 2008 when in 2009 the country faced the deepest decrease of all Euro nations of the comparison. This can be partly explained by the structure of the Finnish economy, too dependent on the exportations. As the crisis lowered down the international trade considerably, the country was deeply affected and couldn’t find a fast escape way to growth. Despite, in 2016 and 2017 it remained as the second higher GDP per capita in among the nations compared, after Sweden.

France and the UK, as similar economies in terms of size, also have a very similar GDP per capita. What we can infer is that since the Euro creation GDP per capita in the UK has increased in a faster path than in France, on average 1,9% growth rate per year for the UK versus 1,7% for France. The question to be elucidated is whether this difference in performance could be partly caused by the maintenance of an autonomy monetary policy by not joining the Euro? Is the EMU membership responsible for that?

The average Euro Area GDP per capita has the lowest volatility and growth rate. By aggregating countries that don’t necessarily face the same business cycles its growth and depression are limited despite we could see the same up-and-down trend as observed in other countries.

Below we can analyze the recent GDP growth rate and check if it goes in the same direction as GDP per capita went as shown above.

<table>
<thead>
<tr>
<th>Real GDP growth rate - volume</th>
<th>Percentage change on previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro area</td>
<td>3,2</td>
</tr>
<tr>
<td>France</td>
<td>2,4</td>
</tr>
<tr>
<td>Finland</td>
<td>4,1</td>
</tr>
<tr>
<td>Sweden</td>
<td>4,7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,5</td>
</tr>
</tbody>
</table>

Source: Eurostat.

From 2006 to 2017 Sweden was the country with higher average GDP growth (2,05% per year), 53% ahead of the second position (United Kingdom). It is important to highlight that by using national currencies they are not constrained by the ECB monetary policy. The possibility to use the exchange rate to reestablish equilibrium is something that made the difference in the speed of growth, despite the increased trading costs.
The United Kingdom grew 34% more than France in the period despite a deeper recession in per capita terms in 2009 of 4.2% against 2.4%. Also, it is possible to infer that the country has a more consistent growth in recent years, especially from 2012.

Finland had the lower GDP per capita growth since 2006, even below the EMU average. The recession of 8.3% in 2009 basically lowered a lot the average growth since it was approximately 60% deeper than the second worst recession in 2009 (Sweden). Hence, it was the only country in the comparison with 3 consecutive years of depression after the 2009 crisis, from 2012 to 2014.

The conclusion in terms of GDP per capita is that, with the exception of Finland, non-EMU countries bear a higher volatility during crisis that might be caused by the risk of not using international currencies. On the other hand, they maintain a more sustainable growth rate in relatively calm periods that can be partly explained by the lack of money transfers in the EMU and the monetary policy autonomy which is driven to the countries need in each period.

The following table by Eurostat also helps us to illustrate the differences in total GDP growth, which is closely linked to the GDP per capita presented above. For best comprehension, the year 2010 is equal to 100 and it is the base year of the comparison.
It can be noticed that Sweden led the GDP growth in real terms since 2010 (17.5%), followed by the UK (15%), while the EMU average growth was very similar to the French one. Again, Finland demonstrated the weakest growth, even if the effect of 2008 crisis (which affected more the Finnish economy than the others compared) is not captured if we analyze from 2010, since 2010 = 100.

In the graph below we can easily spot 2 main points: The Finnish recession of 2009 which affected the country deeper than the others and the Swedish fast recovery in 2010, with the higher relative growth of all the period analyzed.
FIGURE 4 – REAL GDP GROWTH RATE – SWEDEN VS FINLAND

Real GDP growth rate – volume
Percentage change on previous year

Source: Eurostat.
While comparing economies with the same characteristics and approximately same size (France Vs UK and Sweden Vs Finland), we can spot that the Euro outsiders have a better performance in terms of GDP growth rate, GDP per capita, and GDP per capita growth rate in real terms. Therefore, the analysis of this macroeconomic indicator suggests that it is reasonable for the UK and Sweden to keep their national currencies.

4.3 - INFLATION RATE

The stability of a country and, especially the stability of a currency is measured by the inflation rate. One of the challenges of the modern economic tripod (floating exchange rate, inflation targeting and primary surplus) is to find the sustainable rate between inflation rate and economic growth. It is a common agreement beyond economists that the inflation rate must be under control even in moments of growth, partly due to its correlation with expectations. Therefore, having it in a low level helps the planning of mid-term and long-term investments and other economic actions and, consequently, make the growth sustainable.

One of the primary goals of the European Central Bank is to keep the Euro area inflation rate low to give stability to the block and hence promote sustainable growth. Knowing that we can look at the inflation rate table above.
## TABLE 4 – INFLATION RATE

HICP (2015 = 100) – annual data (average index and rate of change)  
[prc_hicp_aindx]

<table>
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<th>Last update</th>
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<th>Source of data</th>
</tr>
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<tr>
<td>18.04.18</td>
<td>06.05.18</td>
<td>Eurostat</td>
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#### UNIT

Annual average rate of change

#### COICOP

All-items HICP

<table>
<thead>
<tr>
<th>TIME/GEO</th>
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<th>Finland</th>
<th>Sweden</th>
<th>United Kingdom</th>
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<tr>
<td>2014</td>
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<td>1.2</td>
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<td>1.5</td>
</tr>
<tr>
<td>2015</td>
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<td>0.1</td>
<td>-0.2</td>
<td>0.7</td>
<td>0.0</td>
</tr>
<tr>
<td>2016</td>
<td>0.2</td>
<td>2.2</td>
<td>0.3</td>
<td>0.4</td>
<td>1.1</td>
<td>0.7</td>
</tr>
<tr>
<td>2017</td>
<td>1.5</td>
<td>2.3</td>
<td>1.2</td>
<td>0.8</td>
<td>1.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Average</td>
<td></td>
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<td>1.8</td>
<td>1.5</td>
<td>1.7</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Source: Eurostat.

It is also commonly regarded that the Euro did a great job in terms of preventing prices to go up uncontrolled. In the table above, we can rank the countries /areas in increasing order as follows: Sweden, France, Finland / Euro area, Germany, and the UK.

As it was observed on the interest rate table, UK had the higher inflation rate in the comparison. It is logical that interest and inflation rate are strongly linked since the real interest rate is more important than the nominal one while analyzing investment opportunities. Then, a higher inflation rate is usually followed by a higher interest rate to keep the same real interest rate (if it is the case of a stable risk premia of one nation).

Germany, as the most dynamic and leader economy of the Euro block, is expected to face a slightly higher inflation rate than other EMU countries, as it deals with a higher demand of products and services and consequently higher pressure in prices level. It is important to
enhance that the country attack inflation pressures also by increasing the supply of product and services, not only by monetary policies, what leads to a sustainable economic growth.

The average inflation rate of Finland and the Euro area were calculated as 1,7% per year, what is considered to be good according to the ECB standards. In the case of the finish economy, a low inflation rate might have been the result of a low economic growth partly due to the adoption of the Euro.

The lowest inflation rate on the comparison, Sweden, faces a curious inverted trade-off between inflation and economic growth. It is expected for a country that faces higher GDP growth rate to deal with a higher inflation rate basically due to the supply and demand law. Therefore, the Swedish economy faced the lowest average inflation rate and the highest GDP growth rate. We can infer that the Swedish monetary policy was effective in preserving the value of the Krona even facing a growth in GDP in the period analyzed. Furthermore, while combining a relatively stable exchange rate and a low inflation rate the Riksbank has shown to be efficient in establishing stability and growth in the Swedish economy. In other words, Sweden achieved a sustainable level of economic development without the European Central bank direct interference and being outside the EMU, or perhaps as a result of remaining outside the monetary union. A great part of what is expected by a country while joining the EMU (low inflation rate and sustainable growth) was achieved by an EMU outsider. It is also important to state that, according to the data set previously analyzed, the Swedish growth has not been anchored by currency devaluation against the Euro, but rather real growth.

4.4 - UNEMPLOYMENT RATE

Complementary to the GDP conclusions, the relative unemployment rate indicator can elucidate rather the production growth is followed by lower unemployment, which means that the society as a whole is being comprised by economic development instead excluded, which would cause higher income inequality. The graph below shows the percentage of unemployment rate of active population in our comparison.
In 2009 all countries analyzed faced an increase in the unemployment rate due to the world financial crisis. From 2010 to 2015 there was no clear pattern in terms of which direction this indicator was heading for. Moments of increase and decrease in unemployment were being alternated in the sample used. The deepening of European sovereign debts in some countries gave a higher instability to this period and the possibility of default or bail-out was always to be considered. From 2016 there was a common behavior of declining unemployment rate in the countries analyzed and in the average of UE members, what could be interpreted as an initial turn over from the 2008/2009 financial crisis and the so far ongoing sovereign public debt crisis.

### 4.5 - GOVERNMENT DEBT

Another relevant issue to be analyzed in the context of economic development is the level of government debt in an economy. The Maastricht agreement sets the limit of 60% of GDP as a maximum debt for Euro members to pursue. Despite, it was observed that this limit was not respected especially after the European sovereign debt crisis, with countries such as Greece, Italy, Spain, Portugal, France Ireland strongly surpassing the limit. This crisis added a higher instability to the Euro area and have put in discussion the future of the common currency. Large bail-out agreements were made, especially with Greece to keep the country inside the block, as it was known that if Greece exit the Euro it could have been the start of the Eurozone dismantlement. Keeping the Eurozone safe was a top priority of the block leaders (Germany and
France) which means that a large amount of money flew from the donators countries to the weaker ones.

Below it is presented the evolution of government debt of countries analyzed in this paper and the Euro area average since the Euro creation.

**TABLE 5 – GOVERNMENT DEBT**

<table>
<thead>
<tr>
<th>TIME/GEO</th>
<th>Euro area</th>
<th>Germany</th>
<th>France</th>
<th>Finland</th>
<th>Sweden</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
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<td>1999</td>
<td>70,7</td>
<td>60,0</td>
<td>60,5</td>
<td>44,1</td>
<td>61,5</td>
<td>39,9</td>
</tr>
<tr>
<td>2000</td>
<td>68,1</td>
<td>58,9</td>
<td>58,9</td>
<td>42,5</td>
<td>50,8</td>
<td>37,0</td>
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<tr>
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<td>58,3</td>
<td>41,0</td>
<td>52,3</td>
<td>34,4</td>
</tr>
<tr>
<td>2002</td>
<td>67,0</td>
<td>59,4</td>
<td>60,3</td>
<td>40,2</td>
<td>50,3</td>
<td>34,5</td>
</tr>
<tr>
<td>2003</td>
<td>68,2</td>
<td>63,1</td>
<td>64,4</td>
<td>42,8</td>
<td>49,8</td>
<td>35,7</td>
</tr>
<tr>
<td>2004</td>
<td>68,5</td>
<td>64,8</td>
<td>65,9</td>
<td>42,7</td>
<td>48,9</td>
<td>38,7</td>
</tr>
<tr>
<td>2005</td>
<td>69,2</td>
<td>67,0</td>
<td>67,4</td>
<td>40,0</td>
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<tr>
<td>2006</td>
<td>67,4</td>
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<td>64,6</td>
<td>38,2</td>
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<td>2007</td>
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<td>64,5</td>
<td>34,0</td>
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</tr>
<tr>
<td>2008</td>
<td>68,7</td>
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<td>68,8</td>
<td>32,7</td>
<td>37,8</td>
<td>49,9</td>
</tr>
<tr>
<td>2009</td>
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<td>83,0</td>
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<td>2010</td>
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<td>80,9</td>
<td>85,3</td>
<td>47,1</td>
<td>38,6</td>
<td>75,6</td>
</tr>
<tr>
<td>2011</td>
<td>86,6</td>
<td>78,6</td>
<td>87,8</td>
<td>48,5</td>
<td>37,9</td>
<td>81,3</td>
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<tr>
<td>2012</td>
<td>89,7</td>
<td>79,8</td>
<td>90,6</td>
<td>53,9</td>
<td>38,1</td>
<td>84,5</td>
</tr>
<tr>
<td>2013</td>
<td>91,6</td>
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<td>93,4</td>
<td>56,5</td>
<td>40,7</td>
<td>85,6</td>
</tr>
<tr>
<td>2014</td>
<td>91,9</td>
<td>74,7</td>
<td>94,9</td>
<td>60,2</td>
<td>45,5</td>
<td>87,4</td>
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<tr>
<td>2015</td>
<td>89,9</td>
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<td>95,6</td>
<td>63,5</td>
<td>44,2</td>
<td>88,2</td>
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<tr>
<td>2016</td>
<td>89,0</td>
<td>68,2</td>
<td>96,6</td>
<td>63,0</td>
<td>42,1</td>
<td>88,2</td>
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<tr>
<td>2017</td>
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<td>64,1</td>
<td>97,0</td>
<td>61,4</td>
<td>40,6</td>
<td>87,7</td>
</tr>
</tbody>
</table>

Source: Eurostat

The first aspect to be highlighted is that Euro area average government debt has never respected the limit of 60% of GDP established in the Maastricht Agreement. The lower observed level was in 2007 (65%) right before the 2008 world financial crisis, but it was still 8,3% above the limit. The highest number was observed in 2014, with an average of 91,9% of government debt in respect to the GDP, what represents 53,2% above the limit ratio. Just considering the first colon of the table (Euro average) we can conclude that limit of debt imposed to the countries was treated as a future target or a possibility and not as a rule of the Euro block.
In a perspective of a country that would be possibly enforced to join the Euro such as Sweden, the analyzes of this specific index of the average of the Euro area would start the discussion that a new membership should be at least skeptically seen. The simple question to be made is: If the actual members of EMU are not respecting its rules, why Sweden should join a block despite meeting the criteria?

The table above shows that Swedish government debt is stable around 40%, which represents a low risk of bankruptcy. Since the beginning of the Euro, Swedish public debt had roughly a decreasing path, starting at the level of 61,5% of GDP in 1999 and ending up at the level of 40,6% in 2017. Despite expect lower bond interest premia by using the Euro due to the use of an international currency and its supposed benefits and stability, it is reasonable to conclude that the Swedish low level of public debt reflects a low risk and, consequently, a low interest rate. Therefore, joining the Euro would not have a positive impact on the bond risk premia since its level is already low.

On the other side of the comparison, both the UK and France had increased by large the government debt since the Euro creation. While the UK jumped from 39,9% in 1999 to 87,7% in 2017 representing an increase of 120%, France jumped from 60,5% to 97% in the same period, representing an increase of 60,3%.

4.6 - BALANCE OF PAYMENTS

For better analyzes of the public finance, besides looking at the government debt as a percentage of the GDP, it is important to assess the current account of a country. A surplus current account tends to reduce the total public debt and a deficit one will increase public debt. Countries deficits and surplus are demonstrated in the table below
Despite the first three years of the data set, from 1999 to 2001, Germany only had surpluses in the current account, which shows a sustainable development and very low default risk. On the other hand, France faces a deficit in current account balance since 2007 followed by increasing government debt.

During all the years of our analyzes, the UK persistently deals with a deficit in its current account. It is mainly due to net trade deficit (import and export of goods and services), primary and secondary income deficits. To keep the balance of payments under equilibrium, the country has a substantial financial account surplus which is sufficient to cover the current account imbalance. This situation that can be unsustainable for an EMU country is partly under control while the Great Britain Pound remains the national currency and the financial account is still

---

**TABLE 6 – CURRENT ACCOUNT**

Balance of payments by country - annual data (BPM6) [bop_c6_q]

<table>
<thead>
<tr>
<th>TIME/GEO</th>
<th>Germany</th>
<th>France</th>
<th>Finland</th>
<th>Sweden</th>
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<td>18.719</td>
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<td>12.572</td>
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<td>-321</td>
<td>5.013</td>
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<td>4.045</td>
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<td>2013</td>
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<tr>
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<td>-18.965</td>
<td>-740</td>
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<td>2017</td>
<td>262.670</td>
<td>-18.013</td>
<td>1.600</td>
<td>15.094</td>
<td>-94.608</td>
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</table>

Source: Eurostat.
strongly positive. In any case, the country has the possibility of devaluing its currency in order to reduce a large deficit in the current account, what is not possible if a country had forgone its monetary autonomy by joining the EMU. However, a long-term deficit current account may be a signal of lacking competitiveness and lead to lower economic growth and all other consequential problems. Furthermore, a hypothetical financial outflow might bring instability to the country by forcing the national currency to depreciate and lead to a reduction in the living standards. According to Hope (2016), large current account deficits make economies more vulnerable to external economic shocks, especially due to the risk of a sudden stop in capital inflows to finance to the deficit. In a case of an EMU member, this situation is even more problematic considering that one cannot devaluate the nominal exchange rate to regain competitiveness and restore equilibrium.

Finland and Sweden, despite the huge similarities, have a different path in terms of current account. By looking at the graph below it is visible the behavior of both lines.

**FIGURE 7 – CURRENT ACCOUNT – FINLAND VS SWEDEN**

![Current Account - Finland Vs Sweden](graph.png)

Source: Author’s compilation, based on data from Eurostat.

Until 2002 both current account curves were in the same growing path. Korkman and Suvanto (2015) point out that both countries were running sizeable surpluses from late 1990’s to 2009 what led to a decline in public debt. Nevertheless, the 2008 / 2009 crisis turned the Finnish fiscal balance into deficit while in Sweden the current account remained all the period positive and the debt ratio has continued to fall.

From 2002 we can observe a declining in the Finnish surplus which led to a deficit between 2011 and 2016. On the other hand, even with a substantial declining of 32.7% in the surplus of current account, Sweden has not faced any deficit period and rapidly inverted the declining tendency in 2010.
4.7 - INTEREST RATE

The interest rate of government bonds is the most tangible measurement of the risk implied in a country. In other words, every investor would look at the risk–return rule to allocate their investments while a lower bankruptcy risk is closely associated with lower interest rate and vice-versa. Above, there is annual data series for the government bond yields. The data for the Euro area in 1997 and 1998 is based on the eleven countries that joined the Euro in 1999.

**TABLE 7 – INTEREST RATE**

<table>
<thead>
<tr>
<th>TIME/GEO</th>
<th>Euro area</th>
<th>Germany</th>
<th>France</th>
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<th>Sweden</th>
<th>United Kingdom</th>
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</tr>
<tr>
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<td>5.00</td>
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<td>4.94</td>
<td>5.04</td>
<td>5.11</td>
<td>5.01</td>
</tr>
<tr>
<td>2002</td>
<td>4.91</td>
<td>4.78</td>
<td>4.86</td>
<td>4.98</td>
<td>5.30</td>
<td>4.91</td>
</tr>
<tr>
<td>2003</td>
<td>4.14</td>
<td>4.07</td>
<td>4.13</td>
<td>4.13</td>
<td>4.64</td>
<td>4.58</td>
</tr>
<tr>
<td>2004</td>
<td>4.12</td>
<td>4.04</td>
<td>4.10</td>
<td>4.11</td>
<td>4.43</td>
<td>4.93</td>
</tr>
<tr>
<td>2005</td>
<td>3.42</td>
<td>3.35</td>
<td>3.41</td>
<td>3.35</td>
<td>3.38</td>
<td>4.46</td>
</tr>
<tr>
<td>2006</td>
<td>3.84</td>
<td>3.76</td>
<td>3.80</td>
<td>3.78</td>
<td>3.70</td>
<td>4.37</td>
</tr>
<tr>
<td>2007</td>
<td>4.32</td>
<td>4.22</td>
<td>4.30</td>
<td>4.29</td>
<td>4.17</td>
<td>5.06</td>
</tr>
<tr>
<td>2008</td>
<td>4.31</td>
<td>3.98</td>
<td>4.23</td>
<td>4.29</td>
<td>3.89</td>
<td>4.50</td>
</tr>
<tr>
<td>2009</td>
<td>3.82</td>
<td>3.22</td>
<td>3.65</td>
<td>3.74</td>
<td>3.25</td>
<td>3.36</td>
</tr>
<tr>
<td>2010</td>
<td>3.60</td>
<td>2.74</td>
<td>3.12</td>
<td>3.01</td>
<td>2.89</td>
<td>3.36</td>
</tr>
<tr>
<td>2011</td>
<td>4.34</td>
<td>2.61</td>
<td>3.32</td>
<td>3.01</td>
<td>2.61</td>
<td>2.87</td>
</tr>
<tr>
<td>2012</td>
<td>3.86</td>
<td>1.50</td>
<td>2.54</td>
<td>1.89</td>
<td>1.59</td>
<td>1.74</td>
</tr>
<tr>
<td>2013</td>
<td>2.99</td>
<td>1.57</td>
<td>2.20</td>
<td>1.86</td>
<td>2.12</td>
<td>2.03</td>
</tr>
<tr>
<td>2014</td>
<td>2.04</td>
<td>1.16</td>
<td>1.67</td>
<td>1.45</td>
<td>1.72</td>
<td>2.14</td>
</tr>
<tr>
<td>2015</td>
<td>1.21</td>
<td>0.50</td>
<td>0.84</td>
<td>0.72</td>
<td>0.72</td>
<td>1.79</td>
</tr>
<tr>
<td>2016</td>
<td>0.86</td>
<td>0.09</td>
<td>0.47</td>
<td>0.37</td>
<td>0.54</td>
<td>1.22</td>
</tr>
<tr>
<td>2017</td>
<td>1.09</td>
<td>0.32</td>
<td>0.81</td>
<td>0.55</td>
<td>0.65</td>
<td>1.18</td>
</tr>
<tr>
<td>Average</td>
<td>4.14</td>
<td>3.51</td>
<td>3.82</td>
<td>3.76</td>
<td>3.82</td>
<td>4.24</td>
</tr>
</tbody>
</table>

Source: Eurostat.

The ranking for the period of average interest rate has the following increasing order: Germany, Finland, Sweden / France, UK and the Euro area. The first problematic issue to be pointed out is the discrepancy between Germany as the Euro leader and the average of all other Euro countries. While Germany had the lowest average interest rate in the 20 years data set, the Euro area had the highest one. The obvious conclusion is that Germany is pushing down the interest rate of the Euro area and many other wicker economies in the EMU are pushing it up,
so the average is the higher in our comparison. Above we can look at the percentage variation of the bond yields.

TABLE 8 – BOND YIELDS – PERCENTAGE DIFFERENCE

<table>
<thead>
<tr>
<th>TIME/GEO</th>
<th>Euro area</th>
<th>Germany</th>
<th>France</th>
<th>Finland</th>
<th>Sweden</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>5.99</td>
<td>5.64</td>
<td>5.58</td>
<td>5.96</td>
<td>6.62</td>
<td>7.13</td>
</tr>
<tr>
<td>2017</td>
<td>1.09</td>
<td>0.32</td>
<td>0.81</td>
<td>0.55</td>
<td>0.65</td>
<td>1.18</td>
</tr>
<tr>
<td>Average from 1997 to 2017</td>
<td>4.14</td>
<td>3.51</td>
<td>3.82</td>
<td>3.76</td>
<td>3.82</td>
<td>4.24</td>
</tr>
<tr>
<td>Percentage Difference from 1997 to 2017</td>
<td>-81.80%</td>
<td>-94.33%</td>
<td>-85.48%</td>
<td>-90.77%</td>
<td>-90.18%</td>
<td>-83.45%</td>
</tr>
<tr>
<td>Percentage Difference from 1997 to average (1997:2017)</td>
<td>-30.91%</td>
<td>-37.78%</td>
<td>-31.51%</td>
<td>-36.84%</td>
<td>-42.22%</td>
<td>-40.52%</td>
</tr>
</tbody>
</table>

Source: Eurostat

Germany had the highest drop in the interest rate between 1997 and 2017, decreasing 94.33%. As the strongest economy in the EMU Germany represents the pillar of the block and has a stabilization role. Therefore, nowadays it implies a low interest rate, what was conquered during the past 20 years.

The United Kingdom and France had experienced a similar path in the interest rate reduction. Meanwhile, UK had historically higher interest rates and still remains as the highest one.

Without analyzing the data set we could possibly affirm that it is expected (or it was expected in the Euro creation) for the EMU to have a lower interest rate due to the reduced risk in adopting an international and stronger currency instead of national ones. Despite, it is not observed in the Swedish case. In 1997, before the Euro, Sweden had the second highest interest rate in the comparison, with the UK in the first position. However, the Scandinavian country had the highest percental drop if compared to the average of the period (42.22%), which means that even with a non-international currency, the economic development brought the risk down and surpassed to EMU interest rate reduction.

Regardless of economic growth problem, Finish economy performed well in terms of interest rate reduction and have overcome Sweden. Still, Finland benefited in this scenario by adopting the Euro and maintained the decreasing interest rate path even while facing many economic problems in the 2008 / 2009 financial crisis. The percental difference from 1997 to 2017 is similar to the good reduction standard of the Swedish economy.
Furthermore, the Euro area as a whole had the worst performance of interest rate reduction, what demonstrates again the divergence between members. Furthermore, we can observe a discontinuity of the decreasing track in 2011 due to the sovereign debt crisis, especially in Greece, with an average increase of 20.6% between 2010 and 2011.

In the graph below we can see there is a decreasing pattern in the interest rate regardless if of the EMU membership. Still, with the data collected it is not possible to assure that the Euro had rather a positive or negative impact on this, as Germany, Finland, and Sweden had a better performance than France and the UK.

**FIGURE 8 – INTEREST RATE / BOND YIELDS**

Source: Author’s organization, based on data from Eurostat.

Coming back to the comparison between the EMU and an Optimum Currency Area, after the data analyzes it becomes even clearer that the Euro community is far from an OCA. As the interest rate strongly diverges in between members it becomes difficult to make the unique monetary policy to be effective for all countries with such economic diversities.

**4.8 - EXCHANGE RATE**

To study the Swedish economy compared to the Euro area and especially compared to Finland, it is also crucial to look at the Swedish Krona / Euro exchange rate behavior as shown below.
FIGURE 9 – EXCHANGE RATE

Exchange Rate - Swedish krona / Euro

Source: Author’s organization, based on data from Eurostat.

By looking at the graph we can observe a certain stability except from 2007 to 2008 when the Swedish Krone depreciated 15.13% in one year. In this period, due to the financial crisis, the Euro was maybe considered to be the best option for investments in terms of risk reduction as it was a solid international currency and was appreciated if compared to the dollar, as the United States was in the heart of the crisis. The considerable depreciation of the Swedish Krona couldn’t prevent exports the sharply decline, what brings to the conclusion that despite monetary policy autonomy, its role of boosting the economy by devaluing the currency didn’t show effective due to the large international integration the Swedish economy is involved.

According to Korkman and Suvanto (2015), the period of 1999 and 2000 is important because the Krona appreciation against the Euro reflected a weakness of the Euro at the beginning of its history. Furthermore, a global boom in the ICT sector was pushing up Sweden and partly causing this appreciation. The authors also enhance that “If Finland had maintained its own currency it is likely that the Markka would have appreciated strongly in 1999-2000, that is in the period when foreigners started to buy the stocks of Finnish, especially Nokia.” (Korkman and Suvanto, 2015, p. 289)

Despite the crisis of 2008 / 2009, the exchange rate fluctuation didn’t represent a major issue for the Swedish economy as its low variation and low inflation rate maintained the currency strong. Therefore, all three functions of money were preserved since the first year of the data set: 1-Medium of Exchange (there was no problem in acceptance of the national
currency as a media of exchange in the national boundaries); 2- Store of value: Low inflation rate (even lower than the EMU); 3- Unit of account: the currency is a common standard to measure worth of goods and services.

Even with a certain Euro/Swedish Krona exchange rate stability, the Nordish country didn’t take one step ahead towards the monetary integration (next step in the ERM), which is establishing fixed exchange rate towards the Euro. It clearly means that, at least in the short-term, Sweden is not willing to abandon its national currency and its monetary policy autonomy.

In the graph below it is possible to visualize the stability of the Swedish Krona – Euro Exchange rate within the 15% bands around its 1999 level, except for 2009 as a consequence of the 2008 financial crisis.

**FIGURE 10 – EXCHANGE RATE 15% BANDS**

![Graph showing the stability of the Swedish Krona – Euro Exchange rate within the 15% bands around its 1999 level, except for 2009 as a consequence of the 2008 financial crisis.]

Source: European Central Bank Statistical Data Warehouse, retrieved April 1, 2017.

5- WHAT WERE THE COSTS FOR FINLAND TO HAD JOINED THE EMU?

According to Gross (2016), the eurozone peripheric countries experienced a substantial loss of competitiveness during the years of boom. The logical answer for one country is increase productivity to restore competitiveness. Despite, competitive terms might be more related to macro terms than micro, what made this simple answer to be difficult to apply.
In order to empirically assess the costs for Finland to have joined the EU while compared to Sweden it is crucial to analyze the behavior of main macroeconomic indicators from 1990, depending on availability of data sets. At that time, both countries were experiencing an equivalent profound crisis that lasted until 1993. Below, we can compare the path of the unemployment rate, GDP growth rate, current account and labour productivity from 1990 (when available) to 2017 and conclude if there were any substantial difference in the behavior of both economies after the Finnish EMU membership.

**FIGURE 11 – UNEMPLOYMENT RATE**

![Unemployment - Finland Vs Sweden](image)

Source: Author’s organization, based on data from Eurostat.

From the graph presented above, we can infer that despite the unemployment rate in both countries had relatively similar behavior, there were periods of divergence, such as 1990 to 1997 and from 2013 on. From 1990 to 1994 both countries had experienced moments of increasing unemployment as the indicator scaled up more than 500%. Nevertheless, if analyzing unemployment rate from each country as a percentage of GDP, the Swedish standard were much lower than the Finnish one. The period of highest unemployment for both economies was 1994, when Finland reached 16.6% of the active population against 9.4% in Sweden, a big difference of 77%. In the period after the 1990-1993 crisis, the lowest unemployment rate observed in Finland was in 2008 (6.4%) and in Sweden in 2000 (5.6%).

In the recent years, it is important to highlight that from 2008 to 2013 the two countries had very similar behavior in the unemployment rate indicator, ranging from 6.25% to 8.2%. However, from 2014 on the countries started a divergent path as Sweden was in a decreasing path and Finland in an increasing /stable path.

Below, it is presented the graphs for GDP growth rate for Sweden and Finland. The years compared could not be exactly the same due to the lack of data for Sweden in between 1990 and 1993 in Eurostat and in “Trading Economics” website. Despite, it is possible to assume that Finnish and Swedish data were convergent in this period since both countries experienced the same early 1990’s crisis.
From early 1990’s to 2009 the Swedish and Finnish economies were alternating rather higher or lower GDP growth rate. GDP annual growth rate in Sweden averaged 2.67% from 1994 to 2017. In the fourth quarter of 2017, Sweden grew by 3.3% year-on-year while Finland grew 2.7% in the same period.

In the fourth quarter of 2009, Sweden faced the record drop of -6.2% in GDP growth rate as the country was strongly affected by the 2008 financial crisis. Hence, Finland also experienced the highest GDP growth rate drop in 2009, but in the first quarter, with a record low of -9.2%, what represents a recession approximately 48% deeper in the Finnish economy.

From the graphs presented above, it is clear to identify that from 2012 to the beginning of 2015 Finland experienced several quarterly years of negative GDP growth rate, while Sweden only experienced small contraction in GDP growth rate at the end of 2011 and end of 2012. It is
relevant to point out that the Finnish recession in this period is coincident with the European Sovereign Debt Crisis that deeply affected Euro Area countries.

Sweden reached the all-time high of 7.7% in the fourth quarter of 2010, while Finland also grew considerably if compared to the previous year, but far from the highest peak in the mid-1990’s. The conclusion is that Swedish drop in GDP growth rate due to the financial crisis was smaller than the Finnish one, despite been severe in both country, but Sweden reacted faster and maintained a higher average GDP growth rate until 2017.

Next two graphs show the development of GDP per capita in both countries from 1990 onward.

FIGURE 14 – SWEDISH GDP PER CAPITA

Source: Trading Economics / World Bank.

FIGURE 15 – FINNISH GDP PER CAPITA

Source: Trading Economics / World Bank.

The GDP per capita in Sweden was last recorded at US$56,319.05 in 2016 and US$45,709.08 in Finland, which results in the Swedish indicator to be 23.2% higher. The record
high for Sweden was in 2016 as previously mentioned while Finland reached the all-time high in 2008 of US$ 49363,70, right before the world financial crisis. This indicator also shows clearly how Sweden reacted faster and reached its historical top GDP per capita even after had faced a deep depression while Finland is still trying to reach pre-crisis numbers.

Above, it is presented the labor productivity for Finland and Sweden. The year 2010 is the base year and it is equal to 100.

**TABLE 9 – LABOUR PRODUCTIVITY – 2010=100**

<table>
<thead>
<tr>
<th>TIME/GEO</th>
<th>Finland</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>67,5 :</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>67,3 :</td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>70,0 :</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>73,9 :</td>
<td>69,0</td>
</tr>
<tr>
<td>1994</td>
<td>77,9 :</td>
<td>72,5</td>
</tr>
<tr>
<td>1995</td>
<td>79,8 :</td>
<td>74,2</td>
</tr>
<tr>
<td>1996</td>
<td>81,5 :</td>
<td>75,9</td>
</tr>
<tr>
<td>1997</td>
<td>83,7 :</td>
<td>79,2</td>
</tr>
<tr>
<td>1998</td>
<td>86,7 :</td>
<td>81,1</td>
</tr>
<tr>
<td>1999</td>
<td>88,3 :</td>
<td>83,1</td>
</tr>
<tr>
<td>2000</td>
<td>91,3 :</td>
<td>84,9</td>
</tr>
<tr>
<td>2001</td>
<td>92,3 :</td>
<td>84,5</td>
</tr>
<tr>
<td>2002</td>
<td>92,9 :</td>
<td>86,2</td>
</tr>
<tr>
<td>2003</td>
<td>94,6 :</td>
<td>88,7</td>
</tr>
<tr>
<td>2004</td>
<td>97,8 :</td>
<td>93,2</td>
</tr>
<tr>
<td>2005</td>
<td>98,9 :</td>
<td>95,6</td>
</tr>
<tr>
<td>2006</td>
<td>101,1</td>
<td>98,4</td>
</tr>
<tr>
<td>2007</td>
<td>104,1</td>
<td>99,5</td>
</tr>
<tr>
<td>2008</td>
<td>102,6</td>
<td>98,0</td>
</tr>
<tr>
<td>2009</td>
<td>96,4</td>
<td>95,3</td>
</tr>
<tr>
<td>2010</td>
<td>100,0</td>
<td>100,0</td>
</tr>
<tr>
<td>2011</td>
<td>101,3</td>
<td>100,5</td>
</tr>
<tr>
<td>2012</td>
<td>99,0</td>
<td>99,5</td>
</tr>
<tr>
<td>2013</td>
<td>98,9</td>
<td>99,8</td>
</tr>
<tr>
<td>2014</td>
<td>98,8</td>
<td>101,0</td>
</tr>
<tr>
<td>2015</td>
<td>99,0</td>
<td>104,0</td>
</tr>
<tr>
<td>2016</td>
<td>100,9</td>
<td>105,5</td>
</tr>
<tr>
<td>2017</td>
<td>102,4</td>
<td>105,6</td>
</tr>
</tbody>
</table>

Source: Eurostat.
Productivity is a good indicator to measure competitiveness as it directly influences exportations and dynamization of a nation. From 2010 to 2017 we can easily see that the Swedish real labor productivity per person increased 5.6% as the Finnish one increased only 2.4%, an approximate difference of 133%. Moreover, we can observe that, if we analyze the period from 1993 to 2010, Sweden increased labor productivity from 69 to 100 (roughly 50%) while Finland increased from 73.9 to 100 (35.3%). Nevertheless, if we compare the period before the introduction of the Euro 1999, the results for both countries are very similar. While Finland increased labor productivity in 19.5%, Sweden increased by 20.4%, which shows to be a much more convergent indicator than the results after the Finnish EMU membership. Above it is presented line graphs with a black trend line for easier comprehension. Swedish and Finnish productivity all-time high was observed in the third quarter of 2017.

**FIGURE 16 – SWEDISH PRODUCTIVITY**

Source: Trading Economics / World Bank.

**FIGURE 17 – FINNISH PRODUCTIVITY**

Source: Trading Economics / World Bank.
In the first year of the Euro creation (1999) and in the last year of the data (2017), Swedish unemployment rate maintained in the same level of 6.7% of active population. In between this period, there was oscillation from 5.6% (2000) to 8.6% (2010) but without big jumps within a one-year span. Therefore, it is possible to state that the decision of staying out the Euro area didn’t affect the country’s unemployment rate in the long term, as it is graphically demonstrated below.

FIGURE 18 – UNEMPLOYMENT RATE – SWEDEN VS FINLAND

Source: Author’s organization, based on data from Eurostat.

Despite the similarities with the Swedish economy, since the first year of the data set analyzed (1997), Finland has always had a higher unemployment rate. However, there was a clearly decreasing pattern in the index from 1997 to 2008, moving down from 12.7% to 6.4% of the total active population, representing a reduction of approximately 50%. After the Euro creation, the decline until 2008 was 37.3%, what undoubtedly represents a considerable improvement for the Finns. On the other hand, after the 2008 financial crisis, the unemployment rate increased again and reached a short-term stability around 8.5%. Apparently, Finland couldn’t return to the decreasing path of the unemployment rate the country was experiencing in the first years of the 2000’s. Whether this can be explained by macro policy or is a structural phenomena remains to be investigated.
Below, it is presented the Finnish and Swedish current account graph.

**FIGURE 19 – CURRENT ACCOUNT – SWEDEN VS FINLAND**

![Current Account - Sweden and Finland](chart.png)

Source: Author’s organization, based on data from Eurostat.

After the 1990-1993 crisis, Sweden only had positive current account balance as exports highly surpassed imports, reaching the maximum value in 2007. From 1995 to 2002 there is a common increasing tendency in both countries as they become more export-oriented. However, from 2008 Finland inverted this tendency and faced a negative current account balance from 2011 to 2016. The 2008 crisis also affected Sweden causing a reduction of 48.5% in the balance of current account, but it still remained highly positive.

Despite the convergent increasing path in the Finnish and Swedish current account until 2002, the years after were divergent. While Sweden maintained high exportation levels, Finland couldn’t find its way back to high exportations and competitiveness.

Both countries experienced a very similar crisis in the early 1990’s and had roughly the same growth rate when been ruled by national monetary policies, which were also similar. The conclusion is that per person labor production growth reduced significantly in Finland after adopting the Euro if compared to Sweden, what inevitably affects its international competitiveness and, consequently affects national economic indicators and population’s well-being.

In the table presented above, it is summarized the most important macroeconomic indicators to help the measurement of costs for Finland to had opted in the EMU in comparison with Sweden and the Euro area.
Three periods were selected. 1999, the Euro creation; 2009, right after the 2008 world financial crisis, to measure how vulnerable and exposed to shocks the countries were; and 2016, a recent year. I haven’t choses the year 2017 due to the lack of data in some data sources for some specific indicators.

The 2009 picture shows Sweden and Finland with roughly the same GDP growth rate, while the Euro area was left behind, but still growing. The unemployment rate was approximately the same in Finland and in the average of Euro area countries, while Sweden experienced 30% lower unemployment. The current account of both countries was positive, but again Sweden presented better result, around 50% higher surplus. In general assessment, Sweden was slightly better than Finland, but with no big discrepancy.

In 2009 the situation has considerably changed, especially after 10 years of Finnish EMU membership. The world financial crisis affected both countries but in different magnitude, since they were under different monetary regimes. The data shows that unemployment rate of both economies was very similar, higher than the pre-crisis period, but regarding the GDP growth rate, Finland had a deeper contraction than Sweden (around 60% deeper). The GDP growth rate of the Euro area contracted less than the other two economies compared, but we can say that its performance was close to the Swedish one. Despite, the unemployment rate was the highest observed and it has shown to be a persistent issue for EMU members, as the ECB imposes strict rules towards low inflation targeting and, in certain, way might prevent high levels of economic activity. A substantial difference was observed in the Finnish and Swedish current account of the period. Sweden experienced high surplus while Finland was struggling not to have a deficit. This difference reflects the level of competitiveness of both countries, as Sweden economy was taking-off regarding competitive exports, Finland was landing. Moreover, we can conclude that the Euro constraints were, to some extent, limiting Finnish competitiveness. One more time, we can conclude that Sweden had a better economic performance after the 2008 crisis than Finland.

<table>
<thead>
<tr>
<th>TIME/GEO</th>
<th>MACRO INDICATOR</th>
<th>1999</th>
<th>2009</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro area</td>
<td>GDP Growth Rate</td>
<td>3.00%</td>
<td>-4.50%</td>
<td>1.80%</td>
</tr>
<tr>
<td>Euro area</td>
<td>Unemployment Rate</td>
<td>9.70%</td>
<td>9.60%</td>
<td>10%</td>
</tr>
<tr>
<td>Sweden</td>
<td>GDP Growth Rate</td>
<td>4.50%</td>
<td>-5.20%</td>
<td>3.20%</td>
</tr>
<tr>
<td>Sweden</td>
<td>Unemployment Rate</td>
<td>6.70%</td>
<td>8.30%</td>
<td>6.90%</td>
</tr>
<tr>
<td>Sweden</td>
<td>Current Account</td>
<td>10.000,03</td>
<td>18.651,70</td>
<td>19.661,30</td>
</tr>
<tr>
<td>Finland</td>
<td>GDP Growth Rate</td>
<td>4.40%</td>
<td>-8.30%</td>
<td>2.10%</td>
</tr>
<tr>
<td>Finland</td>
<td>Unemployment Rate</td>
<td>10.20%</td>
<td>8.20%</td>
<td>8.80%</td>
</tr>
<tr>
<td>Finland</td>
<td>Current Account</td>
<td>6.566,60</td>
<td>2.964,00</td>
<td>-740,00</td>
</tr>
</tbody>
</table>

Unemployment rate is measured as a percentage of active population. Real GDP Growth - Annualy

Source: Author’s organization, based on data from Eurostat.
The last year of the comparison table presented above, 2016, also brings some interesting conclusive remarks. Sweden again led the GDP Growth Rate indicator and the Euro area average was at the bottom line, but not so distant from Finland. The unemployment rate was markedly inferior in Sweden, while Finland was underperforming, but not as worse as the euro area. The most divergent indicator is the current account. While Sweden faces a high level of surplus, Finland faces a deficit, which reflects a current account situation even worse than the 2008 crisis.

The overall analysis shows a relatively positive economic situation of the Scandinavian countries in the starting point of the EMU, with the exception of Finnish unemployment rate. Furthermore, in the subsequent years, we observe a better economic behavior of Sweden, with higher GDP growth rate and especially current account surpluses. Indeed, due to the huge gap in the Finnish and Swedish current account, we can infer that Swedish economy is more competitive than the Finnish, what can be partly attributed to the constraints of using the Euro.

6- ASSESSING THE NET COST OF A SWEDISH EMU MEMBERSHIP – THE SYNTHETIC CONTROL METHOD

In her paper, Gyoerk (2017) developed the innovative counterfactual method of estimation to assess the potential impact of an EMU membership for Sweden. For that, a comparison was held between actual Sweden, which did not join the currency union, and a hypothetic one, inside the Euro area. The so-called synthetic Sweden is composed of a statistically derived weighted average of the original euro area countries. According to Gyoerk (2017), “this method is the application of an iterative algorithm to assess each possible combination of predictor variables of productivity and the GDP components to obtain the closest fit of the synthetic series to the actual series.” (Gyoerk, 2017, p. 27). With this process, the prediction error was reduced to around 20% for most outcome variables.

The synthetic control method (SCM) was first introduced by Abadie and Gardeazabal in 2003. It does not rely on forecasts of the counterfactual, rather it constructs the counterfactual using real time data based on statistical matching. Recently, there has been interesting applications of the SCM to cost and benefit analyses of policy programmes, including the common currency area. In support of the Mundell (1961) argument, Gomis-Porqueras and Puzzello (2015) applied the SCM to identify the countries that benefited from EMU membership and found that nations that joined the EMU which had closer synchronized business cycles to the monetary union fared better by gaining more or losing less from membership compared to joiners with more desynchronized business cycles.

The SCM studied by Gyoerk (2017) focused on labour productivity, measured as GDP per hour per worker, rather than the level of GDP, as productivity represents a more meaningful metric of economic development for a country that is already economically advanced, as also many other non-members. The synthetic control method (SCM), allows for the comparison of an outcome of a unit that undergoes a treatment (or implements a policy) to a synthetic control unit that does not undergo treatment. “The synthetic control unit is formed as a weighted average of untreated comparison units where the weights are chosen such that the resulting combination best resembles values of predictors of the outcome variable for the treated unit prior to the treatment.” (Gyoerk, 2017, p.6) In other words, Hope (2016) explains that to construct a control unit, the method uses data such the synthetic control unit best approximates
the most relevant characteristics of the unit exposed to the event of interest (Euro adoption in 1999). Therefore, the results can be interpreted as the causal effect of the event of interest.

Three components are specified by the researcher: a treatment and a treatment period, in this case Sweden not joining the EMU in 1999; a donor pool of comparison units from which the synthetic control is created, which are the eleven original Euro Area countries; and outcome predictor variables to link the comparison units to the treated unit, namely variables predicting labour productivity and the components of expenditure GDP.

Hope (2016) points out that the SCM aims to create a control unit that best replicates the pre-EMU characteristics of a country, in this case, Sweden. As it has not become an EMU member and no country exact resembles Sweden, it is applied the weighted average of countries from the donor pool, and the approach to find these weights is the SCM itself.

Gyoerk (2017) explains that to form the counterfactual, the optimization aim is to minimize the distance between the synthetic control and the treated unit as measured by the root mean squared prediction error (RMSPE). Then, a set of covariates that minimizes the RMSPE should be identified. Hence, an algorithm was applied to compute the RMSPE for each possible set of covariates, and the optimal set of covariates is the one which yields the lowest RMSPE and includes at least three covariates.

6.1 RESULTS OF THE SYNTHETIC COUNTERFACTUAL METHOD

The graphs produced by Gyoerk (2017) shows a solid line to represent solid Sweden and a dashed one representing synthetic Sweden, apart from the vertical solid line in 1999 to mark the commencement of the EU. Then, the aim is to discern whether there is a deviation from actual to synthetic Sweden, especially from 1999 onward. The synthetic control unit for labour productivity is composed of 36% of Netherlands, 32% Portugal, 26% Germany, and 6% Finland. The author explained that Netherlands was the most important control unit since it mimics Sweden in economic development and size if compared to other donor pool countries. Regarding Portugal, it was also representative due to the similarities in the inflation history of both countries and industry share of value added. What concerns Germany, the country has developed labour productivity in line with Sweden.

Above it is displayed the counterfactual analysis for labour productivity, measured as GDP per hour per worker.
We can observe that until 1999 the counterfactual Sweden and actual Sweden were moving congruently together. However, from 1999 and especially from 2002 onward there is a widening gap between both lines, what suggests that labour productivity would have had a substantially flatter positive trend if Sweden had joined the Euro area. According to the econometrics results found by Gyoerk (2017), Swedish peaks in excess of its synthetic control in 2006, with a 10% deviation from actual Sweden. It is also possible to observe that actual Sweden had a greater fall in labour productivity in the 2008 crisis but still maintained a considerable difference from counterfactual Sweden. Therefore, the EMU membership would negatively affect economic output.

With regard to exports, actual and counterfactual Sweden move constantly together until 2003, when a deviation between the two series emerges. The synthetic control unit is composed of 82% Finland (due to geographic and demographic similarities), 15% France, and 3% Italy.
From 2003 actual Swedish exports steadily exceeded the amounts the country would have exported as an EMU member, with the greatest deviation implied in 2015 of a magnitude of 15%. “Greater exports have a *ceteris paribus* positive effect on the trade balance, contributing to greater overall GDP. This result further suggests that Sweden did not suffer trade discrimination and decreased exporting opportunities due to currency union non-membership (...)” (Gyoerk, 2017, p. 12).

The synthetic control unit for imports is composed mainly of Finland (82%) and France (18%). The graph below shows the imports for actual and counterfactual Sweden.
While combining exports and imports we can observe a net benefit to the trade balance for actual Sweden as the synthetic counterfactual series for imports is predicted to exceed the actual series and vice versa for the exports. Nevertheless, as the gap reduces significantly in recent years it suggests that the effect of an EMU membership on imports might be temporary.

Hope (2016) points out three main channels through which EMU membership contributes to current account divergence among member states: 1) The fixed exchange rate, which may affect competitiveness since it is not possible to restore competitiveness through an exchange rate devaluation; 2) Financial integration, that reduces dramatically of borrowing for less credit-worthy member states from the south, what causes current account surpluses in north countries and deficits in south countries; 3) The weak enforcement of deficit and debt, that can lead to irresponsible fiscal policies.

The Synthetic Control Method used by Hope (2016) brought the same conclusions of Gyoerk (2017). Hope (2016) used different data for the synthetic control unit, as he was investigating the causal effect of the EMU on the current account balances of individual member states, and not specifically the Swedish case. However, the conclusions about current account for all EMU members were coincident with the results achieved by Gyoerk (2017). Even if the synthetic control unit was composed by several OECD countries and not only Sweden, EMU had a negative effective on the great majority of its member's current account, what confirms Gyoerk's results.

While analyzing government expenditure we can observe that an initially increasing gap between the synthetic and actual series is subsequently reversed and reduces the difference
between both series by the end of the time-line, differently from all other indicators analyzed by Gyoerk (2017). This diminishing deviation suggests that the effect of an EMU membership on government expenditure might be temporary rather than permanent. The synthetic control unit is composed of 57% Austria, 32% Belgium, 10% Italy, and 1% Germany. The similarities in between Austrian and Swedish educational pervasion make Austria to enter as a prominent constituent of the control unit.

FIGURE 23 – SCM GOVERNMENT EXPENDITURE

![Figure 23 – SCM Government Expenditure](image)

Source: Gyoerk (2017), Economic Cost and Benefits of EMU Membership from the Perspective of a Non-Member.

Nevertheless, the deviation in between both series suggests that the Swedish EMU membership would cause a greater government expenditure than as a non-member from the introduction of the Euro to nowadays. The gap in between synthetic and actual Sweden reached its peak in 2008 and it might represent a substantially increased need for expanded government expenditure during the crisis within the currency union than without. “Notwithstanding the subsequently diminishing gap, observing differences to the magnitude of 8–10% on a yearly basis over the span of around a decade would imply a substantial cumulative increase in expenditure.” (Gyoerk, 2017, p. 13). The author also enhances that the increased outlay during this time span would have required being financed by unpopular fiscal policies measures or accumulation of public debt.

The effect of a Swedish EMU membership on investment is shown below, in which the synthetic control unit is composed as 89% Finland and 11% Italy. Again, the higher representation in the control unit by Finland is due to the similar economic development and similar exposure to business cycle fluctuations.
From the introduction of the Euro in 1999 to 2010 there was no substantial difference in investment (measured as gross fixed capital formation) in between actual and counterfactual series. However, from 2010 onward the actual series assumes extraordinary strong growth while the synthetic one undergoes contraction. This is pertinent as Sweden has generally exceeded both the euro area average and most of individual EMU countries after the 2008 financial crisis.

After comparing actual Sweden with synthetic Sweden Gyoerk (2017) concludes that there may be net costs for Sweden to join the EMU. This is strongly supported by the labour productivity analyzes in addition to each of the components of expenditure GDP, where is found that actual Sweden data exceed the counterfactual one since the creation of the Euro in magnitudes close to 10%.

7- CONCLUSION

This paper aimed to assess whether there were net costs or benefits for Sweden to have opted out from the EMU, especially in the comparison to Finland. As the EMU is the closest example to an Optimum Currency Area, the starting point of the paper was a theoretical
description of an OCA, first introduced by Mundell (1961). Some expected benefits for an EMU membership are exchange rate stability and consequently reduced transaction costs, enhanced trade among member countries, lower interest rates, and greater output. The costs arise mainly from the lack of monetary autonomy and all its consequences such as the impossibility for an exchange rate devaluation to enhance competitiveness.

According to Gyoerk (2017), recent reforms and implementations of new institutions may shift the balance of economic costs and benefits of EMU membership. So far, the decision to stay out of the Eurozone has led to a better economic performance for Sweden, as observed in most of the aggregated macroeconomic indexes:

“(…) Sweden would have reported 11% greater government expenditure in 2008 as a currency union member, which would have needed to be financed either by politically painful fiscal measures or by increased accumulation of public debt. Without credible fiscal controls, the politically favourable choice is likely the latter option.” (GYOERK, 2017, p. 896)

Analysis and results from table 10 provide a reason to be skeptical about a future Swedish EMU membership. It has shown that Sweden outperformed both Finland and the average of Euro area countries in terms of main macroeconomic indicators. Besides having a higher GDP growth rate and a lower unemployment rate, Sweden had substantial current account surpluses during all the period analyzed (from 1999 onward), while Finland drew a decreasing path, facing current account deficit from 2011 to 2016. This large difference reflects the lack of competitiveness of the Finnish economy if compared to Sweden and can be partly attributed to constraints imposed by the monetary authorities of the ECB to all EMU members.

Further, Gyoerk (2017) points out that, if Sweden had joined the EMU, the country’s overall economic performance would have been much weaker.

“Findings indicate that Sweden would have borne non-negligible costs from currency union membership, exemplified by around 10% lower productivity, exports, investment, and consumption, and 8% greater government expenditure and imports on a yearly basis since the introduction of the euro, leading to significant cumulative reductions in potential economic activity. The robust results suggest costs may be persisting and in some cases growing in magnitude.” (GYOERK, 2017, p. 893)

Despite evidences of negative outcomes of joining the EMU, it is important to highlight that by being export-oriented and internationally integrated, it was observed in 2008/2009 financial crisis that Swedish monetary policy cannot guarantee a way out of the crisis. The depreciation of the Swedish Krona against the Euro around 15% didn’t result in higher exports as it is expected in a currency devaluation in moments of crisis. Hence, it is possible to elicit that the monetary policy autonomy is not sovereign when it comes to effectiveness. However, the Swedish economy was more reactive than the Euro area and drew a faster recovery path to reestablish growth.

This paper has also analyzed the Finnish economic development as a complement to reasoning the Synthetic Counterfactual Method. Finland is currently facing a structural weakness of its export-based economy and the impossibility of currency devaluation/depreciation to reestablish economic growth and social development seems to be
one considerable barrier imposed by being part of the Euro. It remains to be seen if wage adjustment will be fast enough to make the Finnish economy take off again in the near future.

The analyzes of macroeconomic indicators separately cannot guarantee that the reason why Sweden outperformed Finland, and the UK outperformed France only derives from the decision to not join the EMU. However, when looking at all indicators together they all reveal better result for the “outsiders” of the EMU. Therefore, it is possible to suggest the hypothesis that, an important part of Swedish and UK economic development was enhanced by monetary policy autonomy and all its benefits. Furthermore, the expected lower international trade with the EMU block by not using the Euro was not confirmed by the data collected in Eurostat and World Bank and not even by the Synthetic Counterfactual Method developed by Gyoerk (2017). Moreover, the SCM found empirical results by comparing data from actual Sweden versus Synthetic Sweden (composed by counterfactual data to simulate Swedish Emu membership) that shows predominantly a better economic performance by actual Sweden than the Synthetic Sweden.

Combining results from the Eurostat and World Bank database analyzes, as well as the SCM analyzes, it is reasonable to conclude that it was beneficial for Swedish economy to have opted out of the EMU.
REFERENCES


