Nauro F. Campos, Fabrizio Coricelli and Luigi Moretti*

Sweden and the Euro: The Neglected Role of EU Membership**

Abstract
The relationship between Sweden and the European Union (EU) is unique but still inadequately understood. There remains a dearth of comparative analysis on the dynamics of the benefits of membership in the European Union and in the European Monetary Union for high-income members such as Sweden. This policy brief provides background information, discusses evidence concerning EU and Euro membership, and speculates about possible drivers of differences in benefits across countries and over time. We present a novel argument and preliminary supporting evidence suggesting that Sweden has been one of the countries that has benefited (economically) the least from EU membership. This has important implications in terms of the perceived small economic benefits from the adoption of the euro.

1 Introduction
On January 1st 1995, Austria, Finland and Sweden officially became full members of the European Union. This was an extraordinary event because this was the first enlargement in which all new member states were high-income, open, integrated and institutionally developed economies (Tatham 2009). The European Communities spent the first 15 years after the Treaty of Rome focusing on the implementation of the customs union and ignoring requests from other countries wanting to join. The 1970s were marked by the collapse of Bretton Woods, the first enlargement of the EU,1 two severe oil shocks, stagflation and 'eurosclerosis'.

The crux of the European response to these events in the 1970s was the Single Market, which further raised the costs of non-membership for European Free Trade Association (EFTA) countries.2 Consequently, Scandinavian multinational companies started lobbying for change, with Swedish firms playing a prominent role (Gstöhl 2002). Yet Brussels’ diplomatic resources were overstretched in the second half of the 1980s: Portugal and Spain joined in 1986, the common currency project took off, in 1989 there was the fall of the Berlin Wall raising hopes of former communist countries to 'rejoin Europe', and in 1991 Germany was reunified. Brussels created the European Economic Area (EEA) to give these candidates (Austria, Finland, Norway, Sweden and Switzerland) access to the Single Market but they had no say in its implementation or in the European Monetary Union (EMU) and other debates.3

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1 In 1973, the first enlargement consisted of the joining of the first three members from the European Free Trade Association, namely the UK, Ireland and Denmark.
2 Aitken (1973) shows trade gains from EFTA were already in the 1960s significantly smaller than those generated by the European Economic Community (EEC).
3 The Cold War was also an important factor delaying these countries joining, particularly Austria and Finland. Regarding Austria, 'its desire, in 1961, to consider applying for the EEC was rejected by the USSR as an infringement of the 1955 State Treaty under which the Soviet Union – as one of the Four Allied Powers – had recognized Austrian independence with its permanent neutrality and prohibition from entering any union with Germany as the main preconditions' (Tatham 2009, pp. 57–58).

The Treaty of Accession signed by the three countries in 1994 put into force the relevant provisions from the Treaty of Maastricht. Among these provisions there was the obligation to join the single currency provided the relevant conditions were met as stipulated in the Maastricht Treaty. Austria and Finland rapidly fulfilled the Maastricht criteria and adopted the euro in 1999, while Sweden still has no plans to do so (see also Calmfors et al. 1997, for a discussion of the Swedish participation in the EMU).

The position of the Swedish government is based on an understanding that membership in the Revised Exchange Rate Mechanism (ERM2), one of the Maastricht criteria, is voluntary and hence the position has been to keep the krona until a referendum vote recommends abandoning it for the euro. A referendum took place in 2003 (Jonung and Vlahos 2007) and the result was that the majority voted against the adoption of the euro, with only the Stockholm region registering 50% or more of the votes in favour of it.

The Swedish Statistical Authority has since conducted regular opinion surveys concerning the adoption of the euro. Every single one of these polls, with the sole exception of that in December 2009, has shown ‘no’ as the response. Moreover, since the crisis support for ‘no’ has increased considerably (SCB 2016) despite relatively broad agreement among the main Swedish political parties that joining the single currency would be beneficial.

The conclusions from economic research are more nuanced than the forceful rejection of the euro from those opinion polls. Pesaran et al. (2007) use a Global VAR model to estimate counterfactual trajectories from euro adoption in the UK and in Sweden. They found evidence for positive net benefits for both countries but these benefits tend to be small and sensitive to the choice of specification of the welfare loss function. The analysis by Flam et al. (2009) concludes that it would be rather difficult to differentiate Swedish macroeconomic performance, whether it had joined the monetary union in 1999 or not. Reade and Volz (2009) provide an excellent survey of the evidence and argue that Sweden has very little to lose in terms of monetary policy autonomy from joining the euro. Söderström (2010) documents an increase in synchronisation of Swedish and Eurozone business cycles. He also reports simulations suggesting that Swedish inflation and growth might have been higher if Sweden had been a member of the EMU since 1999, but also that GDP growth would have been more volatile. Györek (2014) applies the synthetic counterfactual model to the euro question in Sweden and reports substantial costs of about 6.5% between 1999 and 2013 in terms of per capita GDP.

**FIGURE 1 EMU/EURO PREFERENCES IN SWEDEN 1997–2016**

Source: SCB 2016

Saia (2014) uses the same method to assess the net benefits of non-euro for the UK.
One key issue that this literature has difficulty addressing is how to disentangle the effects of EU membership for Sweden from those of euro (non-) adoption. This multiple sequential treatment problem may be particularly severe in this case given the closeness of the two events (1995 and 1999). Further aggravating this matter is the finding that agents anticipate the euro so that the effects in terms of, for example, increased trade, can already be detected in 1997 or 1998, one or two years before the actual introduction of the single currency (Baldwin 2006).

An explanation for such small net benefits from euro adoption that has been so far largely overlooked in the literature is that EU membership itself, not the euro, has generated relatively small net benefits for Sweden. Breuss (2005) compares macroeconomic performance in Austria, Finland and Sweden and concludes that, although only Austria saw per capita GDP growing slower than the EU average, Finland was the only one of these countries that did improve its relative rank position. Moreover, Breuss runs simulations showing that Finland appears to have profited most from EU membership (0.7 percentage point greater annual GDP growth since 1995), followed by Austria (+0.4 percent) and Sweden (+0.3 percent). If Sweden has indeed benefitted relatively little from EU membership, it will be no surprise that the estimated effects from the euro are small and fragile. The possibility that the effects of EU and euro memberships are so intertwined may also help to understand the difficulties in convincing public opinion of the benefits of joining the single currency.

Is there evidence that the net benefits for Sweden from EU membership were small? And if so, why are the benefits that Sweden enjoyed from EU membership somewhat smaller than those for Austria and Finland, and substantially smaller than those for the UK and Denmark? Satisfactorily addressing these questions requires estimates of EU membership benefits that are comparable in terms of methodology, specification and sample, and that are as robust as possible regarding the concerns about country heterogeneity as the main possible reason. In this case given the closeness of the two events (1995 and 1999). Further aggravating this matter is the finding that agents anticipate the euro so that the effects in terms of, for example, increased trade, can already be detected in 1997 or 1998, one or two years before the actual introduction of the single currency (Baldwin 2006).

2 Estimating net benefits from membership in the EU

The process of economic integration in Europe is more than half a century old. WWII provided the impetus and, even if from the outset integration was driven much by politics, considerations concerning the economic benefits have always been paramount (Martin et al. 2012). Integration has since deepened and broadened, with slowdowns but still without major reversals (Brexit notwithstanding).

In the wake of the Great Recession and of the Eurozone crisis, the intense debate about the economic benefits from EU membership is hardly a surprise. What is surprising is how far economic research lags on the issue. We argue that the body of evidence is large and convincing for the Single Market and the euro, but ‘disappointingly thin’ for EU membership. The clear majority of available estimates are deemed ‘not robust’ by their own authors who also point to country heterogeneity as the main possible reason. In Campos et al. (2014) we try to address country heterogeneity concerns by estimating the benefits from EU membership on a comparable country-by-country basis using synthetic counterfactuals.

We use the synthetic counterfactuals method (SCM) pioneered by Abadie and Gardeazabal (2003) to estimate the benefits of joining the EU in terms of economic growth and productivity. SCM estimates the effect of a given intervention (in this case, EU or euro membership) by comparing the evolution of an outcome variable for a country affected by the intervention vis-à-vis that for an ‘artificial control group’ (Imbens and Wooldridge 2009, p. 79). The latter is a weighted combination of other countries chosen to match the treated country, before intervention, for a set of predictors of the outcome variable. SCM is one of the most important developments in programme evaluation in the last decade’ (Athey and Imbens, 2016, p. 5). Using

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SCM we estimate what would have been per capita GDP if a given country (Sweden) had not become a member of the EU or joined the euro.

Figure 2 show SCM results for the 1995 EU enlargement. The dark line represents the actual per capita GDP (or labour productivity), and the dotted line represents the estimated synthetic counterfactual. Figure 2 suggests that the countries that joined in 1995 (Austria and especially Finland and Sweden) may not have benefitted as much from EU membership as did the countries that joined in 1973 (Campos et al. 2014).

How large are these estimated net benefits? A measure of the magnitude of the economic benefits from EU membership is given according to the difference between the actual per capita GDP or labour productivity for each country and that of its SCM artificial control group. We find substantial benefits for the 1973, and modest benefits for the 1995 enlargements. For the first ten years after accession, per capita incomes for the former would be approximately 12% lower, while for the latter they would be about 4% lower without EU membership. Alternatively, if we consider all years since accession, the figures would be about 34% for the 1973 accession and 5% for the 1995 enlargement.

Arguably the main drawbacks of this method are the difficulties in terms of statistical inference. Because it is a recent tool, there is still considerable debate on how statistical significance can be gauged. In this light, we estimate more standard differences-in-differences reported both in absolute values and in percentage terms, together with their confidence intervals are based on the results from Campos et al. (2014) and indicate that for most countries the differences are positive and statistically significant.

Why are benefits relatively small for the 1995 enlargement? We conjecture that one reason for this is that the 1973 countries designed and implemented the single market (1986–1992) and the common currency, with Ireland

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FIGURE 2 ACTUAL AND SYNTHETIC REAL PER CAPITA GDP AND REAL PER WORKER GDP IN THE 1995 EU ENLARGEMENTS

Source: Campos et al. 2014.

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5 In Table A.2 of the online appendix (https://sites.google.com/site/morettilg/sweden_and_eu_membership_ benefits) we report these differences-in-differences results for each country in the first 10 years of EU membership concerning the actual and synthetic series for both GDP per capita and productivity.

6 Note that these tables are not included in Campos et al. (2014). For further technical details and results from Campos et al. (2014), refer to the online appendices available at https://sites.google.com/site/morettilg/eugrowth.
further benefitting from financial integration. Another possible reason we conjecture is linked to the role of institutions. If the bulk of the benefits the EU provides is to encourage institutional change, then one would expect the potential gains that membership could generate in Austria, Finland, and Sweden in 1995 to indeed be smaller than those in Denmark, Ireland, and the UK in 1973. We hypothesise that institutions may be able to provide a more promising explanation of these differences if one were to believe that Austrian, Finnish, and Swedish institutions were better developed or aligned with the EU when these countries joined the European Union. However, these two possible reasons say little about why among the 1995 enlargement net benefits were smallest for Sweden. We turn to this question next.

3 Estimating net benefits from membership in the euro

If one looks at the simple comparison between the growth performance of Sweden and that of the euro area (Figure 3), one would conclude that Sweden has displayed a better performance than the Euro area as a whole.

Furthermore, and even more relevant, one could look at the performance of Sweden relative to Finland, a country that joined the EU at the same time as Sweden but that later also joined the euro. The relevance of such a comparison is even greater if one considers that Finland is geographically and culturally close to Sweden and that, immediately prior to EU accession, it experienced a severe financial crisis at very much the same time as Sweden. In our view, this makes it

![Figure 3: GDP Growth in Sweden and the Euro Area 1992-2015](image1)

Source: IMF, World Economic Outlook, April 2016

![Figure 4: GDP Growth in Sweden and Finland, 1980-2015](image2)

Source: IMF, World Economic Outlook, April 2016
more difficult to easily accept explanations (for the relatively small EU membership benefits for Sweden) centred on the notion of ‘bad timing of entry’.

Figure 4 shows the growth dynamics of the two countries over the period 1980–2015. Interestingly, while Finland has grown faster than Sweden after EU entry, since the creation of the euro the growth gap between the two countries has closed. In fact, considering the Great Recession period, Sweden has outperformed Finland. One interpretation, in line with Reis (2013), is that the creation of the euro has provided the conditions for credit booms, which eventually turned into busts. Furthermore, credit allocation during these booms may have favoured low-productivity sectors (mainly services and construction), with a further adverse aggregate effect on productivity growth.

Yet inferring from the above descriptive evidence that opting out of the euro brought benefits in terms of per capita GDP or productivity growth is not warranted. In order to identify the effects of non-entry, it is necessary to construct a relevant and more robust counterfactual. Finland is of course very interesting but one should question the robustness of a counterfactual based on only one country or on the ‘average for the Eurozone’.

Here we analyse the effects of non-entry in the euro by Sweden by constructing two different counterfactuals. One is based on a donor pool exclusively containing euro area countries, and the other on non-euro area OECD countries. Contrasting the results of these two different counterfactuals further helps to disentangle the effect of the euro. We carried out the analysis for several outcome variables: real GDP per capita, productivity, investment share, and foreign direct investment and trade openness with the use of data from Penn World Table 9.0 version and World Development Indicators.7

Specifically, we included in the first donor sample 9 countries that joined the Eurozone from 1999 (Austria, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, and Spain).8 The second donor sample includes ten OECD non-euro countries (namely, Australia, Canada, Denmark, Iceland, Japan, New Zealand, Norway, Switzerland, the UK, and the US). If the two counterfactuals led to a similar conclusion, we could argue that the results cannot be attributed to non-entry in the euro. Indeed, we find that post-1999 Sweden displays a positive gap in terms of GDP per capita and productivity with both the euro area and the non-euro OECD donor samples. Therefore, the positive relative performance of Sweden post-1999 cannot be fully attributed to non-entry in the euro.

One has thus to search for other explanations, possibly related to reforms and policies adopted in Sweden that increased the growth potential of the country relative to its counterfactuals. Moreover, it should be emphasised that the identified positive gap is not very large, nor is it stable and robust to different specifications. Results for the country as a whole are broadly confirmed by a regional analysis.9

4 What may explain the small effect of EU membership on Sweden?

As mentioned above, disentangling the effects of the two ‘treatments’, EU entry and euro area non-entry, is difficult. In order to attempt to disentangle these effects, we make use of the results from Campos et al. (2014), which focus on an explanation for the gap between a country’s actual performance and its counterfactual. In other words, we regress our estimates of the net benefits from EU membership (the difference between actual and counterfactual) on various determinants that evolve over time, and, moreover, include euro membership. We apply this analysis, which was originally carried out for all EU accessions, to the specific case of Sweden.

The yearly GDP gap (between the actual and our estimated counterfactual) proxies for the net benefits from EU membership here serves as the dependent variable in a set of regressions for an unbalanced panel consisting of the 17

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7 These results are reported in detail in the online appendix to this brief which can be found at https://sites.google.com/site/morettilg/sweden_and_eu_membership_benefits. We report results for each outcome variable and donor sample for the impact of non-euro adoption on Sweden (Figures A.1 to A.9). We also include evidence of sensitivity of the estimation to the composition of the donor samples.

8 Belgium, Greece, and Luxembourg are excluded mostly because of incompleteness of data.

9 In the online appendix for this brief https://sites.google.com/site/morettilg/sweden_and_eu_membership_benefits we show in Figures A.10 to A.17, for each Swedish region, SCM estimates for productivity and GDP per capita. The results indicate that there is no robust evidence of significant effects on the main Swedish macroeconomic variables of non-entry in the euro.
countries during their post EU accession periods. Countries’ institutional and financial features (such as trade openness, financial integration, euro membership status, labour market regulation proxied by EPL (employment protection legislation), competition in non-manufacturing sectors, and measures for the political regime and constraints), which are likely to be affected by the EU integration process, are used in these regressions as candidate alternative explanations of the estimated GDP gap.

The estimation results show evidence of stable, positive and statistically significant relationships between trade openness, financial integration, and euro membership status (more details are provided in the online appendix). We then use the estimated coefficients from these regressions to evaluate the quantitative implications of some of the main variables for the case of Sweden.

Interestingly, we find that trade openness, which significantly increased in Sweden after EU accession, yields a large positive effect (about 11%) on the gap between Swedish GDP per capita and its counterfactual. This is an important result because it somewhat challenges the notion that the small relative benefits from EU membership for Sweden may be driven by the fact that the international trade of Sweden may be less heavily dependent on the Euro Area (the five main destinations for Swedish exports are Norway, Germany, USA, UK and Denmark). This possibility, of course, merits further research but our results suggest caution: the effect of trade openness seems to be positive, that is, that it increases (not decreases) the estimated benefits from EU membership for Sweden.

Another related possibility is that the mechanism is capital (instead of goods) flow. Bruno et al. (2016) provide new estimates from the so-called ‘structural gravity’ model for the effects of EU membership on capital flows. Specifically, they ask how much additional FDI (foreign direct investment) inflows can be directly associated with the fact that a country is a member of the EU. They report that, on average, EU membership raises FDI inflows by about 30% and, more importantly, they find that Sweden benefits more in terms of additional FDI inflows from EU membership than the average EU country.

If one searches among our explanatory factors for the most relevant (or for the most statistically significant) countervailing variable to such positive effects of EU membership for Sweden, then the answer one finds would be connected with the effect of labour market regulation. Among the variables we examine, labour regulation is the one most potentially capable of significantly pushing down the value of the gap, that is, that could be responsible for the relatively small benefits from EU membership for Sweden. One can argue that, according to these estimates, Sweden could have benefited more from EU membership if its labour market were less regulated. This finding identifies another trade-off that may deserve attention in future research.

5 Concluding remarks
Whether to join the single currency has arguably been the defining issue of the relationship between Sweden and the European Union for the last decade and a half. The conventional wisdom, supportive of most of the negative public opinion polls in Sweden, is that there are almost no economic benefits for Sweden from abandoning the krona. The results discussed in this note suggest another perspective in this debate, namely, that the reduced, or even negative, benefits that Sweden would allegedly receive from adopting the euro (abandoning the krona) are crucially affected by the fact that Sweden has benefitted relatively little from EU membership itself. The evidence we report suggests that these benefits are indeed relatively small. This is a finding that deserves further investigation, as we are unaware of other studies that raise this possibility. We went further and asked what may be the factors that explain these relatively small benefits from EU membership for Sweden. We find very little evidence that trade patterns, FDI inflows and euro membership are to blame. Interestingly (yet very preliminarily), we find that these small benefits could be increased through labour market liberalisation, but this may well be one option that would be even less popular with Swedish voters than abandoning the krona.
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