**Atlantic Council**

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EuroGrowth **Initiative**

# TO BREXIT OR TO BREMAIN? THAT IS THE QUESTION


**Foreword by**
José Manuel Barroso
Stuart E. Eizenstat

**Authors**
Nauro Ferreira Campos
Fabrizio Coricelli


**A EuroGrowth Initiative Publication**

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The Atlantic Council 'EuroGrowth Initiative' is an EU-US platform to stimulate thinking on how the current challenges for the European economy can be transformed into opportunities to achieve a more sustainable growth path. Through briefs, reports, and events, the EuroGrowth Initiative identifies practical solutions and best practices, and provides a forum for new and innovative ideas. The initiative aims to energize—not teach—key stakeholders on both sides of the Atlantic and bring them to design the right approaches for growth, taking into consideration the unique European institutional setting.

Leveraging the expertise and network of the Atlantic Council's Global Business and Economics Program, the EuroGrowth Initiative presents Europe in a new light and promotes a deepened transatlantic partnership as Europe and the United States build a path for long-term growth together.

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# FOREWORD

In 2013, the United Kingdom's (UK) Prime Minister David Cameron promised the British citizens that a referendum on European Union membership would be held before the end of 2017, should he be reelected. He succeeded in being reelected, and in January of 2016 began renegotiating the terms of Britain's membership in the European Union. In February, an agreement granting Britain "special" status was reached that would take effect following a vote to remain in the Union. The debate over whether to exit or remain has become increasingly divisive as the June 23 referendum approaches.

Political and economic elites overwhelmingly support remaining in the European Union. The vast majority of analyses of a "Brexit" scenario convey significant damages to the UK's GDP. There is no precedent to guide the UK through the exit process, which will require lengthy negotiations after the referendum. The United Kingdom will have up to two years between a vote to leave and the date that a Brexit would take effect to negotiate new agreements with the European Union, while still being bound by EU laws and rules. An extension of this period would only be possible with the agreement of twenty-seven EU member states. It is unknown whether or not the UK will have access to the single market during this period, or how this would affect London's status as Europe's financial capital. Citizens must be aware of the short to medium-term negative effects caused by a lack of confidence, in addition to long-term effects as a consequence of less integration in the European market.

The pro-Brexit camp believes analyses overstate the detrimental effects. For instance, they believe that the United Kingdom will strengthen even more the special relationship with the United States and will be able to negotiate new trade agreements with partners outside of the European Union quickly. Given the immense effort put into the Transatlantic Trade and Investment Partnership (TTIP) between the United States and European Union, it seems unlikely the United States will push Britain to the top of its trade priorities. Similarly, it's hard to imagine that the European Union will easily give the United Kingdom access to the single market after the concessions made during the renegotiation of membership.

This EuroGrowth Initiative publication by Campos and Coricelli presents an alternative narrative of the importance of membership to the United Kingdom, adding to those advocating a "Bremain." So far, the vast majority of analyses examine Britain's economy outside of the Union in the future. This paper looks to the past to show how accession in 1973 reversed a prolonged period of economic decline. Ultimately, it is how ordinary Britons perceive the effects on their lives that will determine the outcome of the referendum. We believe the analysis in this paper can increase understanding among the population and make the narrative of remaining more palatable.

Regardless of the result, the British referendum marks a new era for the European Union. It is paving the way for a broader test of support for the Union, and will likely be followed by other referendums arising from low confidence due to the slow recovery from the economic crisis. It is time for European leaders and European institutions to look forward and propose a winning model that can galvanize European citizens around a renewed European project.

With the EuroGrowth Initiative, we want to support a stronger Europe for the benefit of European citizens, the United States, and the entire world. Through the papers we publish and the events we organize we want to galvanize a truly transatlantic community of stakeholders to generate transatlantic solutions to current challenges, and substantial arguments advocating for more and higher-quality growth in Europe. It is our firm

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# TO BREXIT OR TO BREMAIN? THAT IS THE QUESTION*

## KEY FINDINGS

- Despite being one of the only nations to grow economically during WWII, the UK experienced slower economic growth than the founding members of what would become the European Union in the decades that followed.
- In 1950, the UK's GDP per capita was 28 percent larger than the average of the founding members of the European Coal and Steel Community (ECSC), which included France, Germany, Italy, Belgium, the Netherlands, and Luxembourg (EU6).
    - By 1973, when the UK joined the European Economic Community (EEC) the UK's GDP per capita was 7 percent smaller than the average of the EU6.
    - Since accession to the European Economic Community, the UK's GDP has stabilized and is now reflective of the growth patterns of the fellow members.
- A "Brexit" would have the strongest adverse effects on trade, FDI, and finance, and the interconnectivity of these sectors will compound losses.
    - Much of the FDI into the UK goes to the finance sector, therefore FDI effects resulting from a Brexit will hurt the financial sector. As trade, particularly intra-industry trade, is credit intensive, a damaged financial sector will negatively affect trade relationships.
- Favorable rulings in the EU regarding the UK's financial sector, as happened in 2015, should not be expected without membership in the Union; this fact should receive greater consideration in the Brexit debate.

British Prime Minister David Cameron is determined to change the relationship between the United Kingdom (UK) and the European Union (EU). His Conservative Party's outright and largely unexpected victory in the May 2015 general elections meant a key manifesto pledge would be implemented. The UK would embark on a renegotiation of EU membership terms, and the new terms would be submitted to a popular vote—an "in or out" or "remain or leave" referendum. It was also promised that voting would take place before the end of 2017.[1] This renegotiation concluded in February 2016 with an agreed "new settlement," and the referendum was set for June 23, 2016. Brexit stands for the possibility of a British exit from the EU. Life after the EU is a real option for the UK and an unfamiliar one for the EU, considering that no member has ever left.

Why should economists pay attention to Brexit? The answer is not simple. Brexit is one of the multiple crises currently affecting the largest experiment of voluntary economic integration in human history. The European integration project is in poly-crisis mode: the financial crisis, the debt crisis, the economic crisis, the Greek crisis, the populism crisis, the productivity crisis, the terrorism crisis, the refugee crisis, and the democratic deficit crisis. Brexit, however, is a different type of crisis. Brexit raises fundamental questions about the integration project. This was a one-way process toward a well-defined goal, but because of the "new settlement," progress toward an ever closer union was no more: The possibility that the citizens of the United Kingdom could vote of their own free will to leave the European Union is disconcerting.

Brexit is different because it asks questions about the value of being in the union, questions about the value of membership, about the value of being integrated and interconnected in the world, about the dynamics and distribution of the benefits and costs of trying to do so, and about the type of integration that

1 Nathaniel Copsey and Tim Haughton (2014), "Farewell Britannia? 'Issue Capture' and the Politics of Cameron's 2013 EU Referendum Pledge," *Journal of Common Market Studies* 52 (1): 74-89.

* The following text draws from articles previously written by the authors and published by voxeu.com: "Why Did Britain Join the EU? A New Insight from Economic History, February 3, 2015, http://voxeu.org/article/britain-s-eu-membership-new-insight-economic-history; and by Nauro F. Campos and Corrado Macchiarelli, "Brexit, 'euro-ins', and 'euro-outs'," March 3, 2016, http://voxeu.org/article/brexit-euro-ins-and-euro-outs.

can sustain (and hopefully increase) the substantial benefits we have seen since the start of the project in the 1950s. These are existential questions, and they must be answered if the EU is to be after this crisis.

In this brief, we try to answer two questions: did EU membership significantly affect UK economic performance? And if so, how? These are important questions for the Brexit debate. If EU membership turns out to have no discernible economic effect, the case for remaining would be weaker. However, because of the chequered history of the UK-EU relationship, if one can show that European integration played a role here, it is likely that it played a substantial role everywhere else.

We first briefly discuss the historical context in which the European economic integration project took off, in order to assess to what extent one can claim that delayed membership was relatively costly to the UK and to what extent the UK joining the EU was beneficial. If membership has indeed made a substantial difference, the next logical question is how? To answer this, we then discuss the key potential mechanisms through which these benefits took root. We conclude by arguing that while international trade may have been the most important driver until full implementation of the Single Market in the early 1990s, foreign investment may have played that role since. The substantial economic benefits from deep EU integration and the consolidation of foreign direct investment (FDI) as a major conduit for these benefits transform the economic case for Brexit into a rather flimsy proposition.

## WHAT HAS THE EU EVER DONE FOR THE UK?

An examination of European economic history provides valuable insight into the UK's eventual entrance into the EU. The unprecedented destruction of WWII resulted in a similarly unprecedented recovery effort, which was largely completed by 1950. The period that followed, until 1975, is commonly referred to by economic historians as the Golden Age of European Economic Growth. However, because reconstruction efforts were all but concluded by the beginning of that period, other factors must have been responsible for the high growth levels. Economic historian Peter Temin made the convincing argument that structural shifts, primarily labour shifting out of the agriculture sector, were an important factor.[2]

2 Peter Temin, "The Golden Age of European Growth Reconsidered," *European Review of Economic History* 6, 2002, 3-22.

The UK was one of the only European nations to grow economically during WWII. Compared to the average of the six founding nations of what would become the European Union—France, West Germany, Italy, Belgium, the Netherlands, and Luxembourg (the EU6), the UK's GDP per capita was roughly 90 percent larger in 1945, according to Maddison data.[3] Economic historians offer a detailed understanding of key turning points in British economic history since the early 1800s. One prominent area of economic history scholarship is "British relative economic decline." However, this long-term perspective fails to give WWII and European integration (including gains from liberalization and increased competition) due credit as important factors, although more contemporary, in this process (a notable exception is Crafts, 2012).[4]

A requisite for Marshall Plan aid after WWII was economic coordination for recipient countries. It was clear at the outset that in many areas the European powers agreed, but it also revealed a major disagreement. The UK preferred to establish a free trade area, while the French sought a customs union. Because customs unions require greater integration, they also require a greater political effort. It is noteworthy that "the United States supported the idea of a customs union in 1947, and continue to give backing to French schemes for West European regional organizations."[5]

The UK decided not to participate in the European Coal and Steel Community (ECSC), which was a result of the proposed Schuman Plan in 1950.[6] The ECSC created a set of institutions to coordinate and integrate coal and steel production among the participating nations, which are the EU6: a "High Authority to monitor compliance with the terms of the agreement, a Common Assembly of parliamentarians to hold the High Authority accountable, and a Community Court to adjudicate disputes between

3 For international comparisons, the Penn World Tables (PWT) is considered the superior data source. However, it starts in 1950. Data from Maddison goes back much further, so we use his estimate for 1945. Note that the behaviour of the UK-EU6 ratio of per capita GDPs between 1950 and 2010 is unsurprisingly similar in these two data sources and that, differently from PWT, the Maddison data set does not include Luxembourg. Hence a comparison with all six founding members is not feasible.

4 Nicholas Crafts, "British Relative Economic Decline Revisited: The Role of Competition," *Explorations in Economic History*, 2012, 49 (1), 17-29.

5 Stephen George, *An Awkward Partner: Britain in the European Community*, Oxford University Press (2nd edition), 1994.

6 Edmund Dell, *The Schuman Plan and the British Abdication of Leadership in Europe*, Clarendon Press, 1995.

the High Authority and member states."[7] With the EU6's economic recovery almost completed by 1950, per capita GDP in the UK was about 28 percent above EU6 average. By the time the Treaty of Rome was signed by the EU6 in 1957, that figure was reduced to 15 percent (Figure 1).[8]

The integration efforts embodied by these agreements had successes and failures. The primary failures were the proposed political and defense unions; the major successes were the expansion of the ECSC to become the European Economic Community (EEC) and the creation of a European atomic energy community (Euratom) in the Treaty of Rome. Although the UK government was not a party to either of these agreements, in 1960 they proposed an organization reflecting their desired ideals, the European Free Trade Area (EFTA).

The EFTA was signed in Stockholm in 1960 by Austria, Denmark, Norway, Portugal, Sweden, Switzerland, and the United Kingdom.[9] Revealingly, the UK began negotiations to enter the EEC in 1961. At that point the per capita GDP gap between the UK and the EU6 average had fallen to roughly 10 percent. Nonetheless, French President De Gaulle vetoed the British application after drawn out negotiations in 1963.

Around this time the UK came to certain realizations about the economic viability of the Commonwealth.[10] It became apparent that they were less competitive and demanding than the developed markets of Western Europe. Additionally, it became apparent that the EEC was economically superior to the EFTA.[11]

In 1964, Harold Wilson was elected prime minister in the UK and made another failed attempt to revive the Commonwealth-based economy. Subsequently, Britain reapplied for EEC membership in 1967.[12] Once again, De Gaulle vetoed. By this time per capita GDP in the UK was only 6 percent larger than the EU6 average.

Georges Pompidou succeeded Charles De Gaulle in 1969 and immediately encouraged Britain to reapply for EEC membership for a third time.[13] Pompidou is also recognized as the creator of a system of individual contributions to the Community budget. In 1969, when the UK officially applied, its per capita GDP had shrunk to be 2 percent smaller than the average of the EU6.

Edward Heath succeeded Wilson in 1970, and was known as the staunchest European federalist of all British prime ministers. When the UK joined the EEC in 1973, the system to fund the EEC operated by collecting revenues from levies on food imports and tariffs on industrial goods. Because the UK was more urbanized and imported more than continental Europe nations, the policy did not suit British interests.[14] At this point, the UK's per capita GDP had fallen to be 7 percent smaller than the average of the EU6.

The UK's confidence in their special relationship with the United States, the economic power of the Commonwealth, and the desire for a free trade agreement without political integration all contributed to the UK's delayed membership in the EEC. However, the decline of the Commonwealth resulting from India's independence and the Suez crisis, combined with Britain's application to the EEC only one year after the creation of the EFTA indicated the UK's recognition of the superior alternative.[15]

7 Barry Eichengreen, "European Integration" in Donald Wittman and Barry Weingast (Eds.), *Oxford Handbook of Political Economy*, 2008, Oxford University Press.

8 Because Luxembourg was not such a significant financial centre before the 1980s, figure 1 shows two series, one for the ratio of the UK per capita GDP to the EU6 and the other to the EU5 (EU6 excluding Luxembourg.) Despite broad similarities, without Luxembourg the decline is steeper before the 1973 and flatter afterwards.

9 EFTA founding members were the UK, Austria, Norway, Sweden, Denmark, Switzerland, and Portugal. These were often referred to as the Outer Seven so as to contrast with the Communities' Inner Six.

10 Euroscepticism was then influential in both the Conservative and Labour parties. During the 1961 parliamentary debate, Harold Wilson is famously on record as saying: "*If there has to be a choice we* are *not entitled* to *sell our friends* and *kinsmen down* the *river* for a *problematical* and *marginal advantage* in *selling washing machines* in *Dusseldorf*." [David Gowland and Arthur Turner, Reluctant Europeans: Britain and European Integration 1945-1998, (London: Routledge, 1999).] Hugo Young, *This Blessed Plot: Britain and Europe from Churchill to Blair* (New York: Overlook Press, 1998) argues that euroscepticism still resonates within the Conservative party, while for Labour it loses steam in the 1990s.

11 Norman Aitken, "The Effect of the EEC and EFTA on European Trade: A Temporal Cross-Section Analysis," *American Economic Review*, 1973, 63(5): 881-892; Tamim Bayoumi and Barry Eichengreen,"Is Regionalism Simply a Diversion? Evidence from the Evolution of the EC and EFTA," in Takatoshi Ito and Anne Krueger (Eds.), *Regionalism vs. Multilateral Arrangements*, NBER Macroeconomics Annual, 1997.

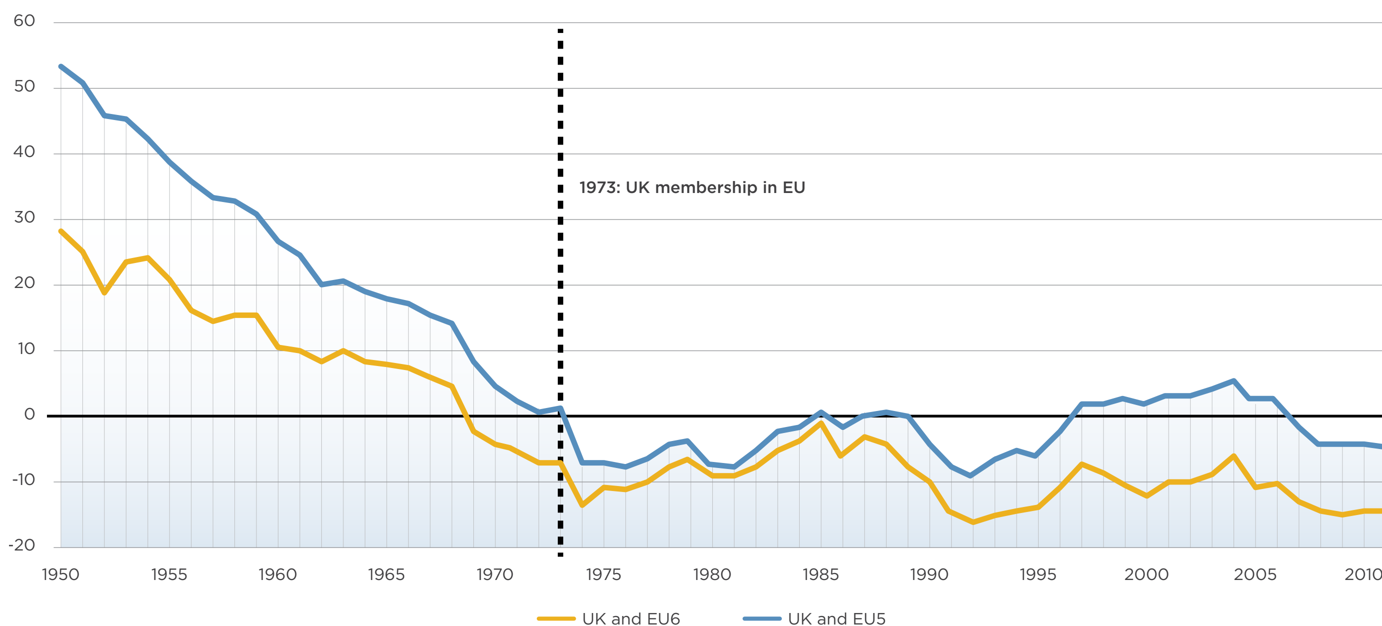
12 Allan Tatham, *Enlargement of the European Union*, Amsterdam: Kluwer European Law Collection, 2009.

13 Hugo Young, *This Blessed Plot: Britain and Europe from Churchill to Blair* (New York: Overlook Press, 1998).

14 1973 also inaugurates a volatile period with the collapse of the Bretton Woods system and the first oil shock.

15 John Darwin, *The Empire Project: The Rise and Fall of the British World System 1830-1970*, Cambridge University Press, 2011; Giuliano Garavini, *After Empires: European Integration,*

Figure 1. Percentage Difference between the UK's GDP per capita and EU Founding Members' (EU-6) and EU-5 (excludes Luxembourg) between 1950 and 2011




*Source:* Penn World Tables 8.0

We argue that a critical, but widely unacknowledged, factor of UK-EU dichotomy is the possibility of a turning point or of a structural break.[16] The steady decline in the ratio of the UK's per capita GDP to the average of the EU6 from 1945 to 1972 and the relative stability of that ratio from 1973 to 2010 implies considerable benefits from membership in the EEC/EU. Furthermore, the integration model favoured by Britain suggests they joined the EEC too late, in a bad period of time, and at an unnecessarily high price.

Substantial structural adjustments to European economies may be the primary cause of Golden Age (1945-1970) growth and the "catch-up" to the United States, rather than gains from EEC membership. This turning point indicates the trajectory of the per capita GDP ratio of Britain to the EU6.[17] For the UK's individual case, accession to the EEC marks a stark shift in economic performance, aligning it with the economic performance of the EU6, and, as such, is an explanation that has not received the careful examination it deserves.

Did leaving the European Free Trade Area and joining a Customs Union in 1973 improve the UK's lot? The conventional wisdom is that the UK did reasonably well until the mid-1980s, and then with Mrs. Thatcher's big-bang reforms, the economy flourished. The picture emerging from our analysis is at odds with such conventional wisdom. Did joining the EU in 1973 improve the UK's situation? Yes. How? By freezing the gap between the UK and the EU6. This does not come as a surprise: catching up with the growth rate of the six founding members was one of the driving reasons for all three UK applications and was extensively discussed in the early 1970s. It cannot be shocking that it worked as intended, if not better.

## HOW AND WHY DID BRITAIN BENEFIT FROM EU INTEGRATION?

If membership in the EU has indeed made a substantial difference, the next logical question is how. Despite not being a founding member, the UK is one of the three largest economies in Europe, is a powerful military and diplomatic force, and has a history of

*Decolonization, and the Challenge from the Global South 1957-1986* (Oxford: University Press, 2012).

16 This empirical evidence for this point is provided in Nauro Campos and Fabrizio Coricelli, "Why did Britain Join the EU? An Insight from Economic History," http://voxeu.org/article/britain-s-eu-membership-new-insight-economic-history, Voxeu, February 2015.

17 Notice that this has important implications for constructing counterfactuals because of the difficulty in finding pre-entry trajectories comparable to the UK's (Nauro Campos, Fabrizio Coricelli, and Luigi Moretti, "Economic Growth and Political Integration: Estimating the Benefits from Membership in the European Union Using the Synthetic Counterfactuals Method," CEPR Discussion Papers, 2014, 9968).

being an awkward partner.[18] If one can show how EU membership benefited the UK substantially, it would strengthen the case that EU membership can generate significant benefits elsewhere.

Campos, et al. estimate that the net benefits of EU membership to the UK are positive, but marginal until around 1986 when the Single Market was introduced.[19] This estimate is derived from the construction of a hypothetical United Kingdom that did not join the EU in 1973. Comparing the outcomes from the actual UK experience with the estimated outcomes from the hypothetical model indicate whether EU membership (which is the specified, post-1973 treatment) generates positive or negative net benefits. This analysis considers whether membership paid off, whether these returns are temporary or permanent, and assesses how they changed over time. Campos et al. show that, when measured by per capita output, net benefits maximized in the early 1990s and remained steady through 2010. Conversely, labor productivity benefits (GDP per worker) continually increased on an annual basis over the same time period.[20] We argue that the factors responsible for these dynamic benefits can be found in trade, FDI, and finance related to European integration, although in a manner rarely discussed in this context.

Article 2 of the 1957 Treaty of Rome stipulates that a common market between member states is the primary objective of European Integration.[21] The common market aimed to facilitate trade between member states and, in turn, to prevent future conflicts through economic interdependence,[22] simultaneously contributing to economic growth. The benefits of free trade are one of the few commonly accepted elements among economists. Open trade is generally considered to increase competition and innovation, which, in turn, increase welfare and growth.

Although the UK's accession to the EU increased trade openness, it was not in the expected way. According to analysis from Penn World Tables (PWT) trade openness data, the UK experienced a significant increase in its *level* of trade openness after EEC membership. The data indicate that from the late 1950s to 1970, the UK's trade openness was roughly 40 percent, and jumped to roughly 55 percent from 1973 to 2010.[23] A common explanation is that the economy specialized in services. However, the latest United Nations Conference on Trade and Development (UNCTAD) data reveal the limits of that explanation. Trade in services in the UK grew in lockstep (from rather similar initial levels) with Eurozone countries. However, there is an observable divergence in growth of trade in goods.

The answer to the overall growth in trade openness for the UK can be found in intra-industry trade.[24] As overall trade openness among the EU6 grew to its limit (from roughly 35 percent in 1958 to 50 percent in 1973), growth in intra-industry trade increased substantially more. Over the same time period, intra-industry trade in Italy grew from 42 percent to 57 percent, and in the Benelux countries from 62 percent to 72 percent. Western Europe's growth in this regard is impressive despite the fact that intra-industry trade was growing globally.[25] UK intra-industry trade saw massive growth after its accession in 1973. In the 1960s, it was below 50 percent, and grew to more than 70 percent in the late 1970s and after.[26]

The traditional argument is that trade is beneficial, but inter-industry trade is even better. This point has been overlooked in the Brexit debate thus far.

18 Stephen George, *An Awkward Partner: Britain in the European Community* (Oxford University Press, 1994, 2nd edition).

19 Nauro Campos, Fabrizio Coricelli, and Luigi Moretti, "Economic Growth and Political Integration: Estimating the Benefits from Membership in the European Union Using the Synthetic Counterfactuals Method," CEPR Discussion Papers, 2014, 9968.

20 The international evidence on productivity suggest an upward trend break for the US in the mid-1990s and, at round the same time, a downward break for the euro area as shown by Antonin Bergeaud, Gilbert Cette and Remy Lecat (forthcoming), "Productivity Trends in Advanced Countries between 1890 and 2012," *Review of Income and Wealth.*

21 André Sapir, "European Integration at the Crossroad," *Journal of Economic Literature* 49:4, 2011,1200–1229.

22 Philippe Martin, Thierry Mayer, Mathias Thoenig, "The Geography of Conflicts and Free Trade Agreements," *American Economic Journal: Macroeconomics*, 2012, 4(4):1-35.

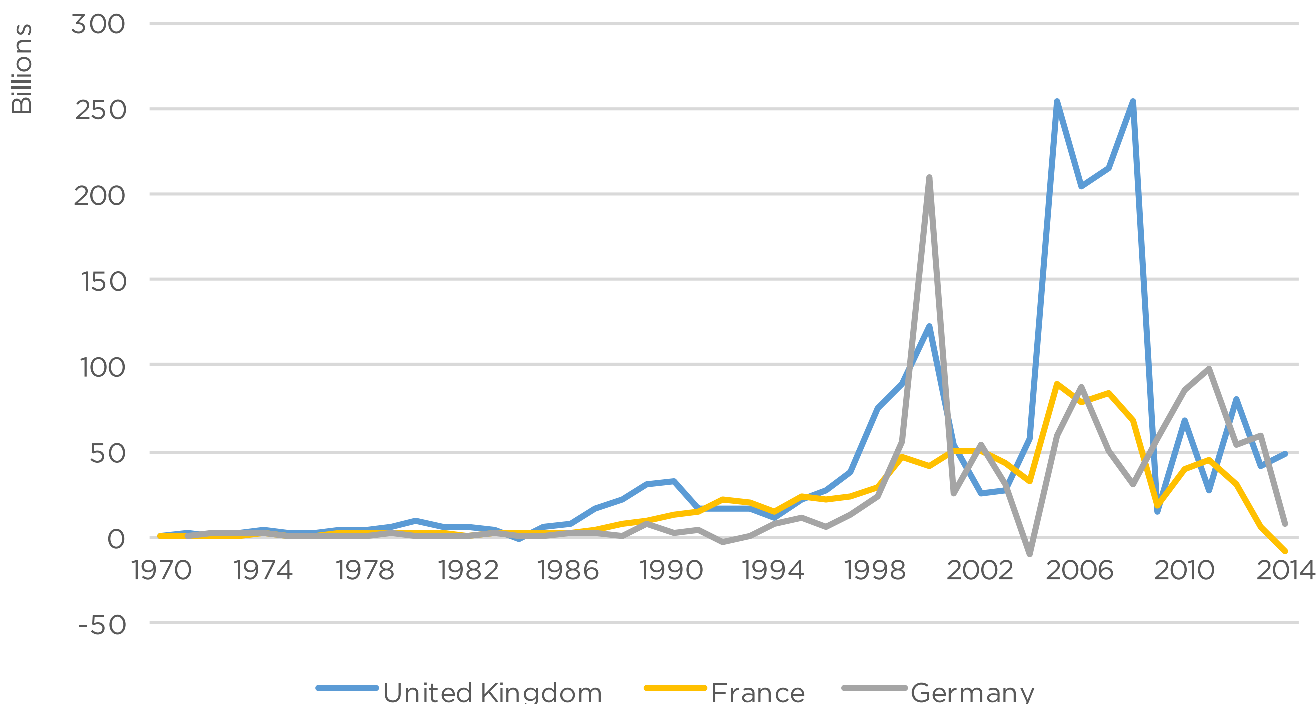
23 In fact, the 1972 value of this ratio is 42.46 percent while for 1974 it is 58.82 percent. Note that both PWT and UNCTAD data support this "level" effect. PWT data reveals another thought-provoking notion, namely that although trade openness in the UK shows no trend since 1973, for Germany it shoots up after 1999.

24 See Richard Baldwin and Javier Lopez-Gonzalez, "Supply-chain Trade: A Portrait of Global Patterns and Several Testable Hypotheses," *The World Economy*, 2015, 38 (11): 1682–1721 and references therein. Recall that Jeffrey Frankel and Andrew Rose, "The Endogeneity of the Optimum Currency Area Criteria," *Economic Journal*, 1998, 108, no. 449: 1009-1025 argue the appropriate criteria for (endogenous) optimal currency area membership is intra-industry trade, not bilateral trade (Jarko Fidrmuc, The Endogeneity of the Optimum Currency Area Criteria, Intra-industry Trade, and EMU Enlargement," *Contemporary Economic Policy*, 2004, 22, 1: 1-12 offers supporting econometric evidence).

25 Marius Brülhart, "An Account of Global Intra-industry Trade, 1962-2006," *The World Economy*, 2009, 32 (3): 401-59 shows that the Grubel-Lloyd index (which measures share of intra-industry in bilateral trade) rose from .25 in the early 1960s, to .4 in 1975, but remained constant at .52 for 1990 and 2006.

26 OECD, *Structural Adjustment and Economic Performance*, Paris: OECD, 1987.

Figure 2. Foreign direct investment in France, Germany and United Kingdom 1970-2014 (net inflows, BoP, current US$)




*Source:* Campos, Coricelli, and Moretti (2014).

Of course, trade with the Commonwealth adds to the UK's GDP, but trade with the EU has the added benefit of increasing the UK's productivity. Trade with the Commonwealth is primarily inter-industry, and therefore driven by comparative advantage (gains are derived from specialization and scale), while trade with the EU is primarily intra-industry (gains are derived from competition and innovation). Therefore, it stands to reason that the effects of the latter on UK productivity growth are more extensive and resilient.

Let us now turn to another potential channel, foreign direct investment. The benefits of FDI have long been recognized. It contributes to efficient frontier management practices (maximizing return for a given level of risk for investment), encourages competition, and technological innovation, and accomplishes this through a marginally more robust manner (compared to portfolio investment, for example).

Britain is one of the foremost recipients of FDI in Europe. Net inflows to the UK were small until the mid-1990s, but have experienced two phases of rapid expansion since. The first occurred in the latter half of the 1990s, and the second occurred in the mid-2000s before the financial crisis (Figure 2). During the expansions, the FDI flows into the service sector increased.[27] Despite the obvious importance of the subject and the availability of evidence supporting differing rationales for European and non-European intra-EU FDI,[28] evidence for foreign investors to choose the UK vis-à-vis Germany or Ireland is yet limited. Nonetheless, European integration may have been a major contributing factor.

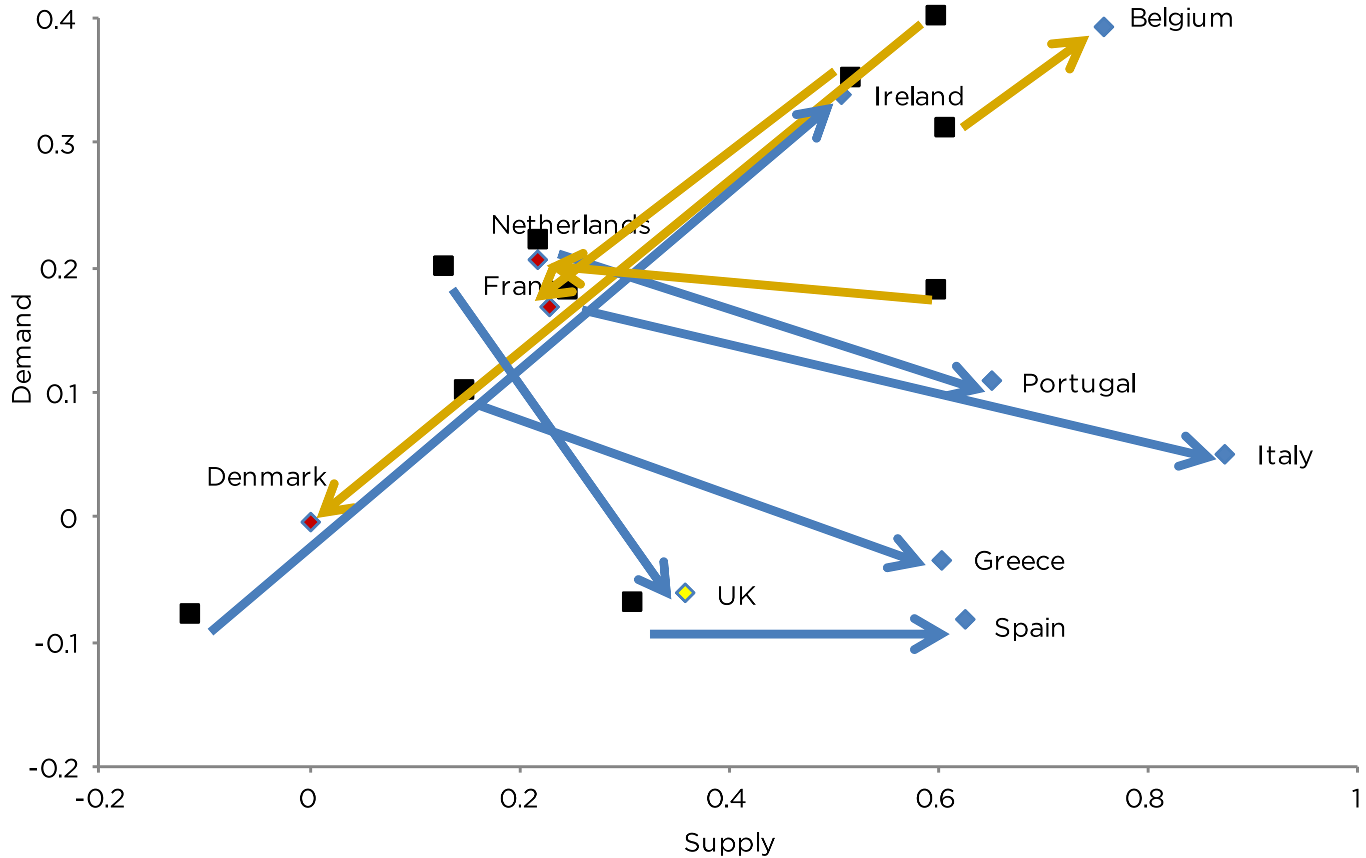
Campos and Coricelli estimate how much additional FDI inflows accrue to the UK after the implementation of the Single Market in 1986.[29] The difference in net FDI inflows they find shows that the Single Market was a significant factor in attracting FDI to the UK. Interestingly, the data indicate that FDI inflows were greatest in the period between the "dot-com bubble" and the financial crisis, following the introduction

27 Nigel Driffield, Jim Love, Sandra Lancheros, and Yama Temouri, "How Attractive is the UK for Future Manufacturing Foreign Direct Investment?" London, October. 2013.

28 Roberto Basile, Davide Castellani, and Antonello Zanfei, "Location Choices of Multinational Firms in Europe: The Role of EU Policy," *Journal of International Economics*, 2008, *74*(2), 328-340.

29 Nauro Campos and Fabrizio Coricelli, "Some Unpleasant Brexit Econometrics," http://voxeu.org/article/some-unpleasant-brexit-econometrics, Voxeu, 2015.

Figure 3. The dynamics of the correlation of supply and demand disturbances between pre-EMU (1963–1988) from Bayoumi-Eichengreen (1992) and post-EMU (Campos-Macchiarelli for 1991–2014)




*Source:* Authors' estimation based on World Bank (WDI) data.

of the euro. Additionally, net FDI inflows are more volatile than expected, possibly reflecting the larger size of the service sector, which is relatively erratic. The data reveal a decrease in value of the Single Market after 2009, although net losses are marginal to prior gains.

One other channel that has not received attention in the Brexit debate is monetary integration, in particular the relation between the euro-ins and euro-outs. We think that one way to start looking into this issue is business cycle synchronization. We want to make two observations. One is that synchronization has increased hugely after the introduction of the euro even for those countries outside of the Eurozone. The second, and related, point is that the effect of the Economic and Monetary Union (EMU) integration is to pull in the euro-outs, thus increasing the cost of leaving.

The degree of synchronization of supply shocks indicate that the EU6 plus Denmark constitute the "core" of the EEC economies, whereas the remaining "periphery" countries display a lower degree of synchronization—as was famously argued by Bayoumi and Eichengreen in 1993. It is also noted that demand shocks are lower in and outside of the core.

Although the European Monetary system removed individual monetary policies as a cause of demand shocks, fiscal policies remain independent and contribute to differences in demand between nations. Therefore, it may be valuable to update the famous Bayoumi and Eichengreen exercise by reassessing the extent to which the European Monetary Union has affected the core-periphery dichotomy identified by the data set, which ended in 1988, before the European Monetary Union was implemented.[30]

30 Tamim Bayoumi and Barry Eichengreen, "Shocking Aspects of European Monetary Integration," in Fransisco Torres and Francesco Giavazzi (eds), *Adjustment and Growth in the European Monetary Union* (Cambridge: University Press, 1993).

The results displayed in Figure 3 indicate that the European Monetary Union has mitigated the trend of core-periphery differences in supply and demand.[31] The European Monetary Union successfully integrated the entirety of the European Union, including the UK. After the introduction of the euro, UK business cycles synchronized with, and the economy became much more integrated with, the rest of the EU.

31 Nauro Campos and Corrado Macchiarelli, "The Synchronization of the Business Cycles of Euro-Ins and Euro-Outs: An Optimal Currency Area Perspective," 2016, mimeo.

# CONCLUDING REMARKS*

Britain joined the European project in an effort to mitigate its relative economic decline. At the time of the creation of the project in 1950, the UK's per capita GDP was nearly 30 percent larger than the average of the founding members, but by the time the UK joined in 1973, it was close to 10 percent smaller. Since then it has stabilized and is reflective of the EU6's growth patterns. In this sense, joining the EU has been successful in curbing its economic decline relative to the EU6.

Our analysis of three major areas of the economy—trade, FDI, and finance—indicates that the UK gained significantly from EU integration. A "Brexit" will likely result in heavy losses,[32] and we expect them to compound once the consequences on intra-industry trade, FDI, and financial integration are accounted for. Losses may be even greater after the interaction between the three are considered. We expect interaction effects between three of these relationships to be particularly substantial. FDI and trade will be heavily affected because of the involvement of FDI in intra-industry trade. Similarly, the credit intensive nature of intra-industry trade will affect financial integration and trade.[33] Finally, because a significant amount of FDI in the UK focuses on the financial sector, the relationship between financial integration and FDI will be affected. These areas urgently require greater attention because current economic analysis on the potential effects of the Brexit almost exclusively focus on the UK-EU import-export relationship and underestimate the true cost of the Brexit, due to the narrow scope of analysis.

The effects of Brexit would likely be strongest on the UK's financial sector, which would, in turn, affect trade and FDI. Although there are already efforts in the EU to diversify away from London as the primary hub for euro transactions, exiting the EU would minimize the UK's ability to influence such efforts in the future. The UK's legal victory in March 2015 against the ECB regarding the location of euro clearing houses was undoubtedly influenced by its EU membership. The UK should not expect to hold such sway in similar matters should it exit the Union.

32 Gianmarco Ottaviano, Joao Paulo Pessoa, Thomas Sampson and John Van Reenen, "Brexit or Fixit? The Trade and Welfare Effects of Leaving the European Union," Centre for Economic Performance/London School of Economics, 2014, CEPPA016.

33 Mariassunta Gianetti, Mike Burkart, and Tore Elligsen, "What You Sell Is What You Lend? Explaining Trade Credit Contracts," *Review of Financial Studies*, 2011, 24(4): 1261-1298.

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