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CEP POLICY ANALYSIS

Brexit or Fixit? The Trade and Welfare Effects of Leaving the European Union

- Over half of all UK exports go to the rest of the European Union (EU) – this corresponds to almost 15% of national income (GDP).

- One cost of the UK leaving the EU ('Brexit') would be less trade with the EU because of higher tariff and non-tariff barriers today and reduced benefits from lower trade costs in the future. A benefit of leaving would be a lower net fiscal contribution.

- We consider a *pessimistic* scenario where the UK suffers some formal increase in trade costs compared with an *optimistic* one where it does not. A conventional calculation from a quantitative trade model produces income losses of around 3.1% of GDP (£50 billion) in the pessimistic case or 1.1% in the optimistic case (£18 billion).

- When we factor in more realistic dynamic losses from lower productivity growth, a conservative estimate would double losses to 2.2% of GDP even in the most optimistic case. In the pessimistic case, there would be income falls of 6.3% to 9.5% of GDP, a loss of a similar size to that resulting from the global financial crisis of 2008/09.

- There are further effects on immigration, foreign investment and regulations. Although harder to quantify, Brexit is also likely, on balance, to depress income through these channels.

- Our current assessment is that leaving the EU would be likely to impose substantial costs on the UK economy and would be a very risky gamble.

Introduction

Since a speech by the Prime Minister in January 2013[1], the Conservative party has been committed to holding a referendum on the UK's membership of the European Union (EU) in 2017. So this is a good moment to consider what would be the likely economic effects on the UK from such a move (commonly called 'Brexit').

Eurosceptics emphasise greater national sovereignty from Brexit while Europhiles tend to focus on the importance of ever greater unity to reduce the risks of the political conflicts that ravaged Europe in the first half of the twentieth century. These are important matters, but this analysis focuses on the more mundane (but quantifiable) economic issues, especially trade.

Trade with the EU has increased substantially over the last four decades since the UK joined. Just over 30% of UK exports went to the EU in 1973, but this has risen to over half today (55% in 2008).[2] This is an impressive figure as the rest of the EU only accounts for a fifth of global GDP. Given that the UK government is trying to rebalance the economy towards export-based growth, the 15% of GDP destined for the EU is a significant share.

The UK transfers some resources to the EU, mainly to subsidise agriculture and poorer members. Abstracting from transition costs and any direct or indirect benefit to the UK from these fiscal transfers, leaving the EU would bring home the equivalent of about 0.53% of national income (HM Treasury, 2013). This is argued to be the main potential benefit of Brexit.

The main potential cost would be in the form of lower trade, so we focus on this. There are also costs and benefits that are harder to quantify relating to regulations, immigration and foreign direct investment, which we discuss more briefly.

Conventional static costs and benefits: overview

We use a state-of-the-art quantitative model of international trade to calculate the impact on the welfare of the UK population of leaving the EU. Full details are provided in a companion technical paper (Ottaviano et al, 2014). The model takes account of trade in 35 sectors (including intermediates) among the 40 major countries in the world.

Like just about all other quantitative trade models, this is a conventional static approach and the gains from trade are primarily due to countries specialising in their area of comparative advantage. It does not take account of dynamic effects of trade on productivity growth or other static effects of trade on competition, scale and product variety. It thus *underestimates* the welfare gains from remaining in the EU. Although there is no standard quantifiable model of such dynamic gains, we estimate some rough magnitudes later on.

To quantify the changes, we need to make some assumptions about how trade costs will change between the UK and the EU in the event of Brexit. We consider two scenarios. The 'optimistic' view is that the UK would continue to enjoy the same amount of access to the EU's internal market as it currently does, much like Switzerland and Norway (which are members of the European Free Trade Association, EFTA). Most commentators, however, believe that, as a large ex-member, the UK would not be able to negotiate such favourable

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[1] http://www.theguardian.com/politics/2013/jan/22/eu-referendum-2017-david-cameron.
[2] House of Commons (2013), WIODD, ONS and World Bank.

terms. Hence, we also consider a 'pessimistic' scenario where there are increases in trade costs.

There are three possible reasons why trade costs may increase after Brexit:

- Higher tariff barriers between the UK and the EU.
- Higher non-tariff barriers to trade (arising from different regulations, border controls, etc.) between the UK and the EU.
- The UK will not participate in future steps that the EU takes towards deeper integration reducing non-tariff barriers.

In our pessimistic scenario, we assume that MFN[3] tariffs on goods will apply to UK-EU trade. This seems reasonable immediately following withdrawal, but some argue that the UK may be able to negotiate a better tariff deal in the medium term. Hence, in our optimistic scenario, we assume tariffs continue to be zero.

Another important source of trade costs lies in non-tariff barriers related to regulations and other legal obstacles that affect not only goods but also services. In our optimistic scenario, we assume that the UK would face one quarter of the reducible cost of non-tariff barriers faced by the United States, while in our pessimistic scenario, we assume that the UK would face as much as two thirds.[4]

Finally, intra-EU trade costs have been steadily falling over time, approximately 40% faster than in other OECD countries. From the perspective of a decade from now, non-tariff barriers inside the EU could be relatively smaller. In our pessimistic scenario, we assume that intra-EU non-tariff barriers continue to fall 40% faster than in the rest of the world, leading to a cumulative fall in trade costs of 10%, a benefit that the UK would lose in the case of an exit. In our optimistic scenario, we assume that intra-EU barriers fall only 20% faster than in the rest of the world, leading to a total fall in trade costs of only 5.7%, meaning that the UK would lose less after an exit.

Conventional static costs and benefits: details

Table 1 shows the results from our static trade model. In the optimistic scenario, there is an overall welfare loss of 1.13% driven by current and future changes in non-tariff barriers. These are not trivial because such barriers are particularly important in services where the UK is relatively strong. In the pessimistic scenario, the overall loss swells to 3.09%, with most of the impact coming from non-tariff barriers (2.55%). These far outweigh the fiscal saving.

In cash terms, the loss is £50 billion in the pessimistic scenario and still a substantial £18 billion in the optimistic scenario.

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[3] Most Favoured Nation Status (MFN) is the highest level of tariffs allowed between members of the World Trade Organization.
[4] These correspond to an increase of non-tariff costs of 2% and 5.4% respectively.

Table 1: Welfare changes in the UK if the UK leaves the EU (static model)

	Pessimistic	Optimistic
1. Increase in tradable tariffs	-0.14%	0%
2. Increase in non-tariff barriers	-0.93%	-0.40%
3. Future falls in non-tariff barriers	-2.55%	-1.26%
4. Fiscal benefit	0.53%	0.53%
5. Total welfare change	**-3.09%**	**-1.13%**

Notes: Welfare measured by change in real consumption in the UK.
Source: Ottaviano, Pessoa, Sampson and Van Reenen (2014).

Dynamic effects

These calculations highlight the losses that Brexit would cause in terms of forgone specialisation according to comparative advantage. As such, they should be interpreted as lower bounds on the total costs of Brexit. First, there are other sources of static losses from Brexit that the model does not take into account in terms of a lower variety of imported goods and services; reduced economies of scale; weakened competition and generally less exit of low productivity firms (Corcos et al, 2012).

Even more importantly, these estimates do not take into account the effects of trade on growth. Trade could increase productivity via more competition, innovation and adoption of technologies. The fact that empirical studies of big trade liberalisations usually find much larger effects of trade on output is consistent with these other mechanisms. Indeed, analysis of the EU's single market programme of the early 1990s found considerable benefits, much more than the static calculations given above would suggest.

In terms of formal quantitative dynamic models, Sampson (2014) finds that accounting for the dynamic effects of trade on technology adoption triples the static effects and Bloom et al (2014) find a doubling.

An alternative way to evaluate the impact of Brexit is to use the results of simple, less theory-based empirical studies of the effects of EU membership. Baier et al (2008) find that after controlling for other determinants of bilateral trade, EU members trade substantially more with other EU countries than they do with members of EFTA. Their estimates imply that, if the UK leaves the EU and joins EFTA, its trade with countries in the EU will fall by about a quarter. Combining this with the estimates that a 1% decline in trade reduces income by between 0.5% and 0.75% (Feyrer, 2009) implies that leaving the EU (and joining EFTA) will reduce UK income by between 6.3% and 9.5%.

These estimates are much higher than the costs obtained from the static trade model, implying that the dynamic gains from trade are important. To put these numbers in perspective, during the 2008/09 global financial crisis, the UK's GDP fell by around 7% (NIESR, 2013).

The bottom line is that including these other trade effects should at least double the losses from the static case in Table 1. Hence, even under the most optimistic assumptions, we would expect a loss of 2.2% of GDP and, under pessimistic assumptions, this rises to almost 10%.

Other economic effects: regulation, immigration, foreign direct investment

The UK received the most foreign direct investment (FDI) of any European country in 2011, and was second only to the United States in terms of the stock of inward FDI around the world (House of Commons, 2013). Part of the attraction of the UK is as an export platform to the rest of the EU, so if the UK is outside the trading bloc, this position is likely to be threatened (HM Treasury, 2010; Barrell and Pain, 1998). This matters because foreign multinationals tend to be high productivity firms and they bring new technologies and management skills with them (Bloom et al, 2012). There is also some evidence of positive spillovers from FDI in the UK (Haskel et al, 2002).

Outside the EU, the UK could restrict immigration from the rest of the EU and vice versa. Economically, migratory flows act much like trade as people tend to move to where they can be more productive and earn higher incomes, increasing total welfare. Restricting this mobility will, just like restricting trade, reduce UK overall welfare: di Giovanni et al (2012) find that the maximum size of such effects would be a loss of 1.5% of income. Other evidence suggests that there were no negative effects on jobs and wages of native Britons from the waves of EU immigration (see Wadsworth, 2014). So even on distributional grounds, immigration does not seem to have been damaging.

Currently the UK is able to influence the rules and regulations governing the EU single market. Even if the UK maintained full access to the single market, it would be in the same situation as Switzerland: UK exports would have to obey these regulations, even though the country was not party to agreeing them.

Conclusions

The costs and benefits of the UK leaving the EU are complex. Losses due to trade alone could be very substantial. Even under very optimistic assumptions, the sum of the static and dynamic trade losses would be almost 2.2% of GDP. More pessimistic calculations would lead to a long-term loss of almost a tenth of national income. The dream of splendid isolation may turn out to be a very costly one indeed.

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Further reading

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