

The costs of a border between an independent Scotland and the rest of the UK is estimated at 5.5% of Scotland's GDP

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5/1/2014

*The 'border effect' is the observation that trade is higher within countries than between countries. If in the long run, the border between an independent Scotland and the rest of UK affects trade like the current border between the Republic of Ireland and the UK, then the costs are estimated at 5.5% of Scotland's GDP, finds **David Comerford**. However, Scotland could more than counteract that adverse effect if it achieves a level of trade with the rest of the world typical of the small countries of North West Europe.*



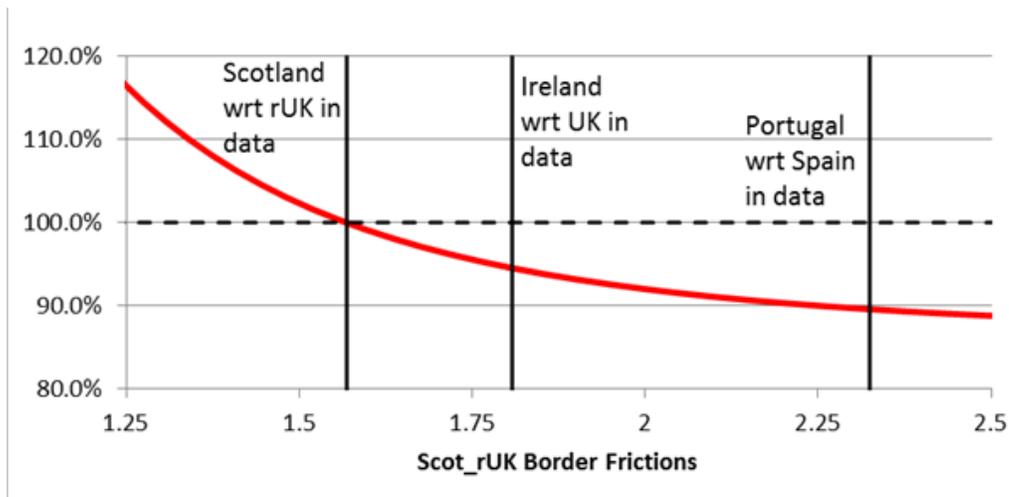
The border effect is the empirical regularity that trade is much higher within countries than across national boundaries. This clearly has some relevance for the economics of Scottish independence, but how much and what exactly is this relevance? It is not what either the Yes side ("It's actually membership of the EEA that ensures the necessary free trade and access to markets that Scotland will require as an independent nation, rather than being part of the Union", [Wings over Scotland](#) 27th August 2013), or the No Side ("breaking away from England would cost £8bn – International dividing line would discourage cross-border trade – Huge fall in wealth creation would occur if Scots vote to leave Britain", [Daily Mail](#) 9th April 2014) say it is.

In [recent work](#) with Prof Jose V Rodriguez Mora of University of Edinburgh, I used a calibration approach to measure bilateral border frictions between many countries and between many regions within countries (where data is available) using a gravity model of trade. Within this model we can conduct policy experiments, and report the model implied productivity or welfare consequences. This work has confirmed the standard results from the literature on the border effect: we observe that border frictions are systematically higher between the countries of the EU when compared with the border frictions between members of other continental scale federations that form single nation states like the states of the USA or the provinces of Canada.

Given this systematic difference between the border frictions within and between countries, we cannot expect the border frictions between Scotland and the rest of the UK (rUK) to remain as they currently are: which we measure as being of the relatively frictionless region-region type. In the long run, whilst we may expect Scotland and rUK to remain close trading partners, after independence this relationship must eventually come to look like the relationship between two independent countries rather than between two regions of the same country. I do not believe that the quote above which I have used to represent the Yes view on the impact of borders is correct. Membership of the EU or the EEA does not guarantee frictionless trade – unless perhaps we are at the start of some dynamic process which ends with a United States of Europe, and border frictions between EU countries at a similar level to those observed between US states.

We propose that a suitable counterfactual for the Scottish-rUK border on independence is perhaps the calibrated Irish-UK border friction. Ireland may be suitable counterfactual since both Scotland and Ireland share a common language with the rUK, and Ireland is a former member of the UK. Using Ireland as a counterfactual could be argued to underestimate the costs of increased trading frictions because Ireland is an exceptionally open economy by standards of other OECD members (compare costs if Scotland instead took on the frictions associated with the Spain-Portugal border in Figure 1), but it could be said to overestimate the costs since, unlike Scotland, trade in goods is largely across a sea.

Figure 1: Welfare impact on Scotland of border frictions

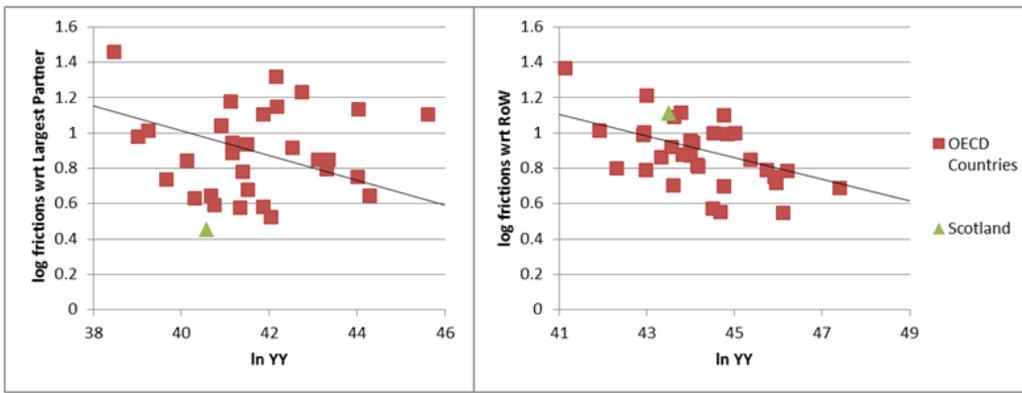


Note: This figure shows how Scottish productivity changes as Scotland-rUK border frictions (in notional model-based units) change. So if the Scotland-rUK border keeps the border frictions measured in the data, then its productivity is 100% of the productivity as measured in the data. If Scotland takes on the measured Ireland-UK border frictions, then its productivity is 94.5% of the productivity as measured in the data: this is the source of the 5.5% cost figure.

The impact of performing this counterfactual exercise is a function of assumed parameters, but our central estimate is a reduction in Scottish GDP of 5.5%. The impact of a completely autarkic Scotland using these parameters is a reduction in Scottish GDP of 20.9%. The very close trading relationship with the rest of the UK therefore accounts for more than a quarter of the total Scottish gains from trade, and this proportion is relatively independent of parameters. The implication is that, unless we suppose that being in the union increases trade frictions between Scotland and the rest of the world, sharing a state with rUK promotes economic integration, and independence for Scotland will be associated with a reduction in Scotland's economic integration into the world economy.

Economic integration and gains from trade can clearly be achieved by having a large country that trades a lot within its own borders. Conversely, economic integration can also be achieved in a small country that is open to the rest of the world. Is there any evidence for the impact of Scotland's union with rUK on Scotland's trade with the rest of the world? Figure 2 shows the border frictions for Scotland and for the OECD countries with respect to their largest trading partners, and with respect to the rest of the world (i.e. excluding their largest trading partners). We see that Scotland's border friction with its largest trading partner (rUK) is abnormally low compared with every other country in the OECD's frictions with their largest trading partner. Conversely, Scotland's border frictions with the rest of the world are in line with the equivalent measures for the other countries of the OECD. Therefore, we cannot state, when compared across the OECD, that Scotland appears to be substituting close links with rUK for frictional trade with the rest of the world. On this comparison, it appears that Scotland's closeness to rUK enhances its economic integration with the world.

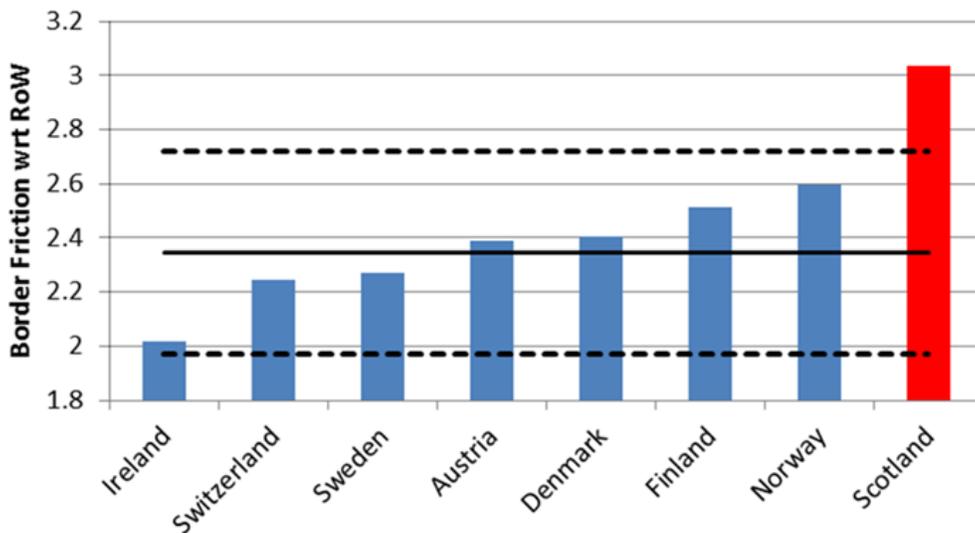
Figure 2: Border frictions for Scotland and OECD countries with respect to their largest trading partners



Note: Figure 2 shows the natural logarithm of the measured border frictions (in notional model-based units) against the combined GDP of the trading parties: country & largest partner in left panel; country & rest of the world excluding largest partner on right panel. It is necessary to control for the GDPs since there is an expected relationship between size and measured frictions.

This is not to say that Scotland cannot do better. If we compare Scotland's border frictions with respect to the rest of the world excluding largest partner, to the equivalent figures for the subset of the OECD in north-west Europe with populations between 2 and 10 million people (the Nordics plus Ireland, Austria and Switzerland), then as shown in Figure 3 Scotland is the clear outlier with the most frictional external trade. If at the same time as the Scotland-rUK became as frictional as the Irish-UK border, Scotland also improved its trade frictions with the rest of the world to the average level seen in this group then the overall impact on Scottish GDP would be an increase of 3.5% i.e. if independence means that Scotland's integration with rUK declines at the same time as a reasonable increase in Scotland's integration with the rest of the world, then overall this could be a boost to economic integration.

Figure 3: Scotland's border frictions with respect to the rest of the world excluding largest partner



Note: Figure 3 shows measured border frictions (in notional model-based units) between the country & the rest of the world excluding their largest partner.

Therefore, I do not believe that the quote above which I have used to represent the NO view on the impact of borders is correct. The low border frictions with rUK are clearly an artefact of sharing a state and independence will reduce economic integration between Scotland and rUK. However, it is not clear which of independence or union is most likely to be associated with the highest overall level of economic integration because Scotland also has the scope to improve its external trade position. It is the level of overall integration into the global economy that matters.

Clearly union was in Scotland's economic interests in 1707 as the integration benefits of access to the English empire were extremely valuable. Back then large markets and potential productivity gains required large sizes. This is not so clear in 2014 where the promotion of economic integration is the reason d'être of the EU and WTO. These organisations have not led to trade between countries becoming as frictionless as internal trade, but they have reduced the advantages of large country size, such that this is no longer a dominant feature of the calculus. The number of countries in existence has approximately doubled since 1950s, and small open countries, which are highly integrated into the world economy, seem to be doing very well.

Note: This article gives the views of the author, and not the position of the British Politics and Policy blog, nor of the London School of Economics. Please read our [comments policy](#) before posting. Homepage image credit: [Amanda Slater](#)

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