# Are countries better off negotiating trade agreements as a bloc? Evidence from a gravity model

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**Abstract**

Are countries better off negotiating alone or as a bloc?

Research question: Are countries better of negotiating trade agreements as a bloc?

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# 1 Introduction

The United Kingdom held a referendum on its membership of the European Union in 2016, the outcome of which was a vote to leave. Although the referendum campaign was divisive and the UK electorate is still divided on the relative merits of leaving the European Union, the UK formally left the EU in January 2020. The implication of the decision to leave EU is not only to leave the fundamental political structures of the union, the UK has also left the single market, probably the deepest free trade agreement in force in the world today. It is beyond the scope of this paper to examine all of the arguments for or against membership of the European Union. However, one leading proposition expounded by the leave campaign in the run-up to the referendum was the idea that, outside the EU, the UK would be free to strike its own trade deals with third countries. Members of the EU do indeed delegate power to sign trade agreements on their behalf to the European Commission, however, while this may seem restrictive, it is reasonable to expect that a large trading bloc has more clout and negotiating power than any individual country. In this paper, we ask the question: Are countries better off negotiating trade agreements as a bloc?

There are many nuances to this question. While it may be true that countries that form large coalitions have greater negotiating power vis-a-vis third countries than they would have had in their own right, there may be significant obstacles to ensure coordination on a common set of negotiating objectives, especially in a world where the objectives of individual members may be inconsistent or incompatible with the common good. Negotiating alone may be more efficient, allowing countries to tailor the trade agreements to the needs of their own economies rather than to the overall needs of a region.

While there may exist many objectives of signing trade agreements – i.e. to establish friendly relations with neighbours, to reduce costs of customs controls, to boost geopolitical power – it would not be unreasonable to assume the overriding objective is to boost international trade, or put differently, to increase market access for domestic exporters. In order to address the question of whether countries are better off negotiating trade agreements as blocs, we examine empirically whether bloc agreements are better at achieving this overriding

objective of boosting market access for their exporters. We employ a standard gravity model and define two types of negotiating units – a singleton negotiating unit and a non-singleton negotiating unit. We then examine whether the trade agreements by countries belonging to non-singleton negotiating units see their trade increase by more than those belonging to singletons. Our benchmark regression in this preliminary note suggest that there is no statistically significant effect upon exports from being a member of a singleton negotiating unit.

## 2 Data and methodology

To empirically investigate whether countries are better off negotiating trade agreements alone or as a bloc, our empirical analysis relies on the 'Design of Trade Agreements' (DESTA) database. This provides us with a list of all agreements signed between 1946 and 2020 that have the potential to liberalize trade, their respective entry-force-year and member states. The data also records consolidations of base treaties and accessions of states to existing treaties. Additionally, DESTA provides us with information on the contents of each of these agreements. Considering a list of 200??? provisions, in a dichotomous manner, it records which of these any given agreement contains. We augment the DESTA trade agreement data with agreement discontinuation dates that we obtain from the WTO Database and by systematically searching the websites of trade and economic ministries. Further adding gravity data obtained from the CEPII and annual exports data from the IMF direction of trade statistics we construct a panel spanning from 1946 to 2020. For this period and all pairs of trading economies, the panel records the trade relationship as captured by trade volume, gravity indicators and trade agreement provisions that are in force in a given year. Using the dichotomous agreement provision information we construct a control variable for the level of economic integration for all triads, that is all country pairs across all years. This variable is constructed as the count of the set of provisions that are in force for a given triad. Further, we construct a set of dummy variables that capture whether the trade relation of a given triad is based on an agreement that was negotiated individually or as a bloc. These

dummies constitute the variables of interest for the hypothesis at hand.

To empirically evaluate whether negotiating agreements as a block is beneficial, we estimate a variety of gravity models, while controlling for economic integration using the aforementioned count variable. The baseline regression is of the form:

$$\begin{aligned}\text{BTF}_{ijt} = \beta_0 + \beta_1 \text{GDP}_{it} + \beta_2 \text{GDP}_{jt} + \beta_3 \text{Common border}_{ij} + \beta_4 \text{Weighted Distance}_{ij} \\ \beta_5 \text{b-s}_{it} + \beta_6 \text{b-ns}_{it} + \beta_7 \text{b-s-inherited}_{it} + \beta_8 \text{b-s}_{jt} + \beta_9 \text{b-ns}_{jt} + \beta_{10} \text{b-s-inherited}_{jt} \\ \beta_{11} \text{m}_t + \beta_{12} \text{Depth}_{ijt} + \beta_{13} \text{EPA}_{ijt}, \end{aligned} \tag{1}$$

where the dependent variable $\text{BTF}_{ijt}$ is the export flow from country $i$ to country $j$ in year $t$; $\text{GDP}_{it}$ and $\text{GDP}_{jt}$, respectively, are the GDPs of countries $i$ and $j$ ; Common border and Weighted distance are the usual gravity variables. The two variables we are interested in are, respectively, $\text{b-s}_{it}$ and $\text{b-ns}_{it}$. Both variables indicate that a bilateral trade agreement is in force between country $i$ and country $j$. The former variable, however, indicates that country $i$ negotiated that agreement as part of a singleton negotiating unit, whereas the latter variable indicates that country $i$ was part of a non-singleton unit. The equivalent variables for country $j$ are, respectively, $\text{b-s}_{it}$ and $\text{b-ns}_{it}$. We further have the variables $\text{b-ns-inherited}_{it}$ and $\text{b-ns-inherited}_{jt}$, respectively, which indicates that respectively, country $i$ or country $j$, are party to an agreement negotiated by a non-singleton negotiating unit. Finally, the variable $\text{m}_t$ is a binary variable taking the value 1 if the bilateral pair belongs to the same trading bloc; Depth is out integration depth variable described above and finally the variable $\text{EPA}_{ijt}$ indicates the the trade agreement in question is an Economic Partnership Agreement (between the EU and a large number of countries in the Pacific, Africa and the Caribbean).

# 3 Results

We report the results of our benchmark regression in (1) in Table 3. We note that the gravity variables have the usual signs – on GDP, Common border and Weighted Distance. Looking next at the coefficient estimates of, respectively, $\text{b-s}_{it}$ and $\text{b-ns}_{it}$, we note that they

have the expected positive sign, with singleton negotiating units having the larger coefficient estimate. The difference between the two coefficients is no statistically significant, indicating that there is no evidence of a benefit to negotiating a trade agreement as a singleton.

# 4 Extentions

# 5 Concluding remarks

| | (1) |
|---|---|
| $\text{GDP}_i$ | 0.911*** |
| | (0.001) |
| $\text{GDP}_j$ | 0.745*** |
| | (0.001) |
| Common border | 1.111*** |
| | (0.021) |
| Weighted distance | -1.271*** |
| | (0.005) |
| $\text{b-s}_i$ | 0.354*** |
| | (0.059) |
| $\text{b-ns}_i$ | 0.256*** |
| | (0.058) |
| $\text{b-ns-inherited}_i$ | -1.509*** |
| | (0.065) |
| $\text{b-s}_j$ | 0.669*** |
| | (0.059) |
| $\text{b-ns}_j$ | 0.408*** |
| | (0.058) |
| $\text{b-ns-inherited}_j$ | -2.086*** |
| | (0.065) |
| m | -0.113*** |
| | (0.011) |
| Depth | -0.00689*** |
| | (0.000) |
| EPA | -0.491*** |
| | (0.021) |
| Observations | 697062 |
| $R^2$ | 0.516 |
| Country-pair fixed effects | No |
| Importer-year fixed effects | No |
| Exporter-year fixed effects | No |
| Year fixed effects | Yes |

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Clustered standard errors by dyads in parentheses

Table 1: Benchmark regression

# Appendix

Richard, insert technical notes on EID here.