Borders within Europe

By Marta Santamaria

269 Number of European regions in our region-level trade dataset

24 Number of European countries in our region-level trade dataset

2.2% Share of spending the average region attracts from a domestic region

0.8% Share of spending the average region attracts from a foreign region

Most borders in Europe are the result of political events that played out decades if not centuries ago. But as well as marking political boundaries, borders also have an important economic role. They can restrict trade flows, control the migration of workers and create regulatory differences between neighbours.

Over the last few decades, the European Union has sought to increase cross-border integration and support the free movement of people and goods. So, are the borders in Europe's single market an obstacle to trade today?

We find that borders in Europe remain a significant barrier to trade: two regions that belong to the same country trade five times more than if they were in different countries. Importantly, more than half of this effect seems to come from borders established in the last 100 years rather than from centuries-old political divisions.

A new dataset to disentangle the effects of borders and geography

Understanding the effect of borders on trade is challenging. We need detailed data of how domestic regions trade among themselves relative to how they trade with foreign regions.

We construct a new, region-level dataset of trade in Europe covering 269 regions in 24 countries exploiting a rich micro-dataset of transport of goods by road (Santamaria, Ventura and Yesilbayraktar, 2021). This dataset allows us to observe how trade circulates within and across borders. ▶

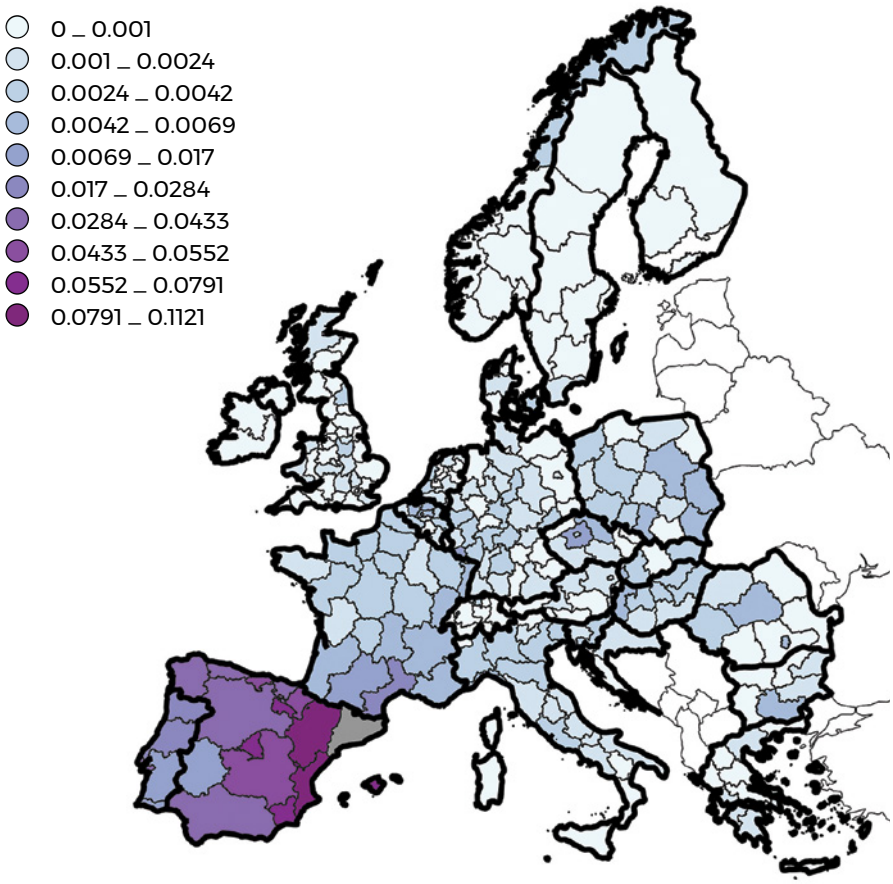
Consider Catalonia, a Spanish region bordering France. Figure 1 shows sales from Catalonia (shown in grey) to 268 European regions as a share of total spending in each destination region. Catalonia's total share of Spanish markets, excluding Catalonia, is 5.8%; while its total share of non-Spanish markets is only 0.26%.

Is this twenty-fold difference due to the presence of a border? In other words, if the border between France and Spain had never existed, would we expect trade between Catalonia and French regions to be 20 times larger? Or would geographical factors such as distance, mountains or rivers still restrict trade?

Borders are the result of historical events, whose impact on trade is difficult to establish. However, borders often also follow natural barriers such as rivers or mountains. These geographical factors can affect trade flows.

Indeed, the French–Spanish border runs along the Pyrenees Mountain range, which separates the Iberian Peninsula from the rest of Europe. The large difference in trade between Spanish and French regions could come from the additional cost that it takes to ship goods across the mountains. Or from the fact that, separated by mountains for centuries, the preferences and culture of the French and Spanish people has evolved differently. Attributing these trade obstacles to the presence of a political border would lead us to overestimate the negative effects of borders on trade flows.

Figure 1: Sales from Catalonia to European regions (share of total spending)



Note: The figure shows spending on Catalan goods as a share of total spending in the region. The shading represents the value of the spending share, with darker shares representing larger market shares. The spending shares come from our newly built regional trade dataset.

The impact of political borders on trade

To take geographical barriers into account, we study the allocation of a border as a treatment, following the causal inference framework (Imbens and Rubin, 2015). We estimate the probability of there being a border between any two regions in Europe, based on the geographic factors between them (such as distance, insularity, remoteness, mountain ranges or river basins).

Figure 2 shows the probability of finding a border between Catalonia and the other 268 regions in our data. As we can see, borders become very likely as regions become more remote from Catalonia. Our estimation shows that around half of the borders in Europe can be explained by factors such as distance or the presence of mountains and rivers.

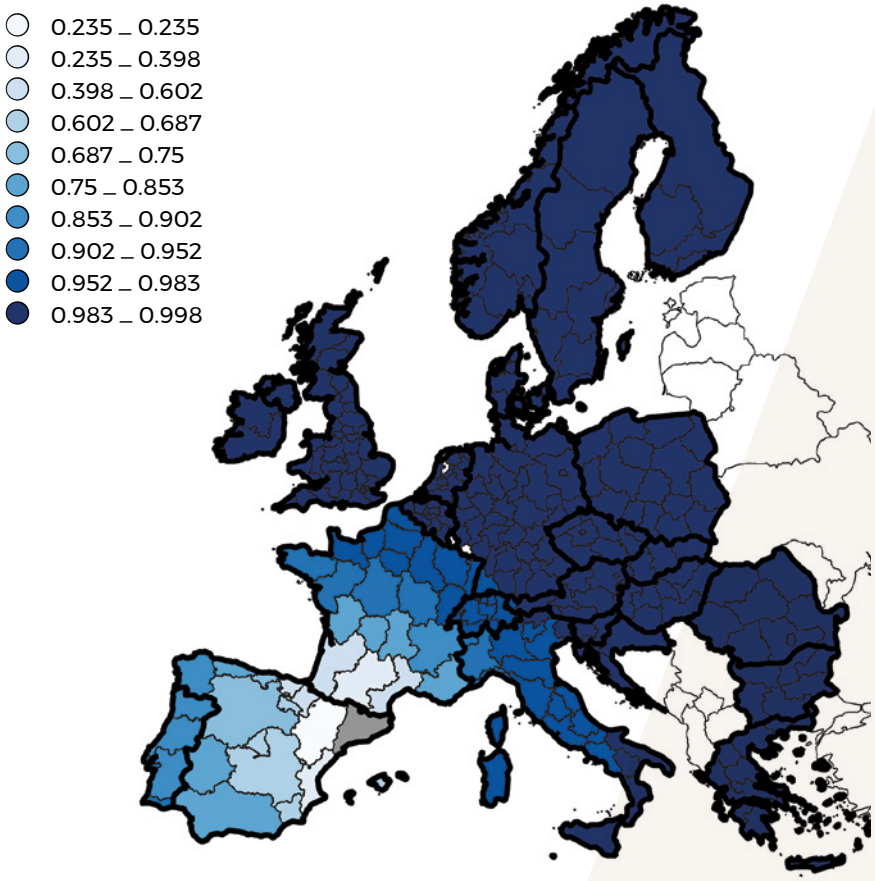
Once we have estimated the probability of being separated by a border, what we call our 'treatment', we need to find the right group of control regions. We group every region-pair in Europe into blocks according to their probability of having a border between them. The key to this approach is that we can compare, within a block, the regions that have borders (treated region-pairs) with the regions that are in the same country (control region-pairs), knowing that all of them had the same ex-ante probability of being separated by a border.

Assuming that inside a block the actual determination of the border is 'quasi-random', we can estimate the effect of a border by comparing trade in treated and control groups.

Our findings show that a border between two regions reduces trade flows to 17.5% of their trade potential. We find a very similar effect across all industries within manufacturing.

These effects on trade are large and should be interpreted as follows: trade between two regions would increase five times if these two regions had always belonged to the same country.

Figure 2: Probability of being separated from Catalonia by a border



Note: The figure shows the estimated probability of finding a border between Catalonia and each European region based on a set of geographical variables. The shading represents the probability, with darker shares representing probabilities closer to one.

Borders today and borders in the past

We know, and think it important to acknowledge, that sharing a country does not just mean eliminating trade frictions. It also means sharing a language, an institutional framework and a common history. Could a long-established shared history affect how countries trade today?

If reduced cross-border trade is due to persistent factors such as culture, policymakers will have a hard time eliminating these obstacles. If, on the contrary, reduced cross-border trade is caused by specific policies, there is hope for governments to reverse them and increase cross-border integration.

We exploit Europe's combative past to explore this question. Up to 1910, Europe lived through a phase of centralisation and consolidation into large empires. After the First World War, however, the trend reversed. With the collapse of the Austro-Hungarian Empire (1918), the German Empire (1918), and the further border reorganisations after the Second World War (1949), several new countries were founded.

To estimate the effect of these more 'recent' borders, we compare region-pairs that were part of the same country but were divided after 1910 with region-pairs that shared a country until 1910 and continue to do so today.

We find that these post-1910 borders also reduce trade: regions separated post-1910 trade around one third as much as regions in the same country. This effect is surprising; even for regions that shared a country and a history for centuries, the creation of a border has huge trade-reducing effects. Recent policies seem to be responsible for a large part of the border effect we estimate.

> "Our findings show that borders still shape trade today and that despite its efforts, European regions are still far from the single market the EU sought to achieve."

Our findings show that borders still shape trade today and that despite its efforts, European regions are still far from the single market the EU sought to achieve. ◄

About the author

Marta Santamaria is Assistant Professor of Economics at the University of Warwick and a CAGE Associate.

Publication details

Santamaria, M., Ventura, J. and Yesilbayraktar, U. (2021). Borders within Europe. CAGE working paper (no. 560).

References

Imbens, G.W. and Rubin, D.B. (2015). Causal inference in statistics, social, and biomedical sciences. Cambridge: Cambridge University Press.