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SUMMARY
This article examines the extent to which national institutional quality affects bilateral sectoral trade flows, as well as whether the conditioning role of institutions for trade has been waxing or waning with time. Based on a new trade theory framework, we derive a sectoral gravity equation, including novel variables corresponding to the exporter’s labor competitiveness levels, along with importer’s price indices and sectoral incomes, and analyze industry-specific bilateral trade flows of 186 countries for the period 1996–2012. We address potential endogeneity and econometric drawbacks by means of the Poisson Pseudo-Maximum Likelihood estimation methods. The results indicate that both the institutional conditions at destination and the institutional distance between exporting and importing countries are relevant factors for bilateral trade. Moreover, the effect associated with institutional conditions at destination moderately increases over time. This is a robust outcome across economic sectors, with higher values for agriculture and raw materials than for manufacturing and services.

1. Introduction

The role of institutions as a driver of economic development has been attracting considerable attention in the literature on long-run economic growth. It has been widely acknowledged that local institutional conditions shape growth trajectories in different parts of the world (Acemoglu, Johnson, & Robinson, 2005; Rodríguez-Pose & Storper, 2006). Trade is also considered a fundamental driver of economic growth. Yet, our knowledge about how the local quality of institutions impinges on trade trends remains limited. It has been claimed that good institutional environments facilitate bilateral trade. High institutional quality reflects pluralistic and inclusive political institutions that facilitate the existence of a level playing field, where individual economic agents cannot abuse market power by monopolizing trade in their favor (e.g., tariffs and quotas), and thereby restrict flows as a result of rent-seeking activities. Indeed, institutional quality and smaller gaps in governance drive trade flows (De Groot, Linders, Rietveld, & Subramanian, 2004), while weak or inadequate institutions may restrain trade in magnitudes which are not dissimilar to those related to the introduction of tariffs (Anderson & Marcouiller, 2002; Francois & Manchin, 2013). Specific institutional dimensions have also been found to affect trade. Low levels of trust, for example, have been associated with lower bilateral trade in the European context (Guiso, Sapienza, & Zingales, 2009), whereas both an efficient rule of law and a good endowment of informal institutions can facilitate trade (Yu, Beugelsdijk, & de Haan, 2015).

In a recent contribution Nunn and Trefler (2014) review the theoretical and empirical literature emphasizing the interdependencies between trade and institutions, providing ample evidence of the impact of international trade on domestic institutions. Trade affects institutions in a number of ways; particularly, through the complexity of intermediate inputs in relationship-specific investments and the need for contract security (see also Nunn, 2007). Their results offer empirical evidence that institutional quality is the single most important source of long-run gains from trade. Institutional differences constitute also an entry barrier for foreign direct investment (Demir & Hu, 2015) and a good institutional framework is a requirement for the positive effect of the foreign direct investment channel on economic growth (Jude & Levieuge, 2016).

From a theoretical perspective, Levchenko (2007) extends the Ricardian model of comparative advantage, introducing the effect of institutions. It represents an alternative approach to those studies whose underlying models are based on the new trade theory, as the one proposed in this study. His results, relying on the set same
set of indicators by the World Bank to explain US imports in 1998, show a positive effect of institutions on comparative advantage. Blonigen and Piger (2014) review the literature and analyze the effect of institutions on foreign direct investment in OECD countries. They use the Bayesian estimation methods and their results are less conclusive with respect to the effect of institutions. Finally, Benáček, Lenihan, Andreossi-O’Callaghan, Michaliková, and Kan (2014) find that institutions, social governance, and political risk are key factors in determining FDI flows, although results differ depending on the groups of countries considered. As a result, there is an extensive literature analyzing the role of institutions in trade and related flows such as FDI, and from alternative theoretical perspectives.

Despite these contributions, the association between institutions and trade can benefit from further study. It has been argued that “defining institutions is notoriously difficult and the current literature on the topic does not agree on a common definition” (Rodríguez-Pose, 2013, p. 1037). Hence, it is no surprise that Nunn and Trefler (2014, p. 265) circumvent the problem by simply avoiding defining institutions. Measuring institutions across different territorial contexts has also proven difficult. In particular, informal institutions—trust, individual habits, values, group routines, and social norms—are more difficult to assess and value than formal ones—laws, rules, and organization (Amin, 1999). For this reason, in our analysis, we do not rely on a single definition or dimension of institutions and consider the whole range of World Governance Indicators elaborated by the World Bank (Kaufmann, Kraay, & Mastruzzi, 2010). As with any other institutional measurement, these indicators are imperfect, but represent the most comprehensive set of variables capturing the quality of institutions to date and allow testing the overall robustness of the results.

Much of review literature is based on the estimation of gravity equations and relies on World Bank indicators, as in the case of the present study.1 Nevertheless, we make a theoretical contribution based on a new trade theory framework that allows us to analyze sectoral trade determinants for the primary, industrial, and service sectors, while relying on the most suitable estimation technique associated to the Poisson Pseudo-Maximum Likelihood estimator. Our database also covers a larger sample of countries and a longer period than previous studies. The paper focuses on two key issues: (a) whether local institutional quality affects the volume of trade by any given country, both at the aggregate level and by sectors; and (b) from a dynamic perspective, whether the impact of institutions has been waxing or waning with time. In trying to answer these two questions, the paper improves our understanding of which institutions matter for bilateral trade and related flows such as FDI, and from alternative theoretical perspectives.

Summing up, the article proposes a structural specification of the gravity equation for bilateral trade at the sectoral level, allowing to identify relevant determinants of trade. It makes use of suitable econometric techniques based on the PPML estimation method and determines the role of institutional quality in world trade making use of a comprehensive dataset including a large variety of countries at different stages of development and economic specializations across sectors.

With these aims in mind, the paper unfolds as follows. The next section introduces the theoretical model on which the analysis is based. Section 3 dwells on the data used in the empirical analysis and its sources. The effects of institutional barriers on sectoral countries across the world are estimated in Section 4, allowing us to address the questions of whether institutions matter for trade and whether, if that is the case, their influence has been waxing or waning over time. The analysis also unveils disparities across sectors in the relationship between institutional quality and trade patterns. Finally, Section 5 draws conclusions.

2. Model

We estimate the effect of institutional barriers on trade flows between any two economies i and j relying on a theoretically founded specification of the gravity equation based on the so-called new trade theory, NTT. The model is characterized by the Dixit–Stiglitz–Krugman assumptions regarding “love-for-variety” preferences, increasing returns to scale and iceberg transport costs. Following Barbero, Behrens, and Zofío (2015), it allows for multiple countries and multiple differentiated sectors in trade flows’ definition (exports and imports), thereby extending the different specifications surveyed by Behrens and Ottaviano (2009). These authors summarize the NTT analytical framework including the effect of transport- and non-transport-related trade costs for the case of two countries. We extend this model and include our independent variable of interest, institutional quality, as yet another barrier to sectoral

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1 Head and Mayer (2013) offer a chronological overview on the most common and/or efficient methods in the empirical estimation of gravity equations.
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