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Introduction to Issue on “Measuring Economic Integration”

Among a wider public, global market integration is often taken for granted. Products offered in local stores typically originate from all over the world. Goods may also have crossed borders numerous times during the production process. Online marketplaces, such as eBay, facilitate effortless business with (basically anonymous) partners in remote places. After all, goods and services are traded over thousands of kilometers every day.

Still, integration is not an irreversible process. Institutional, financial and political factors, among others, provide fault-lines of fragmentation that may limit further integration or even promote disintegration. As the collapse of world trade in the wake of the financial crisis in 2008/09 has shown, for instance, trade may dry up quickly. Also, institutional processes (such as WTO negotiations) could become stagnant, and even countries can be dissolved. In view of these developments, the mechanisms of integration have again taken center stage in scholarly discussions of international economics.

A key challenge in this debate is the empirical measurement of economic integration and its underlying determinants. How can we compare levels of integration over time and across regions? What assumptions are necessary to identify barriers to the integration of goods and factor markets? How can we estimate the effect of policy changes on integration if the policies themselves are endogenous? The papers collected in this issue, presented and discussed at a conference at CESifo Munich in February 2011, deal with these and related questions.

Jeffrey Bergstrand, in his keynote address to the conference, takes the title of the meeting, “Measuring Economic Integration”, seriously. Starting from the observation that there is little precise and consistent evidence on the quantitative effect of a change in trade costs on trade, Bergstrand reviews two methodological issues in the measurement of trade costs. Specifically, he critically reviews methods for estimating the elasticity of trade with respect to trade costs when the true values of bilateral trade costs are unobservable (as they typically are in reality) and the (imperfect) estimates of trade costs suffer from endogeneity.

The paper by Costas Arkolakis and Marc-Andreas Muendler builds on the rapidly-growing literature on the empirics of firm-level trade. A key difficulty of work in this area is the generally limited availability of relevant data sets. To the extent that data are available at all, the data are often only accessible to national researchers under strict rules. Also, firm-level data sets frequently differ across countries in the list and definition of variables, the level of disaggregation, the time period that is covered and other features of design. As a result, many empirical findings are derived from national data only, which are then sought to be replicated, under different settings, for other countries. Arkolakis and Muendler provide one of the rare attempts to produce comparable results using data from multiple sources, thereby addressing the associated robustness concerns directly. Analyzing data for four countries, Brazil, Chile, Denmark and Norway, they present a number of interesting stylized facts on patterns of market entry and sales by destination.

Cletus Coughlin and Dennis Novy are concerned with the famous border effect in trade, the empirical finding that trade within countries sizably exceeds the countries' cross border trade, after holding constant for other determinants of trade such as the economic size of the trading partners and the distance between them. Specifically, Coughlin and Novy are interested in the relative magnitude of the estimated effect. To analyze this issue, they combine data sets which allow them to jointly analyze trade within US states, trade between US states and the international trade of US states. Interestingly, they find that the international border effect (that adds to the effect of crossing a state border) is smaller than the state border effect itself, reflecting the strong local concentration of economic activity.

Angela Cheptea's paper, in somewhat related fashion, extends conventional analyses of international trade by adding another dimension of trade transactions, domestic trade. More importantly, she argues that the resulting estimates of the border effect provide a reasonable benchmark for assessing the level of integration. Analyzing trade patterns within Europe, Cheptea finds that countries in Central and Eastern Europe have a much larger trade potential than previous estimates suggest.

While the papers by Coughlin & Novy and Cheptea apply a well-established and widely-used tool to analyze empirical patterns of trade, the gravity model, Tibor Besedeš has introduced another interesting technique to describe trade activities, survival analysis. Moving beyond the documentation of the notable finding that the majority of trade relationships are remarkably short-lived, Besedeš demonstrates how survival analysis can be used to explore the effects of trade liberalization. For the North American Free Trade Agreement (NAFTA), he presents evidence that the trade agreement has actually increased the hazard of exports ceasing, along with some other interesting findings.

In recent years, there has been a growing interest in reliable cost-benefit analyses of policy measures to promote integration. For instance, many countries operate export promotion agencies or provide financial assistance to exporting firms, even though relatively little is known about the effectiveness of such measures. Torfinn Harding and Beata Javorcik contribute to this literature by examining to what extent government-sponsored investment promotion intermediaries actually help in overcoming information barriers. In a large cross-country analysis, they find that countries with more professional agencies (as measured, for instance, by the quality of their internet website) tend to attract a greater volume of foreign direct investment.

For a proper assessment of the evolution of integration over time, it seems particularly useful to take a long-term perspective. Any extension of the time dimension, however, typically comes at the cost of limited data availability. For instance, few economic variables are actually reasonably comparable over long periods of time. Also, country coverage may be low for century-long comparisons. Still, Vadym Volosovych's paper forcefully highlights the sizable benefits of such an approach. Using principal components analysis, he examines capital market integration of fifteen industrialized economies over the period from 1875 to 2009. Volosovych not only documents an increase in financial integration in recent years, but also identifies factors that help to explain the observed variation in integration over time.

Jarko Fidrmuc, Iika Korhonen and Ivana Bátorová examine another measure of economic integration, the correlation (or synchronization) of national business cycles. They focus particularly on an issue of current interest, the integration of China in the world economy. In their analysis of dynamic correlations of business cycles at different frequencies, Fidrmuc, Korhonen and Bátorová find that the business cycle in China is substantially different from many OECD countries. More notably, their results indicate that countries actively engaged in trade with China tend to display a lower degree of business-cycle synchronization with other OECD countries.

Martin Uebele rounds off the collection of analytical designs and methodological approaches to analyzing market integration in this volume. Uebele's analysis deviates from the other papers along two key dimensions. First, he focuses on prices, implicitly assuming that price differentials (or changes in differentials) reflect market frictions. Second, he performs an outright historical analysis, analyzing the period from 1806 to 1907 (that is, the first wave of globalization). Applying dynamic factor analysis on a panel of annual wheat prices for up to 67 cities, Uebele finds a particularly strong push towards market integration in the first half of the 19th century. This finding seems remarkable since major innovations in transportation technology were only realized later.

Overall, the contributions to this special issue of CESifo Economic Studies provide, in our view, an excellent overview of current state-of-the-art work on economic integration, covering a broad, but necessarily limited, range of topics. Hopefully, the papers provide motivation and inspiration for further research in the field.

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