



# TRADE AND INTERNATIONAL INTEGRATION RESEARCH\*



## NEWSLETTER

Spring 2019

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## SPECIAL FEATURES

### A Trade Data Revolution Is Uncovering Hidden Patterns in Global Export Markets



Over the last decade, a revolution in trade research has forced countries to give greater attention to the central actor in global trade—the firm. Aided by the creation of the World Bank’s Exporter Dynamics Database, the first dataset on exporters around the world,

policy makers now have insights into previously hidden patterns of trade in developing countries.

In a Policy Research Talk September 5, 2018, Ana Fernandes, discussed important policy and research questions demystified recently thanks to the Exporter Dynamics Database. One of the most striking findings is the outsized role that superstar firms play in export markets, as revealed by joint research with Caroline Freund and Martha Denisse Pierola. On average, a mere 1 percent of exporters account for 56 percent of all non-oil exports. This pattern of concentration

appears across a wide range of countries with very different economies. For example, in both Malawi and Norway just 1 percent of firms account for over 70 percent of non-oil exports.

The role of these superstar firms is so important that even a single firm can determine the fate of a country in global export markets. For example, Intel’s decision to invest in Costa Rica tilted that country’s comparative advantage in international trade in favor of electrical machinery.

Much is still unknown about these superstars. In developing countries, these firms start off as large and often foreign-owned and start exporting soon after they are established. But what policies lead to their growth—or whether those policies are desirable—are unanswered questions

### Policy Research Report Launch: Moving for Prosperity

The rich have many assets; the poor have only one—their labor. Because good jobs are slow to come to the poor, the poor must move to find productive employment. Migration is, therefore, the most effective way to reduce poverty and share prosperity, the twin goals of the World Bank. Not surprisingly, all development experiences and growth episodes in history have involved a reallocation of labor across space and sectors within countries.

According to Moving for Prosperity: Global Migration and Labor Markets, however, some of the biggest gains come from the movement of people between countries. Migrants’ incomes increase three to six times when they

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move from lower- to higher-income countries. If we were to double the number of immigrants in high-income countries by moving 100 million young people from developing countries, the annual income gain would be \$1.4 trillion. This global welfare gain dwarfs the gains from the removal of all restrictions on international flows of goods and capital.

The policy research report, coauthored by **Caglar Ozden** and Mathis Wagner, was launched in June 15, 2019 at the World Bank headquarters. The event was chaired by senior director Shanta Devarajan with an introduction by the incoming chief economist Penny Goldberg.

### Trade Policy, Inclusiveness and the Rise of the Service Economy

Given the rising importance of services, a conference was organized in Geneva, April 25-26, 2018, jointly with CEP, IMF and WTO. It brought together leading researchers to present policy relevant research on key aspects of the links between trade in services and inclusive growth.

### Multi-Donor Trust Fund for Trade and Development (MDTF-TD2) Final Evaluation

The final evaluation of the trust fund, which has supported the World Bank's trade research program, was completed on February 26, 2019. The following excerpts from the evaluation report highlight the contribution of the research program to the World Bank's development agenda and to the development community at large:

"The WBG's partners from other international organizations interviewed complemented the high quality and relevance of the academic work produced by the World Bank on trade and development. Being regularly published and cited in respected academic journals was seen as imperative and a hallmark of credibility, and this was identified as an area where the Bank's research group excel. Importantly, MDTF-TD2

has enabled, to a great extent, the primary research that has led to these publications." (para 104, page 27)

"An assessment of the 12 out of the 25 process review grants that were rated 'likely' to achieve their outcomes by the consultancy team suggests that all of these are also likely to see these results last over time. Where the grants were delivered by the research department, the work was published in reputable journals and fed into ongoing dialogues in the wider trade and development academic research community. The widely recognized status of the World Bank as a thought leader in this space meant that research publications by the WBG, or journal articles published by WBG are seen as benchmarks. The academic process and the fact that the World Bank is not just embedded into the ecosystem of trade and development research, but central to it and one of the few true drivers of the global debate, means that their analytical work is likely to not just be sustainable, but actually define the agenda for years to come. With this, of course, comes a responsibility to "get things right" and ensure that the limited resources available for analysis are used in the most conducive way." (para 128, pages 31-32)

## OPERATIONAL SUPPORT HIGHLIGHTS

**Unleashing E-commerce for South Asian Integration** (for the South Asia Region, in collaboration with the MTI Global Practice). This project examines regulatory constraints to e-commerce in South Asia, and how e-commerce can help eliminate transaction costs and contribute to the national, regional and global integration of South Asian economies.

**Impact of Trade shocks to Belt and Road Economies** (for the MTI Global Practice) The project uses detailed bilateral trade data for 1995-2015 to assess the degree of trade exposure of Belt and Road economies to China.

### Trade in East Asia and the Pacific: How it has changed and why it matters

(for the EAP Chief Economist, in collaboration with the MTI Global Practice). This project undertakes a detailed analysis of the evolution of East Asia's trade and trade policy in goods and services and identifies how the countries of the region can respond to key national, regional and global challenges.

### Are Trade Preferences a Panacea? AGOA and African Exports

(for the Africa Chief Economist). Collected new data to provide a first assessment of whether preferential access to foreign markets creates durable comparative advantage.

### The short-run impact of imported shocks on workers and firms

(for, and in collaboration with, the LAC Chief Economist) The project uses matched employer-employee data for periods in the 2000s for Brazil, Chile, Ecuador, and Mexico to examine the short-run responses of wages and employment to foreign shocks - growth or exchange rate developments in destination markets - experienced by their employing firms.

### Mobility of Displaced Syrians

(for, and in collaboration with, MENA region). This project analyzes the return patterns of Syrian refugees and the economic and social factors shaping these patterns, such as income, safety, public goods and moving subsidies.

### Do Robots Threaten Trade between OECD and East Asia and Pacific Countries?

(for the EAP Chief Economist, in collaboration with the Jobs Group) The project studies the impact of industrial robots on OECD-EAP trade and finds that automation in OECD countries will increase trade due to higher demand for parts and components from EAP by OECD producers.

## RESEARCH HIGHLIGHTS

### Obstacles on the road to Palestinian economic growth

Roy van der Weide, **Bob Rijkers**, Brian Blankespoor, and Alexei Abrahams quantify the impact of market access in the West Bank on local GDP, proxied by nighttime lights. They use the road closure by the Israeli army between 2005 and 2012 as a quasi-natural experiment generating exogenous temporal and spatial variation in accessibility. Minimum travel times between locality pairs are computed using road network and obstacles data supplemented with information on checkpoint traversal times. These are combined with population data to construct a time-varying market access measure for each locality. Market access has a significant and substantial effect on local light emissions. This association is robust to controlling for conflict and strengthens when market access is instrumented by the number of obstacles located in a radius between 10 and 25km away from the locality.

### The Intensive Margin in Trade

Is the variation in bilateral trade flows across countries primarily due to differences in the number of exporting firms (the extensive margin) or in the average size of an exporter (the intensive margin)? And how does this affect the estimation and quantitative implications of the Melitz (2003) trade model? The benchmark Melitz model with Pareto-distributed firm productivity and fixed costs of exporting, predicts that, conditional on the fixed costs of exporting, all variation in exports across trading partners should occur on the extensive margin. **Ana Fernandes**, Peter Klenow, Sergii Meleshchuk, **Denisse Pierola** and Andres Rodriguez-Clare subject this theoretical prediction to a reality check drawing upon the World Bank's Exporter Dynamics Database (EDD) which has firm-level exports from 50 developing countries to all destinations. Around 50 percent of the variation in exports across trading partners is shown to be along the intensive margin, contradicting the benchmark Melitz-Pareto model.

## Labor Market Effects of Demographic Shifts and Migration in OECD Countries

The labor force of each industrial country is being shaped by three forces: ageing, education and migration. Drawing on a new database for the OECD countries and a standard analytical framework, Frederic Docquier, Zovanga Kone, **Aaditya Mattoo** and **Caglar Ozden** focus on the relative and aggregate effects of these three forces on wages across different skill and age groups over 2000 to 2010. The variation in the age and educational structure of the labor force emerges as the dominant influence on wage changes. The impact is uniform and egalitarian: in almost all countries, the changes in the age and skill structure favor the low-skilled and hurt the highly skilled across age groups. Immigration plays a relatively minor role, except in a handful of open countries, like Australia and Canada, where it accentuates the wage-equalizing impact of ageing and education. Emigration is the only inequalitarian influence, especially in Ireland and a few Eastern European countries which have seen significant outflows of high-skilled labor to Western European Union countries.

## Are Trade Preferences a Panacea? The African Growth and Opportunity Act and African Exports

Does "infant industry" preferential access durably boost export performance? **Ana Fernandes**, **Alejandro Forero**, **Hibret Maemir** and **Aaditya Mattoo** use significant trade policy changes in the United States as a natural experiment to address this question. The expansion of Generalized System of Preferences (GSP) products for less developed countries in 1997 and the implementation of the African Growth and Opportunity Act (AGOA) in 2001 is used to assess whether preferential access boosts exports of eligible products in general and apparel specifically. The phase-out of the Multi-Fiber Arrangement (MFA) in 2005 is used to assess whether any expansion in apparel exports survived the erosion of preferences. The analysis, using a triple-differences regression and

26 years of newly constructed trade and tariff data, finds that AGOA boosted African apparel exports, and the expansion of the GSP increased African exports of other eligible products. While the marginal impacts on African apparel exports grew sharply in the first years of AGOA, the impacts leveled off after 2005, when the end of the MFA quotas unleashed competition from Asian countries. Firm-level customs data for selected countries reveal that even in East Africa, the one region that saw sustained export expansion, growth was driven by new entrants rather than by incumbent firms whose competitiveness might have been nurtured by the big preference margins during the early AGOA period.

## Exposure of Belt and Road Economies to China Trade Shocks

The Belt and Road Initiative seeks to deepen China's international integration by improving infrastructure and strengthening trade and investment linkages with countries along the old Silk Road, thereby linking it to Europe. **Paulo Bastos** uses detailed bilateral trade data for 1995-2015 to assess the degree of exposure of Belt and Road economies to China trade shocks. The econometric results reveal that China's trade growth significantly affected the exports of Belt and Road economies. Between 1995 and 2015, the magnitude of China's demand shocks were larger than that of its competition shocks. However, competition shocks became more important in recent years, and were highly heterogeneous across countries and industries. Building on these findings, the paper documents the current degree of exposure of Belt and Road economies to China trade shocks and discusses policy options to deal with trade-induced adjustment costs.

## Robots, Tasks and Trade

**Erhan Artuc**, **Paulo Bastos** and **Bob Rijkers** examine the effects of robotization on trade patterns, wages and welfare. The paper develops a Ricardian model with two-stage production and trade in intermediate and final goods in which robots can take over some tasks previously performed by humans in a subset of industries. An increase in robot adoption in the North

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reduces the cost of production and thereby impacts trade in final and intermediate goods with the South. The empirical analysis uses ordinary least squares and instrumental variable regressions exploiting variation in exposure to robots across countries and sectors. Both reveal that greater robot intensity in own production leads to: (i) a rise in imports sourced from less developed countries in the same industry; and (ii) an even stronger increase in exports to those countries. Counterfactual simulations indicate that Northern robotization raises domestic welfare, but initially depresses wages. However, this adverse effect is likely to be reversed by further reductions in robot prices. Northern robotization may lead to higher wages and welfare in the South.

### Does Automation in Rich Countries Hurt Developing Ones? Evidence from the U.S. and Mexico

Following a couple of decades of offshoring, the fear today is of reshoring. Using administrative data on Mexican exports by municipality, sector and destination from 2004 to 2014, **Erhan Artuc**, Luc Christiaensen and Hernan Winkler investigate how local labor markets in Mexico that are more exposed to automation in the U.S. through trade fared in exports and employment outcomes. The results show that without the increase in robotization in the U.S. between 2004-2014, the growth in exports from Mexico to the U.S. would be 3.3 percent larger. Higher exposure to U.S. automation did not affect employment, or manufacturing wages significantly. Finally, the analysis finds large negative impacts of exposure to local automation on local labor market outcomes in Mexico, like the impact found in USA in previous research.

## IN THE NEWS

The book, “Exports to Jobs: Boosting Gains from Trade in South Asia,” by **Erhan Artuc**, Gady Lopez-Acevedo, Raymond Robertson, and Daniel Samaan was cited by the Times of India, Bloomberg, Business Standard, Indian Express, NDTV (India) and Channel 5 (India) on March 6, 2019.

The paper “Trade creation and trade diversion in deep agreements,” World Bank Policy Research Working Paper 8206 by **Aaditya Mattoo**, Alen Mulabdic and Michele Ruta was cited by The Economist on January 3, 2019.

The paper “Internal Borders and Migration in India” by Zovanga Kone, Maggie Liu, **Aaditya Mattoo**, **Caglar Ozden** and Siddharth Sharma, published in Economic Geography was cited by Times of India on December 23, 2018.

The paper “International data flows and privacy: the conflict and its resolution,” by Aaditya Mattoo and Joshua P. Meltzer, forthcoming in the Journal of the International Economic Law, was featured as an op-ed, “India, EU and the privacy challenge,” in the Indian Express (May 31, 2018), as well as in Let’s Talk Development (June 11, 2018) and voxEU.org, (23 May 2018).

## RECENT PUBLICATIONS

Almeida, R., Fernandes, A. and M. Viollaz. 2018. “Software Adoption, Employment Composition, and the Skill Content of Occupations in Chilean Firms” Journal of Development Studies forthcoming.

Artuc, Erhan and Caglar Ozden. 2018. “Transit Migration: All Roads Lead to America”, Economic Journal, vol.128, No.612. p.306-334

Bastos, Paulo, Joana Silva and Eric Verhoogen. 2018. “Export destinations and input prices,” American Economic Review, 108(2), 353-392, 2018.

Bastos, Paulo, Daniel Dias and Olga Timoshenko. 2018. "Learning, prices, and firm dynamics," Canadian Journal of Economics, 51(4), 1257-1311, 2018.

Bastos, Paulo, Natalia P. Monteiro and Odd Rune Straume. 2018. "Foreign acquisition and internal organization," Journal of International Economics, 114(5), 143-163, 2018.

Constantinescu, Cristina, Aaditya Mattoo, and Michele Ruta. 2018. "The Global Trade Slowdown: Cyclical or Structural?" forthcoming in the World Bank Economic Review.

Constantinescu, Cristina, Aaditya Mattoo, and Michele Ruta. 2018. "The Trade in Developing East Asia: How It Has Changed and Why It Matters," forthcoming in the East Asian Economic Review.

Docquier, Frederic, Zovanga L. Kone, Aaditya Mattoo, and Caglar Ozden. 2018. "Labor Market Effects of Demographic Shifts and Migration in OECD Countries," forthcoming in the European Economic Review.

Fernandes, Ana, Aaditya Mattoo, Huy Nguyen and Marc Schiffbauer. 2018. "The Internet and Chinese Exports in the Pre-Ali Baba Era, with," forthcoming in the Journal of Development Economics.

Mattoo, Aaditya, and Joshua P. Meltzer. 2018. "International Data Flows and Privacy: The Conflict and Its Resolution," forthcoming in the Journal of the International Economic Law.

Kone, Zovanga, Maggie Liu, Aaditya Mattoo, Caglar Ozden, Siddharth Sharma. 2018. "Internal Borders and Migration in India," Journal of Economic Geography, vol.18, No.4. p.727-759

Ozden, Caglar, Mauro Testaverde, Mathis Wagner. 2018. "How and Why Does Immigration Affect Crime?" World Bank Economic Review, vol.32, No.1. p.183-202

Ozden, Caglar, Michael Packard and Mathis Wagner. 2018. "International Migration and Wages," Revue D'Economie du Developpement, vol.25, no.4, p.93-134

#### *BOOKS AND INSTITUTIONAL PRODUCTS*

Artuc, Erhan, Gladys Lopez-Acevedo, Daniel Samaan, Ray Robertson. 2019. Exports to Jobs: Boosting the Gains from Trade in South Asia, World Bank.

Ozden, Caglar and Mathis Wagner. 2018. Moving for Prosperity: Global Migration and Labor Markets. World Bank, Policy Research Report.

#### *CHAPTERS IN EDITED VOLUMES*

Sarah Dickerson and Caglar Ozden. 2018. "Return Migration & Diaspora Engagement" in Anna Triandafyllidou(ed.) Handbook on Migration and Globalisation, Edward Elgar.

Zovanga Kone and Caglar Ozden. 2018. "Labor Market Implications of Immigration and Emigration in the Dominican Republic," in Francisco Carneiro (ed.) When Growth is not Enough: Explaining the Rigidity of Poverty and Inequality in the Dominican Republic, World Bank

## **NEW WORKING PAPERS**

Artuc, Erhan; Bastos, Paulo S. R.; Rijkers, Bob. 2018. "Robots, Tasks and Trade." Policy Research working paper; No. 8674;

Artuc, Erhan; Christiaensen, Luc; Winkler, Hernan Jorge. 2019. "Does Automation in Rich Countries Hurt Developing Ones? Evidence from the U.S. and Mexico." Policy Research working paper; No. 8741.

Bastos, Paulo. 2018. "Exposure of Belt and Road Economies to China Trade Shocks." Policy Research Working Paper; No. 8503.

Constantinescu, Cristina; Mattoo, Aaditya; Ruta, Michele. 2018. "Trade in Developing East Asia : How It

Has Changed and Why It Matters.” Policy Research Working Paper; No. 8533.

Docquier, Frederic; Kone, Zovanga Louis; Mattoo, Aaditya; Ozden, Caglar. 2018. “Labor Market Effects of Demographic Shifts and Migration in OECD Countries.” Policy Research working paper; No. 8676;

Espitia, Alvaro; Mattoo, Aaditya; Mimouni, Mondher; Pichot, Xavier; Rocha, Nadia. 2018. “How Preferential is Preferential Trade?” Policy Research Working Paper; No. 8446.

Fernandes, Ana Margarida; Klenow, Peter J.; Meleshchuk, Sergii; Pierola, Martha Denisse; Rodriguez-Clare, Andres. 2018. “The Intensive Margin in Trade.” Policy Research working paper; No. 8625.

Fernandes, Ana Margarida; Forero, Alejandro; Maemir, Hibret Belete; Mattoo, Aaditya. 2019. “Are Trade Preferences a Panacea?: The African Growth and Opportunity Act and African Exports.” Policy Research working paper; No. 8753.

Liu, Xuepeng; Mattoo, Aaditya; Wang, Zhi; Wei, Shang-Jin. 2018. “Services Development and Comparative Advantage in Manufacturing.” Policy Research Working Paper; No. 8450.

Mattoo, Aaditya. 2018. “Services Globalization in an Age of Insecurity: Rethinking Trade Cooperation.” Policy Research Working Paper; No. 8579.

Mattoo, Aaditya; Meltzer, Joshua P.. 2018. “International Data Flows and Privacy: The Conflict and its Resolution.” Policy Research Working Paper; No. 8431.

van der Weide, Roy; Rijkers, Bob; Blankespoor, Brian; Abrahams, Alexei. 2018. “Obstacles on the Road to Palestinian Economic Growth.” Policy Research Working Paper; No. 8385.

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