

GLOBAL TRADE WATCH

GLOBAL TRADE WATCH 2017*

Trade Defies Policy Uncertainty—Will It Last?

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Executive Summary

Trade and Policy Developments in 2017

What Happened to World Trade in 2017?

Trade rebounded in 2017, with trade volume growing at 4.3 percent in 2017—the fastest rate in 6 years. The recovery of trade is not limited to a few regions but is widespread, suggesting that we may be at a turning point. The largest contributions to global trade growth have come from East Asian countries in the developing world and the Euro area in the developed world. Merchandise trade, which in recent years has been less resilient than services trade, picked up, growing by 4.5 percent in 2017.

What Drove the Increase in World Trade?

Cyclical factors drove better trade performance in 2017. Trade grew faster because real gross domestic product grew faster. Investment growth played a critical role because investment is the most import-intensive component of aggregate demand, and capital goods production has longer global value chains (GVCs). Preliminary monthly data indicate that the import values of capital goods such as machinery and electrical equipment grew in 2017 at the fastest rates since 2012 and that they have been the most significant contributors to 2017 nonfuel import growth in the European Union and United States.

Is the Recovery in World Trade Going to Last?

The improved performance of trade may be widespread, but it is fragile. Some of the factors underlying the global trade slowdown of recent years—weak growth in GVCs and high trade policy uncertainty—are still present. In particular, there are serious risks in the trade policy domain. The share of merchandise trade that trade-restrictive measures cover remained stable at approximately 1 percent in 2017. But the portion due to trade remedy initiations—a harbinger of future protection—has increased significantly since 2015, and there are risks of policy reversals in major markets. At the same time, new deep trade agreements have recently entered into force and others are being negotiated.

Deep Trade Agreements as Public Goods

The future growth of trade will depend on how effectively existing trade agreements prevent recourse to protection and how rapidly new trade agreements spur liberalization and set common rules.

Why Focus on Trade Agreements?

Preferential trade agreements (PTAs)¹ were at the center of the policy debate in 2017 and are likely to remain central in shaping trade and economic relations in the coming years. Some of these discussions are about renegotiating current arrangements, as in the case of Brexit and NAFTA. In many other cases, often involving developing countries, new trade agreements have been concluded or are being negotiated, including the Comprehensive and Progressive Agreement for a Trans-Pacific Partnership

¹ The term PTA will be used throughout this note rather than “regional trade agreements” because some of these agreements are not necessarily between countries within the same region.

(CPTPP), the European Union–Mercosur trade agreement, the Regional Comprehensive Economic Partnership between the Association of Southeast Asian Nations (ASEAN) countries and six of their major trading partners, and the Continental Free Trade Area (CFTA) in Africa. If these negotiations are successfully concluded, the effect on trade and investment could be substantial and long lasting.

What are Deep Trade Agreements?

Many of the trade agreements being negotiated today cover multiple policy areas affecting trade and investment in goods and services, including behind-the-border regulations, such as competition policy, government procurement rules, and intellectual property rights. By creating a common set of rules for member countries in these areas, “deep” agreements are fundamentally different from the traditional “shallow” agreements that focus on preferential tariff liberalization. Fewer than one-third of PTAs in force are of the traditional shallow form, the remaining arrangements are deep in the sense that they cover more than 10 policy areas, including several outside of the World Trade Organization (WTO) mandate.

Why do Deep Trade Agreements Matter?

Three findings from recent research could inform the current policy debate on deep integration and on the reversal of existing deep agreements.

- Tariff preferences matter less and less. Two-thirds of countries have average tariffs below 5 percent. As tariffs have declined, so have preferences given to PTA partners. Once we consider competition from preferential and non-preferential sources, less than 3 percent of global exports benefited from a preferential advantage of more than 5 percent.
- Deep agreements boost trade and GVC participation more than shallow agreements. On average, deeper agreements increase goods trade by more than 35 percent, services trade by more than 15 percent, and GVC integration by more than 10 percent.
- Aspects of deep agreements are public goods. Certain provisions of these agreements benefit all trading partners and have positive welfare effects through expanded trade and an improved policy environment, but their efficient design requires balancing interests of member and nonmember countries. “Open” deep agreements, with liberal rules of origin on which products and countries qualify, are more likely to enhance the welfare of nonmembers than agreements with stricter rules of origin.

Table of Contents

Chapter 1: Trade and Policy Developments in 2017	5
I. Overview of Trade and Policy Developments	5
II. Understanding Trade Developments	8
Chapter 2: Deep Trade Agreements as Public Goods	16
I. The Deepening of Trade Agreements	16
II. Tariff Preferences Matter Less and Less	19
III. Deep Agreements Boost Trade and Cross-border Production	20
IV. Deep Agreements must be Carefully Designed to Enhance the Welfare of Members and Nonmembers	22
References	25
Annex A: Merchandise Trade, by Region and Over Time	27
Annex B: United States: Contributions to 2017 Growth of Goods Import Values	30
Annex C: European Union: Contributions to 2017 Growth of Goods Import Values	31
Annex D: Estimating the Effect of Depth on Trade Flows and Global Value Chain Participation	32
Annex E: Comprehensive and Progressive Agreement for Trans-Pacific Partnership: Economic and Income Inequality Impacts	33

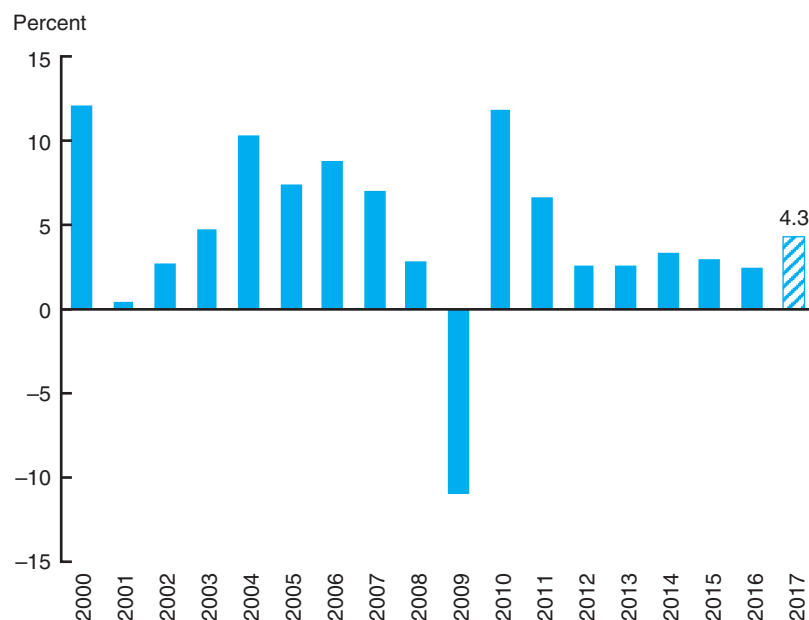
Chapter 1: Trade and Policy Developments in 2017

In 2017, world trade volumes grew at the fastest rate since 2012, mirroring the increase in investment and economic growth in a wide range of countries. This improved performance was not limited to a few regions but was widespread, suggesting that we may be at a turning point. But the recovery cannot be taken for granted because some of the factors underlying the global trade slowdown of recent years—weak growth in global value chains (GVCs), lack of progress in trade liberalization, and high trade policy uncertainty—are still present.

I. Overview of Trade and Policy Developments

Trade volumes grew in 2017 at the fastest pace in 6 years. After bouncing back from the Great Recession, growth in the volume of trade in goods and services hovered around 3 percent from 2012 to 2015, dropped to 2.5 percent in 2016, and is estimated to have climbed to 4.3 percent in 2017 (figure 1).

FIGURE 1: Growth in world goods and services trade volume

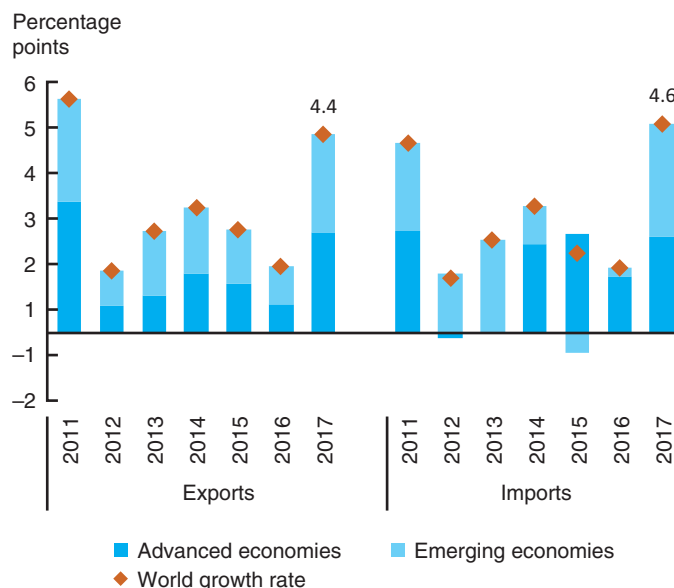


Sources: World Bank World Development Indicators, World Bank (2018), and authors' calculations.

Note: Trade growth is the average of import and export growth rates.

Advanced and emerging economies experienced faster trade growth in 2017. In 2012 and 2013, the dynamism of emerging economies largely sustained world trade growth as advanced economies struggled to recover from the financial crisis. This situation was reversed in 2014 and 2015, with declining commodity prices and macroeconomic rebalancing in China reducing import demand from emerging economies. Trade sluggishness in 2016 and trade recovery in 2017 were characteristics of

FIGURE 2: Contributions to growth in goods export and import volume, by country group



Sources: CPB World Trade Monitor and authors' calculations.

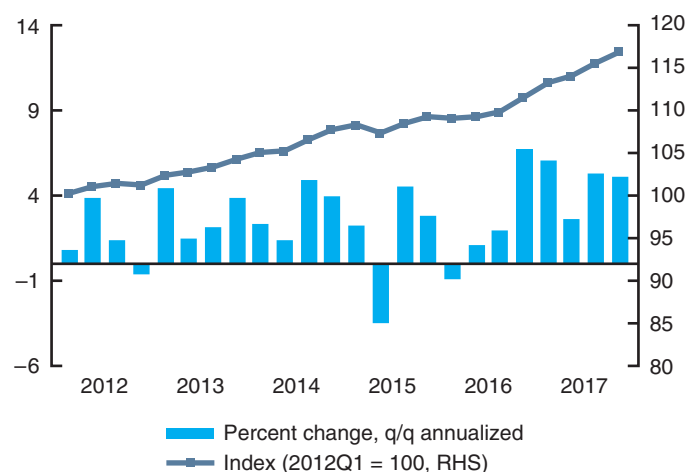
advanced and emerging economies (figures 2, A.1, and A.2).² Most regions saw an increase in trade growth in 2017, but the largest contributions to the global trade growth were from the East Asian countries in the developing group and the Euro area in the developed group (figure A.3).

The recent increase in trade growth is primarily due to rising merchandise (goods) trade volumes, particularly in Asia and the Euro area. Preliminary high-frequency data indicate that, in 2017, merchandise trade volumes grew by 4.5 percent (figure 3). Bilateral data for trade in current U.S. dollars suggest that much of the increase in merchandise trade reflects large contributions of intraregional trade from Europe and the Euro Zone, followed by North America (figure 4).

In 2017, services trade value grew at a lower rate than goods trade value, after showing greater resilience in previous years. More specifically, services trade value (in current U.S. dollars) grew by 5.6 percent, according to preliminary data for the first 3 quarters of 2017, whereas the 2017 estimate for goods trade value was 11 percent. Since 2008, trade values of services and goods have followed different trajectories, with growth in services trade stronger during the global financial crisis and the global trade slowdown of recent years (figure 5). Within services, transport has closely tracked the goods trade trajectory, whereas “other services,” comprising a range of business services, have been the most dynamic. This different dynamic between goods and services may be due in part to the lower sensitivity of services trade to short-term inventory and production cycles.

² Based on seasonally adjusted data on merchandise trade volumes (fixed base 2010 = 100) and price unit values in U.S. dollars from the CPB World Trade Monitor issued by the CPB Netherlands Bureau for Economic Policy Analysis on March 23, 2018. The countries covered by each group are listed in the updated version of the technical description of the CPB World Trade Monitor—published in September 2016 (<https://www.cpb.nl/en/worldtrademonitor>).

FIGURE 3: Quarterly goods trade volumes



Sources: CPB World Trade Monitor and authors' calculations.

Notes: Trade growth is the average of import and export growth rates.

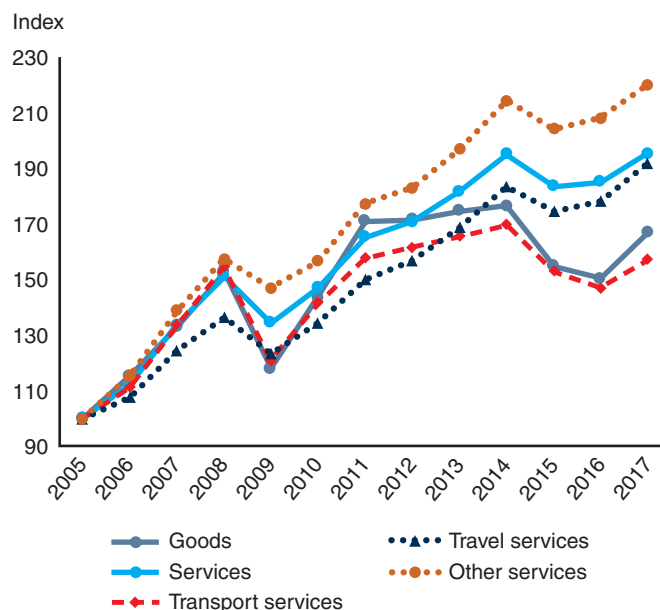
FIGURE 4: Contribution of trade within and between regions to 2017 growth in global trade values (percentage points)



Source: International Monetary Fund Direction of Trade.

Notes: Growth rate of export values (in current U.S. dollars) is computed by comparing January–November 2017 with January–November 2016. “Western Europe” includes western European countries and the European Union members. “East Asia” includes East Asian countries. North America includes Canada, United States, Bermuda and Mexico. “Other” includes all remaining countries.

FIGURE 5: Goods and services trade values (2005 = 100)



Sources: CPB World Trade Monitor, World Trade Organization annual services trade database, World Trade Organization quarterly services trade database and authors' calculations.

Note: Trade is the average of imports and exports (current U.S. dollars). The 2017 figures for services trade are obtained by applying an estimate of the 2017 growth rate—computed based on data for three quarters—to the 2016 trade values.

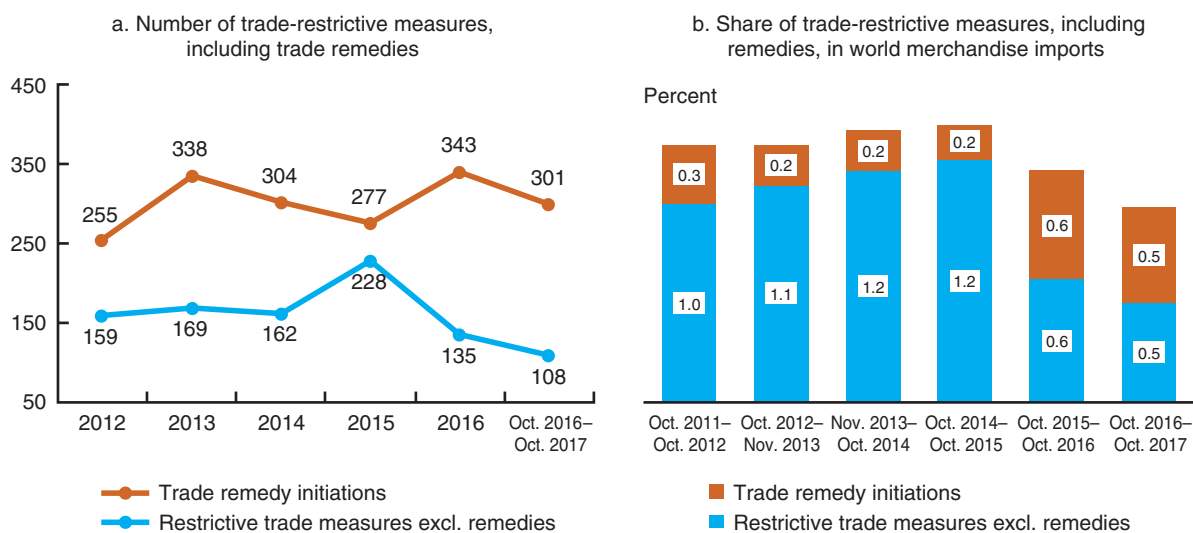
Although the share of world trade covered by restrictive measures has declined in recent years, the share of trade covered by trade remedy initiations surged in 2016 and remained stable in 2017, indicating that protectionist actions may increase in the future. The number of trade-restrictive measures (excluding remedies) declined by one-third (figure 6). At the same time, the number of trade remedy initiations (the start of a government investigation on imports that are causing injury to a domestic industry, such as antidumping and safeguards cases) reached a peak in 2016—due to an increase in antidumping measures—and appears to have declined slightly in 2017. The share of merchandise trade covered by trade-restrictive measures remained at approximately 1 percent in 2017. However, the past two years have seen compositional changes, as the share covered by trade-restrictive measures (excluding remedies) halved and the share covered by trade remedy initiations more than doubled relative to the 2015 reporting period.

II. Understanding Trade Developments

Cyclical factors are an important determinant of the improvement in trade performance in 2017. Trade grew faster because real gross domestic product (GDP) grew faster (figure 7). The World Bank (2018) estimated real GDP growth at 3.7 percent at purchasing power parity weights and 3.0 percent at market exchange rates, the highest rates since 2012. The upturn is broad based, with more than half of the world's economies experiencing an increase in GDP growth.

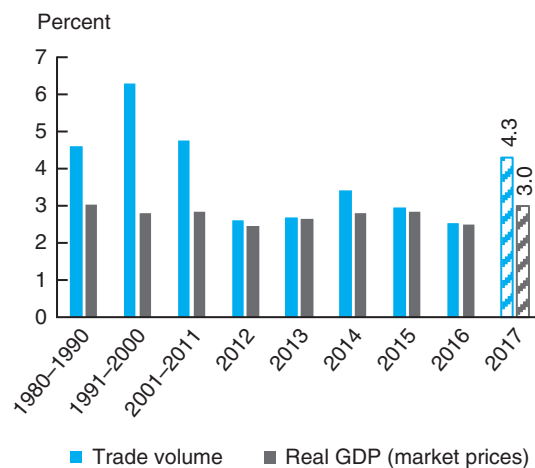
Investment growth played an important role in 2017. The rebound in global investment growth, which accounted for three-quarters of the acceleration in global GDP growth from 2016 to 2017, contributed

FIGURE 6: Trade restrictive measures



Source: World Trade Organization, various issues of the “Overview of development in international trading environment.”

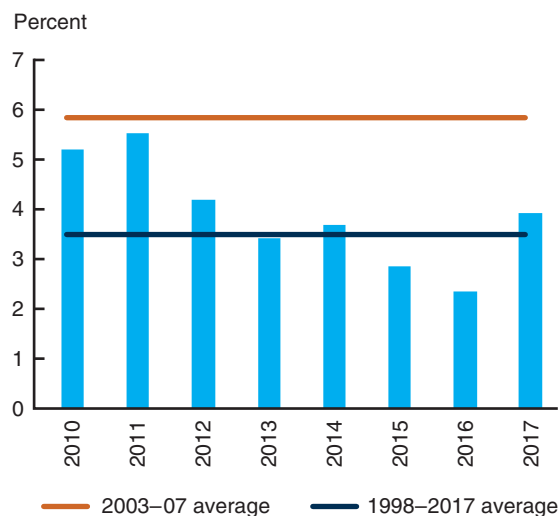
FIGURE 7: Growth in world goods and services trade volume and real gross domestic product (GDP)



Sources: World Bank World Development Indicators, World Bank (2018), and authors’ calculations.
 Note: Trade growth is the average of import and export growth rates.

to trade growth (figure 8). Trade is particularly responsive to changes in investment for three reasons. First, investment is the most import-intensive component of aggregate demand (Bussiere et al. 2013).³ Second, capital goods represent 40 percent of merchandise trade (Freund 2016). Third, capital goods generally have longer GVCs,⁴ so any rise in demand for these goods leads to an increase in the number of border crossings of parts and components, boosting trade in all countries involved. We return to this later.

FIGURE 8: World investment growth



Source: Figure 3.3.1A in World Bank (2018).

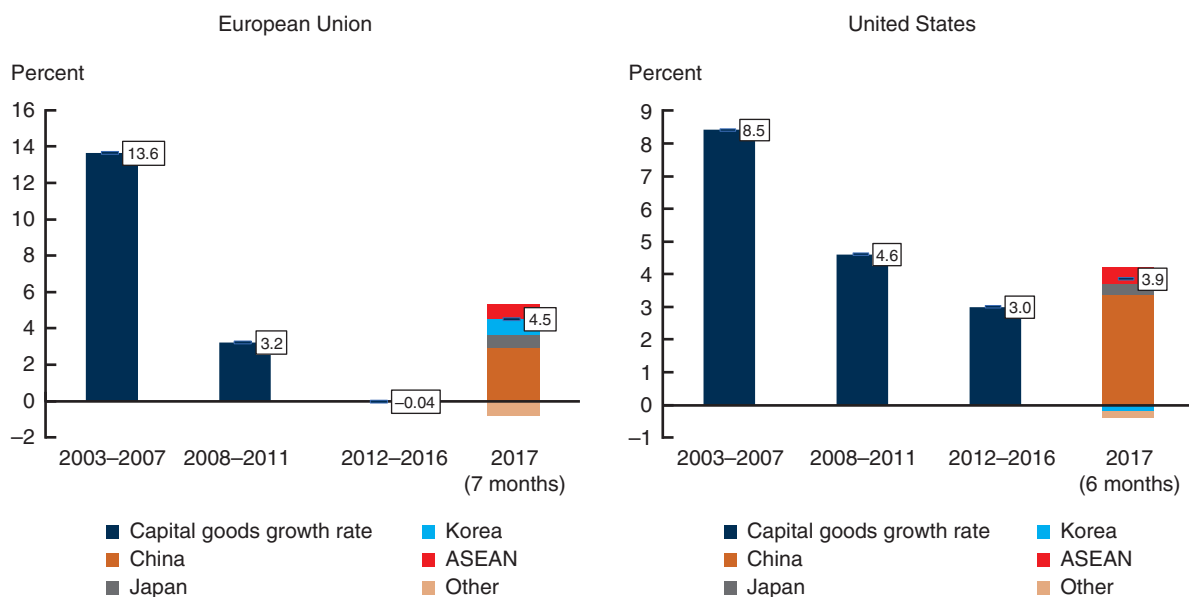
Imports of capital goods appear to have contributed significantly to the 2017 increase in trade growth of the advanced economies. Preliminary monthly data by product, for the first 7 months of 2017 for the European Union and the first 6 months of 2017 for the United States, indicate that import values (in current U.S. dollars) of investment-related capital goods have seen the largest growth since 2012 (figure 9). They have also been the most significant contributors to 2017 nonfuel import growth in the two regions. In both cases, an increase in imports of machinery and electrical equipment from East Asia, especially China, drove the 2017 growth. (See Annexes B and C for more details.)

Even though there was a surge in gross imports of machinery and electrical equipment from China, more than half of the value added originated in other countries. Looking at bilateral gross

³ Using data on 18 countries from the 2005 OECD input-output tables, Bussiere et al. (2013) finds an average import intensity of investment of 32 percent. This is higher by 4, 7, and 22 percentage points than the import intensities of exports, private consumption, and public consumption, respectively.

⁴ De Backer and Miroudot (2013) rank industries by the length of their GVCs. Industries that produce capital goods have longer GVCs, especially in their international segments. Manufacturing of television and communications equipment, motor vehicles, and electrical machinery has among the longest international value chains.

FIGURE 9: Imports of capital goods in current U.S. dollars (excluding passenger vehicles and telephone sets), percent change



Sources: World Integrated Trade Solution and authors' calculations.

Notes: The growth rate for 2017 is computed by comparing January to July 2017 with January to July 2016 for the European Union and January to June 2017 with January to June 2016 for the United States. Contributions of imports from East Asia are indicated for 2017. Passenger vehicles and telephone sets are excluded from this analysis, because they may be used in significant portions as consumption goods, and so may not be linked directly to the rise in investment growth.

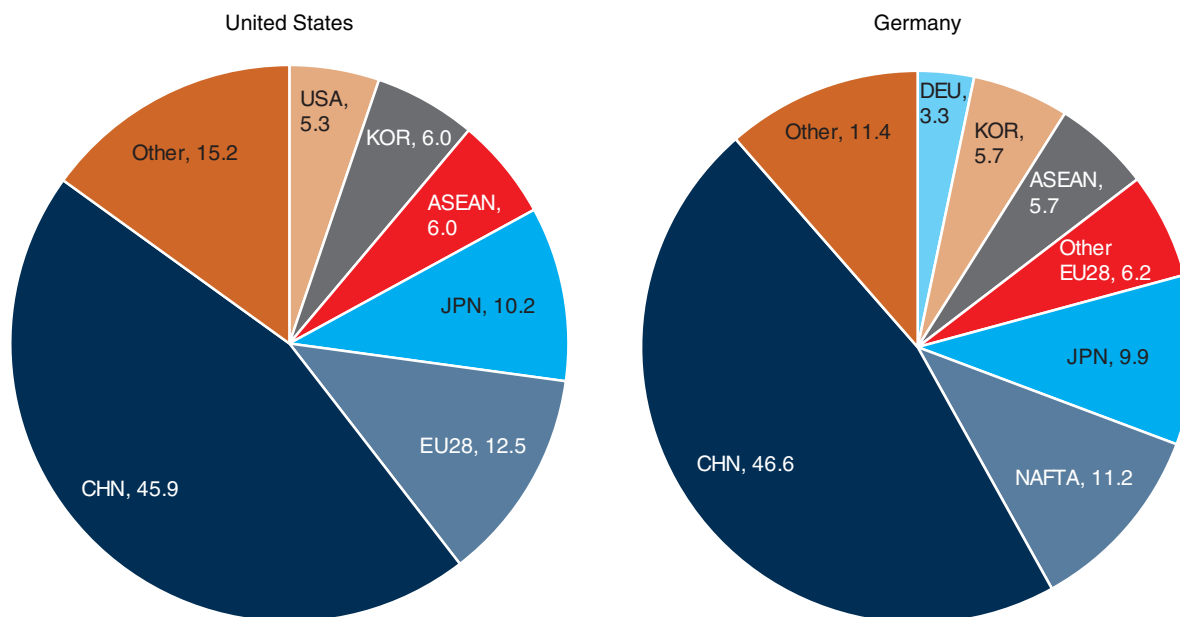
trade is deceptive because traded products incorporate value added from multiple countries. Consider U.S. imports of electrical equipment from China. According to data from the OECD Trade in Value Added (TiVA) database, in 2011, less than half of the value added imported from China was Chinese. The rest was distributed as follows: 22 percent from Japan, Korea, and the Association of Southeast Asian Nations; 5 percent from the United States; 13 percent from the European Union; and 15 percent from other countries (figure 10). There is a similar variety of sources of value added, in the gross exports of other East Asian countries. The increased investment demand from the United States and European Union may thus have contributed to the increase in intra-Asian trade because individual countries' exports of capital goods relied on regional production networks.⁵

Two other cyclical factors contributed to the increase in trade growth in 2017:

- *Recovering commodity prices.* Prices of commodities, particularly fuel, which experienced large declines starting in mid-2014, bottomed out in early 2016. Although commodity prices and global trade values remained low relative to the period before 2014, they recovered throughout 2017, improving the terms of trade and the growth in import volumes of oil-exporting countries in Europe, Central Asia, Africa, and the Middle East (figure 11 and figure A.1).

⁵ The importance of these links cannot be directly assessed because of limited monthly bilateral data by product for the East Asian countries in 2017.

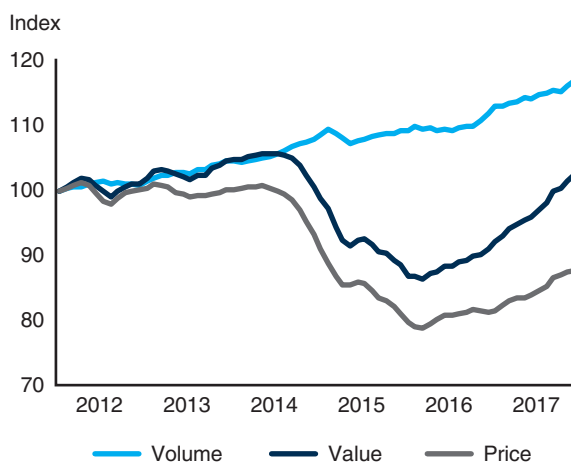
FIGURE 10: Shares of value added sources of 2011 electrical equipment imports from China, percent



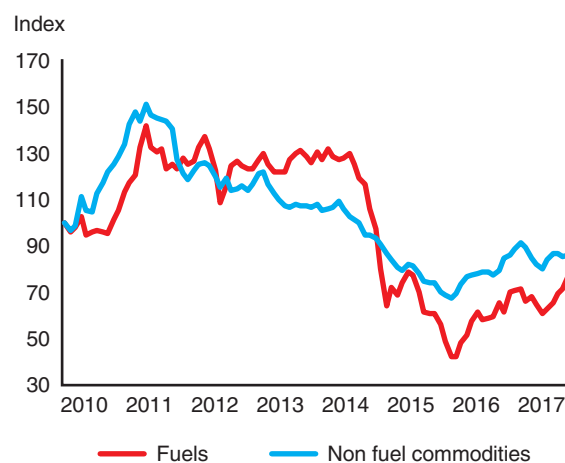
Sources: OECD Trade in Value Added database 2016.

FIGURE 11: Values, volumes, and prices of world merchandise exports, 2010–2017

a. World exports: 3-month moving average (Jan. 2012 = 100)

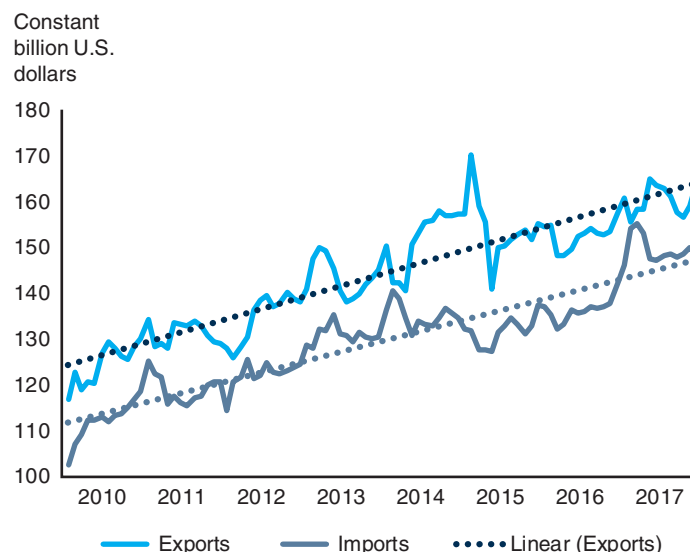


b. Monthly prices (Jan. 2012 = 100)



Source: CPB World Trade Monitor and authors' calculations.

FIGURE 12: China's merchandise trade volumes: constant 2010 billion U.S. dollars, seasonally adjusted (3-month moving average)



Source: World Bank Global Economic Monitor.

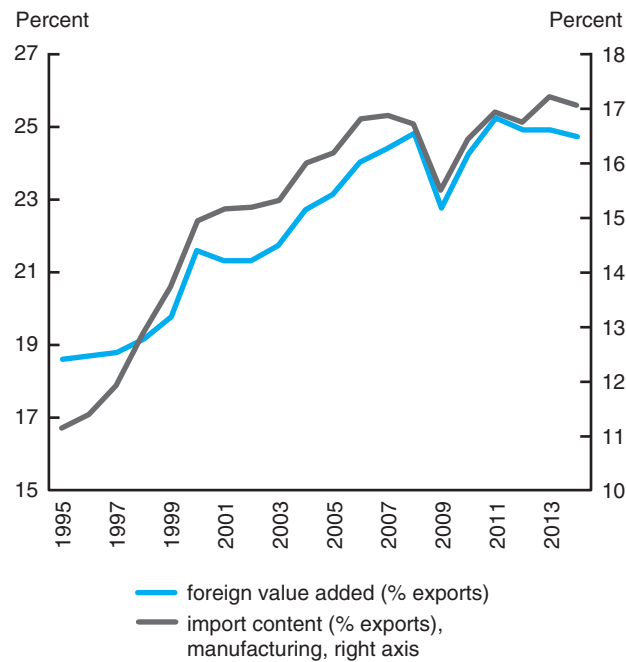
- *Developments in China.* China's exports grew on the back of the global recovery. Its imports jumped in the last months of 2016, responding to internal stimulus deployed in China since 2015 (figure 12). China's and East Asia's trade growth is a significant factor in the recent trade recovery (figure A3).

Structural factors still limit world trade growth, and the prospects of a sustained recovery are uncertain. Even though it is estimated that trade volume grew faster than real GDP in 2017, the gap between the growth rates of the two indicators is still about the same as the average gap during 1980–1990 and well below the one prevailing in the 1990s, when trade grew twice as fast as real GDP (figure 7). This evidence suggests that structural factors may still be a drag on trade growth (Constantinescu, Mattoo, and Ruta, forthcoming).

Two related structural factors continue to slow down world trade growth

- *Maturation of GVCs.* Trade growth raced ahead of output growth in the 1990s as production fragmented internationally into GVCs, leading to a rapid surge in trade in parts and components. This process appears to have matured in recent years (figure 13), leading to a deceleration in trade growth.
- *Policy uncertainty and the prospect of greater protection.* As we have noted, the share of merchandise imports that trade remedy initiations cover increased in 2016 and remained high in 2017, raising the prospect of greater protectionism in the future. Furthermore, the slow progress in trade negotiations and the risks of policy reversals (e.g., North American Free Trade Agreement, Brexit) contribute to weakening of prospects for trade growth. But a number of new agreements entered into force in 2017, and some large trade deals are being negotiated (table 1). If successfully concluded, the long-term effect of the resulting agreements on trade could be substantial, as discussed in detail in Chapter 2.

FIGURE 13: Vertical specialization, 1995–2014



Source: World Input Output Database (2013 and 2016 releases), U.N. Comtrade from World Integrated Trade Solution, and authors' calculations.

Note: Depicts foreign value added embodied in gross exports of goods and services and import content (from manufacturing industries) embodied in manufacturing exports.

TABLE 1: Preferential trade agreements (PTAs) reported to the world trade organization (WTO) in 2017 and major ongoing negotiations

Agreements notified to the WTO in 2017		
PTA Name	Date of entry into force	Signatories
Hong Kong, China — Macao, China	27-Oct-17	Hong Kong, China; Macao, China
EU — Canada	21-Sep-17	Canada; European Union
EFTA — Georgia	1-Sep-17	Georgia; Iceland; Liechtenstein; Norway; Switzerland
Canada — Ukraine	1-Aug-17	Canada; Ukraine
Southern Common Market (MERCOSUR) — Chile	10-Mar-17	Argentina; Brazil; Paraguay; Uruguay; Chile
EU - Colombia and Peru — Accession of Ecuador	1-Jan-17	European Union; Colombia; Ecuador; Peru

TABLE 1: (Continued) Preferential trade agreements (PTAs) reported to the world trade organization (WTO) in 2017 and major ongoing negotiations

Major ongoing bilateral and regional negotiations		
PTA name	Status	Potential members
Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)	Signed in March 2018	Australia; Brunei; Canada; Chile; Japan; Malaysia; Mexico; New Zealand; Peru; Singapore; Vietnam
Japan-EU Economic Partnership Agreement (EPA)	On 8 December 2017, the negotiations were finalised.	Japan; European Union
Regional Comprehensive Economic Partnership (RCEP)	Expected to be signed in November 2018	Brunei; Cambodia; Indonesia; Laos; Malaysia; Myanmar; the Philippines; Singapore; Thailand; Vietnam; Australia; China; India; Japan; South Korea and New Zealand
China — Japan — South Korea Free Trade Agreement	Ongoing negotiations	China; Japan; South Korea
Japan — Turkey	Ongoing negotiations	Japan; Turkey
Continental Free-Trade Area (CFTA)	Ongoing negotiations	Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cabo Verde; Cameroon; Central African Republic; Chad; Comoros; Côte d'Ivoire; Democratic Republic of Congo; Djibouti; Egypt; Equatorial Guinea; Eritrea; Ethiopia; Gabon; The Gambia; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Libya; Madagascar; Malawi; Mali; Mauritania; Mauritius; Morocco; Mozambique; Namibia; Niger; Nigeria; Republic of Congo; Rwanda; Sahrawi Arab Democratic Republic (disputed state); São Tomé and Príncipe; Senegal; Seychelles; Sierra Leone; Somalia; South Africa; South Sudan; Sudan; Swaziland; Tanzania; Togo; Tunisia; Uganda; Zambia; Zimbabwe
EU Mercosur trade agreement	Ongoing negotiations	European Union; Mercosur (Argentina, Brazil, Paraguay, Uruguay)
Pacific Alliance associate membership of Australia, Canada, New Zealand and Singapore	Ongoing negotiations	Chile; Colombia; Mexico; Peru; Australia; Canada; New Zealand; Singapore

Chapter 2: Deep Trade Agreements as Public Goods

Preferential trade agreements (PTAs) have been at the center of the policy debate in 2017 and are likely to shape trade and economic relations in the coming years. Some of these discussions are about reversing or renegotiating current arrangements, as in the case of Brexit and the North American Free Trade Agreement. In many other cases, often involving developing countries, new trade agreements have been concluded or are being negotiated, including the Comprehensive and Progressive Agreement for a Trans-Pacific Partnership (CPTPP), the European Union–Mercosur trade agreement, the Regional Comprehensive Economic Partnership between the Association of Southeast Asian Nations (ASEAN) countries and six of their major trading partners, and the Continental Free Trade Area (CFTA) in Africa. (See Chapter 1.)

Although there is extensive economic literature on trade agreements, they are often poorly understood, partly because of their changing nature. When Jacob Viner wrote his classic study, *The Customs Union Issue*, in 1950, PTAs mostly covered tariffs and other border measures, but in many trade agreements today, negotiations cover multiple policy areas affecting trade and investment in goods and services, including behind-the-border regulations such as competition policy, government procurement rules, and intellectual property rights. PTAs that cover tariffs and other border measures are “shallow” agreements; PTAs that cover a larger set of policy areas, at the border and behind the border, are “deep” agreements (Lawrence 1996).

What are the implications of deep integration? Based on new data and analysis recently produced at the World Bank, this chapter documents the changing content of PTAs, evaluates the role that tariffs play in these agreements, quantifies the effect of deep agreements on trade and cross-border production, and discusses the welfare implications of deep integration.

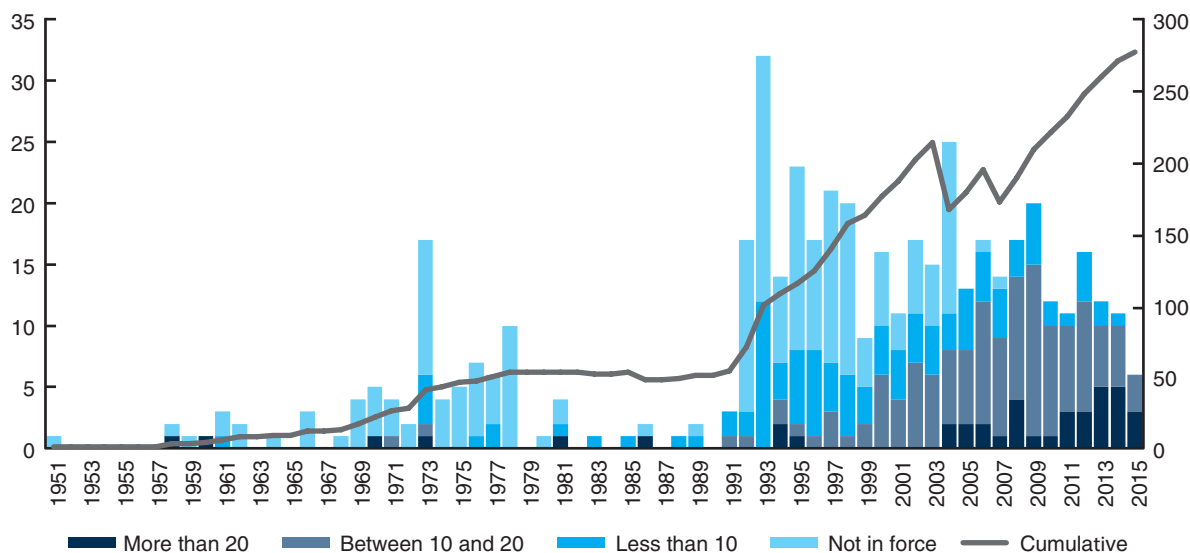
The main findings of this chapter are that:

- Trade agreements are deepening. Fewer than one-third of PTAs in force are of the traditional shallow variety; the remaining arrangements are deep in the sense that they cover more than 10 policy areas, often behind the border.
- Tariff preferences matter less and less. Two-thirds of countries have average tariffs below 5 percent. As tariffs have declined, so have preferences given to PTA partners. Once we consider competition from preferential and non-preferential sources, less than 3 percent of global exports benefited from a preferential advantage of more than 5 percent.
- Deep agreements boost trade and global value chain (GVC) participation more than shallow agreements. On average, deeper agreements increase goods trade by more than 35 percent, services trade by more than 15 percent, and GVC integration by more than 10 percent.
- Aspects of deep agreements are public goods. Certain provisions of these agreements benefit all trading partners, and have positive welfare effects through expanded trade and an improved policy environment. But their efficient design requires a balancing of interests between different members and between member and nonmember countries.

I. The Deepening of Trade Agreements

PTAs have proliferated in the last 25 years. Fifty trade agreements were in force and reported to the World Trade Organization (WTO) in 1990. There are more than 280 today, according to the WTO regional trade agreements database, and as discussed in Chapter 1, several large PTAs are under negotiation. This

FIGURE 14: Number and content of preferential trade agreements



Source: Hofmann, Osnago, and Ruta (forthcoming).

dramatic change in the number of agreements has spurred much debate among researchers and policy-makers on the rationale for PTAs, their effect on trade flows and on the growth and welfare of member and nonmember countries, and their relationship with the system of multilateral trade governance.⁶

The content of PTAs has also changed dramatically over time. Whereas before the 1990s, trade agreements mostly involved preferential reduction of tariffs, more-recent trade agreements cover many policy and regulatory areas that go beyond tariff reduction and affect services, investment, competition, and intellectual property rights protection (Hofmann, Osnago, and Ruta forthcoming).⁷ Figure 14 reports the evolution in the cumulative number of preferential agreements over time (solid line) and the number of policy areas that newly signed agreements cover in each year (shades of color in the histograms). A growing number of trade agreements cover more than 20 policy areas, the majority of newly signed PTAs cover 10 to 20 policy areas; and only 30 percent of PTAs focus on fewer than 10 policy areas.

Deep integration is built on shallow integration. Shallow agreements predominantly discipline tariffs on imports and exports of goods and customs administration (provision of information, publication on the Internet of new laws and regulations, training). Deeper agreements extend their reach, first to areas such as trade remedies (countervailing measures, antidumping duties) and subsidies and then to a broader set of behind-the-border measures related to services trade, investment, intellectual property rights, and domestic regulation (table 2). For example, the United States–Israel agreement signed in 1985 included 10 legally enforceable provisions, mostly pertaining to areas under the WTO mandate. The Korea–United States agreement signed in 2012 has much broader

⁶ See Freund and Ornelas (2010), WTO (2011), Limão (2016), and Ruta (2017) for recent surveys of the literature.

⁷ Data on the content of trade agreements can be accessed at <http://data.worldbank.org/data-catalog/deep-trade-agreements>.

TABLE 2: Policy areas typically included in agreements of varying depth

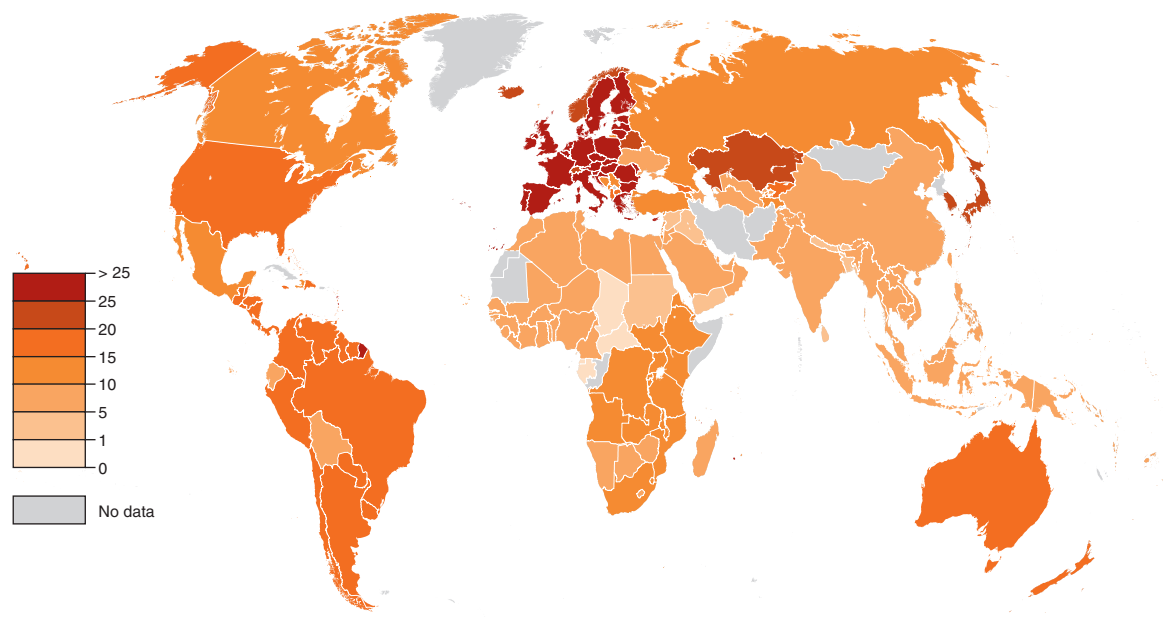
	No of areas covered in the agreement		
	<10	10–20	>20
Tariffs on manufacturing goods	✓	✓	✓
Tariffs on agricultural goods	✓	✓	✓
Export taxes	✓	✓	✓
Customs	✓	✓	✓
Competition policy	✗	✓	✓
State aid	✗	✓	✓
Anti-dumping	✗	✓	✓
Countervailing measures	✗	✓	✓
TRIPS	✗	✓	✓
STE	✗	✓	✓
TBT	✗	✓	✓
GATS	✗	✓	✓
SPS	✗	✓	✓
Movement of capital	✗	✓	✓
Public procurement	✗	✗	✓
IPR	✗	✗	✓
Investment	✗	✗	✓
Environmental laws	✗	✗	✓
Labor market regulations	✗	✗	✓
TRIMS	✗	✗	✓

Note: A provision is shown as included in a particular category if more than 60% of agreements in that category cover it. TRIPS: Trade-Related Aspects of Intellectual Property Rights; STE: State Trading Enterprises; TBT: Technical Barriers to Trade; GATS: General Agreement on Trade in Services; SPS: Sanitary and Phyto-Sanitary; IPR: Intellectual Property Rights; TRIMS: Trade-Related Investment Measures.

coverage, including behind-the-border areas such as intellectual property rights, investment, and movement of capital.

Deep integration varies widely across countries. Western Europe has been a precursor of deep integration. The EC Treaty signed in 1958 and successive enlargements of the European Union included more than 20 policy areas. At the end of 2015, E.U. members were involved in 36 trade agreements, including E.U. PTAs with third countries, covering on average 25 policy areas (figure 15). As a comparison, each European Free Trade Area country (Iceland, Liechtenstein, Norway, Switzerland) had approximately 30 agreements in force in 2015, covering 23 policy areas. PTAs that Japan and Korea signed are also quite deep and include on average 21 and 20 policy areas, respectively. North-North and North-South PTAs tend to be deeper, covering on average 20 policy areas, whereas South-South trade agreements are generally shallower and focus on more traditional trade policy areas.

FIGURE 15: Average depth across countries (2015)



IBRD 42706 | JANUARY 2017

Source: Mulabdic, Osnago, and Ruta (2017).

II. Tariff Preferences Matter Less and Less

PTAs have significantly widened the scope of tariff-free trade. Preferential tariff liberalization has complemented unilateral tariff reforms and multilateral trade negotiations that have reduced most-favored nation (MFN) tariffs, the normal nondiscriminatory tariffs charged on imports. Forty-two percent of the total value of world trade is subject to zero-MFN rates (table 3). PTAs have fully liberalized an additional 28 percent of world trade and substantially reduced applied tariffs on a further

TABLE 3: Trade-weighted national most-favored nation (MFN) and applied tariff rates

	Type of regime	Share of global imports (%)	Average applied MFN rate	Average preferential tariff
Trade not covered by an agreement	MFN rate > 0	21	9.9	9.9
	Zero-MFN rate	21	0.0	0.0
Trade covered by an agreement	Zero-MFN rate	21	0.0	0.0
	Complete liberalization	28	7.4	0.0
	Partial liberalization	3	14.1	7.7
	No liberalization	2	15.1	15.1

Source: Espitia et al. 2018.

Notes: Tariff information is not available for 4 percent of 2016 global trade from or to unspecified countries.

3 percent. PTAs have not been able to reduce applied tariffs on a handful of sensitive products that account for 2 percent of world trade.

The extent of preferential liberalization varies across countries and sectors. Approximately two-thirds of countries participating in PTAs have reduced trade-weighted average preferential tariffs to less than 5 percent. However, several lower-income countries still have trade-weighted average tariffs well above 5 percent (figure 16). Applied tariffs are in general low, especially for natural resources and most manufacturing goods, but remain relatively high in sensitive sectors such as agriculture, textiles, and footwear, even under PTAs.

Even though more than half of world trade takes place between countries that are part of PTAs, tariff preferences matter less. As MFN tariffs have declined and membership in preferential agreements has increased, preference margins have declined. The difference between the MFN rate of duty and the preferential rate for PTA members is approximately 7 percent on the one-third of world imports that are liberalized under PTAs. However, considering competition from both preferential and non-preferential sources—because trade rivals often belong to the same PTAs—only 2.8 percent of global exports benefited from a preferential advantage of more than 5 percent, and only 3.1 percent of global exports suffered from a preferential disadvantage of more than 5 percent.

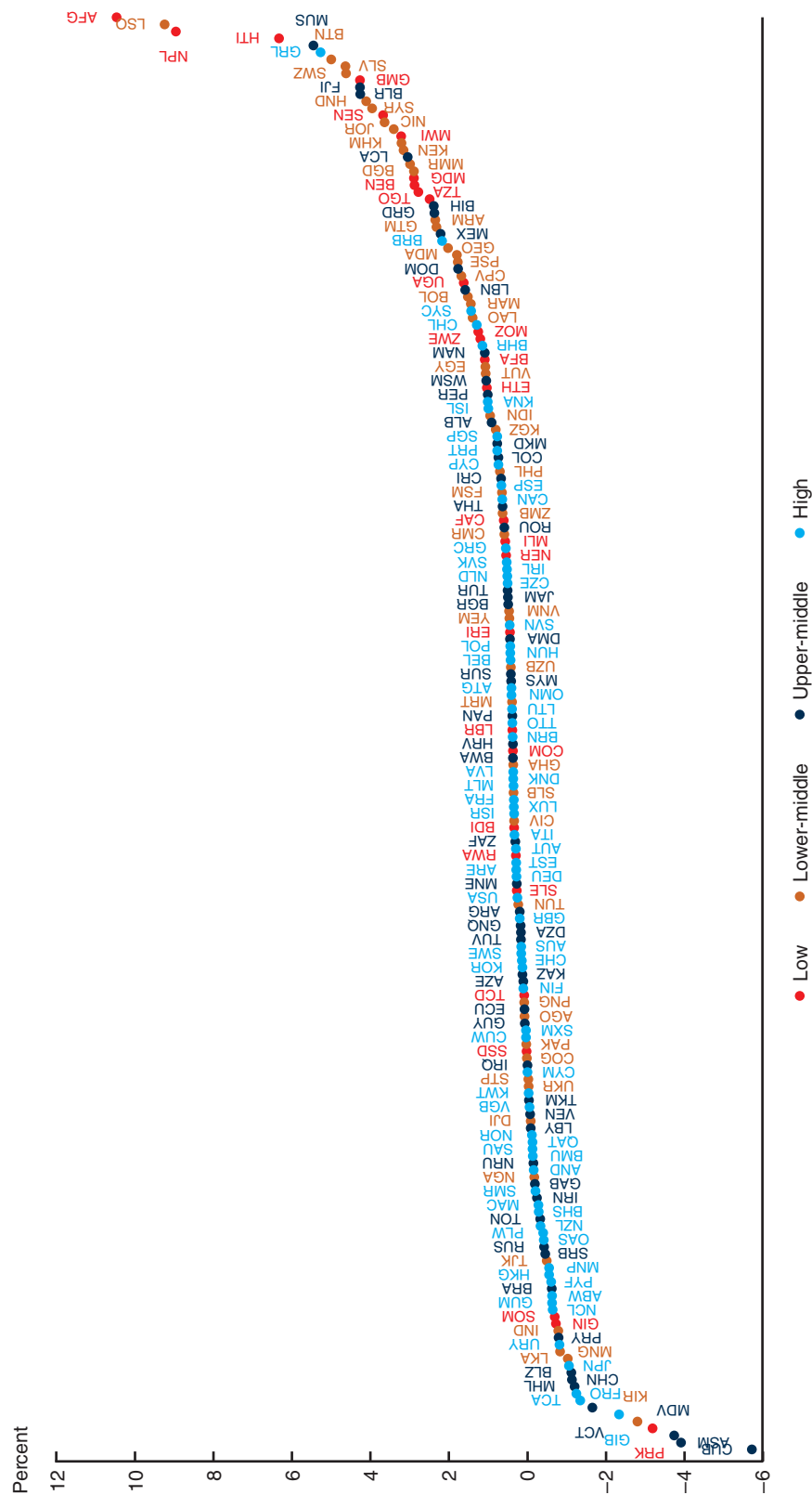
III. Deep Agreements Boost Trade and Cross-border Production

Deep agreements boost trade between members.

- **They increase goods trade—an effect that persists over time.** After controlling for other determinants of bilateral trade flows, such as tariff liberalization and other country characteristics, deep trade agreements increase trade in goods between country pairs on average by an estimated 40 percent (Mattoo, Mulabdic, and Ruta 2017).⁸ On average, it takes two years for deep agreements to increase trade flows, which is consistent with evidence that reforms of behind-the-border measures take time to implement (figure 17).
- **Deep agreements also boost services trade between members.** Deep agreements increase members' services trade on average by approximately 20 percent (Mulabdic, Osnago, and Ruta 2017). Although the effect of deep agreements on services trade is on average smaller than their effect on goods trade, for some countries, it could be larger. For instance, U.K. membership in the European Union is estimated to have more than doubled the United Kingdom's services exports, whereas its effect on goods trade was roughly in line with the average.
- **They foster cross-border production networks.** Deep agreements boost participation of countries in GVCs. Signing deep agreements is associated with increases in backward and forward GVC linkages (share of intermediate imports used in a country's exports and share of intermediate exports that third countries re-export). Specifically, deep PTAs increase backward GVC participation by 13 percent and forward GVC participation by approximately 20 percent (Osnago, Rocha, and Ruta 2018). Similarly, deep trade agreements are found to increase vertical foreign direct investment (efficiency-seeking foreign direct investment (FDI)) by more than 70 percent (Osnago, Rocha, and Ruta 2017; forthcoming).

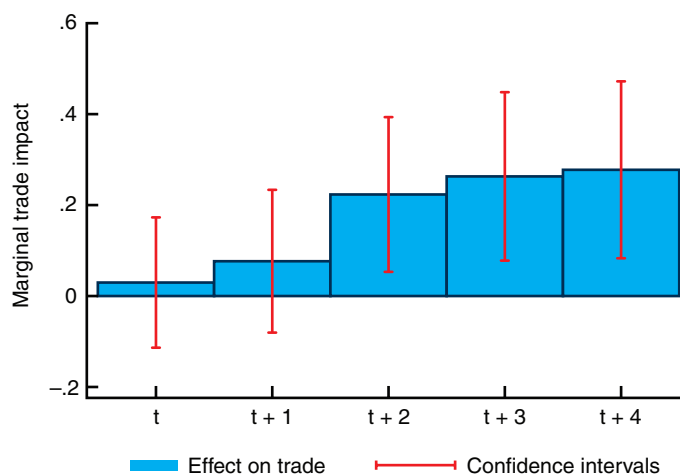
⁸ Annex D describes the methodology and reports the results of regression analysis for a sample of 40 countries for the 1995–2011 period.

FIGURE 16: Competition-adjusted preference margin, received by country



Source: Espitia et al. 2018.

FIGURE 17: Dynamic effects of depth



Note: *Depth* is defined as the count of legally enforceable provisions. Results are based on a Poisson pseudo maximum-likelihood estimator of a gravity model that includes lags and leads of the depth variable, in addition to bilateral fixed effects and country-year fixed effects. 90% confidence intervals are constructed using robust standard errors, clustered by country pair.

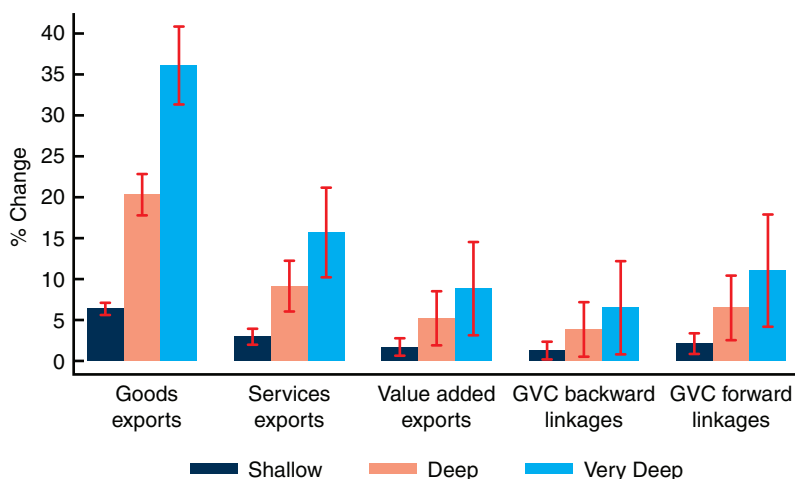
- **And they have an impact on welfare and poverty.** Trade agreements can contribute to lifting people out of poverty. Annex E presents estimates of the economic and distributional impacts of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), based on a dynamic computable general equilibrium (CGE) model (Maliszewska et al., 2018).

To quantify the trade effects of deep agreements, we computed percentage change in flows for agreements with different levels of depth. These effects are based on estimates obtained from a regression analysis that is discussed in Annex D. Figure 18 shows that shallow agreements, such as between ASEAN and China, which has four provisions, have small effects on trade and GVC flows. Deep agreements such as the one between Hong Kong, China and New Zealand or the one between Chile and Nicaragua (15 provisions) have a stronger effect on trade in goods and services and GVC flows. It is estimated that very deep agreements, such as the European Economic Area (between the European Free Trade Association and the European Union), increase trade in goods by more than 35 percent and services by more than 15 percent. In terms of GVC flows, deep trade agreements are particularly important for forward linkages, which it is estimated increase by more than 10 percent.

IV. Deep Agreements must be Carefully Designed to Enhance the Welfare of Members and Nonmembers

Deep agreements have positive effects on welfare because they allow members to improve their policy environment and expand their markets. First, behind-the-border policies relating to matters such as competition, technical regulations, and procurement may have cross-border spillover effects, particularly in sectors in which production is fragmented internationally. The greater policy cooperation resulting from deep agreements allows governments to consider the effects of these policies on partners, leading to efficiency gains. Second, political economy distortions may induce governments to set inefficient policies. For instance, foreign firms operating in the domestic market may suffer discrimination through taxes

FIGURE 18: Effects of depth on trade and global value chains (GVCs)



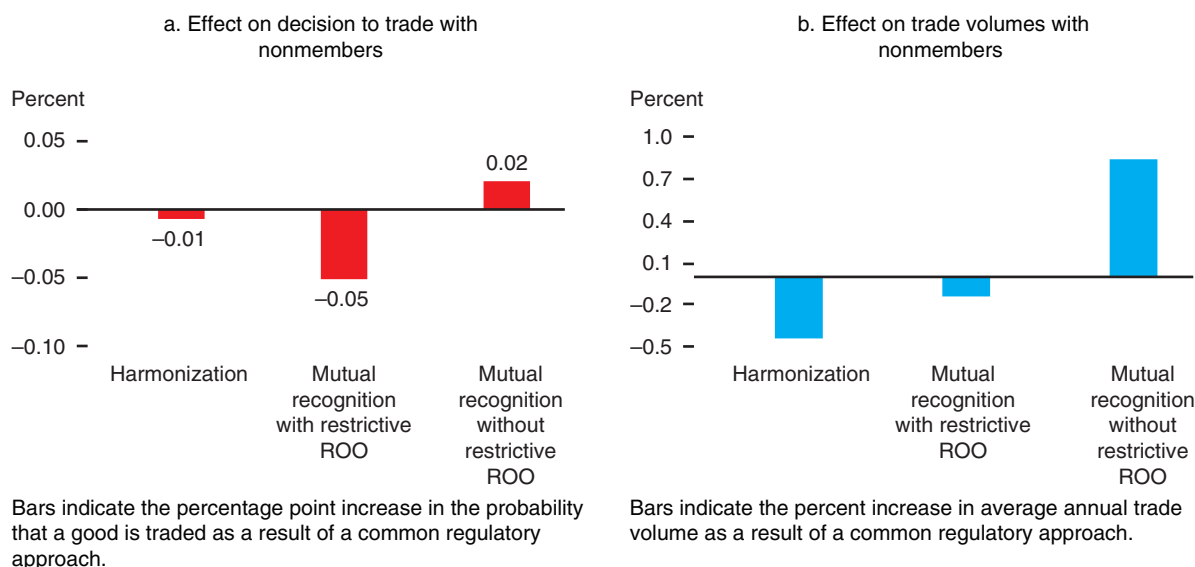
Note: *Depth* is defined as the count of legally enforceable provisions. In the figure, we define *Shallow* as an agreement that includes 5 provisions, *Deep* as an agreement that includes 15 provisions, and *Very Deep* as an agreement that includes 25 provisions. Results are based on a Poisson pseudo maximum-likelihood estimator of a gravity model described in Annex D. 90% confidence intervals are constructed using robust standard errors, clustered by country pair.

and regulation, which may reduce incoming FDI. Deep agreements can help eliminate these distortions and offer a commitment device that allows governments to gain credibility with foreign investors. The evidence presented in the previous section confirms that improvement in the policy environment improves welfare through its effect on trade, FDI, and GVC participation.

The design of deep agreements could also have adverse effects on members' welfare that need to be carefully assessed. Unlike shallow agreements that aim to reduce tariffs and other border restrictions, deep agreements cover a number of domestic policies, such as intellectual property protection and technical regulations. In these areas, country preferences may differ widely for legitimate reasons, such as divergent levels of development or differences in social preferences. There is therefore a tension between the benefits of policy cooperation in deep integration and the need for national autonomy in certain policy areas. Economic theory provides a simple principle to address this tradeoff between integration and sovereignty. The “decentralization theorem” (Oates 1972) suggests that deep agreements should focus on provisions in which the gains from policy cooperation are large and differences in policy preferences are small. This welfare calculus may be difficult to assess with precision and requires careful consideration, as well as proper balancing of the interests of different countries (Brou and Ruta 2006).

Aspects of deep agreements have a positive spillover effect on nonmembers. The positive trade effects on members documented in the previous section does not come at the expense of trade with third countries. A standard deviation increase in the depth of trade agreements increases bilateral trade with nonmembers by an estimated 19 percent (Mattoo, Mulabdic, and Ruta 2017). Although the traditional elements of deep agreements, such as tariff preferences, hurt trade with outsiders, inclusion of nondiscriminatory provisions, such as those that regulate competition, subsidies, and standards, also enhance trade with outsiders.

FIGURE 19: Mutual recognition without restrictive rules of origin (ROO) promises the greatest benefits to third countries.



Source: Chen and Mattoo (2008).

“Open” deep agreements are more likely to enhance the welfare of nonmembers. Certain behind-the-border provisions in deep agreements can divert trade from third countries. For instance, in a study of the effect of agreements on technical regulations, Chen and Mattoo (2008) showed that the effects of trade agreements on trade with nonmembers depend on:

- **The level of harmonized standards.** With harmonization, exports of excluded *developed* countries to PTA members increase, but exports of excluded *developing* countries decline. These asymmetric effects may arise because an increase in the stringency of standards in some markets (as a result of harmonization) hurts developing country firms more, and they benefit less from economies of scale in integrated markets.
- **Rules of origin.** Mutual recognition with restrictive rules of origin reduces the probability of a particular good being imported from nonmembers (even more than in harmonization agreements) and reduces trade volumes. In contrast, mutual recognition with permissive rules of origin boosts the likelihood of trade with nonmembers and increases trade volumes (figure 19).

Deep agreements covering areas such as technical regulations are more likely to benefit outsiders when they favor mutual recognition over harmonization and liberal over restrictive rules of origin.

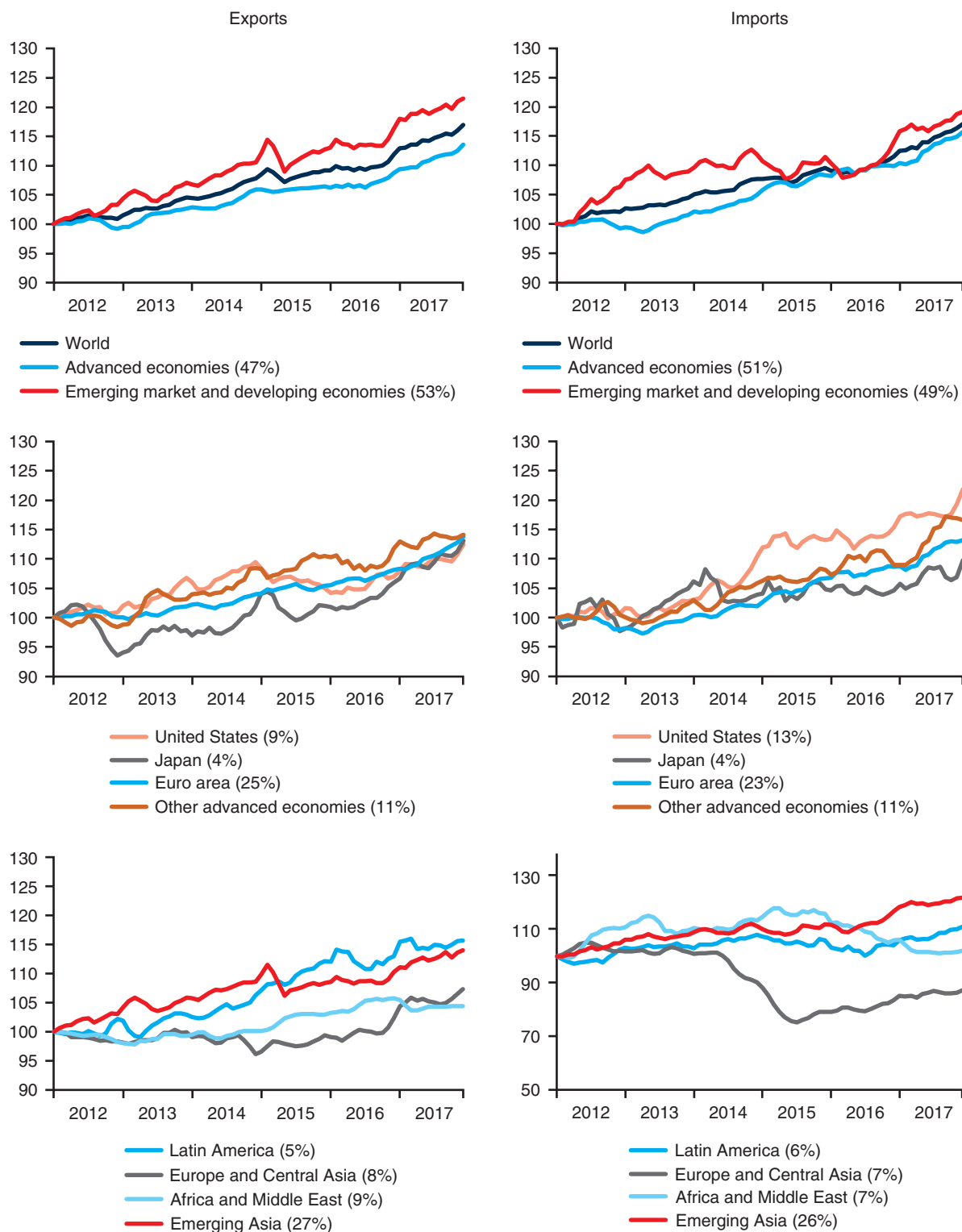
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Annex A: Merchandise Trade, by Region and Over Time

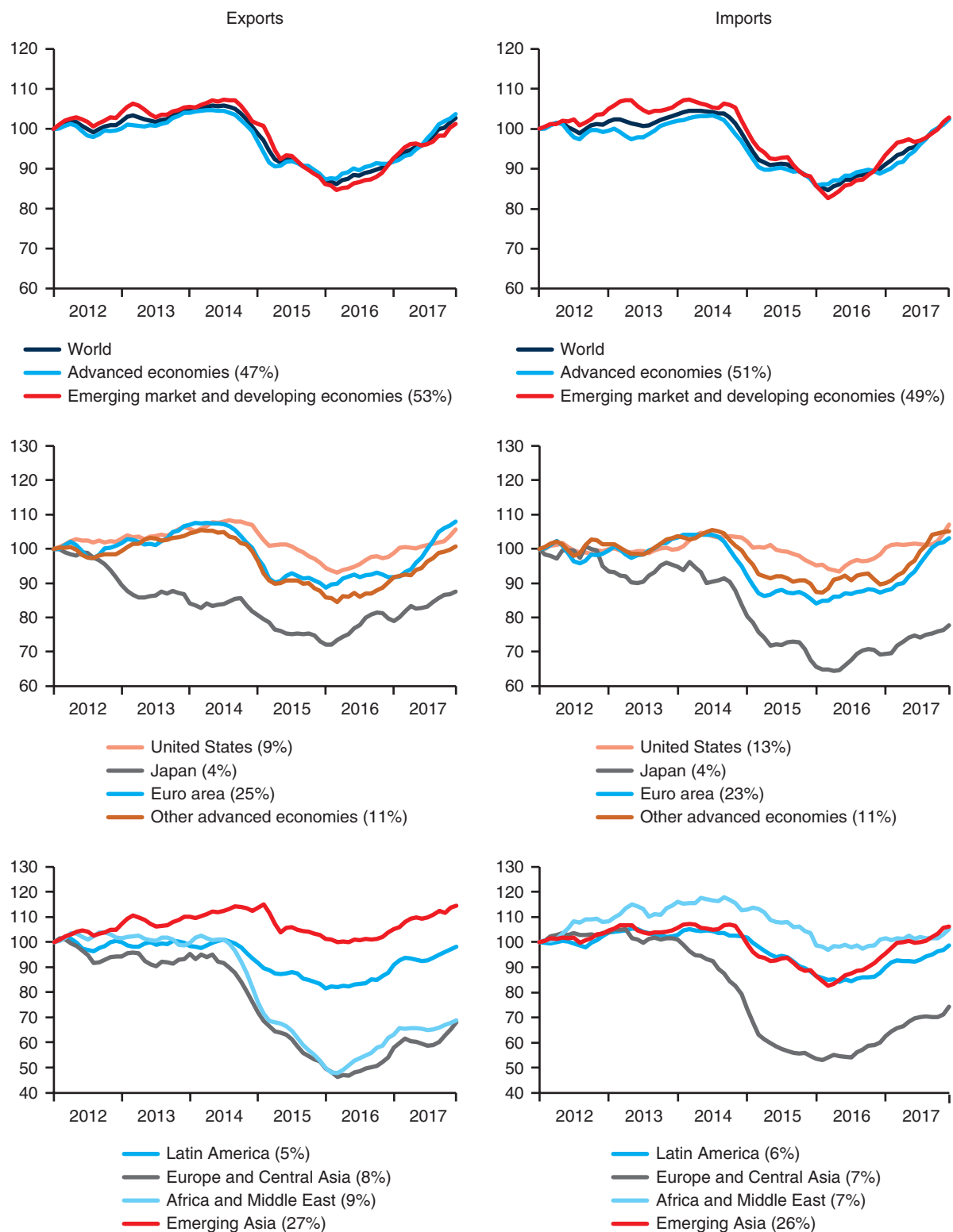
FIGURE A.1: Merchandise trade volume (3-month moving average, January 2012 = 100)



Source: CPB World Trade Monitor, World Trade Organization, and authors' calculations.

Notes: In parentheses: share in world trade values in 2014. See footnote 2 for source of country classification.

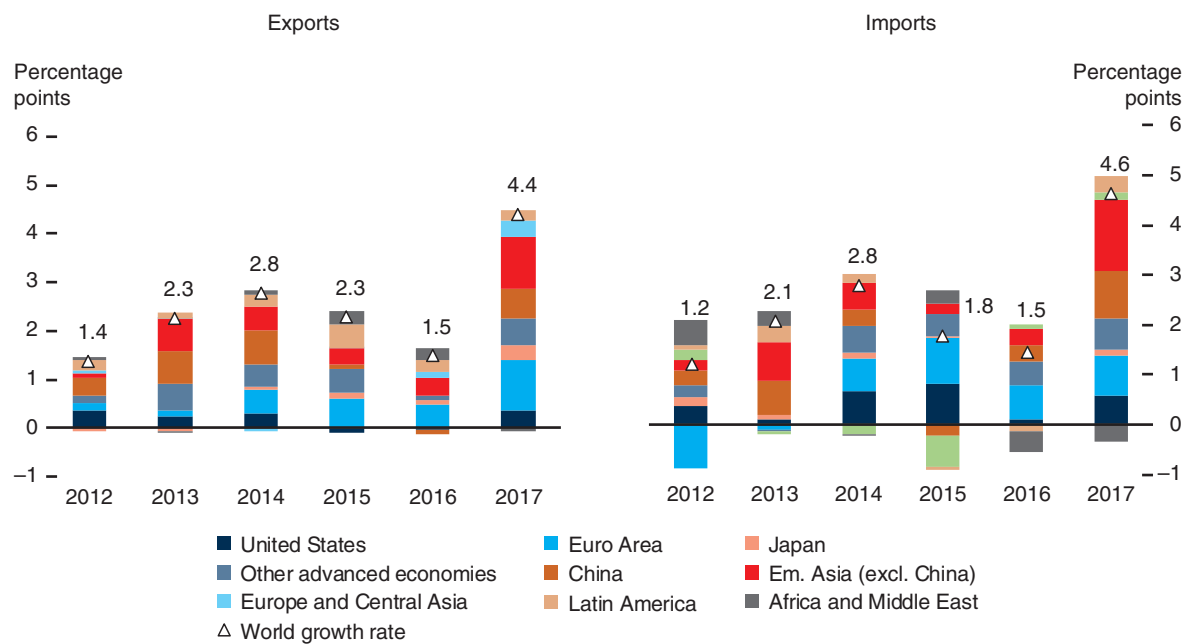
FIGURE A.2: Merchandise trade values (3-month moving average, January 2012 = 100)



Source: CPB World Trade Monitor, World Trade Organization, and authors' calculations.

Notes: In parentheses: share in world trade values in 2014. See footnote 2 for source of country classification.

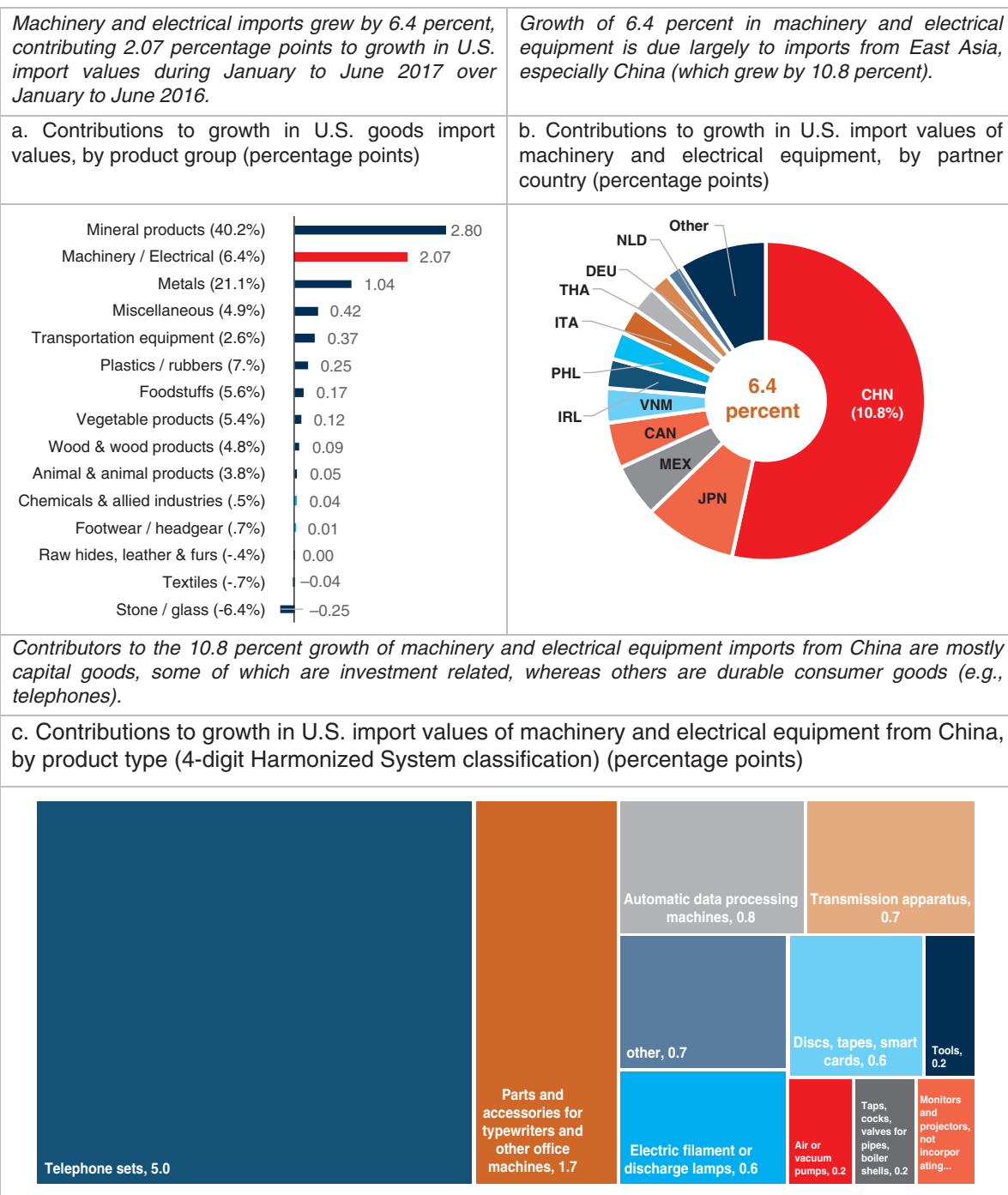
FIGURE A.3: Contribution to growth in goods export and import volume, by country group



Source: CPB World Trade Monitor, World Bank Global Economic Monitor, and authors' calculations.

Note: See footnote 2 for source of country classification.

Annex B: United States: Contributions to 2017 Growth of Goods Import Values



Sources: World Integrated Trade Solution and authors' calculations.

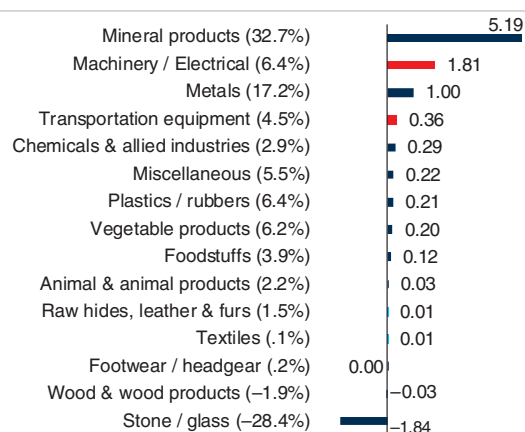
Notes: Growth rates for imports in current U.S. dollars are computed on a year-on-year basis using the period January to June in 2017 and 2016. a. Actual growth rates are displayed in parentheses next to product category names. b. For China, actual growth rate is displayed in parenthesis.

Annex C: European Union: Contributions to 2017 Growth of Goods Import Values

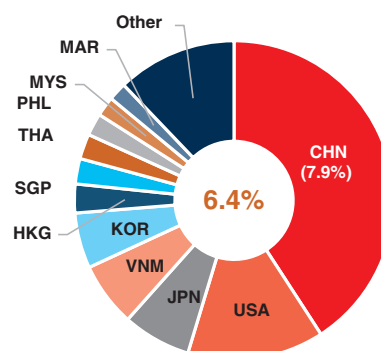
Machinery and electrical imports grew by 6.4 percent, contributing 1.81 percentage points to growth of 7.6 percent in E.U. import values during January to July 2017 relative to January to July 2016.

Growth of 6.4 percent in machinery and electrical equipment is due largely to imports from East Asia, especially from China (which grew by 7.9 percent).

a. Contributions to growth in E.U. goods import values, by product group (percentage points)

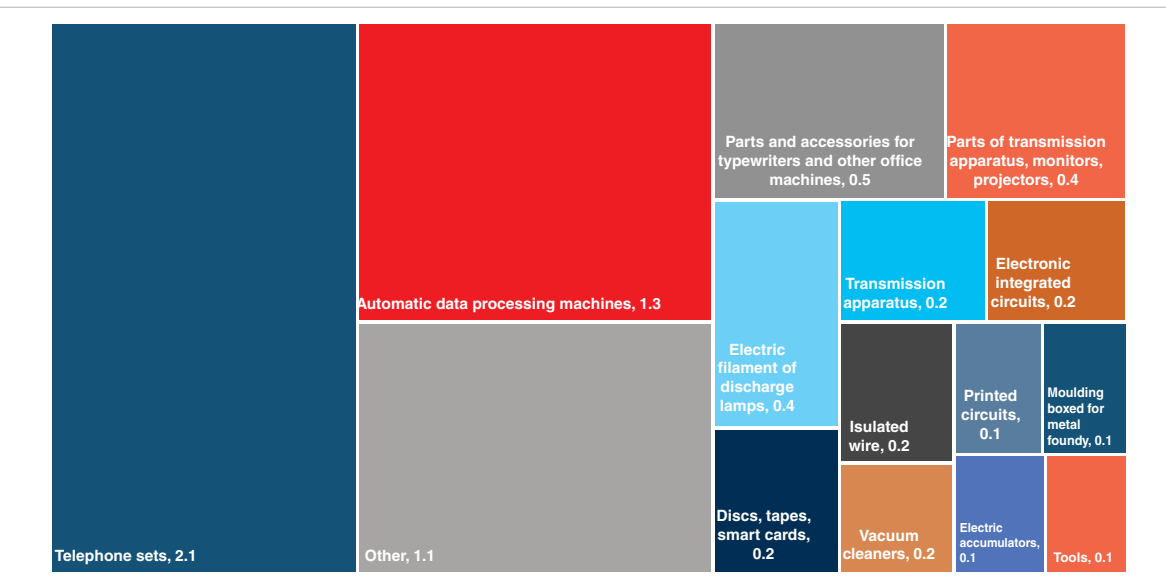


b. Contributions to growth in E.U. import values of machinery and electrical equipment, by partner country (percentage points)



c. Contributions to growth in E.U. import values of machinery and electrical equipment from China, by product type (4-digit Harmonized System classification) (percentage points)

Contributors to the 7.9 percent growth in imports (of machinery and electrical equipment) from China include mostly capital goods, some of which are investment related, whereas others may be durable consumer goods (telephones).



Sources: World Integrated Trade Solution and authors' calculations.

Notes: Growth rates are computed on a year-on-year basis, using the period from January to July in 2017 and 2016. a. Actual growth rates are displayed in parentheses next to the product category names. b. For China, actual growth rate is displayed in parenthesis.

Annex D: Estimating the Effect of Depth on Trade Flows and Global Value Chain Participation

Drawing on Mattoo, Mulabdic, and Ruta (2017) and Osnago, Rocha, and Ruta (2018), we estimate a gravity equation augmented with a measure of depth, from the World Bank preferential agreements database, using trade data and a global value chain (GVC) indicator from the World Input Output Database for the period 1995 to 2011. We estimate the following modified gravity equation, which accounts for the depth of trade agreements as a determinant of bilateral trade:

$$X_{ijt} = \exp\{\beta_1 \text{Depth}_{ijt} + \theta_{it} + \Omega_{jt} + \mu_{ij}\} + \varepsilon_{ijt} \quad (1)$$

where X_{ijt} is bilateral trade or GVC flow from country i to country j in year t . Depth_{ijt} is a measure of preferential trade agreement (PTA) depth between i and j (normalized between 0 and 1). θ_{it} and Ω_{jt} are exporter-year and importer-year fixed effects, respectively, that control for any country-year specific shocks and for the theoretically motivated multilateral resistance. Finally, to partially address the endogeneity problem, we follow Baier and Bergstrand (2007) and introduce country-pair fixed effects, μ_{ij} , to capture country-pair time-invariant factors determining bilateral trade, such as distance and common language. This set of fixed effects accounts for unobserved time-invariant heterogeneity among country pairs, which can bias estimates in cross-sectional studies, and hence attenuates the endogeneity bias stemming from omitted variables.

TABLE D.1: Poisson pseudo-maximum likelihood estimation

	(1) Goods exports	(2) Services exports	(3) Value added exports	(4) GVC forward linkages	(5) GVC backward linkages
Depth legally enforceable	0.530*** (0.037)	0.251*** (0.049)	0.146*** (0.055)	0.180** (0.065)	0.108* (0.056)
Observations	27,200	27,200	26,520	26,520	26,520
Exporter-Year	Yes	Yes	Yes	Yes	Yes
Importer-Year	Yes	Yes	Yes	Yes	Yes
Exporter-Importer	Yes	Yes	Yes	Yes	Yes

Source: World Input-Output Database.

Note: The depth variable is normalized between 0 and 1. Robust standard errors, clustered at the country-pair level, are in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

We find that deep agreements have the strongest effect on exports of goods. It is estimated that signing the deepest PTAs in the sample would increase trade in goods by approximately 70 percent; the effect is approximately 28 percent for services trade. Trade in value added increases between PTA members by approximately 16 percent. Finally, deep agreements increase GVC participation of member countries. It is estimated that the increase in GVC participation is stronger for the forward linkages (exports of value added that used PTA partners' exports to third countries) than for backward linkages (foreign value added embedded in exports to PTA members).

Annex E: Comprehensive and Progressive Agreement for Trans-Pacific Partnership: Economic and Income Inequality Impacts⁹

The TPP was transformed into CPTPP after the United States withdrew its participation. Together, the original TPP members accounted for about 40 percent of global GDP and 27 percent of global trade. Early in 2017, the United States formally withdrew its participation. Under the leadership of Japan, the remaining countries continued negotiations and renamed the pact the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). The CPTPP covers about 14 per cent of global GDP, 16 percent of global trade, and 500 million people. The text of CPTPP is the same as TPP, though some provisions have been suspended.

CPTPP has positive trade and income effects for countries, albeit smaller than TPP. World Bank economists¹⁰ estimated the economic and distributional impacts of CPTPP for member and non-member countries, using a global dynamic computable general equilibrium (CGE) model. The impacts of CPTPP are compared to the baseline scenario assuming no implementation of the CPTPP. By 2030, or 12 years after the assumed start of the implementation of the agreement, under conservative assumptions, CPTPP members' income is estimated to be on average 0.87% higher than in the baseline with small average losses for non-members of 0.03%.

Vietnam, Malaysia and Peru are expected to reap the largest gains from CPTPP. For non-high-income countries, the estimated income gains range between 0.13% for Mexico to 2.8% for Vietnam. The non-members are slightly worse off under CPTPP due to preference erosion and trade diversion away from CPTPP markets. In our alternative scenario, allowing for productivity gains resulting from openness, the average gains for CPTPP members range from 0.6% of income for Mexico to 4.4% for Vietnam by 2030. The gains are determined mainly by two factors: combination of assumed reduction in tariffs and non-tariff measures resulting from CPTPP and the importance of CPTPP members as trading partners.

Reduction of trade barriers will stimulate international trade. Exports of CPTPP members are projected to be on average 2.7% higher in 2030, with the gains among the low-income countries ranging between 1.6% for Mexico to 5% for Vietnam. The impact on imports is of similar magnitude. Trade flows of non-members are projected to decline on average by 0.1% due to trade diversion or preference erosion. Even the largest expected decline of exports relative to the baseline would not exceed 0.4%. The impact on imports is of similar magnitude.

Gains from TPP were estimated to be significantly larger for countries without US trade agreements, than under CPTPP. By 2030, under conservative assumptions the income gains from TPP would amount to just over 1% for TPP members, while non-members would register a small decline of income on average of 0.08%. The estimated gains for Vietnam, projected to reach 8.3% of income by 2030 under TPP, are three times higher than estimates under CPTPP. The expected gains for the United States under TPP become losses under CPTPP, as farmers lose market share in Asia.¹¹

⁹ Prepared by Maryla Maliszewska.

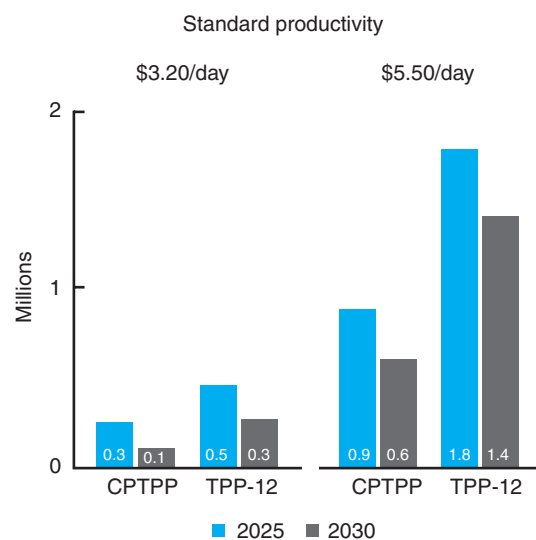
¹⁰ Maliszewska, Maryla; Olekseyuk, Zoryana; Osorio-Rodarte, Israel. 2018. *Economic and distributional impacts of comprehensive and progressive agreement for trans-pacific partnership: the case of Vietnam (English, Vietnamese)*. Washington, D.C.: World Bank Group.

¹¹ The results presented here are a lower-bound estimate for the gains from trade agreements, as many features of the agreement are not captured by the model, such as the impact on foreign direct investment and development of new export products.

CPTPP impacts production and trade structures redirecting trade towards members. In the case of Vietnam, the biggest beneficiary of CPTPP, sectors that benefit the most are food, beverages, and tobacco; wearing apparel and leather, and textiles. Most services sectors would also expand faster than in the baseline. Increases in output are mostly driven by higher exports. By 2030, Vietnam's export flows would be higher by US\$13.1 billion with respect to the baseline. Exports of goods to CPTPP members would increase in the expanding sectors. In contrast, exports of agriculture and other manufacturing sectors to East Asian trading partners including China, would see a decline.

CPTPP is expected to reduce the poverty rate in Vietnam, but higher-skilled workers are likely to benefit more. CPTPP is estimated to lift from poverty (at PPP\$5.50 a day) 0.6 million people in 2030, relative to baseline conditions (Figure E.1). Although all income groups are expected to benefit, people at higher ends of the income distribution benefit proportionately more than the poor, because the agreement creates more economic opportunities for skilled workers. This is illustrated in Figure E.2, showing gains for each percentile of the income distribution relative to baseline conditions.¹²

FIGURE E.1: People lifted from poverty due to FTAs, standard productivity



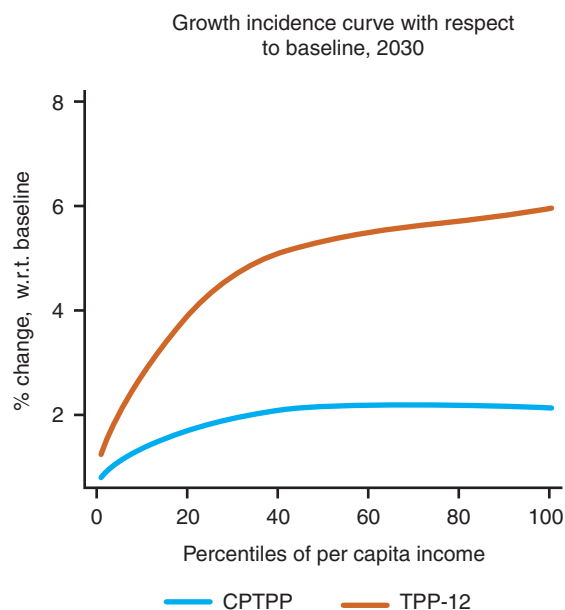
Source: Maliszewska et al. (2018)

In the absence of future gender-inclusive policies, the baseline scenario projects a moderate increase in the gender gap¹³ generated by increases in the skill wage premium. Under baseline assumptions, the more skilled households in the top 60% of the income distribution would benefit from larger increases in wages with respect to households in the less-skilled bottom 40%—an absolute

¹² Gains shown in the growth incidence curve result from applying the microsimulation based on the Vietnamese Household Living Standards Survey of 2014. The microsimulation recovers macroeconomic shocks for each FTA and simulates impacts on a) sectoral reallocation of labor, b) changes in relative wages, and c) changes in real household consumption.

¹³ Measured by relative per capita household consumption of males versus females, 15 to 64 years old.

FIGURE E.2: Growth incidence curves of FTAs, standard productivity



Source: Maliszewska et al. (2018).

difference of 4.3% by 2030. These gains would be tilted towards male workers, who tend to have higher initial wages than females. The implementation of the CPTPP would impose additional but small (0.25 percentage points) negative effects on the gender gap in the bottom 40% of households.

Investment in human capital could ease adjustment costs. Our results, while highly susceptible to assumptions about the formation of human capital, contribute to highlight the importance of using adjustment policies as instruments for compensating the segments of population benefiting less from trade policy changes including efforts to invest in human capital, and facilitate mobility from sectors that are negatively- or slower-growing to those with greater economic opportunities.

