

4. Leveraging Trade to Boost Growth in the MENAP and CCA Regions

For economies in the Middle East, North Africa, Afghanistan, and Pakistan (MENAP) and the Caucasus and Central Asia (CCA) regions, the strengthening global recovery provides an important opportunity to boost exports and growth. Illustrative calculations suggest that achieving greater trade openness, coupled with increased global value chain (GVC) participation, export diversification, or product quality could raise the level of income by some 5–10 percent within the following five to ten years. Oil importers are better placed than other countries in the region to take advantage of the improved outlook for global trade, given their better integration into GVCs and more diversified export bases. However, oil importers could still improve the quality of their exports. In contrast, oil exporters should focus on economic diversification to produce and export a broader range of goods and services. Most countries would benefit from deepening access to export markets through trade agreements and by leveraging new integration opportunities, such as China's Belt and Road Initiative (see Box 2.1 in Chapter 2) and the Compact with Africa (see Box 2.3 in Chapter 2). Structural reforms to foster investment and job creation, as well as targeted fiscal policies to mitigate adjustment costs, may be needed to relieve any negative consequences of increased openness and to ensure the resulting boost to growth is as inclusive as possible.

Trade Helps Boost Growth

A large body of evidence has confirmed the substantial and robust positive effect of trade on growth and income. Following a seminal paper by Frankel and Romer (1999), many studies have focused on the channels through which trade affects economic growth.¹ Findings indicate that

countries tend to grow faster when they have a more diversified export structure (Lederman and Maloney 2003), upgrade the quality of their exports (Henn, Papageorgiou, and Spatafora 2015), and are well integrated into GVCs (Didier and Pinat 2017).

Further empirical work tailored to key MENAP and CCA policy issues confirms these findings (Annex 4.1). This analysis, which covered 131 countries, 20 of which were from the MENAP or CCA regions, shows that investment in infrastructure, foreign direct investment (FDI), and overall openness to trade (as measured by the sum of exports and imports relative to GDP) all help increase growth in real per capita terms. These results are intuitive given that access to good-quality infrastructure helps reduce production costs and improve access to markets. Similarly, FDI can help expand the production capacity of the economy through technology and knowledge transfer, while trade openness boosts potential demand for a country's own production and tends to increase productivity through competitive pressures. In addition, the analysis suggests that export diversification, the quality of exports, and participation in GVCs, in particular the share of domestic value added in exports, all appear to be important for growth. This is as expected given that a broader range of products of higher quality and value added should translate into greater demand for exports, higher prices, and larger profits for exporters. There is an interesting negative relationship between growth and the initial level of per capita GDP, suggesting that countries' level of per capita GDP should converge over time. The positive impact of labor force education on growth found in advanced and emerging market economies (Chang, Kaltani, and Loayza 2009) becomes ambiguous once the sample of countries is expanded to include low-income countries with very low levels of completed postsecondary education.

Prepared by Alexei Kireyev (lead author), Maxym Kryshko, Boaz Nandwa, and Magali Pinat, with research assistance by James Aylward and Samira Kalla.

¹See Singh 2010 for a literature review.

The impact of trade openness on inclusiveness is less clear. For instance, some empirical analysis suggests that increasing trade openness has no significant impact on inequality (Box 4.1). However, by increasing growth, trade has been shown to lead to higher incomes, which help reduce poverty (IMF, World Bank, and WTO 2017) and narrow wage gaps within the country (Council of Economic Advisers 2015). In the same vein, trade has expanded access to capital and technology, and by raising productivity and growth, trade has led to rising living standards, including in emerging market and developing economies (Chapter 3 of the April 2017 *World Economic Outlook*). Trade can also help reduce inequality by lowering prices for food and beverages consumed mainly by the poor (Faijgelbaum and Khandelwal 2016). At the same time, more openness to trade may be associated with adjustment costs that hurt some communities or groups of workers. Overall, Helpman (2016) finds that, although trade has adversely affected certain workers, it has had a modest impact on wage inequality. This finding points to an important role for domestic policies, both to mitigate adjustment costs and to ensure that the benefits are fully realized and equitably shared.

Trade Openness Has Declined in Recent Years

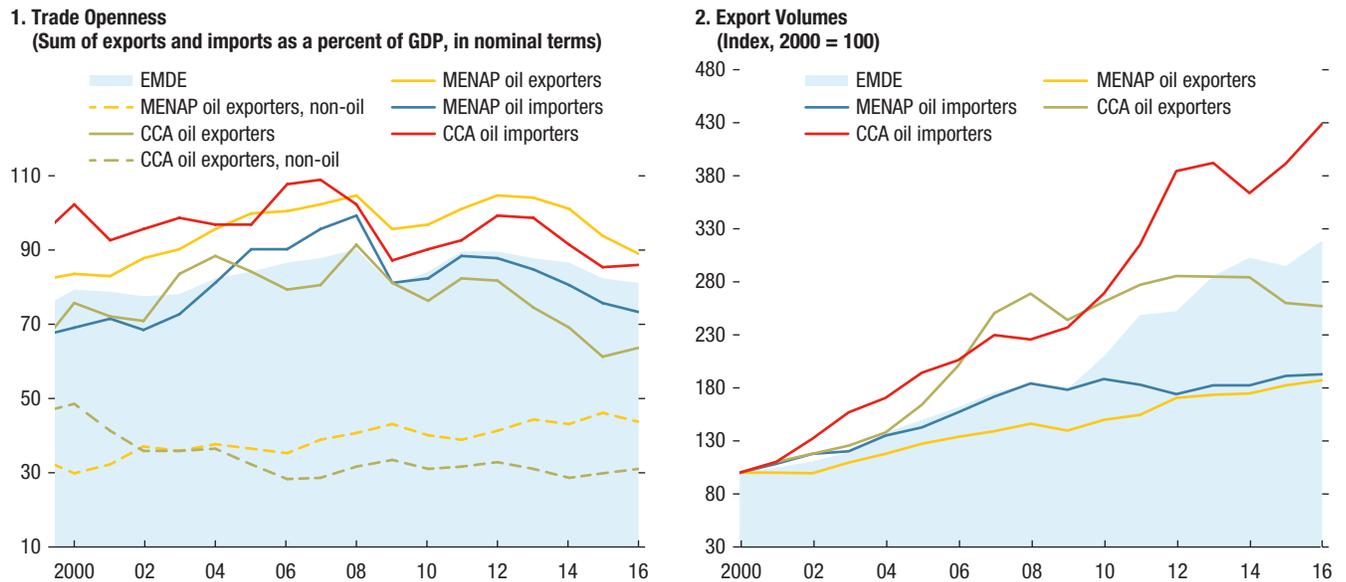
In recent years, trade openness has declined significantly across the MENAP and CCA regions. This decline has been consistent with international trends, including the overall weakness in international economic activity, particularly in investment; the waning pace of trade liberalization; the decline in commodity prices including for oil; and slower growth of GVCs (Chapter 2 of the October 2016 *World Economic Outlook*). The decline in oil importers has been relatively faster in the MENAP than in the CCA region, reflecting regional conflicts and geopolitical tensions (Figure 4.1). For both MENAP and CCA oil exporters, this relative weakness in trade openness can largely be

explained by stagnant or declining oil and gas exports and lower prices in recent years. Excluding oil, trade openness has increased slightly in MENAP oil exporters, whereas trade openness in CCA oil exporters has been broadly stable in recent years—a sign that export diversification has made some progress. For MENAP oil importers, slower export growth than in the average emerging market and developing economy explains the trend. In CCA oil importers, export growth has been relatively fast, but import compression, driven by a decline in remittances, has driven the overall decline in openness in recent years.

Exports of services have increased in the region in the past decade, but remain too low, particularly in oil-exporting countries (Figure 4.2). Services represented, on average, 44 percent of total exports in MENAP and CCA oil importers in 2015 but less than 15 percent in oil exporters. In the region, exports of services are currently dominated by tourism, especially in MENAP oil importers, where it represents 51 percent of the total services exported. A number of countries around the world, including many in the MENAP and the CCA regions, have restrictive policies in services (Borchert, Gootiiz, and Mattoo 2014). Across sectors, professional and transportation services are among the most protected. In trade in services, numerous restrictions still apply to entry, ownership, and operations, and market access is often unpredictable because the allocation of new licenses remains opaque and highly discretionary. Technological innovations in trade, such as e-commerce, could help businesses reach international markets by increasing their connections with buyers and sellers at a minimum cost. Taking advantage of these innovations would facilitate the insertion of countries into GVCs in both goods and services, and would contribute to the emergence of regional value networks.

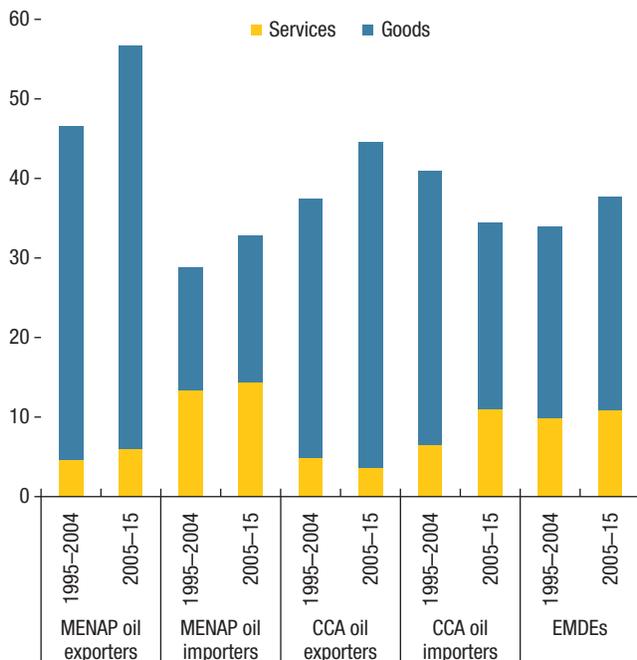
The MENAP and CCA regions appear to be relatively weakly integrated into the global trade network, both in export flows and the number of trading partners. MENAP oil exporters, by controlling a significant share of the global oil market, are substantially more important in global

Figure 4.1. Trade Openness and Real Exports



Sources: IMF, October 2017 *World Economic Outlook*; and IMF staff calculations.
 Note: Afghanistan uses 2002 as its base year due to data issues. CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan.

Figure 4.2. Share of Goods and Services in Total Exports (Percent of GDP)

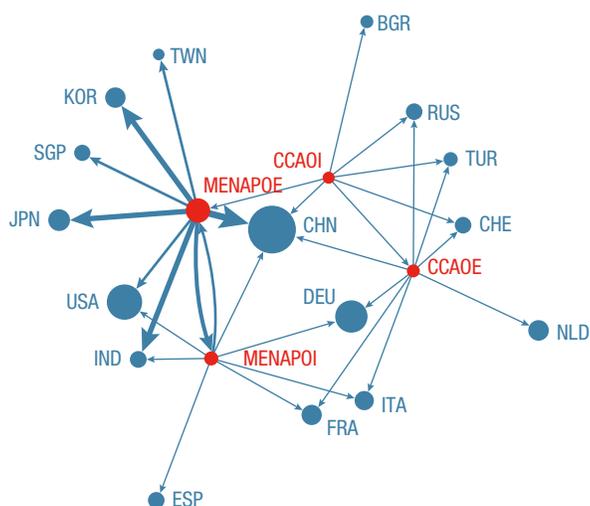


Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
 Note: CCA = Caucasus and Central Asia; EMDEs = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan.

trade relative to other subregions (Figure 4.3). Their trade flows are dominated by oil exports, mainly to Asian countries and the United States. CCA oil exporters export mainly to major European countries. Whereas MENAP oil importers direct their exports primarily to large European markets and the United States, CCA oil importers export mainly to Russia and nearby European countries, such as Bulgaria, as an entry point to European Union markets. By implication, export links between MENAP and CCA countries are fairly weak. In addition, China has emerged as a major trading partner in recent years, with virtually every MENAP and CCA country exporting to China.

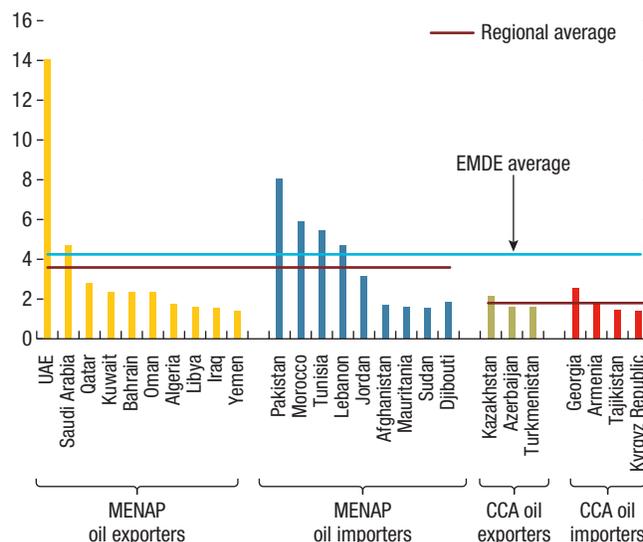
In number of export partners and value per export partner, the MENAP region seems more integrated into global trade than the CCA region. On average, MENAP countries export to about 70 percent of potential trading partners (that is, countries that import products that are exported by MENAP countries), lagging only North America and Europe, while CCA countries export only to 50 percent of potential markets,

Figure 4.3. MENAP and CCA Main Trade Partners, 2015



Sources: IMF, *Direction of Trade Statistics*; and IMF staff estimates.
 Note: The nodes are proportional to the country total nominal exports, and the arrows are scaled by nominal export flows between countries. Only the main export partners of the MENAP and CCA regions are presented. CCAOE = Caucasus and Central Asia oil exporters; CCAOI = Caucasus and Central Asia oil importers; EMDE = emerging market and developing economies; MENAPOE = Middle East, North Africa, Afghanistan, and Pakistan oil exporters; MENAPOI = Middle East, North Africa, Afghanistan, and Pakistan oil importers. Country abbreviations are International Organization for Standardization (ISO) country codes.

Figure 4.4. MENAP and CCA Export Penetration Index, 2015 (Higher the better)



Sources: WITS database; and IMF staff calculations.
 Note: This indicator measures the extent to which a country's exports reach already proven markets. Shown are 2015 data or the latest available. Iran is omitted for lack of data. CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan; UAE = United Arab Emirates.

suggesting there is room to expand the number of export markets. With a few exceptions, trade penetration, measured as export value per trading partner, is relatively weak in both MENAP and CCA countries (Figure 4.4). This finding indicates there is scope to enhance the quality and improve the domestic value-added component of exports, which should be reflected in a higher value of exports and broadened opportunities for trade and engagement in GVCs.

Export Diversification and Product Quality Remain Generally Low

Export diversification in both MENAP and CCA countries underperforms relative to emerging market and developing economies (Figure 4.5, panel 1 and 2). Oil exporters are the least diversified in the region, and therefore likely to be subject to higher output volatility relative to more

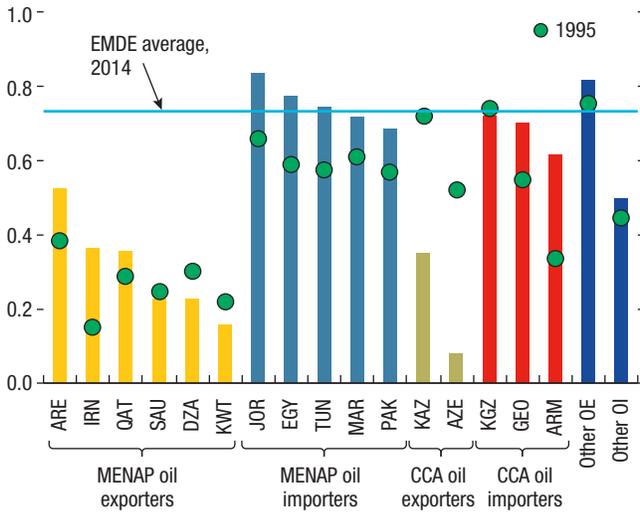
diversified economies. Levels of diversification among oil importers approach the emerging market and developing economy average, with MENAP countries faring better. This outcome likely reflects better geographical access to European markets and more robust inflows of FDI from the euro area and Gulf Cooperation Council countries. In CCA oil importers, although the rate of diversification was relatively high in 1995–98 following the move to more market-based economies, progress stalled in recent years, in part because FDI slowed (Tajikistan).

In line with region-level findings on export penetration, with a few exceptions, most MENAP and CCA countries are producing lower-quality exports than other emerging market and developing economies (Figure 4.5, panel 3 and 4).² Only in Jordan and Tunisia does the quality

²Export quality is estimated based on the unit value of exports adjusted for distance, production cost, and common trade determinants.

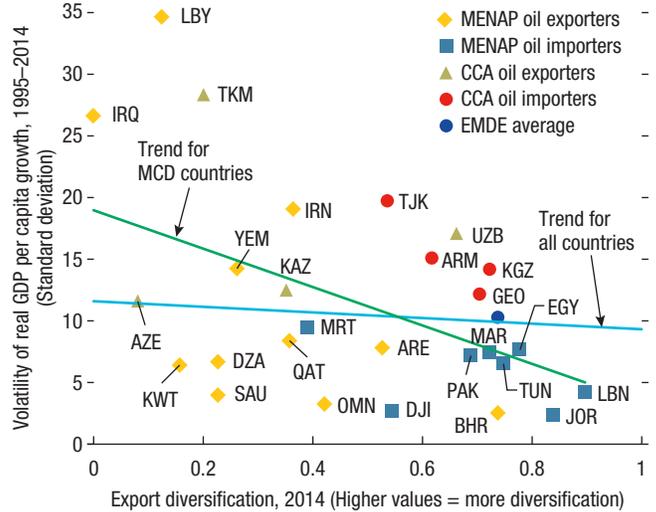
Figure 4.5. Export Diversification and Quality

1. Export Diversity Index, 2014¹
(0 to 1; higher is more diverse)



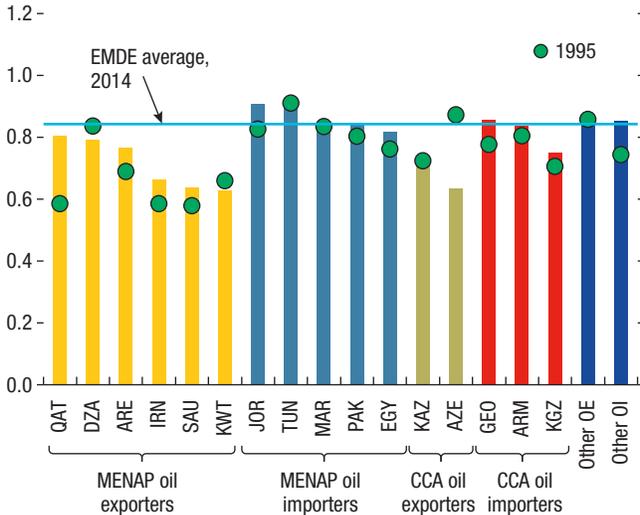
Sources: IMF Diversification database; and IMF staff calculations.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan. Other oil exporters (OEs) include Malaysia, Mexico, and Indonesia. Other oil importers (OIs) include Bangladesh, Cambodia, and Vietnam. Country abbreviations are International Organization for Standardization (ISO) country codes. Diversity index was rebased to be from 0 to 1 and is equal to a Theil index of export concentration.
¹2014 is latest available year for the diversity index.

2. Export Diversification and Output Volatility



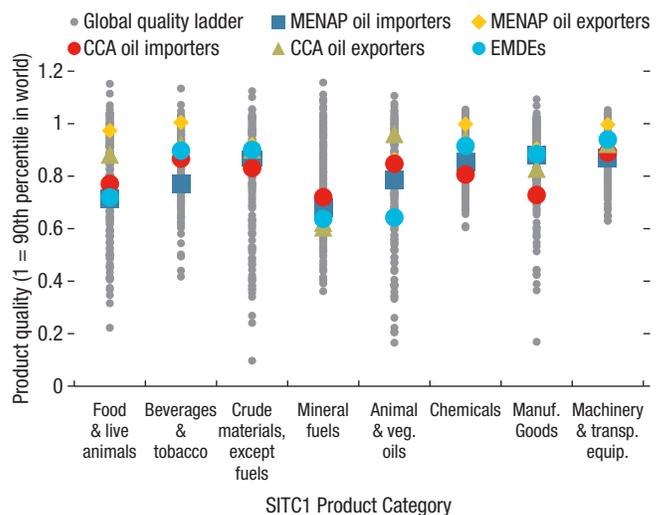
Sources: IMF, *World Economic Outlook* 2017; Henn, Papageorgiou, and Spatafora 2015; and IMF staff calculations.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MCD = Middle East and Central Asia; MENAP = Middle East, North Africa, Afghanistan, and Pakistan. Diversity index was rebased to be from 0 to 1 and is equal to a Theil index of export concentration. Country abbreviations are International Organization for Standardization (ISO) country codes.

3. Export Quality Index, 2014¹
(0 to 1.2; higher is better)



Sources: Henn, Papageorgiou, and Spatafora 2015; and IMF staff calculations.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan. Other oil exporters include Malaysia, Mexico, and Indonesia. Country abbreviations are International Organization for Standardization (ISO) country codes.
¹2014 is latest available year for the quality index.

4. MCD Regions: Export Quality Ladders, 2014
(0 to 1.2; higher is better)



Sources: Henn, Papageorgiou, and Spatafora 2015; and IMF staff calculations.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MCD = MENAP = Middle East, North Africa, Afghanistan, and Pakistan. Excluded are the SITC1 categories "Miscellaneous manufactured articles" and "Other," representing a nonessential share of country exports.

of exports exceed the emerging market and developing economy average. Some oil importers have improved their export quality in recent years, mostly in apparel production (Egypt, Jordan, Pakistan) and manufacturing (Armenia, Georgia, Jordan, Morocco, Tunisia). Meanwhile, the quality of oil exports from both regions (captured in the minerals fuels category) remains relatively low, with quality deteriorating in Algeria and Azerbaijan. An alternative measurement of export diversity and the sophistication of exports is the so-called economic complexity index, which identifies the total number of goods exported by a country depending on the capabilities used in their production (Hausmann and others 2011).³ Export complexity among oil exporters in the region is low compared with that of oil importers. Although still below the emerging market and developing economy average, complexity among oil importers is higher for MENAP than for CCA oil importers, given MENAP oil importers' supply chain links with manufacturing firms in the euro area.

The Potential of Global Value Chains Could Be Better Exploited

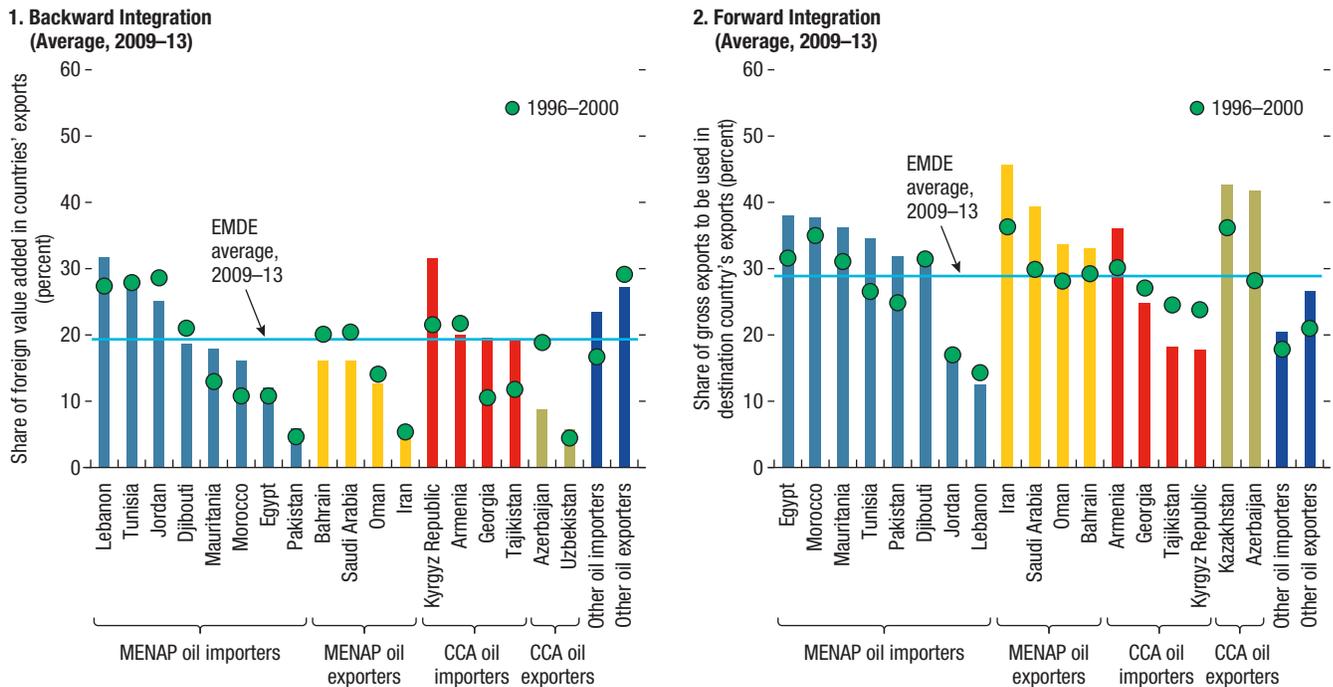
Both regions' level of integration in GVCs⁴ does not currently allow their full potential to be exploited. Oil importers are generally better integrated into GVCs than oil exporters. For example, the share of foreign value added imported and used in the production of exports (backward integration) is relatively high in Jordan, Lebanon, and Tunisia (in MENAP) and in the Kyrgyz Republic (in CCA) compared with emerging market and developing economies (Figure 4.6). The share of value added to be used in a destination country's production (forward integration) in Egypt, Mauritania, and Morocco (in MENAP) and in Armenia (in CCA) is above

the emerging market and developing economy average. This reflects levels of export diversification and quality that are comparable to those of other emerging market and developing economies. In oil exporters in both regions, backward integration is particularly low, suggesting that those countries import mainly finished products for consumption and investment. In contrast, these countries' forward integration is relatively high, but only as a result of their high exports of mainly crude oil, which is then processed into refined products by their trading partners.

The participation of individual MENAP and CCA countries in GVCs has shifted substantially over time. Most MENAP oil importers managed to improve both their backward and forward GVC participation, in part because of diversification efforts (for instance, light manufacturing in Jordan, Morocco, and Tunisia). CCA oil importers have made progress mainly in backward integration, partly because of their strengthening position as a hub for the transport of Chinese products to Russia and the rest of the CCA. In parallel, their forward integration has fallen, consistent with the slowing in export diversification. Additional progress in GVC integration, particularly for oil importers in both regions, may be possible in the context of the Belt and Road Initiative, aimed at connecting China to Europe and Africa (see Box 2.1 in Chapter 2). The Belt and Road Initiative is likely to increase backward integration further, while foreign investment triggered by the Compact with Africa (see Box 2.3 in Chapter 2) may support further progress in forward integration for MENAP oil importers. Most oil exporters in both the MENAP and CCA regions reduced their backward integration in GVCs but improved their forward integration, reflecting ongoing efforts to increase oil processing and refining activities and, consequently, increase their value added.

³The economic complexity index provides an alternative measurement of the sophistication and diversity of an export basket of a country by assigning a higher weight to products requiring higher underlying production capabilities, for instance, machinery, electrical components, and chemicals, among others.

⁴Measures of GVC are based on the Koopman, Wang, and Wei 2014 definition. More details on the calculation are available in Aslam, Novta, and Rodrigues-Bastos 2017.

Figure 4.6. Participation in Global Value Chains¹

Sources: Eora MRIO; and IMF staff calculations.

Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan. Other oil importers include Bangladesh, Cambodia, and Vietnam. Other oil exporters include Malaysia, Mexico, and Indonesia.

¹Due to concerns about the quality of Eora MRIO data, countries are displayed only after being validated with intermediate product exports data from UN Comtrade.

The Trade Environment Needs Upgrading

The trade environment has been negatively affected by geopolitical tensions and conflicts (October 2016 *World Economic Outlook*). Conflicts and tensions have weighed on trade through the disruption of economic activity and infrastructure and the death or displacement of people active in the labor force in Afghanistan, Iraq, Libya, Somalia, Syria, and Yemen. Similarly, neighboring countries have suffered from conflict spillovers to cross-border trade, a decline in tourism, and inflows of refugees (Jordan, Lebanon, Pakistan; Rother and others 2016). For instance, conflict in Syria disrupted Iraq's main trading link to the Mediterranean, while the conflict in Iraq affected Jordan's export route to Iran. In addition, elevated uncertainty in some countries caused by rising insecurity has weakened FDI inflows, sapping export diversification and GVC

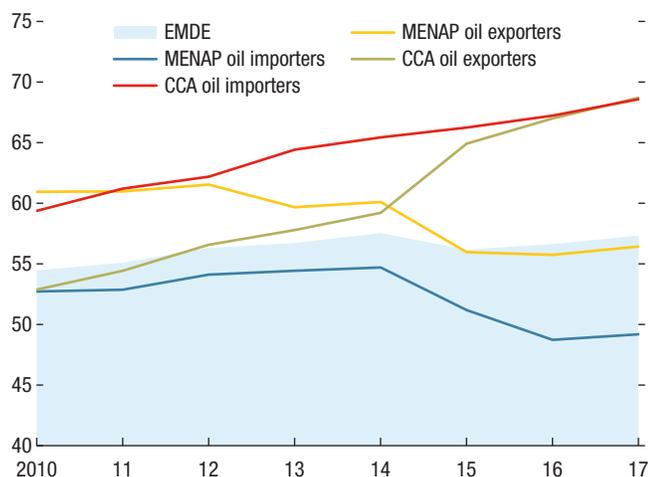
opportunities. The recent diplomatic rift between Qatar and other countries in the MENAP region is also affecting trade and financial flows (see Box 1.1 in Chapter 1).

The low levels of trade integration in the MENAP and CCA regions also reflect more general problems related to the business climate. Although procedures for trading across borders in all subregions have been comparable to or even better than the average for emerging market and developing economies, the trading environment⁵ appears to have deteriorated in MENAP countries in the past few years, even while it continued to improve in CCA countries (Figure 4.7). This situation points to the need for structural reforms to improve efficiency and reduce costs associated

⁵Measured by the distance to the best performer in the World Bank's *Doing Business* records of the time and cost associated with the logistical process of exporting and importing goods.

Figure 4.7. Trade Environment
1. Overall Trading across Borders

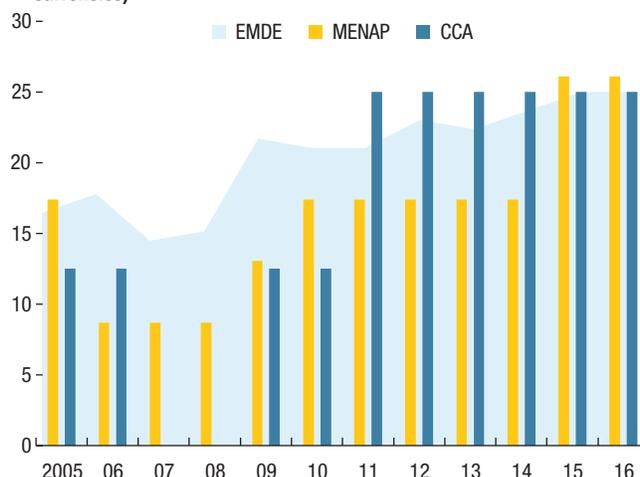
(Distance from frontier; the higher the better)


 Source: *Doing Business 2017*, World Bank.

Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan.

2. MENAP and CCA Foreign Exchange Restrictions

(Share of countries in a region that have restrictions and/or multiple currencies)



Source: IMF staff calculations.

Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan.

with compliance procedures and domestic transportation.

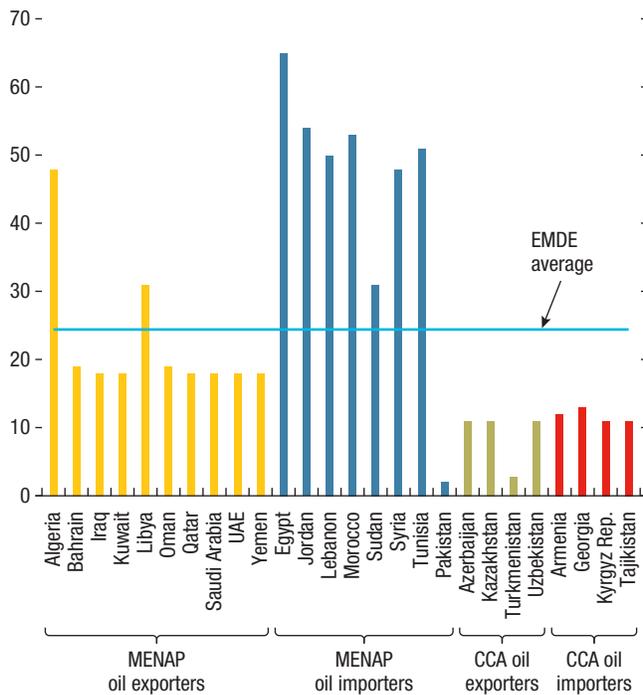
Foreign exchange restrictions in some MENAP and CCA countries further hinder expansion of trade (Figure 4.7). Empirical evidence (Wei and Zhang 2007) suggests that the collateral damage to trade from the imposition of exchange controls may be significant. A one standard deviation increase in controls on trade payments or foreign exchange transactions reduces trade by the same amount as tariff increases of 11 to 14 percentage points.

Historical experience in both advanced and emerging market and developing economies suggests that exchange rate movements have sizable effects on export and import volumes. Some studies have found that a 10 percent real effective depreciation of an economy's currency is associated with a rise in real net exports of, on average, 1.5 percent of GDP, with substantial cross-country variation. However, increased participation in GVCs has reduced the relevance of exchange rate movements for trade flows,

pointing to the need to improve the overall trade environment to boost trade (October 2015 *World Economic Outlook*).

MENAP and CCA countries could better leverage trade agreements to gain broader access to export markets. Only MENAP oil importers stand out for their active use of bilateral and regional trade agreements; the number of trade agreements signed by most other countries in both regions is substantially lower than the emerging market and developing economy average (Figure 4.8). Trade liberalization agreements that are broad in scope and deep in substance can bring substantial benefits for growth (Box 4.2). For example, based on World Trade Organization (WTO) rules, MENAP's least-developed countries (Afghanistan, Djibouti, Mauritania, Yemen) already enjoy duty-free and quota-free access for all or almost all of their export markets, which is important for their growth. Also, MENAP and CCA countries should consider moving aggressively to implement the Trade Facilitation Agreement that came into force in early 2017. The WTO estimates that implementation of the agreement would cut

Figure 4.8. Trade Agreements by Country, 2015
(Sum of each country's bilateral agreements)

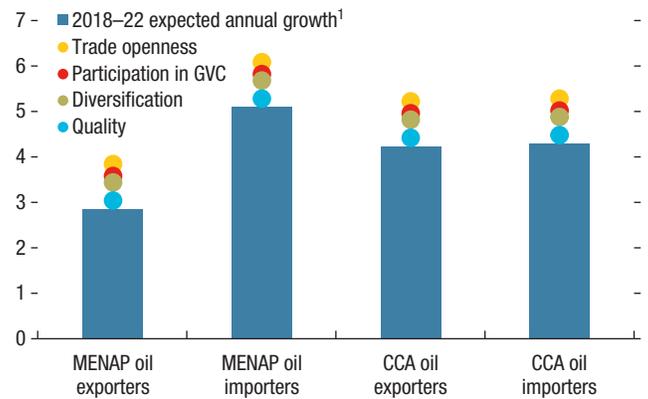


Sources: de Sousa 2015; and IMF staff calculations.
Note: Iran is omitted for lack of data. CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East, North Africa, Afghanistan, and Pakistan; UAE = United Arab Emirates.

customs-related costs of merchandise trade by 14 percent, particularly for developing economies, and could lead to a \$1 trillion annual increase in global trade.

Many MENAP and CCA countries have taken steps in this direction. For example, at the multilateral level, eight MENAP countries (Algeria, Iran, Iraq, Libya, Lebanon, Somalia, Sudan, Syria) and two CCA countries (Azerbaijan, Uzbekistan) have been negotiating accession to the WTO, most since the 1990s, although progress has been slow. Bilaterally, several MENAP countries (Algeria, Egypt, Jordan, Lebanon, Morocco, Syria, Tunisia) and Georgia (in CCA) have concluded association agreements with the European Union, and Georgia signed a free trade agreement with China, which reduced or removed tariffs in bilateral trade. Some CCA countries (Armenia, Azerbaijan) and Iraq (in MENAP) have signed cooperation and partnership agreements

Figure 4.9. Estimated Contributions of Trade Measures to Growth
(Percent)



Source: IMF staff calculations.
Note: CCA = Caucasus and Central Asia; GVC = global value chain; MENAP = Middle East, North Africa, Afghanistan, and Pakistan. The growth increase is conditional on an increase in the given trade measure equal to the best historical period-over-period improvement observed in the region in the last 20 years. For trade openness: 7.7 percentage points (pps); for global value chain: 4 pps; for diversification: 2.4 pps; for quality: 1.5 pps.
¹2018–22 expected annual growth is used as a proxy for long-term growth.

with the European Union. Finally, Morocco and Tunisia have joined the Compact with Africa, the recent Group of Twenty initiative aimed at increasing private investment, improving infrastructure, and tackling unemployment in Africa, which could further enhance market access (see Box 2.3 in Chapter 2).

Conclusion and Policy Options

Improvements in trade openness, diversification, export quality, and participation in GVCs could all help increase growth in the MENAP and CCA regions. A simple simulation based on the econometric analysis in Annex 4.1 suggests that a sustained increase in trade openness, equal to the best historical period-over-period improvement observed in the region, could add 1 percentage point to the average growth rate over the following five-year period (Figure 4.9). If greater trade openness is supported by enhanced diversification, improved export quality, or more active participation in GVCs, the impact would be even higher. This indicates that implementing

reforms that boost trade could raise the level of income by 5–10 percent within the following five to ten years.

The rebound in the world economy presents an important opportunity for MENAP and CCA countries to exploit trade as an engine of growth. To take full advantage of this opportunity, countries need to increase their trade openness, participation in global value chains, export diversification, and product quality. In that context, oil importers seem generally better placed to take advantage of improved global growth momentum, but scope remains to improve export quality, including by reversing the CCA oil importers' decline in forward integration in GVCs. In contrast, oil exporters need to work on both increasing export diversification and improving export quality.

Further trade liberalization and structural reforms could support an increase in trade openness and further integration into GVCs. Basing this integration on diversifying into sectors with substantial job-creating potential and upgrading export quality by improving access to finance, education, and technologies would help make the process more inclusive. In parallel, fiscal policies aimed at mitigating the transitional costs of more openness to trade could also play an important supportive role. The associated increase in overall growth would help create the necessary fiscal space to absorb the potential loss of budget revenue due to lower trade taxes and any needed increase in public investment in infrastructure. Broader structural reforms to improve the business and investment environment would support these efforts to increase exports and growth.

Box 4.1. The Trade and Inclusiveness Nexus

Empirical analysis based on data for 106 countries, including 11 from the Middle East, North Africa, Afghanistan, and Pakistan and the Caucasus and Central Asia regions, over 1980–2013 suggests that inclusiveness, as measured by the Gini inequality index, does not seem to be directly affected by trade openness. In line with the results of other studies (Beaton, Cebotari, and Komaromi 2017; Dabla-Norris and others 2015; Jaumotte, Lall, and Papageorgiou 2013), other variables, such as financial deepening, education, and employment shares, seem more important (Table 4.1.1).

Public policies play a significant role in managing potential adverse side effects of trade for certain groups of workers and some communities. For them, greater openness may be associated with substantial transitional costs. The empirical results offer some insight into the potential effectiveness of fiscal redistribution policies in offsetting the impact of these costs, suggesting they can be especially effective in addressing job losses in the industrial sector (that is, the impact of industrial employment on the net Gini is insignificant).

More generally, domestic policies to mitigate these trade-related adjustments may include (1) active labor market policies—such as job search assistance, training programs, and carefully designed wage insurance—enabling worker mobility across firms, industries, and regions; (2) unemployment insurance, employment protection, and other “passive” labor policies helping workers adjust on their own; and (3) complementary policies in the areas of education, housing, credit, and infrastructure, facilitating mobility and “place-based” measures aimed at supporting harder-hit regions and communities (IMF, World Bank, and World Trade Organization 2017). Other reforms to the business environment that support the broader development of the private sector are also likely to be important.

Table 4.1.1. Trade Openness and Inequality

Dependent variable: market Gini and net Gini

Explanatory Variables	(1) Market Gini	(2) Net Gini
Trade Openness ($t-1$)	-0.00140 (0.00869)	0.00605 (0.00884)
Financial Openness ($t-1$)	0.000441 (0.000288)	0.000274 (0.000261)
Financial Deepening ($t-1$)	0.0276*** (0.0102)	0.00851 (0.00618)
Education ($t-1$)	-0.736* (0.398)	-0.725** (0.349)
Government Spending ($t-1$)	0.112 (0.222)	0.0921 (0.166)
Agriculture Employment Share ($t-1$)	-0.124*** (0.0388)	-0.0830** (0.0353)
Industry Employment Share ($t-1$)	-0.199*** (0.0712)	-0.0841 (0.0602)
Constant	55.82*** (3.592)	43.88*** (3.019)
Observations	435	435
R-squared	0.237	0.161
Number of countries	106	106

Source: IMF staff calculations.

Note: The sample set of variables consists of nonoverlapping five-year period averages for 106 countries covering 1980 to 2013.

¹Panel fixed effects regressions with time and country fixed effects and robust standard errors (in parentheses) clustered at the country level.

²Market Gini stands for Gini index of income distribution before taxes and transfers. Net Gini is measured by the Gini index of income distribution after taxes and transfers.

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

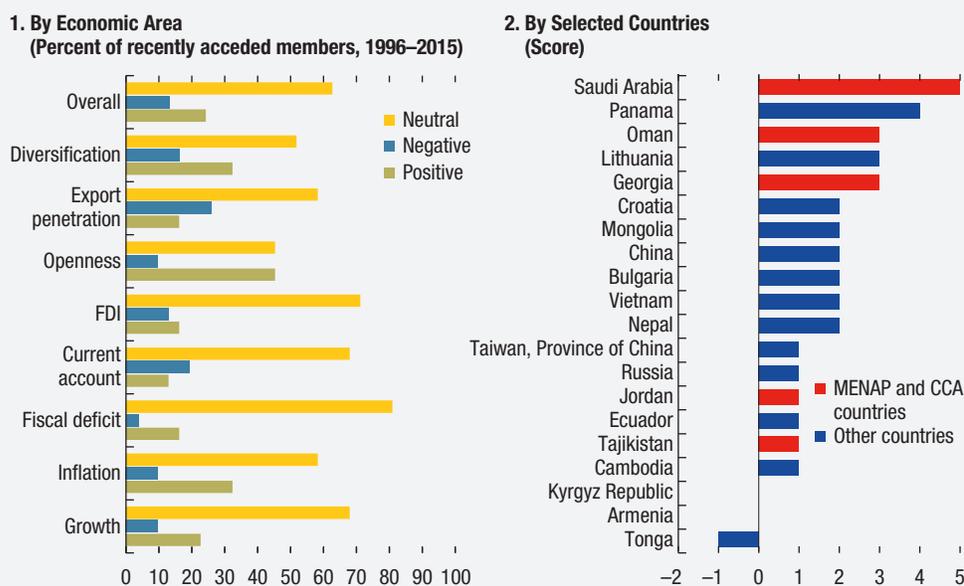
This box was prepared by Alexei Kireyev, Maxym Kryshko, Boaz Nandwa, and Magali Pinat, with research assistance by James Aylward and Samira Kalla.

Box 4.2. Leveraging Trade Agreements for Growth

Participation in trade agreements—multilateral, regional, and bilateral—can play an important role in fostering more open trade in the Middle East, North Africa, Afghanistan, and Pakistan (MENAP) and Caucasus and Central Asia (CCA) regions.

At the multilateral level, use of the institutional and legal strengths of the system led by the World Trade Organization (WTO) remains critical. Many MENAP countries (Algeria, Iran, Iraq, Libya, Lebanon, Somalia, Sudan, Syria) and some CCA countries (Azerbaijan, Turkmenistan, Uzbekistan) are not yet WTO members. Several other countries in both regions have joined the WTO just recently (Afghanistan, Kazakhstan, Tajikistan, Yemen). While Kazakhstan and Tajikistan have already started to benefit from their membership, Afghanistan and Yemen have had less chance to do so. A recent study finds that the countries that recently joined the WTO and implemented the required trade reforms outperformed the original WTO members that did not have to undergo the reform process (Kireyev 2016). In a group of WTO members that recently acceded, of which 10 are from the MENAP and CCA regions, the impact of joining the WTO was, on average, neutral in 63 percent of cases, positive in 24 percent, and negative in 13 percent, with the caveat that it may be too early to judge the overall impact in some countries (Figure 4.2.1). New WTO members achieved substantial positive results in attaining greater openness, diversification, and economic growth; controlling inflation; containing fiscal deficits; and attracting foreign direct investment.

Figure 4.2.1. The Impact of World Trade Organization Accession



Source: Kireyev 2016.
Note: FDI = foreign direct investment.

This box was prepared by Alexei Kireyev, Maxym Kryshko, Boaz Nandwa, and Magali Pinat, with research assistance by James Aylward and Samira Kalla.

Box 4.2 *(continued)*

At the regional level, the number of preferential trade agreements (PTAs) involving MENAP and CCA countries has grown in the past several years. Overall, the number of agreements notified to the WTO has risen from about 50 in 1990 to about 300 in 2017, with many involving MENAP and CCA countries. In parallel, the scope of PTAs has expanded well beyond traditional tariff reductions to include such areas as customs regulations, export taxes, countervailing measures, and technical barriers to trade (Hofmann, Osnago, and Ruta 2017). Yet the PTAs in which MENAP and CCA countries are involved remain relatively shallow, covering the basic trade areas. Except for the recently established Eurasian Economic Union, which includes among other members three CCA countries (Armenia, Kazakhstan, the Kyrgyz Republic), most other regional RTAs fall short of the “deep” agreements that are considered an effective tool for integrating countries into global value chains and attracting foreign direct investment. For example, a Deep and Comprehensive Free Trade Area has been under negotiation between Morocco, Tunisia, and the European Union for several years. Potential long-term GDP gains could be as high as 1.6 percent for Morocco and 7.4 percent for Tunisia, associated with an expansion of exports and an improvement of trade balances for the MENAP oil-importing countries, and with small but negative effects on the other countries in the region, attributable to redirection of trade to the European Union (EC 2013).

Annex 4.1. Trade Openness and Growth

The following baseline regression is used to examine the influence of trade characteristics on growth of GDP per capita:

$$\Delta y_{i,t} = \alpha_1 y_{i,t-1} + \alpha_2 Controls_{i,t} + \alpha_3 TC_{i,t} + \delta_t + \gamma_i + \epsilon_{i,t}$$

in which $\Delta y_{i,t}$ is growth of real GDP per capita at time t for country i , $y_{i,t-1}$ is the log of real GDP per capita, $Controls_{i,t}$ contains a set of control variables, $TC_{i,t}$ is a set of trade characteristics, δ_t and γ_i are time and country fixed effects, and the error term is $\epsilon_{i,t}$. The set of control variables includes measures standard in the literature such as logs of terms of trade, the level of education, a proxy for public infrastructure development, and the ratio of foreign direct investment (FDI) to GDP. Trade characteristics $TC_{i,t}$ are included sequentially. All regressions include period dummies that indicate a declining trend in global growth since 1960.¹

The estimated coefficients of the control variables are comparable to those reported in the existing empirical literature (Table 4.1). The level of initial GDP per capita is associated with a negative and statistically significant coefficient, which suggests GDP per capita converges across countries over

time. The coefficient associated with labor force education is not statistically significant, which is a common finding when a wide sample of countries is used.² Coefficients associated with infrastructure and inflows of FDI are positive and statistically significant, as expected. Finally, the coefficient associated with the volatility of the terms of trade is not statistically significant, which can be explained by the impact of using five-year period averages, which reduces the volatility of GDP per capita growth.

The relationship is estimated using the system generalized method of moments procedure. This procedure estimates a system of equations that combines a regression specification in levels and the same specification in differences. It deals with both unobserved country-specific effects and the endogeneity of explanatory variables.³ As is standard in the literature, three approaches were used to test the consistency of the results—the Hansen test of over-identifying restrictions, the incremental Hansen test of overidentifying restrictions, and the test for serial correlation of the error terms. All three tests validate the estimated regression specification. For specifications in which the actual number of instruments is close to or larger than the number of countries in the sample, a restricted sample of control variables is used to reduce the number of explanatory variables.

¹The team acknowledges Kim Beaton for sharing the databases used in Beaton, Cebotari, and Komaromi 2017. The computer codes used in this chapter were built on Beaton, Cebotari, and Komaromi 2017 and Didier and Pinat 2017.

²Note that this coefficient is positive and statistically significant when a smaller sample, more restricted to advanced and emerging market economies, of 82 countries is used.

³Limitations of using the lag of the variables as an instrument in a trade-growth context has been acknowledged in the literature, and the results should be interpreted with caution (Rodriguez and Rodrik 2000; Feyrer 2009).

Table 4.1. Trade Openness and Economic Growth

	(1)	(2)	(3)	(4)	(5)	(6)
Initial GDP per Capita	-5.014*** (0.892)	-4.618*** (0.827)	-5.061*** (0.697)	-5.664*** (0.909)	-5.741*** (1.344)	-5.730*** (1.516)
Labor Force Education	0.357 (0.468)	0.104 (0.594)	0.429 (0.474)	-0.358 (0.486)	-0.580 (0.498)	-0.436 (0.346)
Infrastructure	2.241*** (0.640)	2.087*** (0.540)	2.458*** (0.411)	2.574*** (0.697)	3.285*** (1.086)	2.908** (1.414)
Inflows of FDI/GDP	0.667** (0.297)			0.761* (0.434)	1.313** (0.635)	1.102* (0.593)
Terms of Trade				-7.435 (6.520)	-0.0830 (10.75)	3.335 (10.17)
Trade Openness	2.446*** (0.781)	1.919*** (0.633)	1.996*** (0.620)	2.796*** (0.924)	2.240 (1.549)	2.122 (1.471)
Export Diversification		4.249** (1.839)				
Export Quality			5.034* (2.892)			
Participation in GVC				9.170** (4.075)		
Backward Integration					6.642 (7.586)	9.771 (6.924)
Forward Integration					11.72** (5.356)	
Domestic Value Added						48.01* (24.90)
Constant	30.66*** (6.340)	20.39*** (7.321)	15.01 (10.13)	68.21** (30.83)	35.92 (53.80)	19.05 (49.75)
Number of Observations	1,030	1,021	1,037	641	641	641
Number of Countries	131	123	129	131	131	131
Number of Instruments	118	123	123	83	52	52
Period Dummies	yes	yes	yes	yes	yes	yes
<i>Validation Tests</i>						
Full Hansen Test	0.293	0.240	0.246	0.197	0.112	0.153
Incremental Hansen Test	0.805	0.632	0.398	0.365	0.105	0.108
p-value of AR(2) Statistic	0.236	0.470	0.392	0.511	0.495	0.557

Source: IMF staff calculations.

Note: The dependent variable for the regressions is growth in GDP per capita. The sample set of variables consists of nonoverlapping five-year period averages for 131 countries covering 1960 to 2013. Robust standard errors are shown in parentheses. FDI = foreign direct investment; GVC = global value chain.

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

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