JUNE 2018

Global Economic Prospects

The Turning of the Tide?

WORLD BANK GROUP

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Cover design: Bill Pragluski (Critical Stages).

The cutoff date for the data used in this report was May 25, 2018.

In memory of Phillip Jeremy Hay, 1955-2018

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Foreword

The current state of the global economy resembles that of a sailor whose boat was caught on a sandbar but is now freed by the rising tide. The sailor is naturally relieved to be able to set sail. But this relief must be tempered by the urgency to pilot toward deeper seas before the receding waters beach the ship again.

As the June 2018 *Global Economic Prospects* report documents, the global economy seems to be leaving the legacy of the global financial crisis of the past decade behind. About half the world's countries are experiencing an increase in growth. This synchronized recovery may lead to even faster growth in the near term, as stronger growth in, say, China or the United States spills over to other parts of the world. All the consensus forecasts for 2018 and 2019 reflect optimism. And this growth is occurring for the right reasons—investment and trade growth, which had been declining, have risen. Furthermore, in the United States, Europe and Japan, unemployment has declined, while inflation has not picked up much, suggesting that policymakers may have found that "sweet spot" in the tradeoff between unemployment and inflation. The confidence indicators also remain elevated.

But, as the report points out, the medium-term prospects tell a different story. Protectionist threats cast a dark cloud over future growth. If these threats lead to trade wars, the consequences could be devastating. Even if they do not, uncertainty about economic policy dampens investor sentiment. Secondly, a credit event in a major emerging market or a sudden tightening of monetary policy in the United States leading to a spike in interest rates could roil financial markets, causing a slowdown especially in highly indebted countries. From the 1975 oil crisis, to the Latin American debt crisis of the 1980s, to the Asian financial crisis of the 1990s, to the 2007-09 global financial crisis, there has been a financial market crisis every ten years or so. It is now ten years since the last crisis.

Moreover, as the analytical sections of the report show, increasing corporate debt in some emerging market economies has left them especially vulnerable to interest rate and exchange rate shocks. And the prospects for commodity exporters will be limited as the major commodity-importing countries, especially China, shift their demand away from oil and other commodities.

These ominous signs reinforce the finding from the January 2018 edition of the *Global Economic Prospects* report, namely, that while current growth appears robust, potential growth will be lower. Underlying factors such as demographics (declining labor supply in many, large countries) and the legacy of low investment growth in the past contribute to this limited potential growth. The risks described above mean that actual growth may be even lower.

The implication is that policy and institutional reforms that build human capital (to make labor more productive) and improve the business climate (to increase investment) are needed now more than ever. The still robust pace of growth provides political space to implement these reforms. Now is the time to act.

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Acknowledgments

Executive Summary

Global growth has eased but remains robust, although with downside risks. The possibility of financial market stress, escalating trade protectionism and heightened geopolitical tensions continue to cloud the outlook. Financial market stress could arise as a result of escalating investor concerns about the creditworthiness of some emerging market and developing economies or as a byproduct of faster-than-expected normalization of monetary policy in advanced economies. Countries with elevated corporate debt, wide current account or fiscal deficits, or weak growth prospects would be vulnerable to jumps in global financing costs. In commodity-exporting economies, in particular, the expected slowdown in commodity demand growth from major emerging markets weighs on long-term growth outcomes.

Global Outlook. Global growth has eased but remains robust and is projected to reach 3.1 percent in 2018. It is expected to edge down over the next two years as global slack dissipates, trade and investment moderate, and financing conditions tighten. Growth in advanced economies is forecast to decelerate toward potential rates as monetary policy is normalized and the effects of U.S. fiscal stimulus wane. In emerging market and developing economies (EMDEs), growth in commodity importers will remain strong, while the rebound in commodity exporters is projected to mature over the next two years. For the first time since 2010, the long-term (10-year-ahead) consensus forecast for global growth appears to have stabilized. Although this development could signal that the legacies of the global financial crisis are fading, past experience cautions that long-term forecasts are often overly optimistic. While well below levels expected a decade ago, these forecasts also remain above potential growth estimates. Moreover, risks to the outlook are tilted to the downside. They include disorderly financial market movements, escalating trade protectionism, and heightened geopolitical tensions. EMDE policymakers should rebuild monetary and fiscal policy buffers and be prepared for rising global interest rates and possible episodes of financial market turbulence. In the longer run, adverse structural forces continue to overshadow long-term growth prospects implying that EMDEs need to boost potential growth by promoting competitiveness, adaptability to technological change, and trade openness. These steps will help mitigate an expected growth slowdown over the next decade, especially if long-term growth forecasts fall—once again—short of expectations.

Regional Perspectives. A cyclical recovery is underway in most EMDE regions that host a substantial number of commodity exporters. Over the next two years, the upturn in these regions is expected to mature, as commodity prices plateau. Robust economic activity in EMDE regions with large numbers of commodity importers is forecast to continue. However, risks to the growth outlook continue to tilt to the downside in many regions.

This edition of *Global Economic Prospects* includes sections on the role of the largest emerging markets in global commodity markets and on the implications of high corporate debt for financial stability and investment.

The Role of Major Emerging Markets in Global Commodity Demand. Rapid growth among the major emerging markets over the past 20 years has boosted global demand for commodities. The seven largest emerging markets (EM7) accounted for almost all of the increase in global consumption of metals and two-thirds of the increase in energy consumption over this period. As these economies mature and shift towards less commodity-intensive activities, their demand for most commodities may level off. While global energy consumption growth may remain broadly steady, global metals and foods demand growth could slow by one-third over the next decade. This would dampen global commodity prices. For emerging market and developing economies that

depend on raw materials for government and export revenues, these prospects reinforce the need for economic diversification and the strengthening of policy frameworks.

Corporate Debt: Financial Stability and Investment Implications. Average corporate debt in emerging market and developing economies has increased over the past decade, raising concerns about their financial stability and growth prospects. Debt service costs of EMDE firms are expected to rise as advanced economies normalize monetary policy, and debt is increasingly held by firms with riskier balance sheets. Elevated debt may be associated with weak investment growth, especially in large firms. Countercyclical and macroprudential policies can address financial stability concerns that are raised by these trends. Structural policies, including the strengthening of bankruptcy regimes, are appropriate tools to address the investment implications of sizeable corporate debt.

Abbreviations

AE	advanced economies
AfCFTA	African Continental Free Trade Area
ASEAN	Association of Southeast Asian Nations
bbl	barrel
BRICS	Brazil, Russian Federation, India, China, and South Africa
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
CVI	corporate vulnerability index
EAP	East Asia and Pacific
EBIT	earnings before interest and taxes
ECA	Europe and Central Asia
ECB	European Central Bank
EMBI	Emerging Markets Bond Index
EM7	Brazil, China, India, Indonesia, Mexico, Russian Federation, and Turkey
EMDE	emerging market and developing economies
EPU	Economic Policy Uncertainty
EU	European Union
FDI	foreign direct investment
FOMC	Federal Open Market Committee
FY	fiscal year
G7	Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States
GCC	Gulf Cooperation Council
GDP	gross domestic product
GEP	Global Economic Prospects
GNFS	goods and nonfactor services
GTAP	Global Trade Analysis Project
ICT	information and communication technology
IEA	International Energy Agency
IMF	International Monetary Fund
LAC	Latin America and Caribbean
LIC	low-income country
MNA	Middle East and North Africa
NAFTA	North American Free Trade Agreement
NBER	National Bureau of Economic Research
NPLs	nonperforming loans
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PMI	purchasing manager's index

PPP	purchasing power parity
ppt	percentage points
RHS	right-hand side (in figures)
SAR	South Asia Region
SOE	state-owned enterprise
SSA	Sub-Saharan Africa
toe	tons of oil equivalent
TPP	Trans-Pacific Partnership
UNCTAD	United Nations Conference on Trade and Development
USDA	United States Department of Agriculture
WTO	World Trade Organization

GLOBAL OUTLOOK

The Turning of the Tide?

Global growth has eased, but remains robust, and is projected to reach 3.1 percent in 2018. It is expected to edge down in the next two years to 2.9 percent by 2020, as global slack dissipates, trade and investment moderate, and financing conditions tighten. Growth in advanced economies is predicted to decelerate toward potential rates, as monetary policy normalizes and the effects of U.S. fiscal stimulus wane. In emerging market and developing economies (EMDEs), growth in commodity importers will remain robust, while the rebound in commodity exporters is projected to mature over the next two years. Progress in per capita income growth will be uneven, however, remaining particularly subdued in Sub-Saharan Africa. Risks to the outlook remain tilted to the downside. They include disorderly financial market movements, escalating trade protectionism, heightened policy uncertainty, and rising geopolitical tensions, all of which continue to cloud the outlook. EMDE policymakers need to rebuild monetary and fiscal policy buffers and be prepared for rising global interest rates and possible episodes of financial market turbulence. In the longer run, EMDEs need to tackle ongoing structural challenges and boost potential growth by promoting competitiveness, adaptability to technological change, and trade openness.

Summary

Global growth remains robust but has softened in recent months, as manufacturing activity and trade have shown signs of moderation (Figure 1.1). The ongoing withdrawal of monetary policy accommodation in advanced economies has led to some tightening of global financing conditions, while oil prices are substantially higher than previously expected. Global inflation is trending up, but only gradually and from low levels.

In advanced economies, activity continues to grow above potential, notwithstanding some recent moderation, while additional fiscal stimulus measures are expected to provide a further lift to near-term growth in the United States. Labor markets have improved steadily. With output gaps nearly or already closed, inflation expectations have crept up and monetary policy is becoming less expansionary. Inflation, however, remains below central bank targets in many advanced economies.

Among emerging market and developing economies (EMDEs), the recovery in commodity exporters has continued, as consumption and investment firm. The upturn in many energy

exporters is still lagging that of exporters of other commodities, reflecting ongoing adjustments to the 2014-16 collapse in oil prices and production cuts in key oil exporters. Across commodity exporters, inflation is generally moderating as the impact of past currency depreciations wanes.

Activity in commodity importers continues to be robust. Growth in China is gradually slowing, but remains resilient, while constraints to growth are dissipating in other large commodity importers—notably India and Mexico, where investment is recovering. Inflation remains broadly stable so far, despite higher commodity prices and limited remaining slack.

Notwithstanding the ongoing global expansion, only 45 percent of countries are expected to experience a further acceleration of growth this year, down from 56 percent in 2017. Moreover, global activity is still lagging previous expansions despite a decade-long recovery from the global financial crisis. Accordingly, after reaching 3.1 percent in 2018, global growth is projected to moderate in 2019-20, edging down to 2.9 percent by the end of the forecast period. Global growth projections are above estimates of potential, suggesting that capacity constraints will become more binding and inflation will continue to rise during the forecast horizon.

Growth in advanced economies is expected to decelerate toward potential rates over the forecast period, as monetary policy stimulus is pared down, higher energy prices weigh on consumption, and the effect of U.S. fiscal expansion

TABLE 1.1 Real GDP[1]

(Percent change from previous year)

Percentage point differences from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
World	**2.8**	**2.4**	**3.1**	**3.1**	**3.0**	**2.9**	**0.0**	**0.0**	**0.0**
Advanced economies	**2.3**	**1.7**	**2.3**	**2.2**	**2.0**	**1.7**	**0.0**	**0.1**	**0.0**
United States	2.9	1.5	2.3	2.7	2.5	2.0	0.2	0.3	0.0
Euro Area	2.1	1.8	2.4	2.1	1.7	1.5	0.0	0.0	0.0
Japan	1.4	1.0	1.7	1.0	0.8	0.5	-0.3	0.0	0.0
Emerging market and developing economies (EMDEs)	**3.7**	**3.7**	**4.3**	**4.5**	**4.7**	**4.7**	**0.0**	**0.0**	**0.0**
Commodity-exporting EMDEs	0.5	0.8	1.8	2.5	3.0	3.0	-0.2	-0.1	-0.1
Other EMDEs	6.1	5.9	6.2	5.8	5.8	5.7	0.1	0.1	0.0
Other EMDEs excluding China	5.2	4.9	5.3	5.1	5.1	5.1	0.3	0.0	0.0
East Asia and Pacific	6.5	6.3	6.6	6.3	6.1	6.0	0.1	0.0	0.0
China	6.9	6.7	6.9	6.5	6.3	6.2	0.1	0.0	0.0
Indonesia	4.9	5.0	5.1	5.2	5.3	5.4	-0.1	0.0	0.1
Thailand	3.0	3.3	3.9	4.1	3.8	3.8	0.5	0.3	0.4
Europe and Central Asia	1.1	1.7	4.0	3.2	3.1	3.0	0.3	0.1	0.0
Russia	-2.5	-0.2	1.5	1.5	1.8	1.8	-0.2	0.0	0.0
Turkey	6.1	3.2	7.4	4.5	4.0	4.0	1.0	0.0	0.0
Poland	3.8	2.9	4.6	4.2	3.7	3.5	0.2	0.2	0.4
Latin America and the Caribbean	-0.4	-1.5	0.8	1.7	2.3	2.5	-0.3	-0.3	-0.2
Brazil	-3.5	-3.5	1.0	2.4	2.5	2.4	0.4	0.2	-0.1
Mexico	3.3	2.9	2.0	2.3	2.5	2.7	0.2	-0.1	0.1
Argentina	2.7	-1.8	2.9	1.7	1.8	2.8	-1.3	-1.2	-0.4
Middle East and North Africa	2.8	5.0	1.6	3.0	3.3	3.2	0.0	0.1	0.0
Saudi Arabia	4.1	1.7	-0.7	1.8	2.1	2.3	0.6	0.0	0.1
Iran	-1.3	13.4	4.3	4.1	4.1	4.2	0.1	-0.2	-0.1
Egypt[2]	4.4	4.3	4.2	5.0	5.5	5.8	0.5	0.2	0.0
South Asia	7.1	7.5	6.6	6.9	7.1	7.2	0.0	-0.1	0.0
India[3]	8.2	7.1	6.7	7.3	7.5	7.5	0.0	0.0	0.0
Pakistan[2]	4.1	4.6	5.4	5.8	5.0	5.4	0.3	-0.8	-0.6
Bangladesh[2]	6.6	7.1	7.3	6.5	6.7	7.0	0.1	0.0	0.3
Sub-Saharan Africa	3.1	1.5	2.6	3.1	3.5	3.7	-0.1	0.0	0.1
Nigeria	2.7	-1.6	0.8	2.1	2.2	2.4	-0.4	-0.6	-0.4
South Africa	1.3	0.6	1.3	1.4	1.8	1.9	0.3	0.1	0.2
Angola	3.0	0.0	1.2	1.7	2.2	2.4	0.1	0.7	0.9
Memorandum items:									
Real GDP[1]									
High-income countries	2.3	1.7	2.2	2.2	2.0	1.8	0.0	0.1	0.0
Developing countries	3.7	3.8	4.6	4.7	4.8	4.8	0.0	0.0	-0.1
Low-income countries	4.9	4.8	5.5	5.7	5.9	6.3	0.3	0.4	0.6
BRICS	4.0	4.4	5.3	5.4	5.4	5.4	0.1	0.0	0.0
World (2010 PPP weights)	3.4	3.2	3.7	3.8	3.8	3.7	0.1	0.1	0.0
World trade volume[4]	**2.7**	**2.8**	**4.8**	**4.3**	**4.2**	**4.0**	**0.3**	**0.3**	**0.2**
Commodity prices									
Oil price[5]	-47.3	-15.6	23.3	32.6	-1.4	0.1	23.2	-3.1	-1.6
Non-energy commodity price index	-15.8	-2.6	5.5	5.1	0.2	0.5	4.5	-0.6	-0.7

Source: World Bank.

Notes: PPP = purchasing power parity; e = estimate; f = forecast. World Bank forecasts are frequently updated based on new information. Consequently, projections presented here may differ from those contained in other World Bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time. Country classifications and lists of emerging market and developing economies (EMDEs) are presented in Table 1.2. BRICS include: Brazil, Russia, India, China, and South Africa.

1. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights.

2. GDP growth values are on a fiscal year basis. Aggregates that include these countries are calculated using data compiled on a calendar year basis. Pakistan's growth rates are based on GDP at factor cost. The column labeled 2017 refers to FY2016/17.

3. The column labeled 2016 refers to FY2016/17.

4. World trade volume of goods and non-factor services.

5. Simple average of Dubai, Brent, and West Texas Intermediate.

For additional information, please see www.worldbank.org/gep.

wanes. A projected deceleration of capital spending in these economies, combined with that in China, will contribute to more moderate global trade growth in 2019 and 2020. Shifts in the policy mix of advanced economies—most notably, monetary policy tightening and fiscal policy loosening in the United States—are expected to result in a faster-than-previously-anticipated increase in global interest rates, and hence in EMDE borrowing costs.

As international trade and financial conditions become less supportive, and the cyclical upturn in commodity exporters matures, overall EMDE growth is projected to plateau, reaching 4.7 percent in 2019 and 2020. Over this period, only about half of commodity exporters, and less than half of commodity importers, are expected to grow above their pre-crisis long-term averages. In the longer term, absent policy reforms, potential growth in EMDEs is expected to weaken, reflecting softening productivity and demographic headwinds. Progress in per capita income growth will be uneven. Per capita growth in Sub-Saharan Africa, where nearly half of the extreme poor live, is projected to remain below or around 1 percent, while it is expected to reach 6 percent in South Asia, a region that includes the second largest number of people in extreme poverty.

Uncertainty around global growth projections has risen, partly driven by the possibility of policy shocks from major economies (Figure 1.2). While a synchronous upturn in large economies could lead to further growth upgrades in the near term, risks remain tilted to the downside, with some becoming more acute.

In particular, the possibility of financial market disruptions has increased amid shifting monetary policy expectations in major advanced economies. A sudden tightening of global financing conditions, combined with disorderly exchange rate movements, would leave highly indebted EMDEs particularly vulnerable, with rising debt service costs hampering investment and heightening financial stability risks. The risk of mounting trade protectionism has also intensified. A worldwide escalation of tariffs up to the limits permitted under existing international trade rules could lead

FIGURE 1.1 Summary - Global prospects

The global economic expansion remains robust but has softened, although commodity-exporting EMDEs continue to recover. Global activity still lags previous expansions, and growth is projected to decelerate in 2019-20 as trade and investment moderate. Progress in per capita income will be uneven and insufficient to tackle extreme poverty in Sub-Saharan Africa.

A. Global growth

B. Global manufacturing output and export orders

C. Growth in commodity-exporting EMDEs

D. Global GDP during expansion periods

E. Global trade and investment growth, volumes

F. Per capita EMDE GDP growth, by region
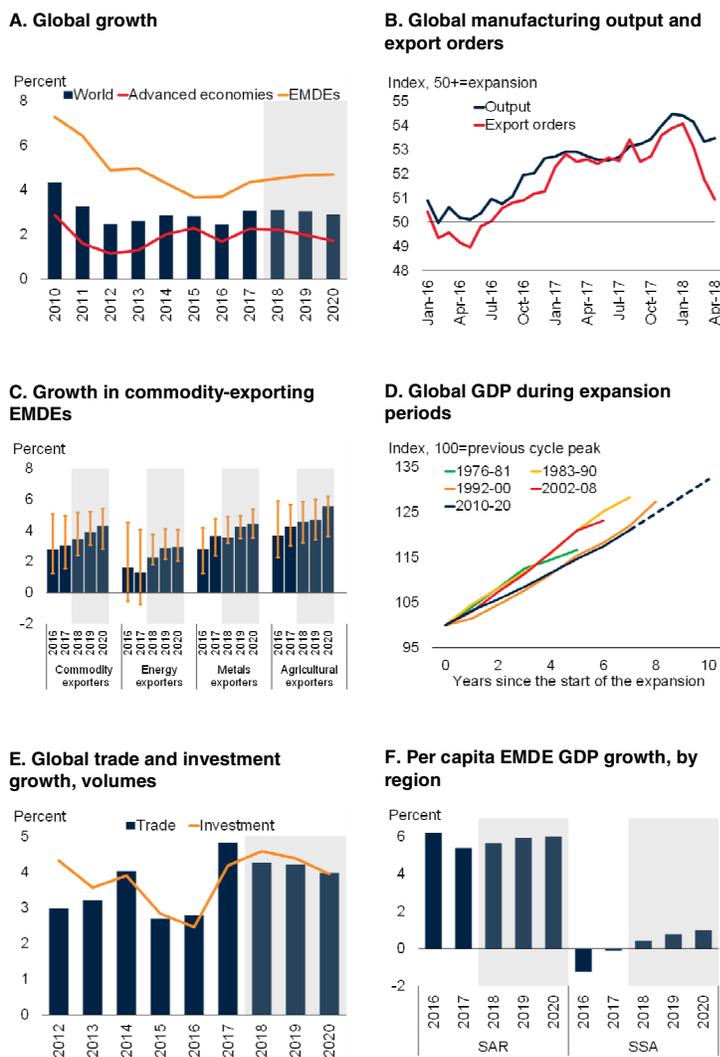
Sources: Haver Analytics, World Bank.
A.C.E.F. Shaded areas indicate forecasts.
A. EMDEs = emerging market and developing economies. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights. Data for 2017 are estimates.
B. Figure shows Purchasing Managers' Index (PMI) for manufacturing output and new export orders. Readings above 50 indicate expansion in economic activity; readings below 50 indicate contraction. Last observation is April 2018.
C. Simple average of GDP growth. Orange lines indicate interquartile ranges of growth in each group.
D. Global GDP levels in constant 2010 U.S. dollars, indexed to 100 at start of expansion periods. Cycle dates based on global recessions and slowdowns identified in Kose and Terrones (2015). Dashed line corresponds to 2018-20 forecasts.
E. Trade measured as the average of export and import volumes.
F. SAR = South Asia and SSA = Sub-Saharan Africa. GDP per capita calculated using constant 2010 U.S. dollar GDP weights.
Click here to download data and charts.

FIGURE 1.2 Global risks and policy challenges

Uncertainty surrounding the outlook remains elevated and risks are tilted to the downside. EMDEs are susceptible to a sudden increase in borrowing costs amid elevated debt levels, and could be severely impacted by escalating trade protectionism. Improving education outcomes could help raise EMDE per capita income levels and growth prospects. Regional trade agreements could rekindle stalled trade liberalization at the global level.

A. Probability of global growth in 2019 being below/above baseline
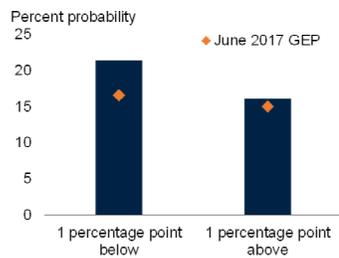
B. EMDE debt as a share of GDP, by borrowing sector
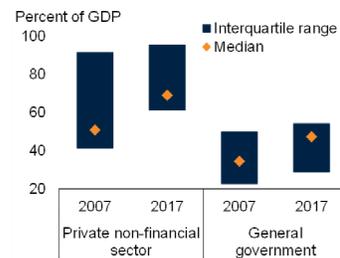
C. Impact of interest-rate shock on fiscal sustainability gaps in EMDEs, by region
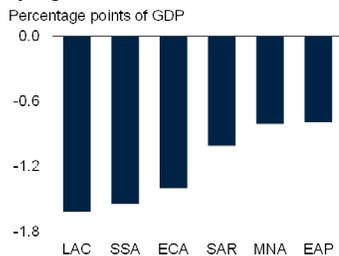
D. Impact on trade from worldwide increase in tariffs to bound levels by 2020
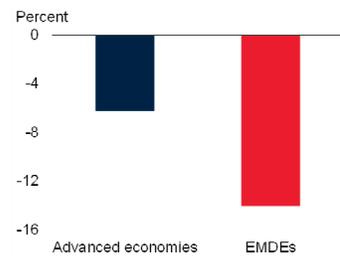
E. Students proficient in math and reading, by region
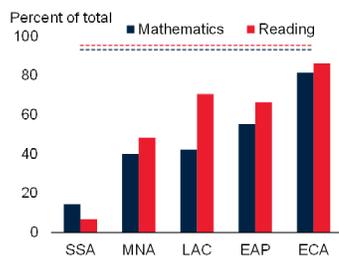
F. Size of new regional trade agreements
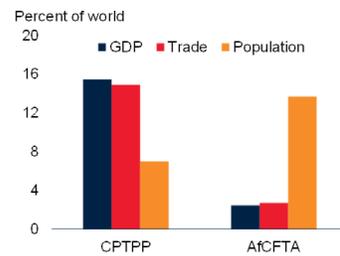
Sources: Bank for International Settlements, International Monetary Fund, Kose et al. (2017b), Kutlina-Dimitrova and Lakatos (2017), World Bank.
A. Bars show the probability that global growth is 1-percentage-point above or below baseline forecasts 18 months ahead. Probabilities for 2019 are computed from the forecast distribution of 18-month-ahead oil price futures, S&P 500 equity price futures, and term spread forecasts. Each of the risk factor's weight is derived from the model described in Ohnsorge, Stocker, and Some (2016). Last observation is May 2018.
B. Debt is defined as loans and debt securities. Sample includes 16 EMDEs.
C.E. EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MNA = Middle East and North Africa, SAR = South Asia, and SSA = Sub-Saharan Africa.
C. Figure shows the estimated deterioration in the fiscal sustainability gap driven by a 1-standard deviation interest rate increase. Sustainability gap is measured as the difference between the primary balance and the debt-stabilizing primary balance. A negative bar indicates government debt is rising along an accelerated trajectory. Sample includes 70 EMDEs.
D. Bars denote the percent deviation from baseline in 2020. Data are calculated from simulations using the GDyn computable general equilibrium model (Ianchovichina and McDougall 2000; Ianchovichina and Walmsley 2012). Trade-weighted aggregates include 36 advanced economies and 71 EMDEs.
E. Data for South Asia are unavailable. Dashed horizontal lines show advanced-economy average.
F. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, AfCFTA = African Continental Free Trade Area. Data are as of 2017.
Click here to download data and charts.

to cumulative trade losses equivalent to those experienced during the global financial crisis in 2008-09, with particularly severe consequences for EMDEs. Other risks include the possibility of increasing policy uncertainty and geopolitical tensions. A further rise in oil prices, while beneficial for oil exporters, could amplify current account fragilities in some oil-importing EMDEs.

The probability of an abrupt slowdown in global growth has risen and could increase further if one or several downside risks materialize. Many countries would be unprepared to confront such an outcome, in view of their depleted policy buffers and the moderating outlook for potential growth. In this context, both advanced economies and EMDEs face acute policy challenges.

The immediate policy challenge for advanced economies is to calibrate their fiscal, monetary, and trade policy stances to nurture the recovery and to avoid disorderly financial adjustments. In the longer term, they need to confront the slow pace of potential growth and demographic pressures through structural reforms that boost productivity, labor force participation, and fiscal sustainability.

In EMDEs, monetary and fiscal buffers need to be rebuilt in order to prepare for monetary policy tightening in advanced economies and restore the scope for policy support against negative shocks. In particular, rising global interest rates will heighten corporate vulnerability and raise EMDE debt-service costs and fiscal sustainability gaps. In the longer run, EMDE policy makers also need to confront intensifying structural challenges and accelerate measures to tackle poverty. The decisive implementation of growth-enhancing structural reforms is critical in light of the likelihood of weaker-than-expected long-term growth out-comes—which, given past experience, is a material possibility (Box 1.1).

For commodity exporters, prospects of a secular slowdown in demand for commodities call for accelerated efforts to diversify and transform their economies as a way of boosting income per capita and mitigating volatility. For all EMDEs, rapid technological changes highlight the need to

support skill acquisition and adaptability. This would assist the process of integration in regional and global value chains, as well as bolster firms' ability to absorb new technologies and compete internationally. For many low- and middle-income countries, improving basic numeracy, literacy, and skills related to information and communication technologies remains a key priority. Comprehensive preferential trade agreements can help boost income per capita of member countries and rekindle stalled trade liberalization at the global level. Recent regional initiatives are a promising step toward that goal.

Major economies: Recent developments and outlook

In advanced economies, growth remains above potential despite signs of softening. In the United States, significant fiscal stimulus will boost near-term activity. As the recovery matures over the forecast horizon and monetary policy accommodation is pared down, growth is projected to moderate toward its potential rate. In China, growth remains solid and is expected to gradually slow as rebalancing continues.

Although recent indicators in advanced economies suggest some moderation, they continue to point to solid investment and above-potential growth this year across countries (Figure 1.3). Consumer confidence is still high and new jobs are being created at a solid pace. In all, advanced-economy growth is projected at 2.2 percent for 2018—a slight deceleration from last year, as additional fiscal stimulus in the United States is offset by moderating growth in other major economies. Over the forecast period, growth is expected to decelerate toward its potential rate, as output gaps close and become positive, inflation rises toward target rates amid higher energy prices, and central banks continue to remove monetary stimulus.

United States

Growth in the United States reached 2.3 percent in 2017, supported by broad-based strength in domestic demand, especially investment. The economy may be near its productive potential, as both capacity utilization and the employment rate

FIGURE 1.3 Advanced economies

Despite recent signs of softening, growth in major advanced economies is still generally solid. It is projected to moderate toward subdued potential rates over the forecast horizon, as labor market slack diminishes and monetary policy stimulus is gradually withdrawn.
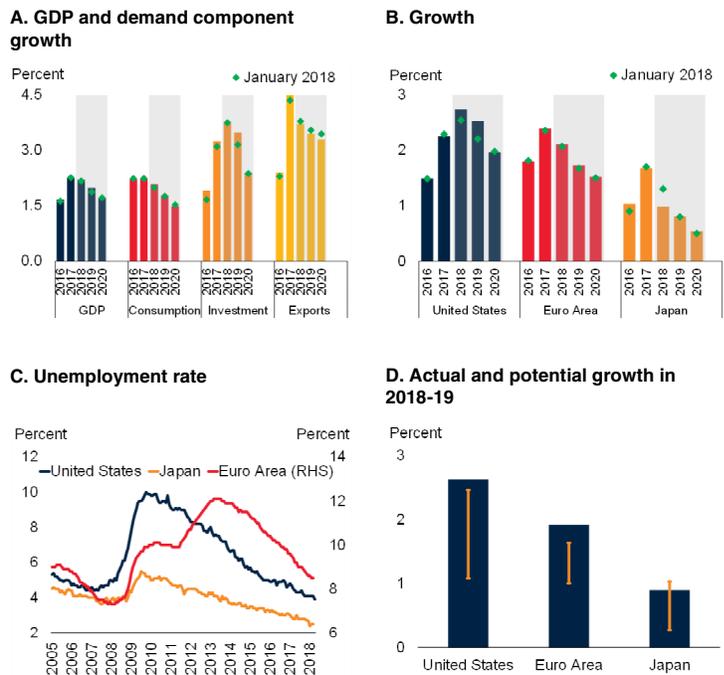
Sources: Haver Analytics, World Bank.
A.B. Green diamonds correspond with the January 2018 edition of the *Global Economic Prospects* report. Shaded areas indicate forecasts.
A. Aggregate growth rates and contributions calculated using constant 2010 U.S. dollar GDP weights.
C. Data are seasonally adjusted. Last observation is April 2018 for the United States, and is March 2018 for Japan and the Euro Area.
D. Blue bars refer to average actual growth over 2018-19 period and vertical orange lines show the minimum-maximum range of potential growth estimates based on eight different methodologies (production function approach, multivariate filter, three univariate filters—Hodrick-Prescott filter, Christiano-Fitzgerald filter, and Butterworth filter—IMF *World Economic Outlook* estimates, and estimates in OECD *Economic Outlook* and *Long-Term Baseline Projections*), over 2018-19. For further details on potential growth estimates, refer to the January 2018 edition of the *Global Economic Prospects* report.
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are moving toward peaks attained prior to the financial crisis (Figure 1.4). Wage growth has picked up slightly, but is still weak compared to previous recoveries.

The Bipartisan Budget Act passed in early February, which will add about 1.5 percent of GDP in government spending to the economy over the next three years, is the main factor behind the forecast upgrade relative to January projections. Combined with the Tax Cuts and Jobs Act enacted last year, additional discretionary expenditures result in a highly procyclical fiscal stance, which is expected to cost almost 5 percent of GDP

BOX 1.1 Long-term growth prospects: Downgraded no more?

Consensus forecasts for long-term growth have recently stabilized after a series of downgrades since 2010. Although this development could be another encouraging sign the global economy is finally enjoying a healthy expansion, long-term forecasts are often overly optimistic. While well below levels expected a decade ago, these forecasts are above potential growth estimates. Moreover, adverse structural forces continue to overshadow long-term growth prospects.

A prolonged period of weaker growth expectations, characterized by the systematic downgrading of long-term forecasts, seems to have come to an end. For the first time since 2010, the 10-year-ahead consensus forecast for global growth appears to have stabilized (Figure 1.1.1). In 2018, long-term growth expectations were upgraded for more than half of countries—the largest number since 2010—and there have also been recent upgrades in short-term forecasts.

A sustained upgrading of long-term forecasts could be another sign that the legacies of the global financial crisis are fading. Growth is expected to remain at a post-2011 high this year, and the negative global output gap is likely to be closed for the first time since 2008 (World Bank 2018a). The recent synchronized global upturn has even sparked hopes that the crisis-induced damage to potential growth—"hysteresis" effects, which entrench weak growth after deep recessions—could be reversed if investment, productivity and employment continue to improve (Yellen 2016; Draghi 2018).[1]

However, such enthusiasm needs to be tempered by several considerations. First, the benign short-term global growth outlook is predicated on highly accommodative monetary policy by major central banks and, in some advanced economies, significant fiscal stimulus. Second, long-term global growth forecasts are stabilizing at levels well below those expected a decade earlier and well below current

growth rates. Third, long-term growth expectations have in the past proven overly optimistic and above model-based estimates of potential growth, which has been dampened by multiple structural forces.

Against this background, this box briefly analyzes the behavior of long-term global growth expectations to address the following questions:

- How have long-term global growth expectations evolved?

- How do these expectations compare with actual outcomes and estimates of potential growth?

- When do long-term growth expectations tend to be higher?

- What does the recent stabilization in forecasts imply for long-term prospects?

Over the past decade, the implications of rapid technological innovations for long-term growth prospects have been a subject of intense debate. Some claim that in the coming decades the global economy will enjoy a surge in productivity growth driven by new digital technologies (Brynjolfsson and McAfee 2014). Others argue that growth will be much slower because of the declining marginal impact of new technologies on productivity (Gordon 2016). This box focuses on long-term growth prospects as captured in 10-year-ahead growth forecasts and model-based potential growth estimates. It is very difficult, if not impossible, to undertake a credible quantitative analysis of the impact of new technologies on long-term productivity and growth outcomes.

Long-term growth expectations here refer to 10-year-ahead growth forecasts of real GDP from *Consensus*

Note: This box was prepared by M. Ayhan Kose, Franziska Ohnsorge and Naotaka Sugawara. Research assistance was provided by Shijie Shi.

[1]Hysteresis effects caused by the global financial crisis were sizable and persistent (Ball 2014; Lo and Rogoff 2015; Oulton and Sebastiá-Barriel 2017). Some argue that, absent monetary and fiscal demand stimulus, growth may have been much lower because of the underlying forces of "secular stagnation," a phenomenon of a rising propensity to save, weak demand and persistently low real interest rates (Summers 2015, 2016; Rachel and Smith 2015).

BOX 1.1 Long-term growth prospects: Downgraded no more? (*continued*)

Economics.[2] Short-term growth forecasts are defined as 1-year-ahead consensus forecasts. All forecasts are for annual growth and refer to averages of semi-annual or quarterly projections.

Evolution of expectations

Pre-crisis upgrades, post-crisis downgrades. The global financial crisis marked a turning point in long-term global growth expectations. From 1998 to 2007, long-term expectations improved slightly (from 3 percent to 3.4 percent). During the same period, 18 of the 38 economies' long-term growth forecasts were upgraded. Following the 2007-09 global financial crisis, however, long-term forecasts have steadily declined, from 3.3 percent in 2010 to 2.5 percent in 2017, reflecting a broad-based downgrading of growth prospects. Since the crisis, long-term growth forecasts were lowered for all economies (by about 1.4 percentage points, on average). The evolutions of forecasts over various horizons (from 2- to 10-year-ahead) all point to gradual deterioration in global growth expectations since the financial crisis.

The pattern of initial strength and subsequent weakness in growth expectations is broadly shared, albeit at different speeds and intensities, among different country groups and alternative measures of growth. Emerging market and developing economies (EMDEs) enjoyed improvements in their growth prospects before the crisis, while advanced economies began experiencing a gradual decline in growth forecasts in the early 2000s. Post-crisis, both groups witnessed deteriorating long-term growth forecasts. Similar trends occurred in per capita growth and medium-term (5-year-ahead) forecasts. In addition,

the post-crisis decline in long-term output growth expectations was accompanied by weakening forecasts for global investment and consumption growth.

The pattern of pre-crisis upgrades and post-crisis downgrades in long-term forecasts was also evident in some major economies (Figure 1.1.2). In 1998, U.S. growth was expected to be about 2.4 percent over the following decade but, by 2008, the long-term growth forecasts had been revised upwards by 0.3 percentage point. Similarly, growth in China was expected to be 7.5 percent over the following decade in 1998, but by 2008, the long-term forecast had been increased by 0.2 percentage point following its remarkably strong performance in the previous decade. Although long-term growth forecasts for Brazil and India were upgraded in 2008 relative to expectations a decade earlier, these upgrades did not last. By 2018, all of these economies' long-term growth forecasts had declined (0.3-2.4 percentage points) below their 1998 levels.

Recent stabilization. Since 2017, long-term growth expectations have stabilized. In 21 of 38 economies, long-term growth expectations improved from 2017 to 2018—the largest number of countries since 2010. Ten-year-ahead forecasts for EMDEs registered their first upgrade in 2018 following seven consecutive years of declines.

Factors driving the evolution of forecasts. The evolution of long-term forecasts has reflected the global economy's roller coaster ride over the past two decades. Pre-crisis strength in growth prospects in part reflected rapid expansion of investment and international trade and financial flows with the spread of information and communications technology (Kose and Prasad 2010; World Bank 2018a). Thanks to these developments, the global economy registered one of its best growth records since the early 1970s in the 2003-07 period.

Tailwinds, however, turned into headwinds during the 2009 global recession, which was followed by an anemic recovery, especially in advanced economies. The post-crisis period was marked by widespread unemployment and weak investment growth. In many countries, elevated debt burdens weighed on

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[2] Consensus Economics reports an average of 6- to 10-year-ahead growth forecasts, which are labelled here as "10-year-ahead forecast." These forecasts are consistently available for 38 countries (20 advanced economies and 18 EMDEs) from 1998. These 38 countries constitute 87 percent of global GDP in 2010-18. Forecasts are available for 45 countries (25 advanced economies and 20 EMDEs) for as early as 1989. Consensus Economics has been canvassing long-term forecasts from multiple institutions four times a year since 2015. Prior to that, long-term forecasts were made available twice a year or three times a year. The forecast made in a particular year is defined as the average of the 2-4 available forecast vintages in that year. For 2018, the forecast is the average of January and April vintages.

BOX 1.1 Long-term growth prospects: Downgraded no more? (*continued*)

FIGURE 1.1.1 Growth forecasts: Global, groups, and aggregates

After a prolonged period of downgrades, long-term forecasts of global growth, per capita growth, investment, and consumption may have stabilized in 2018, while short-term forecasts have been upgraded recently. This still leaves current long-term forecasts considerably lower than a decade ago. Downgrades were particularly steep, but started later (after the global financial crisis), for EMDEs than for advanced economies.

A. Ten-year-ahead global growth forecasts

B. Share of countries with upgrades in 10-year-ahead growth forecasts

C. One- to three-year-ahead global growth forecasts

D. Global growth forecasts, by forecast horizon

E. Ten-year-ahead output growth forecasts

F. Ten-year-ahead global investment and consumption growth forecasts
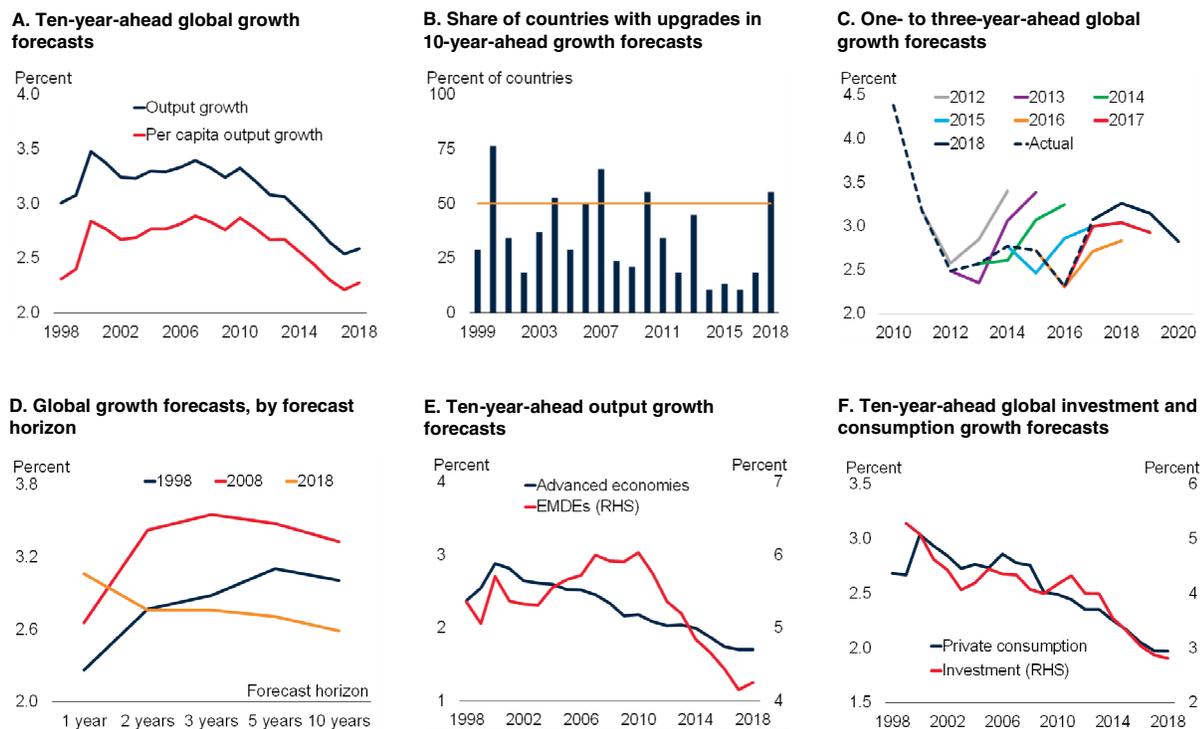
Sources: Consensus Economics, United Nations, World Bank.

Notes: Sample includes 38 countries, consisting of 20 advanced economies and 18 EMDEs, for which consensus forecasts are consistently available during 1998-2018. These economies account for 87 percent of global GDP over 2010-18. Unless otherwise noted, annual averages of results from multiple surveys conducted in each year are presented.

A.B.E.F. The horizontal axis refers to the year of consensus forecast surveys.

A.C.D.E. Global, advanced-economy, and EMDE growth is computed with constant 2010 U.S. dollar GDP weights.

A. Per capita global output growth is computed as the difference between 10-year-ahead global growth forecasts and population growth estimates in the years for which forecast surveys are conducted.

B. Share of countries with positive changes in 10-year-ahead growth forecasts from the previous year.

C. Lines are based on consensus forecast surveys conducted in September or October of denoted years, except 2018, for which data are based on surveys in April.

D. Lines show the years of consensus forecast surveys.

F. Global private consumption and investment growth is computed, respectively, with constant 2010 U.S. dollar private consumption and investment weights.

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investment growth (World Bank 2017a). Over 2010-15, long-term prospects were further clouded by the 2011-12 Euro Area debt crisis, and by a sharp slowdown in EMDEs that was partly related to the bursting of the commodity price boom.

These adverse cyclical effects were compounded by structural weaknesses, namely poor productivity growth and a broadening slowdown in the growth of working-age population (Didier et al. 2015; World

Bank 2018a). A slowdown in total factor productivity growth that had begun in advanced economies in 2004 was compounded, from 2008, by an even steeper decline in EMDEs.[3] Similarly,

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[3] In advanced economies, the highly synchronized slowdown in productivity growth has been attributed to several factors, including the lack of transformative technologies, slowing improvements in educational attainment, and the maturation of information technologies (Cette, Fernald, and Mojon 2016; Hirata, Islamaj, and Kose 2018; Kilic Celik et al. 2018; World Bank 2018a).

BOX 1.1 Long-term growth prospects: Downgraded no more? (*continued*)

FIGURE 1.1.2 Growth forecasts in major economies and in comparison with actual and potential growth

Since the global financial crisis, long-term growth forecasts have declined in all major economies. This slowdown has followed adverse cyclical effects, compounded by structural weakness, including declines in the share of the working-age population. For most countries, long-term growth forecasts have systematically exceeded potential growth and actual growth over the past decade, and forecast optimism is stronger for longer-term forecasts than for shorter-term forecasts.

A. Ten-year-ahead growth forecasts in advanced economies
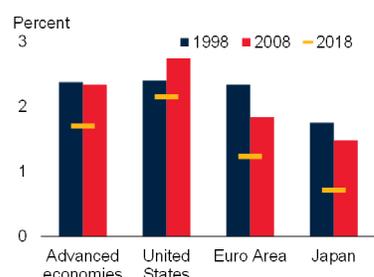
B. Ten-year-ahead growth forecasts in EMDEs
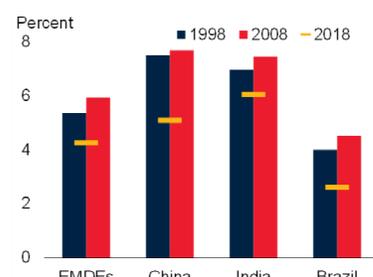
C. Global working-age population
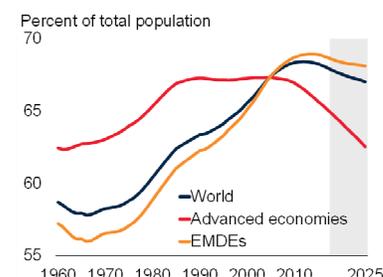
D. Ten-year-ahead growth forecast errors
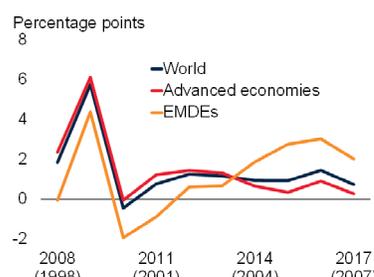
E. Global growth forecast errors, by forecast horizon
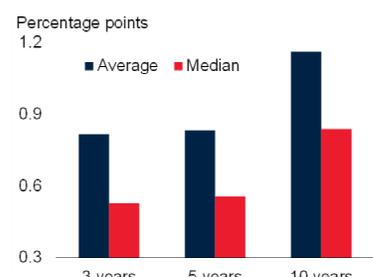
F. Comparison of global forecasts and potential growth
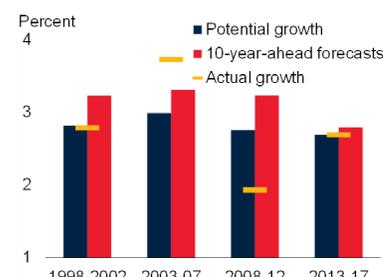
Sources: Consensus Economics, Kilic Celik et al. (2018), United Nations, World Bank.
Notes: Sample includes 38 countries (20 advanced economies and 18 EMDEs).
A.B. Years denoted show the years of consensus forecast surveys.
A.B.D.E.F. For growth forecasts, annual averages of results from multiple surveys conducted in each year are presented.
A.B.D.F. Growth in aggregate groups is computed with constant 2010 U.S. dollar GDP weights.
A. Euro Area is a weighted average of France, Germany, Italy, the Netherlands, and Spain.
C. Population-weighted averages. The working-age population is defined as people aged 15-64 years. Shaded area refers to forecasts.
D. A forecast error is defined as a difference between consensus output growth forecasts a decade earlier and actual growth, weighted by GDP. The horizontal axis refers to the years for which growth forecasts are surveyed, with the forecast survey years in parentheses.
E. A forecast error is defined as a difference between growth forecasts at different horizons (over three years, five years, and 10 years) and actual growth. Averages and medians are computed from available observations up to 2017.
F. Figure shows period averages of GDP-weighted global actual growth, potential growth, and growth forecasts. For 10-year-ahead growth forecasts, the horizontal axis refers to the forecast survey years. Potential growth is measured by production function.
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in 2010, the share of the working-age population in EMDEs began, first, to plateau and, then, started to fall—a turning point that advanced economies had already passed in the mid-1980s. As a result, global potential growth—the rate of change in output an economy would sustain at full capacity utilization and full employment—was 0.9 percentage point lower in 2013-17 than a decade earlier (World Bank 2018a).

The recent stabilization in long-term growth expectations is associated with improved global growth and trade since mid-2016, tight labor markets and a rebound in industrial production in major advanced economies that also benefited their trading partners, and recoveries in some large commodity-exporting EMDEs. Indeed, global GDP is expected to return to its potential this year for the first time since 2008.

BOX 1.1 Long-term growth prospects: Downgraded no more? (*continued*)

Comparison with outcomes and potential growth

Systematic optimism. Not surprisingly, during 2008-17, long-term global growth forecasts made a decade earlier exceeded actual growth outcomes in all years except 2010. Growth forecasts were higher than eventual growth outcomes in the majority of countries in almost all years since 2008, except during 2010-11. Even during those two years, forecasts were overly optimistic for around 50 percent of advanced economies and 25 percent of EMDEs. The analysis here covers mainly the crisis and post-crisis periods that witnessed an unusual series of negative growth shocks. However, it is widely documented that forecasts for long-term growth tend to be more optimistic than growth outcomes even in data samples that include the pre-crisis period (Ho and Mauro 2016). Moreover, the longer the forecast horizon, the larger the degree of over-optimism is. On average, 10-year-ahead growth forecasts overshot by 1.2 percentage points and 5-year-ahead forecasts over-estimated growth by 0.8 percentage point over the period until 2017.[4]

Above potential growth. Since long-term growth expectations presumably abstract from cyclical effects, they should reflect forecasters' judgment about an economy's potential growth. By comparison, model-based estimates of potential growth can be made using a number of methods. To study whether long-term growth expectations differ from other measures of potential growth, estimates of potential growth based on a production function model are compared with 10-year-ahead growth forecasts made in the same year (Kilic Celik et al. 2018; World Bank 2018a). Ten-year-ahead forecasts for global growth often exceed the model-based global potential growth over the next decade.[5] The

gap between long-term expectations and the model-based estimate is mostly driven by advanced economies but long-term growth forecasts are currently larger than potential growth in the majority of countries.

Causes of optimism. The over-optimism in long-term growth forecasts is a result of both cyclical and structural factors. In part, this optimism reflected an initial underappreciation of the headwinds to potential growth, especially in advanced economies, from demographics and weak investment and productivity. In part, optimism was a natural outcome of the failure to predict, or even recognize in real time, shocks that could trigger crises or business cycle turning points and their lasting impact (Juhn and Loungani 2002; Ho and Mauro 2016).[6]

The global financial crisis, one of the largest such episodes in a century, was not foreseen by most forecasters. The post-crisis period has also been marked by additional severe and unforeseen shocks, such as the Euro Area debt crisis and the 2014-16 oil price collapse. These episodes—which could not be foreseen 10 years earlier—were followed by substantial and persistent downward growth revisions. They were accompanied by weak business confidence and policy uncertainty. Long-term forecasts adjusted gradually, as new information revealed the lasting damage these shocks had dealt to the global economy. Indeed, long-term growth forecast downgrades have been historically associated with disappointing growth outcomes: when growth fell short of 1-year-ahead forecasts in three consecutive years (in a sample of 55 country-year episodes), 10-year-ahead forecasts were, on average, downgraded by 0.2 percentage point. When compared with forecast changes in other years, this downgrade was statistically significant.

Factors associated with higher long-term forecasts

As shown in the preceding section, long-term forecast revisions are quite common over time and across

---

[4] For 5-year-ahead forecasts, this is larger than the average growth disappointments of 0.34 percentage point in *World Economic Outlook* forecasts for 188 countries for 1990-2012 (Ho and Mauro 2016).

[5] Estimating potential output is fraught with measurement challenges (World Bank 2018a). However, 10-year-ahead forecasts remain above multiple model-based measures of potential growth available in Kilic Celik et al. (2018). For commodity exporters, accounting for resource rents can materially alter potential growth estimates and may account in part for the difference between 10-year-ahead forecasts and cross-country-consistent potential growth estimates.

[6] The average 10-year-ahead forecast error for the growth in years up to 2000-08 was correspondingly smaller, at 0.1 percentage point, compared with 1.2 percentage points for the sample from 2000-17.

BOX 1.1 Long-term growth prospects: Downgraded no more? (*continued*)

countries. To analyze the major factors associated with higher forecasts, two simple event studies are undertaken. These illustrate how forecasts are revised during periods of strong output or investment growth. These episodes are particularly relevant considering that the recent stabilization in growth expectations has also coincided with above-potential growth in some major economies and an acceleration in investment since mid-2016.

Sustained output growth. Sustained periods of above-potential growth were generally accompanied by higher 10-year-ahead growth forecasts. The event study sample includes 55 episodes (of which 43 concluded before the global financial crisis in 2009) during which actual growth exceeded potential growth in at least three consecutive years. Conversely, in 49 setback episodes, of which 17 straddled the crisis and 24 were pre-crisis, actual growth fell short of potential growth in three or more consecutive years. During growth spurts, long-term growth forecasts were, on average, 0.3 percentage point (and statistically significantly) higher than during growth setbacks (Figure 1.1.3).

Investment surges. The event sample includes 88 episodes (of which 66 ended before 2009) in which investment growth was positive in at least three consecutive years and 41 setback episodes in which investment growth was negative for at least three consecutive years. Again, long-term growth forecasts were, on average, 1 percentage point (and statistically significantly) higher during investment growth spurts than investment growth contractions.

Implications: A respite from gloom about growth prospects?

Recent long-term growth forecasts indicate that the period of post-crisis gloom about growth prospects may be coming to an end. Long-term growth forecasts currently envision global growth in 2028 at 2.6 percent—slightly higher than a year ago but less than this year's projected growth (3.1 percent). If the recent stabilization of long-term growth forecasts heralds a period of sustained upgrades, it may signal that the effects of the global financial crisis are waning.

However, past experience cautions that long-term forecasts may yet again turn out to be overly optimistic. Specifically, if forecast errors of the magnitude observed in the past materialize yet again, growth in the coming decade may turn out to be much weaker than current long-term growth forecasts, around 2.1 percent instead of 2.8 percent. Over-optimism has reflected an underappreciation of structural headwinds to potential growth as well as a failure to forecast global recessions. Over the past half-century, the global economy experienced a recession every decade (in 1975, 1982, 1991, and 2009).[7] This record suggests that it is possible that the global economy is due for another recession over the next 10 years.

Yet, even if a growth forecast disappointment is not triggered by an outright global recession, average potential growth over the next decade is estimated to be slower than during 2013-17. This reflects an awareness that weak productivity growth, increasingly unfavorable demographic trends, and subdued investment prospects are likely to weigh on global potential growth in the coming years. Model-based estimates suggest that average global potential growth during 2018-27 will be about 2.5 percent, much lower than the post-crisis average actual growth of 3 percent (World Bank 2018a).

Over a decade, such seemingly small differences in growth outcomes translate into significant changes in global income and living standards. For example, should global growth average current consensus forecasts, incomes a decade from now would be, cumulatively, 31 percent higher than in 2018 (but 3 percentage points less than if growth remained at its post-crisis average pace). This income gain could turn

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[7] In 1975, a surge in oil prices coincided with recessions in major advanced economies and debt crises in EMDEs. In 1982, monetary policy tightening in major advanced economies precipitated further debt crises in many EMDEs. In 1991, an abrupt tightening of credit in the United States coincided with banking and currency crises in many European countries. And in 2007-09, there were particularly deep financial crises in major advanced economies. In addition to these four global recessions, the global economy experienced two major slowdowns: during 1997-98, the Asian Crisis was followed by the Russian crisis and, in 2001, the U.S. stock market corrected in the dot-com crash (Kose and Terrones 2015).

BOX 1.1 Long-term growth prospects: Downgraded no more? (*concluded*)

FIGURE 1.1.3 Growth forecasts and change in global GDP

Revisions in long-term growth forecasts are common over time and across countries. Ten-year-ahead forecasts became higher during sustained growth spurts and investment surges. Over a decade, growth disappointments can make a major difference to global incomes.

A. Ten-year-ahead growth forecasts during strong growth and investment episodes

B. Global growth forecasts and potential growth

C. Cumulative change in global GDP, 2018-27
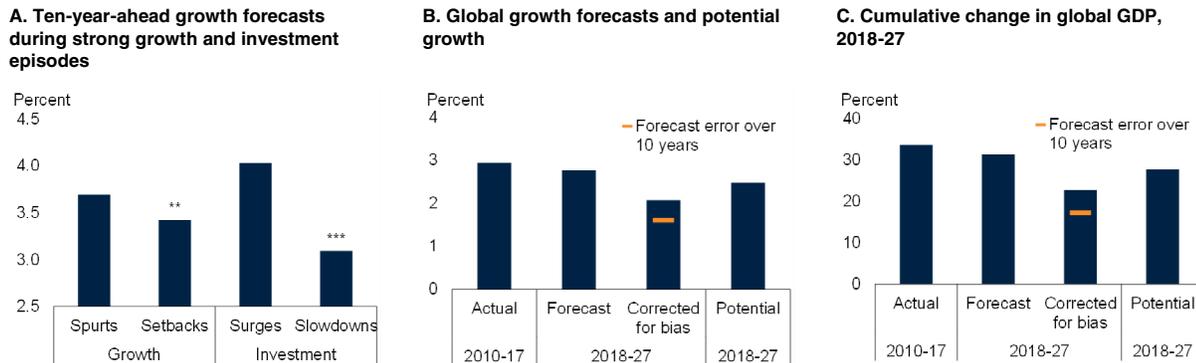
Sources: Consensus Economics, Kilic Celik et al. (2018), World Bank.
Note: For growth forecasts, annual averages of results from multiple surveys conducted in each year are presented.
A. Bars show average growth forecasts during events. *** and ** denote that average forecasts between two events are statistically significantly different at the 1 percent and 5 percent levels, respectively. Sample includes 45 countries for which consensus forecasts are available even over the shorter period. Growth spurt and setback events are defined as, respectively, at least three consecutive years of actual growth above and below potential growth: 55 spurts in 37 countries and 49 setbacks in 36 countries. Investment surge and slowdown events are defined as, respectively, at least three consecutive years of positive and negative investment growth from the previous year: 88 surges in 42 countries and 41 slowdowns in 26 countries.
B.C. Growth in aggregate groups is computed with constant 2010 U.S. dollar GDP weights. Potential growth is measured by production function. Sample includes 38 countries.
B. Actual growth (2010-17) and potential growth (2018-27) are period-averages. A bar for "forecast" is an average of growth forecasts for 2018-27 surveyed in 2018. Bias in forecast is corrected in the following ways: A bar refers to an average of consensus growth forecasts for 2018-27 after an average forecast error for each time horizon (as partly shown in Figure 1.1.2.E) is adjusted; and an orange ticker shows average forecast growth corrected for the average error over 10 years.
C. Cumulative change in global GDP since 2018, when growth in every year during 2018-27 is assumed to be as defined in Panel B.
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out to be 4 percentage points lower should growth instead average its estimated potential rate, and about 9 percentage points lower should growth fall short of consensus forecasts by the average historical forecast error.

The analysis here warns that the recent stabilization in long-term growth prospects may be fleeting. The risk of further adverse shocks and underlying structural weaknesses still suggest an urgent need to press ahead with growth-enhancing policy adjustments—including reforming product and labor markets, raising investment in human capital, and building the policy buffers needed to allow an appropriate counter-cyclical response to shocks when they materialize.

over 2018-2020 (CBO 2018a; CBO 2018b; CBO 2018c; JCT 2017). In all, the stimulus adds just over 1 percentage point to the growth forecast over the next couple of years, but is expected to lead to budget deficits of around 5 percent of GDP for the next decade, up from 3.5 percent in 2017. As a consequence, net federal public debt, currently at about 80 percent of GDP, is set to rise in coming years (Auerbach, Gale, and Krupkin

2018). As fiscal stimulus measures have been introduced and inflation has moved toward target, the Federal Reserve has signaled a faster pace of policy tightening.

Recent trade policy changes are not expected to have a substantial effect on U.S. growth, which is projected to reach 2.7 percent in 2018 and edge down to 2.5 percent in 2019. As fiscal and

monetary stimulus fade, growth is forecast to slow to 2 percent in 2020, above the mid-point of the 1 to 2.4 percent range of estimates of its potential pace (Fernald et al. 2017; World Bank 2018a).

Euro Area

The Euro Area economy grew 2.4 percent in 2017, its fastest increase since the financial crisis, reflecting strong consumption, investment, and exports. However, data releases since the start of 2018 point to decelerating activity (Figure 1.5). Headline inflation stands at 1.2 percent, well under the central bank target of close to, but below, 2 percent. Wages and inflation expectations have edged up intermittently, pointing to incipient signs of rising price pressures. The European Central Bank (ECB) has committed to growing its balance sheet until at least September 2018, with its policy rate remaining unchanged "well past" this date, until inflation is clearly converging toward target (ECB 2018).

Amid continued monetary policy stimulus, growth is projected to be 2.1 percent in 2018. It is forecast to slow to 1.7 percent in 2019 and 1.5 percent in 2020, as slack dissipates, higher oil prices weigh on consumption, monetary accommodation is gradually unwound, and borrowing costs increase. Net exports are also expected to become a drag on near-term growth, as the earlier strengthening of the euro and improving domestic demand translate into a narrowing of the sizable current account surplus. Positive spillovers from expansionary U.S. fiscal policy are expected to be limited. Throughout the projection horizon, growth is projected to remain above the mid-point of the 0.7 to 1.5 percent range of potential growth estimates (ECB 2017; World Bank 2018a).

Japan

Growth in Japan reached 1.7 percent in 2017, underpinned by supportive financial conditions and strong exports, but contracted at the beginning of this year. Nonetheless, unemployment is falling to levels not seen since the 1990s, while the participation rate has increased, primarily due to greater entry of women into the labor force (Figure 1.6). Inflation remains low,

FIGURE 1.4 United States

The U.S. economy remains robust and may be near its productive capacity. Nevertheless, wage growth remains soft, especially compared to previous expansions. Procyclical fiscal stimulus is expected to provide a temporary boost to growth, which has contributed to a rise in the Federal Reserve's policy rate projections.

A. Productive capacity

B. Wage growth during expansions

C. Federal deficit and unemployment rate

D. U.S. Federal Reserve policy rate projections over time
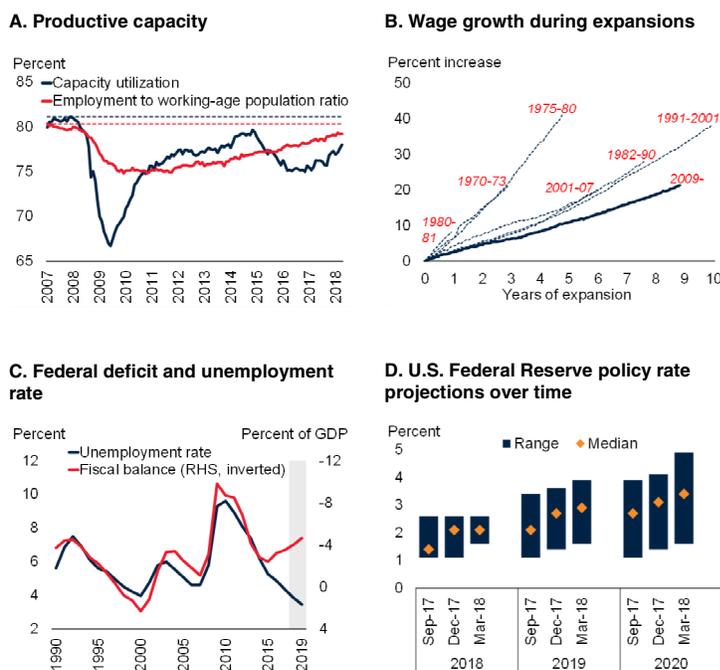
Sources: Board of Governors of the Federal Reserve System, Bureau of Labor Statistics, Congressional Budget Office, Federal Reserve Bank of St. Louis, Haver Analytics, World Bank.
A. The dashed horizontal lines indicate the peak values for capacity utilization and the employment to working-age population ratio in the two years prior to the global financial crisis (i.e., December 2005 to December 2007). The local peak was 81.1 percent for capacity utilization and 80.3 percent for the employment to working-age population ratio. Last observation is April 2018.
B. Wage growth is the average hourly earnings of private, non-farm production, and nonsupervisory employees. Wages have been indexed to the trough of the corresponding National Bureau of Economic Research (NBER) business cycle. Last observation is April 2018.
C. Shaded area indicates forecasts. Forecast for the federal deficit based on the most recent Congressional Budget Office (CBO) baselines. Forecast for the unemployment rate based on World Bank calculations using an Okun's law coefficient of 0.5.
D. Figure shows the minimum-maximum range and median of the federal funds rate projections for 2018, 2019, and 2020 released in September 2017, December 2017, and March 2018. The projections show the median and range of FOMC participants' (i.e., Federal Reserve Board members and Federal Reserve Bank presidents) assessment of the midpoint of the projected appropriate target range for the federal funds rate, or the projected appropriate target level for the federal funds rate at the end of the specified calendar year.
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and wages and inflation expectations have been generally stable, suggesting that monetary policy will likely remain accommodative for some time.

Over the forecast period, growth is expected to decelerate to 1 percent in 2018, 0.8 percent in 2019, and 0.5 percent in 2020, as higher oil prices erode real incomes, employment growth slows, and fiscal consolidation starts to drag on growth, notably due to the effects of the VAT hike

FIGURE 1.5 Euro Area

While data releases since the start of 2018 point to decelerating activity, growth is still above potential. Inflation continues to be below target, though wage growth and inflation expectations have edged up intermittently. The current account surplus remains sizable.

A. Composite PMIs

B. Headline and core inflation

C. Inflation expectations and wage growth

D. Euro Area current account balance
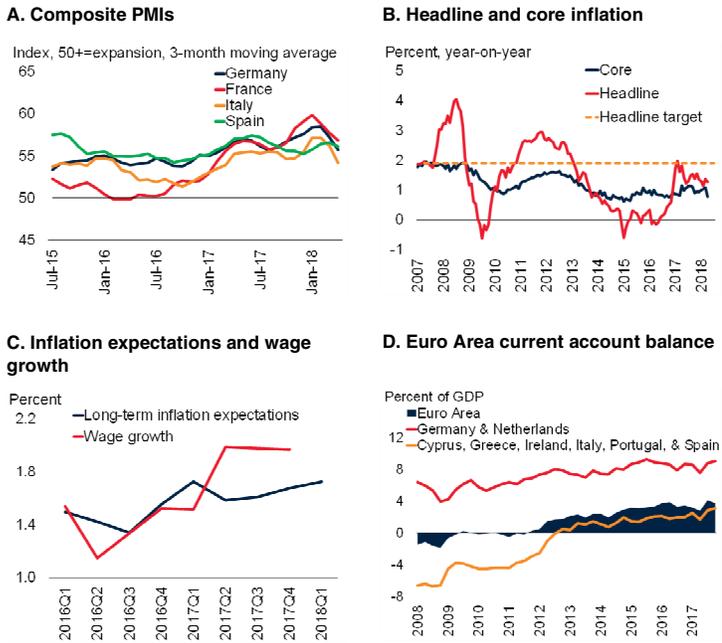
Sources: Bloomberg, European Central Bank (ECB), Haver Analytics, World Bank.
A. Purchasing Managers' Index (PMI) readings above 50 indicate expansion in economic activity; readings below 50 indicate a contraction. Last observation is April 2018.
B. Horizontal line represents 1.9 percent, consistent with the ECB's inflation target of close to, but below, 2 percent. Last observation is April 2018.
C. Long-term inflation expectations are derived from 5-year over 5-year forward swap rates, averaged over the quarter. Wage growth is year-on-year, and includes industry and services, excluding public administration. Last observation is 2018Q1 for inflation expectations and 2017Q4 for wage growth.
D. Aggregates calculated using constant 2010 GDP weights. Last observation is 2017Q4.
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FIGURE 1.6 Japan

Despite a contraction in activity at the start of 2018, the labor market continues to add workers as unemployment falls and the participation rate rises. Increases in earnings have been moderate, and core inflation remains low.

A. Unemployment and labor participation rates

B. Core inflation and wage growth

Sources: Haver Analytics; Japan Ministry of Health, Labor, and Welfare; Japan Ministry of Internal Affairs and Communications.
A. Last observation is March 2018.
B. Average monthly earnings are 12-month moving averages and are the average monthly earnings of workers in companies with 30 or more employees, in all industries. The core CPI index excludes fresh food and energy, and has been adjusted to exclude the impact of Value-Added Tax (VAT) hikes. Last observation is April 2018 for core CPI and March 2018 for average monthly earnings.
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scheduled for late 2019. The long-term growth outlook remains constrained by an aging and shrinking labor force (World Bank 2018a).

China

Growth in China reached 6.9 percent in 2017 and has remained solid this year (Figure 1.7; World Bank 2018b). Activity continues to shift to consumption, while investment growth rates remain well below those in recent years. Industrial production has stabilized following significant cuts in overcapacity sectors implemented over the past two years. In the first quarter of 2018, China recorded its first current account deficit since 2001.

During the first half of 2018, fiscal policy has become less expansionary, while monetary and prudential policies continue to rein in excessive credit growth, especially shadow financing. The stock of outstanding debt is high, although the largest component—credit to non-financial corporations—has been declining as a share of GDP (BIS 2018a). Tight housing market regulations have contributed to some correction in the housing sector. Consumer price inflation remains below target, and producer price inflation has moderated. Tight enforcement of capital flow management measures continues to limit capital outflows and exchange rate pressures.

China's growth is projected to edge down to 6.5 percent in 2018 and slow further to 6.3 percent on average in 2019-20, as export growth moderates and deleveraging takes hold. In addition, policy accommodation is expected to further diminish as authorities continue to tighten macroprudential regulation and gradually remove their supportive fiscal stance. Downside risks to the outlook stem from financial sector vulnerabilities and an intensification of trade tensions amid increased protectionism in key trading partners.

Global trends

Global trade was robust last year, benefiting from an upturn in capital spending and manufacturing activity. It is expected to moderate over the forecast

period amid decelerating global investment. Financing conditions are expected to tighten more rapidly than previously envisioned, along with the possibility of faster normalization of monetary policy in major advanced economies, in part because of expanded U.S. fiscal stimulus measures. Capital flows to EMDEs have eased amid rising borrowing costs and are likely to further moderate. Oil prices are substantially higher than previously expected, and other commodity prices have also risen. While near-term projections for commodity prices have been revised up, they are expected to level off later in the forecast horizon.

Global trade

Following a prolonged period of marked weakness, a cyclical recovery in global manufacturing and investment propelled global goods trade growth to 4.6 percent in 2017, three times the pace observed the previous year. The momentum remained sustained in early 2018, despite easing export orders (Figure 1.8). Services trade also gained strength last year. Since the global financial crisis, services trade has grown at a faster pace and continues to have the largest untapped potential for future growth (Georgieva, Loayza, and Mendez-Ramos 2018; Lodefalk 2017; Miroudot and Cadestin 2017).

Overall, growth in global trade of goods and services combined is expected to moderate to 4.3 percent in 2018, down from a six-year high of 4.8 percent in 2017. These projections have been revised up due to stronger-than-expected intra-regional trade growth in Asia and import demand from major advanced economies. The additional fiscal stimulus in the United States is expected to lift U.S. import growth, benefiting key U.S. trading partners. Although benefits from the strength of global trade are broad-based across EMDE regions, they were most pronounced in East Asia and Pacific and Eastern Europe and Central Asia. Export growth in these two regions peaked in 2017 and is forecast to remain robust in 2018-19. More generally, a projected deceleration of capital spending in China and in most advanced economies will contribute to more moderate global trade growth over the forecast horizon (Freund 2018; Auboin and Borino 2017).

FIGURE 1.7 China

Growth in China remains solid and rebalancing continues, amid robust consumption and a slowdown in investment. In the first quarter of 2018, China recorded its first current account deficit since 2001. Stricter enforcement of capital flow management measures has helped ease capital outflows and exchange rate pressures. Credit growth continues to decline because of regulatory tightening.

A. Contribution to growth

B. Investment growth

C. Balance of payments

D. Credit growth
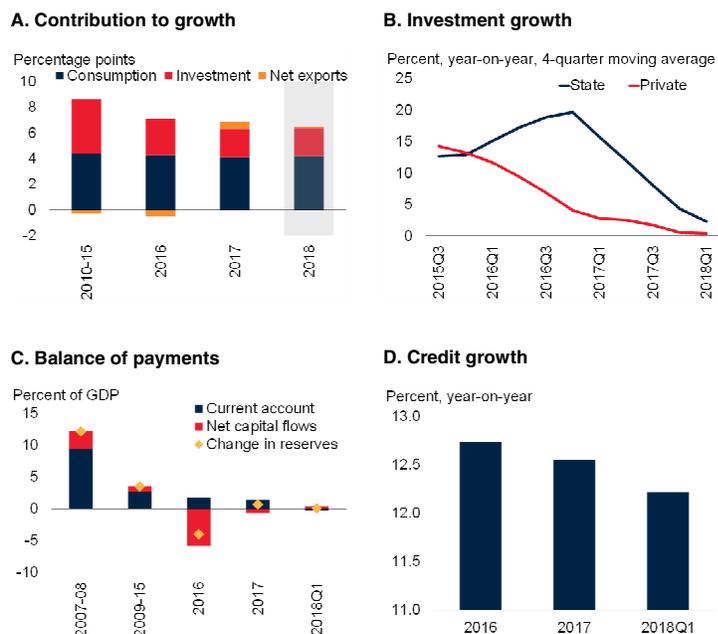
Sources: China National Bureau of Statistics, Haver Analytics, International Institute of Finance, People's Bank of China, World Bank.
A. Shaded area indicates forecasts. Investment refers to gross capital formation, which includes change in inventories.
B. Investment refers to fixed asset investment (urban area). Deflated by fixed asset investment price index. Last observation is 2018Q1.
C. Current account balance is based on seasonally adjusted data. Net capital flows and change in reserves are estimates. Last observation is 2018Q1 for the current account balance.
D. Credit refers to total loans in domestic and foreign currency. Last observation is 2018Q1.
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Over the medium term, structural factors—including slower growth of global value chains and a reduced appetite for further trade liberal-ization—will continue to constrain global trade growth. These factors have contributed to the decline in the long-run income elasticity of trade over the last decade.

On trade policy front, the outcome of some trade negotiations is still uncertain, and the risk of escalating trade restrictions has intensified, as new tariff announcements by the United States have led to retaliatory responses by major trading partners. In other policy developments, the European Union and the United Kingdom reached agreement on guidelines for trade

FIGURE 1.8 Global trade

Goods trade was particularly strong in 2017, supported by solid flows in Asia and Europe, while services trade also recovered. However, trade growth is moderating and should continue to ease in 2019-20 as global investment decelerates, while structural factors are still weighing on the income elasticity of trade. Trade flows between the United States and China have been the subject of intense policy discussions.

A. Global goods trade growth, volumes
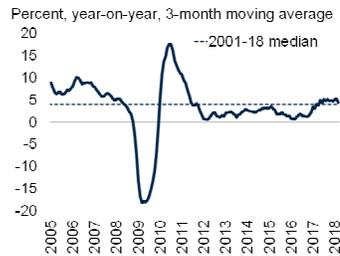
B. Goods trade growth between major regions in 2017, values

C. Global goods and services trade, values
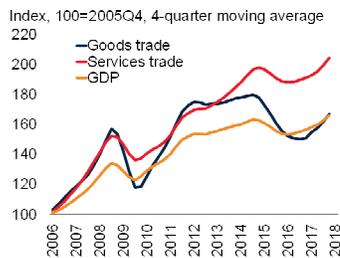
D. Global trade and investment growth, volumes

E. Income elasticity of trade
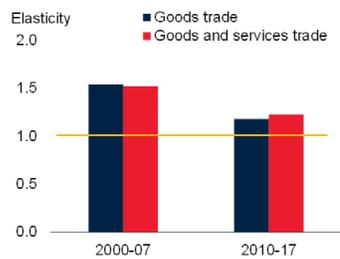
F. Trade flows between the United States and China
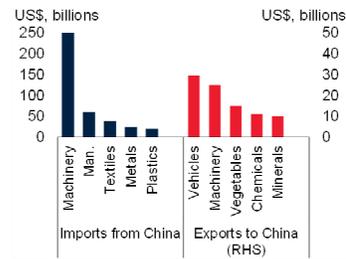
Sources: CPB Netherlands Bureau for Economic Policy Analysis, International Monetary Fund, U.S. Census Bureau, World Bank, World Trade Organization (WTO).

A. Dashed horizontal line indicates the historical median, which is computed from January 2001 to March 2018. Last observation is March 2018.

B. Global trade growth from 2016 to 2017. Average of export and import values. Bilateral trade flows measured using the Direction of Trade Statistics. Last observation is December 2017.

C. Trade measured as the average of export and import values. GDP measured in current U.S. dollars. Data are 4-quarter moving averages, indexed to 100 in 2005Q4. Last observation is 2017Q4.

D. Trade measured as the average of export and import volumes. Shaded area indicates forecasts.

E. Income elasticity measured as the ratio of real trade growth to real GDP growth. Horizontal line denotes an income elasticity of one, which would indicate a proportional relationship between income and trade.

F. Figure shows top five traded goods categories based on 2017 trade values in U.S. dollars. Man. denotes miscellaneous manufactured goods, plastics refers to plastic and rubber goods, and metals is base metals.

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negotiations, the U.S.-Korea Free Trade Agreement was successfully re-negotiated, the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) was signed by 11 member countries, and leaders from more than 40 African nations endorsed a framework establishing a future African Continental Free Trade Area.

Financial markets

Following a prolonged period of stable and exceptionally favorable global financing conditions, prospects of a faster withdrawal of monetary policy accommodation in advanced economies have led to rising global borrowing costs since the start of 2018. In particular, U.S. long-term yields have hovered around 3 percent, their highest level since mid-2014, as inflation expectations picked up and markets factored in the possibility of accelerated interest rate hikes by the Federal Reserve, amid expanded U.S. fiscal stimulus measures (Figure 1.9). This reassessment—along with fears of escalating trade tensions and rising geopolitical risks—contributed to bouts of volatility in global equity markets in the first half of 2018. Concerns in some advanced economies about overstretched stock valuations, as well as the increasing use of complex derivatives allowing investors to make bets on volatility, have also amplified price movements (BIS 2018b).

Looking forward, global interest rates are expected to rise at a faster pace than previously predicted, as upward revisions to the U.S. growth outlook lead to a somewhat steeper pace of U.S. interest rate hikes in 2019-20 (FOMC 2018). Above-trend growth and narrowing economic slack will also lead to further monetary policy normalization in other advanced economies. Policy interest rates in the Euro Area and Japan are not expected to increase before 2019, but a drawdown of net asset purchases by major central banks is projected to put upward pressure on global long-term yields. In particular, the European Central Bank is expected to bring its asset purchase program to a close by the end of 2018, and the U.S. Federal Reserve is on track to shrink its balance sheet by 4 percent of GDP by the end of 2020. The latter reduction could add a cumulative 40 basis points to U.S. long-term yields over the same period (Bonis, Ihrig, and Wei 2017).

A rise in global interest rates, combined with U.S. dollar appreciation, have contributed to tighter external financing conditions for EMDEs in 2018. In particular, some EMDE currencies have fallen sharply. More generally, capital inflows to EMDEs have decelerated. During recent periods of financial market volatility, EMDEs experienced portfolio outflows, reminiscent to those during previous episodes. Credit quality has continued to deteriorate, leading to further debt rating downgrades in several countries in 2018. Although appetite for higher-yielding EMDE debt has diminished and borrowing costs have increased, international bond issuance remains robust, so far matching the record levels observed in 2017. The pace of international debt issuance is currently driven by corporate borrowing in China and a significant uptick in sovereign issuance in Sub-Saharan Africa.

Foreign direct investment (FDI) flows to EMDEs continue to be subdued, as flows to China remain below their long-term trend and the recent recovery in commodity prices has not been sufficient to stimulate a significant revival of investment in resource sectors. Increased partici-pation in more complex global value chains could foster stronger FDI in many countries, particularly in Sub-Saharan Africa (World Bank et al. 2017; Amendolagine et al. 2017). Over the forecast horizon, capital flows to EMDEs are expected to further moderate, as global financing conditions continue to tighten. Investors are also likely to increasingly differentiate among countries, depending on their exposure to rising interest rates and currency pressures.

Commodities

Crude oil prices rose 10 percent in the first quarter of 2018 and have averaged $67 per barrel (bbl) over the first half of 2018 (Figure 1.10). Oil demand has been robust, with consumption increasing 1.6 million barrels per day (mb/d), or 1.6 percent, in the first quarter of 2018 from a year earlier. An agreement between most Organization of the Petroleum Exporting Countries (OPEC) members and some non-OPEC oil producers to extend output cuts to the end of 2018 boosted prices in late 2017 and into 2018—despite further increases in U.S. oil

FIGURE 1.9 Global finance

U.S. long-term yields have increased this year, reflecting rising inflation expectations and prospects of a faster pace of U.S. interest rate hikes. This contributed to bouts of stock market volatility, higher borrowing costs, and capital outflows in EMDEs. However, EMDE debt issuance remained solid, so far matching record levels reached in 2017. As global bond yields are expected to continue to increase, capital inflows to EMDEs are likely to moderate further.

A. U.S. yield curve since the start of the tightening cycle in December 2015
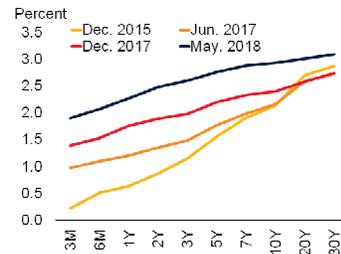
B. Global equity market

C. Long-term U.S. and EMDE bond yields

D. EMDE portfolio flows during selected episodes
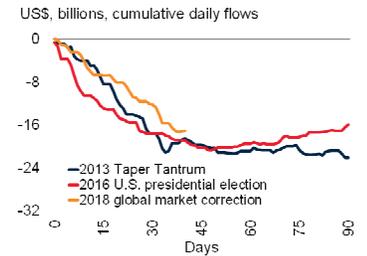
E. EMDE international bond issuance
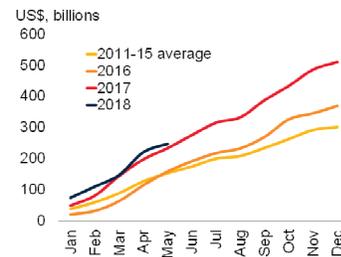
F. Capital inflows to EMDEs
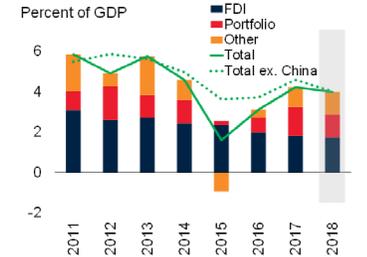
Sources: Bloomberg, Dealogic, Federal Reserve Bank of St. Louis, Haver Analytics, Institute of International Finance, J.P. Morgan, U.S. Department of the Treasury, World Bank.
A. Yield values from the yield curve at fixed maturities, from 3 months to 30 years. Last observation is May 25, 2018.
B. World MSCI indices are weighted benchmarks that use large- and mid-cap securities in emerging and developed markets, respectively, in order to reflect market conditions across relevant regions and sectors. Volatility is measured by the VIX implied volatility index of option prices on the U.S. S&P 500. Last observation is May 25, 2018.
C. EMDE long-term yields are estimated using the U.S. 10-year treasury yield augmented by J.P Morgan's Emerging Market Bond spread (excluding Venezuela). Last observation is May 21, 2018.
D. Horizontal axis indicates number of days of outflows since event. The 2018 global market correction starts on April 15, 2018. Last observation is May 25, 2018.
E. Last observation is May 2018.
F. Shaded area indicates forecasts. Total non-resident inflows. The 23 EMDEs in the sample include Argentina, Brazil, Chile, China, Colombia, Egypt, Hungary, India, Indonesia, Lebanon, Malaysia, Mexico, Nigeria, Philippines, Poland, Russia, Saudi Arabia, South Africa, Thailand, Turkey, United Arab Emirates, Ukraine, and Venezuela.
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FIGURE 1.10 Commodity markets

Crude oil prices rose substantially over the first half of 2018 amid robust demand and supply concerns related to recent geopolitical developments, despite rising U.S. oil production. Metals prices increased in the first half of the year following a pickup in demand from China. Grain stocks, in general, remain very high, which will continue to weigh on agricultural prices, while soybean production has fallen substantially.

A. Crude oil prices
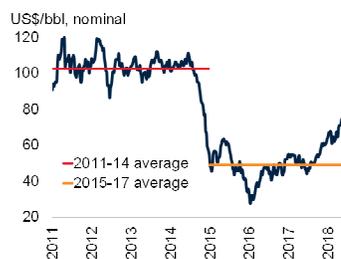
B. Contribution to oil consumption growth

C. Crude oil production
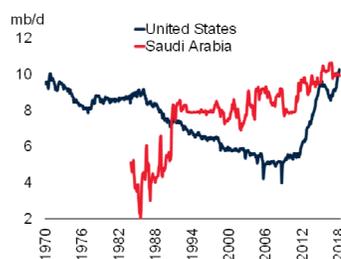
D. Contribution to metals demand growth
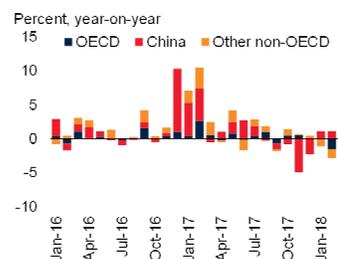
E. Soybean production
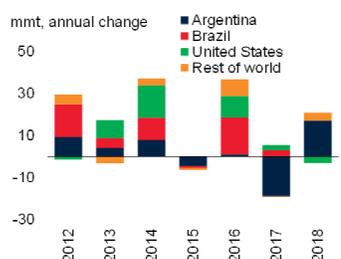
F. Stocks-to-use ratios of main grains
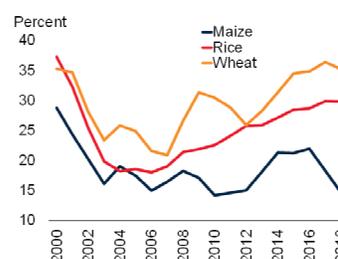
Sources: Bloomberg, Energy Information Administration, International Energy Agency, U.S. Department of Agriculture, World Bank, World Bureau of Metal Statistics.
A. Average of Brent, Dubai, and WTI. Weekly data. Last observation is May 25, 2018.
B. Shaded area (2018Q2-2018Q4) represents IEA projections.
C. Data for Saudi Arabia are unavailable before 1984. Last observation is April 2018 for Saudi Arabia and February 2018 for the United States.
D. Last observation is March 2018.
E.F. Data reflect the May 10, 2018 update of the USDA's *World Agricultural Supply and Demand Estimates*. Years represent crop seasons (e.g., 2016 refers to 2016-17 crop season).
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production, which reached an estimated 10.6 million barrels per day in April.

Geopolitical concerns boosted the price of Brent crude in May to $80/bbl, its highest level since

2014, after the U.S. government announced that it would reinstate sanctions on the Islamic Republic of Iran. Although there is considerable uncertainty regarding the ultimate impact of the sanctions, it is possible that they will reduce Iranian exports by several hundred thousand barrels per day. The rise in oil prices was partially reversed in late May on news that Saudi Arabia and Russia were discussing an easing of production caps, by up to 1mb/d, given concerns about weaker oil supply and higher prices.

Oil prices are expected to average $70/bbl in 2018 and $69/bbl in 2019, up $12/bbl in 2018 and $10/bbl in 2019 relative to January forecasts. Upside price risks primarily arise from geopolitical developments involving key oil-producers in the Middle East and North Africa—particularly those related to the reinstatement of sanctions on Iran. In addition, the recent imposition of sanctions on República Bolivariana de Venezuela could lead to further declines in Venezuelan oil production, where output has already fallen 0.9 mb/d over the past two years. Downside price risks include a loosening of the OPEC/non-OPEC planned cuts, which could be decided at the June OPEC meeting; faster-than-expected U.S. shale oil production; or lower demand for oil as a result of higher prices.

Metals prices, which increased 24 percent in 2017 due to robust global demand and environmentally-driven supply cuts in China, rose modestly in the first quarter of 2018. Prices posted further gains in April, after the imposition of U.S. sanctions on a large Russian aluminum producer. Metals prices are expected to increase 9 percent in 2018, reflecting strong demand, but then moderate in 2019. Upside risks to prices include stricter pollution-control policies in China or stronger-than-expected demand, since China accounts for about half of global metals consumption (Special Focus 1). A broadening of sanctions on key metals producers could also lead to higher prices.

Agricultural prices gained 4 percent during the first half of 2018 compared to a year earlier, following three years of price stability. The price uptick was primarily driven by lower plantings of

wheat and maize in the United States, as well as some weather-related disruptions to soybean production in South America. Lower plantings have contributed to a decline in stocks-to-use ratios—a measure of global supply availability relative to demand—for some grains. However, these remain high by historical standards, reducing the likelihood of a food price spike.

Emerging and developing economies: Recent developments and outlook

EMDE growth is expected to reach 4.5 percent in 2018. The rebound in commodity exporters has continued, and activity in commodity importers remains robust. Beyond this year, however, EMDE growth is projected to strengthen only slightly, approaching its potential pace, as the recovery in commodity exporters matures. Over the forecast horizon, commodity exporters and importers will see uneven progress in per capita income growth, which is projected to remain subdued in Sub-Saharan Africa.

Recent developments

Growth in EMDEs accelerated to 4.3 percent in 2017 and has generally continued to firm in 2018. This reflects an ongoing cyclical upturn in commodity exporters, whose contribution to overall EMDE growth is rising, as well as robust activity in commodity importers (Figure 1.11).

The recovery in commodity exporters has broadened, as investment has strengthened amid higher commodity prices, rising corporate earnings, and supportive monetary policies. Private consumption growth has also firmed, benefiting from improving labor markets and rising household income amid moderating inflation. Trade flows have risen, although by varying degrees. In commodity importers, growth remains strong, supported by robust domestic demand and solid exports. Activity in EMDEs excluding China has firmed, led by countries in Europe and Asia, which have particularly benefited from the recovery of global manufacturing, investment, and trade.

Recent economic activity data and sentiment indicators across EMDEs—including confidence, industrial production, and purchasing managers indexes (PMIs)—have remained mostly solid. However, some are showing signs of softening, partly reflecting country-specific developments. In particular, confidence has deteriorated in some large EMDEs that have recently experienced financial market stress.

Commodity-exporting EMDEs

After a strong rebound in 2017, activity in commodity exporters has continued to pick up in 2018 (Figure 1.12). The recovery is expected to continue in a majority of countries in this group. Almost all economies that experienced a recession in the past two years—about 20 percent of commodity exporters in 2016 and about 10 percent in 2017—are expected to see positive growth this year.

Many commodity exporters have eased monetary policy as inflation moderates (e.g., Azerbaijan, Brazil, Colombia, Kazakhstan, Mozambique, Peru, Russian Federation, Uganda, South Africa, Zambia). Although fiscal consolidation continues, its pace has generally diminished as revenues from commodity exports increased. Higher commodity prices and robust trade have supported the ongoing recovery.

Against this backdrop, investment is rebounding in more than two thirds of commodity exporters. This partly reflects increased commodities production (e.g., Chile, Nigeria, Peru), as well as large infrastructure investment programs (e.g., Colombia, Côte d'Ivoire, Qatar, Saudi Arabia, Senegal, United Arab Emirates). Private consumption is also recovering (e.g., Armenia, Azerbaijan, Brazil, Kazakhstan, Russia, South Africa, United Arab Emirates, Zambia), boosted by wage gains, improving labor markets, and stronger consumer purchasing power amid moderating inflation and firming currencies. To varying degrees, export and import growth in commodity exporters have generally continued to recover, as domestic demand strengthens and global trade remains robust.

FIGURE 1.11 Activity in EMDEs

EMDE growth has generally continued to strengthen, mainly reflecting the ongoing cyclical recovery in commodity exporters. Domestic demand, particularly investment, has firmed in commodity exporters and remains robust in commodity importers. High-frequency indicators have for the most part remained solid, but they are showing signs of softening.

A. Growth
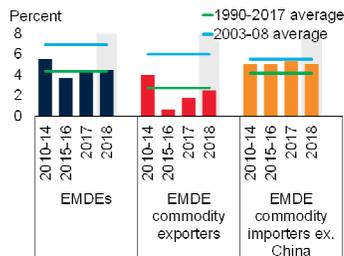
B. Contribution to EMDE growth
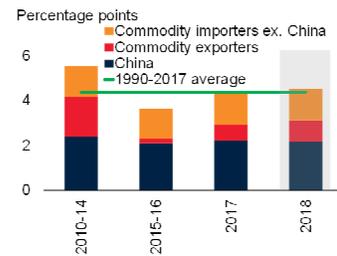
C. GDP and demand component growth
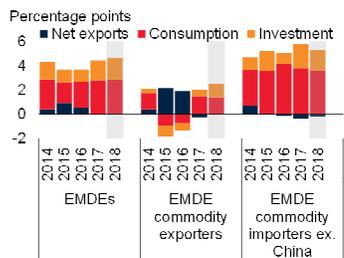
D. Business confidence
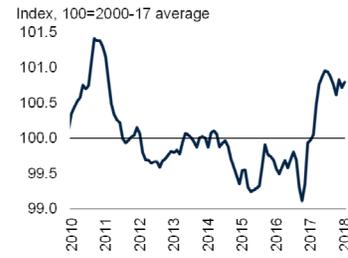
E. Industrial production growth
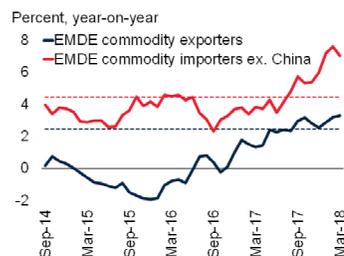
F. Manufacturing PMIs
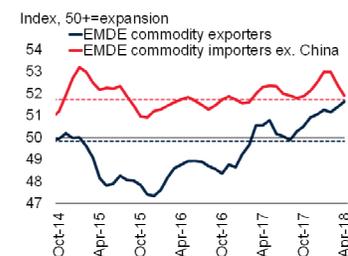
Sources: Haver Analytics, Organisation for Economic Co-operation and Development, World Bank.
A.-C. Shaded areas indicate forecasts. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights.
B. Horizontal line indicates EMDE average.
D. Median of confidence index for Brazil, Chile, Colombia, Hungary, Indonesia, India, Mexico, Poland, Russia, Turkey, and South Africa. Confidence is normalized through amplitude adjustments, such that any cyclical movements have the same amplitude and the long-term average of a respective country series is equal to 100. Last observation is April 2018.
E.F. Figures show 3-month moving averages.
E. Dashed horizontal lines indicate 1995-2017 averages. Last observation is March 2018.
F. PMI = Purchasing Managers' Index. Readings above 50 indicate expansion in economic activity; readings below 50 indicate contraction. Dashed horizontal lines indicate January 2012-April 2018 averages. Last observation is April 2018.
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Among the largest commodity exporters, supportive policies in Brazil continue to underpin a recovery of domestic demand (World Bank 2018c). In Russia, growth has remained stable,

albeit lackluster, as the impact of oil production cuts and policy uncertainty has been offset by more accommodative monetary policy and higher oil prices (World Bank 2018d). In South Africa, the political transition and economic reform initiatives have supported investor confidence and contributed to stronger activity this year (World Bank 2018e). Recent indicators for these economies have, however, been mixed, highlighting lingering headwinds.

The cyclical recovery continues in several other large commodity exporters with negative output gaps (e.g., Azerbaijan, Colombia, Saudi Arabia, United Arab Emirates; World Bank 2018d, World Bank 2018f). In particular, in oil-exporting economies that implemented significant reductions in oil production in 2017 (e.g., Algeria, Iraq, Kuwait), growth has been recovering this year, reflecting diminishing fiscal adjustment amid substantially higher oil prices and easing oil production cuts (World Bank 2018f). In contrast, activity remains weak in energy exporters that delayed policy adjustment to the earlier terms-of-trade shock, or that face country-specific challenges such as exchange rate misalignments, social tensions, and security issues (e.g., Equatorial Guinea, Venezuela). In all, growth in many energy exporters continues to lag that of exporters of other commodities.

Activity continues to show resilience in a number of more diversified economies and agriculture exporters (e.g., Benin, Burkina Faso, Côte d'Ivoire, Ethiopia, Indonesia, Malaysia, Morocco, Senegal, Uganda; World Bank 2018e). Supported by higher metals prices, growth among metals exporters continues to improve, albeit at varying degrees, reflecting country-specific conditions. In some economies, temporary disruptions previously weighing on growth (e.g., policy uncertainty in Peru, mining strikes in Chile) have dissipated. In others, new mines are coming on stream and investment into existing mines continues (e.g., Armenia, Mongolia, Zambia).

Commodity-importing EMDEs

Growth in commodity importers remains strong, although it is moderating somewhat this year

(Figure 1.13). With output gaps closed, or in many cases positive, capacity constraints are becoming increasingly binding. Accommodative policies and solid labor markets have continued to support domestic demand in a number of economies. However, with price and wage pressures rising, and amid markedly higher oil prices, several large commodity importers have begun to tighten policies (e.g., Georgia, Pakistan, the Philippines, Romania, Turkey). The moderation in activity is most notable in countries where highly accommodative policies are being scaled back or financial markets have shown signs of strain.

Aggregate investment in commodity importers excluding China remains solid, partly reflecting a cyclical rebound in Mexico and Thailand, where it was previously held back by country-specific factors (World Bank 2018b). In India, investment growth has firmed recently, as the effects of temporary factors wane. Still robust sentiment and support from European Union structural funds are bolstering investment in Europe and Central Asia. Investment in EMDEs in Asia is receiving an additional boost from pan-Asian infrastructure initiatives, supported by the China-led Belt and Road initiative (e.g., Bangladesh, Cambodia, Pakistan, Sri Lanka; World Bank 2018b; World Bank 2018g).

Trade flows have continued to firm this year, although to varying degrees, reflecting strong global manufacturing activity, trade, and investment, as well as stronger intra-regional trade, especially in emerging Asia and Europe. Robust investment and exports are boosting demand for imports of machinery, equipment, and intermediate goods.

Positive trade and financial spillovers from stronger Euro Area growth and steady activity in Russia are supporting activity in Europe and Central Asia, and in the Middle East and North Africa (e.g., Belarus, Bosnia and Herzegovina, Bulgaria, Arab Republic of Egypt, Georgia, Hungary, Jordan, former Yugoslav Republic of Macedonia, Moldova, Poland, Romania, Tunisia). Asian economies continue to benefit from robust growth in China and India, including resurgent trade and substantial infrastructure investment (e.g., Cambodia, Maldives, Sri Lanka, Thailand,

FIGURE 1.12 Activity in EMDE commodity exporters

The recovery in commodity exporters continues to reflect improvements in large economies, but it is also broad-based across countries. Investment is strengthening amid higher commodity prices and greater monetary policy accommodation. Despite a notable increase in energy prices, growth in many energy exporters continues to lag behind that of other commodity exporters, mainly due to ongoing production cuts.

A. Contribution to growth
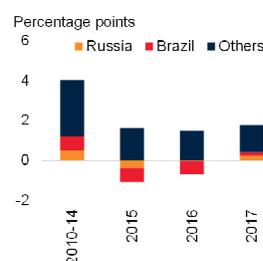
B. Share of commodity exporters with increasing/decreasing growth
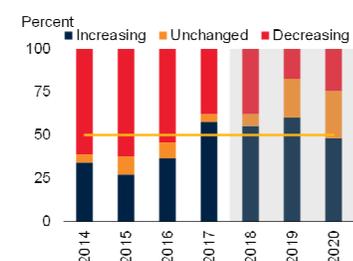
C. Contribution to investment growth
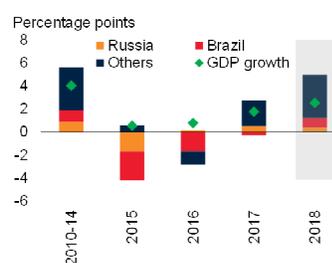
D. Growth
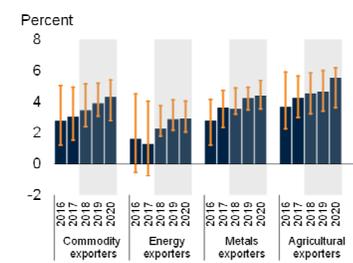
Source: World Bank.
A.-D. Shaded areas indicate forecasts.
A.B. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights.
B. Sample includes 85 commodity-exporting EMDEs. Increasing/decreasing growth are changes of at least 0.1 percentage point from the previous year. Countries with a slower pace of contraction from one year to the next are included in the increasing growth category.
C. Investment refers to fixed asset investment.
D. Simple average of GDP growth. Orange lines indicate interquartile ranges of growth in each group.
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Vietnam). In Latin America, growth in Mexico is improving, reflecting positive spillovers from strong U.S. growth, which have been offsetting the uncertainties related to the renegotiation of NAFTA and upcoming elections.

Low-income countries

The economic recovery among low-income countries (LICs) is firming (Box 1.2). Among metals exporters, mining production is increasing, as new projects come onstream and investment in the expansion of existing mines continues, encouraged by the recovery in metals prices (e.g., Democratic Republic of Congo, Guinea). Oil

BOX 1.2 Low-income countries: Recent developments and outlook

Growth in low-income countries is expected to rise to 5.7 percent in 2018 and to an average of 6.1 percent in 2019-20, from 5.5 percent in 2017. This upswing reflects rising mineral production, spurred by higher oil and metals prices, improving agricultural output, and continued infrastructure investment. However, poverty headcounts are projected to decline only slightly. The main downside risks to the outlook are lower commodity prices, heightened policy uncertainty, and weak implementation of reforms.

Recent developments

Economic activity has strengthened in most low-income countries (LICs), helped by favorable external conditions (Figure 1.2.1).[1] Among metals exporters, mining production has risen, as new projects came on stream and investment in the expansion of existing mines continued, encouraged by higher metals prices (e.g., Democratic Republic of Congo, Guinea). Nevertheless, in some cases, high government debt levels are weighing on activity (e.g., Mozambique, Sierra Leone). Among non-resource-intensive countries, the economic pickup is supported by improving agricultural output following droughts and continuing infrastructure investment (e.g., Rwanda, Uganda). In some countries, rising household spending, helped by low inflation and recovering remittance flows, has underpinned the economic expansion, along with some improvement in political stability (e.g., The Gambia, Haiti). However, oil exporters (e.g., Chad) are struggling to emerge from recession as they continue to adjust to the sharp decline in oil revenues.

Poverty levels are high in most LICs. Nearly half of the population in LICs continues to live below the international poverty line—$1.90 a day, at 2011 purchasing power parity (PPP) exchange rates. The proportion of the LICs' population below the poverty line is higher in Sub-Saharan Africa (SSA) than in other regions, reflecting the relatively slow decline in poverty levels among fragile countries and metals exporters in SSA (Beegle et al 2016).

Note: This box was prepared by Gerard Kambou. Research assistance was provided by Xinghao Gong.

[1] For the current 2018 fiscal year, low-income economies are defined as those with a gross national income (GNI) per capita, calculated using the World Bank Atlas method, of $1,005 or less in 2016.

Current account deficits are widening in many countries. They are rising among metals exporters, reflecting the effects of a pickup in import-intensive mining investment. In non-resource-intensive countries, these deficits are expected to widen, as import growth remains strong due to high public investment levels. However, in oil exporters, the marked improvement in current account deficits in 2017 is expected to continue, helped by higher oil prices and subdued import growth due to soft domestic demand. Foreign reserve positions have gradually improved. However, in many countries, foreign reserves are well below the three-month-of-imports benchmark, indicating continued vulnerability to terms-of-trade shocks.

Exchange rates have been broadly stable in real effective terms, reflecting tight domestic policies in some countries. Remittances have also rebounded, following two years of decline (World Bank 2017b). Non-oil foreign direct investment flows have risen in some countries (e.g. Ethiopia, Guinea), and portfolio inflows have continued, led by sovereign bond issuances (e.g., Senegal). Inflation continues to fall across LICs, helped by declining food prices, prompting central banks in some countries to further cut interest rates (e.g., Mozambique, Uganda). However, inflationary pressures are high in several countries, owing to currency depreciations (e.g., Democratic Republic of Congo, Ethiopia, Liberia).

Fiscal deficits have gradually narrowed across LICs. The improvement reflects strong fiscal adjustment in some oil exporters (e.g., Chad), and an increase in domestic revenue among non-resource-intensive countries where commodity revenues account for a smaller share of total revenue. Fiscal deficits remain elevated among metals exporters, as governments struggle to raise revenue and control spending.

Debt levels are high and rising across a wide range of LICs, especially in SSA (IMF 2018). This is raising

BOX 1.2 Low-income countries: Recent developments and outlook (*continued*)

FIGURE 1.2.1 Recent developments in low-income countries

The rebound in activity in low-income countries (LICs) has continued. Output and investment have picked up in oil and metals exporters, encouraged by higher commodity prices. Fiscal and current account deficits are narrowing among oil exporters, reflecting strong fiscal adjustment, but are rising among metals exporters due to high expenditure and import levels. In non-resource-intensive countries, rising domestic revenue is helping reduce fiscal deficits, but current account deficits are widening, as import demand remains strong. Debt burdens are high, especially among metals exporters. The poverty headcount is also high among metals exporters, reflecting persistently low per capita growth.

A. Growth

B. Investment growth

C. Current account balance

D. Fiscal balance

E. Government debt

F. Poverty
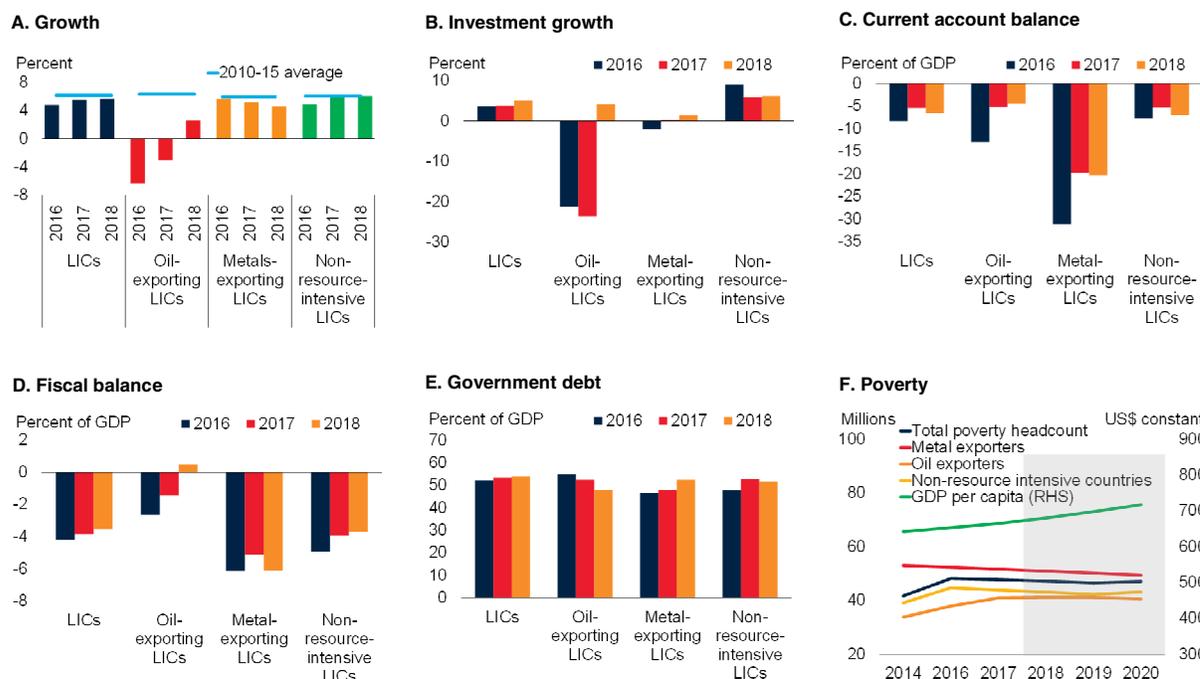
Sources: Haver Analytics, International Monetary Fund, World Bank.
Notes: LICs = low-income countries. Non-resource-intensive countries include agricultural-based economies and commodity importers.
A. GDP-weighted averages.
B.-E. Median of country groups.
F. Based on the international poverty line of $1.90 a day, at 2011 purchasing power parity (PPP) exchange rates. Shaded area indicates forecasts.
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concerns about debt sustainability in some countries (Devarajan 2018). Debt levels among metals exporters are increasing, reflecting previously undisclosed borrowing in Mozambique and low domestic revenue in other economies (e.g., Liberia, Sierra Leone). Although fiscal consolidation efforts are helping to stabilize debt levels among oil exporters, the debt burden remains high in some of them (e.g., Chad). A large part of Chad's debt is owed to commercial creditors. Debt levels among non-resource-intensive countries are also elevated (e.g., The Gambia), and continue to rise in some cases (e.g., Ethiopia). In The Gambia, the deteriora-

tion in the debt-to-GDP ratio partly reflects governance issues, including the weak management of state-owned enterprises. In Ethiopia, low public saving rates and high public investment are contributing to the increase in government debt. The high and rising debt levels point to the need for significant fiscal consolidation, as well as higher domestic revenue in a number of LICs.

Outlook

Growth in LICs is expected to pick up to 5.7 percent in 2018, and strengthen to an average of 6.1 percent in 2019-20, slightly below the level reached earlier in

BOX 1.2 Low-income countries: Recent developments and outlook (*continued*)

the decade (Figure 1.2.2). This upswing is predicated on firming commodity prices and policy actions to tackle macroeconomic imbalances. These forecasts are higher than in January, and reflect a stronger-than-expected recovery in some metals exporters, as higher metals prices help boost mining production. In metals exporters such as Mozambique, growth will remain subdued, reflecting the effects of rising debt levels on investor sentiment. The recovery in oil exporters will also be slower than previously envisioned, as the fiscal adjustment that is still needed to stabilize government debt is expected to weigh on growth.

Growth among non-resource-intensive countries is expected to remain robust, supported by increasing agricultural production, high public investment levels, and rising remittance flows, with the larger economies expanding at a faster pace. Although growth in Ethiopia—the largest LIC—is projected to soften as policy tightens to contain inflationary pressures, it will remain high. In some smaller economies (e.g., The Gambia, Haiti), improved political stability will allow for a modest pickup in activity, as opportunities for reforms boost investor sentiment; however, in fragile countries, security concerns will continue to weigh on investment (e.g., Afghanistan, Burundi). In Malawi, growth is expected to be lower than anticipated, reflecting the adverse effects of a dry spell and the spread of the fall armyworm—a pervasive agricultural pest—on food production.

Per capita GDP growth is projected to rise from 1.6 percent in 2017 to 2.3 percent in 2018, and to an average of 2.5 percent in 2019-20. Nonetheless, the effect on poverty alleviation seems likely to be subdued. The poverty headcount among LICs is projected to decrease only modestly, and decline most slowly among fragile countries and metals exporters in SSA. Higher population growth is worsening the poverty headcount. Furthermore, growth for a significant proportion of LICs in SSA centers around capital-intensive sectors, which contribute less to poverty reduction (Bhorat and

FIGURE 1.2.2 Outlook

The ongoing recovery in LICs is expected to pick up further this year and firm in 2019-20, reflecting a gradual rebound among oil and metals exporters and continued robust growth in non-resource-intensive countries. However, per capita income growth will recover only slowly among oil exporters and remain modest among metals exporters.

A. GDP growth forecasts
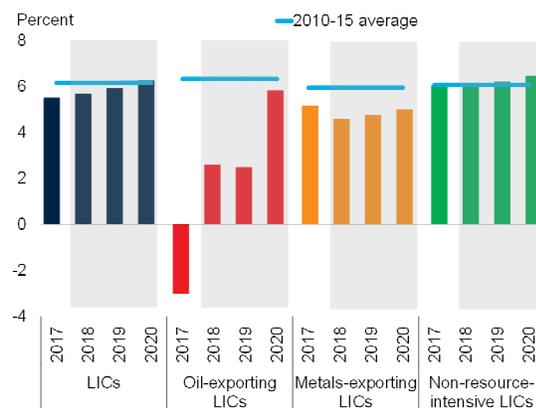
B. Per capita GDP growth
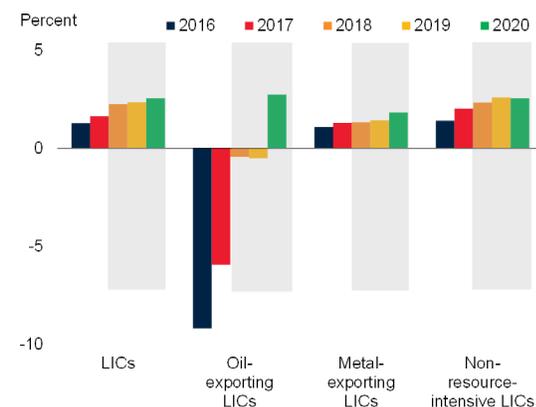
Source: World Bank.
Note: Shaded area indicates forecasts.
A. GDP-weighted averages.
B. Median of country groups. Non-resource-intensive countries include agricultural exporters and commodity importers.
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Tarp 2016). These structural constraints will prevent faster poverty reduction unless structural reforms are introduced to increase productivity and support economic diversification (Chapter 1).

BOX 1.2 Low-income countries: Recent developments and outlook (*continued*)

TABLE 1.2.1 Low-income country forecastsª
(Real GDP growth at market prices in percent, unless indicated otherwise)

Low Income Country, GDPᵇ	2015	2016	2017e	2018f	2019f	2020f		2018f	2019f	2020f
Low Income Country, GDPᵇ	**4.9**	**4.8**	**5.5**	**5.7**	**5.9**	**6.3**		**0.3**	**0.4**	**0.6**
Afghanistan	1.3	2.4	2.6	2.2	2.5	3.3		-1.2	-0.6	0.2
Benin	2.1	4.0	5.6	6.0	6.1	6.3		0.0	-0.2	-0.4
Burkina Faso	3.9	5.9	6.4	6.0	6.0	6.0		0.0	0.0	0.0
Burundi	-3.9	-0.6	0.5	1.9	2.3	2.5		0.4	-0.2	0.0
Chad	2.8	-6.3	-3.0	2.6	2.5	5.8		-1.1	-0.4	-1.0
Comoros	1.0	2.4	2.5	2.9	3.0	3.0		0.2	0.1	0.1
Congo, Dem. Rep.	6.9	2.4	3.4	3.8	4.1	4.4		0.8	0.8	1.1
Ethiopiaᶜ	10.4	7.6	10.3	9.6	9.7	9.9		1.4	1.9	2.1
Gambia, The	4.3	2.2	3.5	5.4	5.2	4.9		1.9	1.0	0.7
Guinea	3.8	10.5	8.2	6.0	5.9	6.0		0.2	0.0	0.1
Guinea-Bissau	6.1	5.8	5.7	5.1	5.2	5.4		-0.1	-0.2	0.0
Haitiᶜ	1.2	1.5	1.2	1.8	2.4	2.4		-0.4	-0.1	-0.1
Liberia	0.0	-1.6	2.5	3.2	4.7	4.8		-0.7	-0.3	-1.2
Madagascar	3.1	4.2	4.1	5.1	5.6	5.3		0.0	0.0	-0.1
Malawi	2.8	2.5	4.0	3.7	4.1	4.9		-1.3	-1.3	-0.5
Mali	6.0	5.8	5.3	5.0	4.7	4.7		0.0	0.0	0.0
Mozambique	6.6	3.8	3.7	3.3	3.4	3.6		0.1	0.0	0.2
Nepalᶜ	3.3	0.6	7.9	6.3	4.5	4.2		1.7	0.0	-0.3
Niger	4.0	5.0	5.2	5.3	5.4	5.8		0.1	0.0	0.2
Rwanda	8.8	6.0	6.1	6.8	7.1	7.5		0.9	0.3	0.7
Senegal	6.5	6.7	6.8	6.8	6.8	7.0		-0.1	-0.2	0.0
Sierra Leone	-20.5	6.3	4.3	5.1	5.7	6.5		-1.2	-1.0	-0.2
Tanzania	7.0	7.0	6.4	6.6	6.8	7.0		-0.2	-0.1	0.1
Togo	5.3	5.0	4.4	4.8	5.0	5.0		-0.5	-0.4	-0.4
Ugandaᶜ	5.2	4.7	4.0	5.5	6.0	6.5		0.4	0.3	0.5
Zimbabwe	1.7	0.6	3.4	2.7	3.8	4.0		1.8	3.6	3.8

Percentage point differences from January 2018 projections

Source: World Bank.
World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not significantly differ at any given moment in time.
a. Central African Rep., Democratic People's Republic of Korea, and Somalia are not forecast due to data limitations.
b. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars.
c. GDP growth based on fiscal year data. For Nepal, the year 2017 refers to FY2016/17.
For additional information, please see www.worldbank.org/gep.

Risks

Risks to the outlook remain tilted to the downside. On the external front, a large drop in commodity prices could have a significant impact on sentiment toward LICs, given that many of these countries depend on extractive industries. A collapse in oil and metals prices would also severely undermine efforts at fiscal consolidation and to rein in the public debt burden, and crowd out poverty-reducing expenditures.

On the domestic front, while political uncertainty has declined in some LICs, it remains a key risk for growth and reform momentum. For example, in Ethiopia, political tensions could intensify following the reimposition of the state of emergency. Risks to

debt sustainability are also high in some LICs. Inadequate fiscal adjustment or large currency depreciation could lead to an increase in the cost of servicing external debt. Based on the LIC debt sustainability framework, The Gambia and Ethiopia are deemed to be facing high risk of debt distress. Chad and Mozambique were rated as in debt distress by end-2017. In addition, most LICs remain highly vulnerable to weather-related shocks, and a return of drought conditions could severely disrupt ongoing recoveries. The Ebola outbreak in the Democratic Republic of Congo could slow economic activity in the country and the sub-region, if it spreads faster than anticipated to major urban centers and to neighboring countries.

Growth in commodity importers excluding China remains solid but is moderating somewhat this year, partly due to capacity constraints. Investment growth continues to be robust, particularly in EMDE commodity importers in Europe and Asia. Export growth has generally been strong this year, albeit to varying degrees.
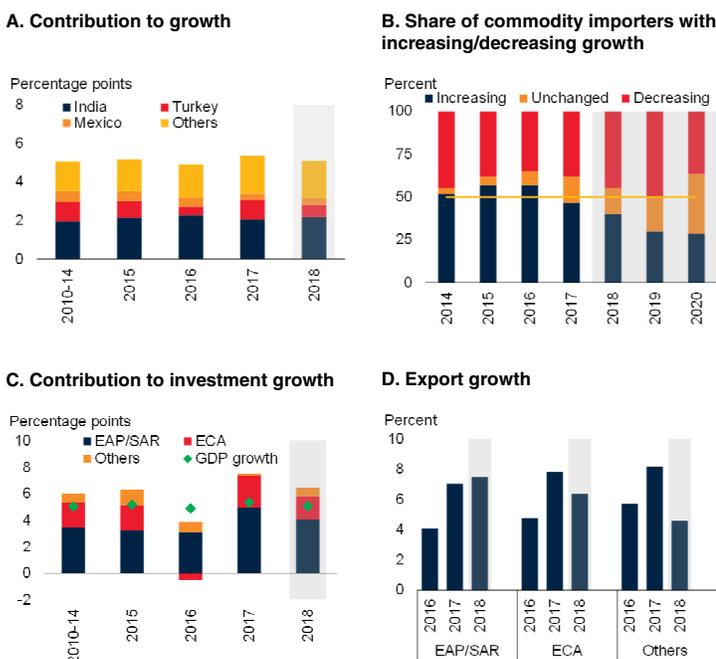
A. Contribution to growth

B. Share of commodity importers with increasing/decreasing growth

C. Contribution to investment growth

D. Export growth

Source: World Bank.
A.-D. Shaded areas indicate forecasts. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights.
A.C.D. Others refer to other commodity-importing EMDEs, excluding China.
B. Sample includes 60 commodity-importing EMDEs. Increasing/decreasing growth are changes of at least 0.1 percentage point from the previous year. Countries with a slower pace of contraction from one year to the next are included in the increasing growth category.
C.D. EAP = East Asia and Pacific, excluding China; SAR = South Asia; ECA = Europe and Central Asia.
C. Investment refers to fixed asset investment.
D. Data refer to trade volume of goods and non-factor services.
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exporters (e.g., Chad) are slowly emerging from recession, helped by rising oil prices. In non-resource-intensive countries, the pickup in economic activity is being supported by improving harvests following droughts (e.g., Rwanda, Uganda), infrastructure investment (e.g., Benin, Senegal), and consumer spending as inflation moderates and remittances recover (e.g., The Gambia, Haiti). However, debt burdens are high and rising in a number of LICs, reflecting a mix of factors including the disclosure of previously unreported debt (e.g., Mozambique), governance issues (e.g., The Gambia), the earlier plunge in oil prices (e.g., Chad), and low public saving (e.g.,

Ethiopia). Poverty levels are elevated, especially among LICs in Sub-Saharan Africa, where nearly half of the population lives below the poverty line.

EMDE outlook

Growth outlook

EMDE growth is expected to accelerate from 4.3 percent in 2017 to 4.5 percent in 2018 and stabilize at 4.7 percent in both 2019 and 2020, reflecting a continued, but maturing, cyclical recovery in commodity exporters (Figure 1.14). In the near term, the positive spillovers of U.S. fiscal stimulus on EMDE activity are assumed to be offset by a faster pace of U.S. monetary policy normalization, which contributes to higher borrowing costs and a moderation in EMDE capital flows. Toward the end of the forecast horizon, the projected slowdown in advanced-economy growth toward potential rates is expected to put a lid on further acceleration in EMDE growth.

As global financing conditions continue to tighten, the cyclical rebound in investment in EMDEs, especially among commodity exporters, is projected to moderate in 2019-20. Moreover, the ongoing monetary policy easing in commodity exporters is expected to gradually end, while fiscal consolidation will continue, particularly in many oil-exporting economies. Policies in commodity importers are expected to tighten, as capacity constraints become more binding and price pressures accelerate amid higher energy prices.

Growth in commodity exporters is projected to plateau toward the end of the forecast horizon. After reaching 2.5 percent in 2018—the highest pace since 2013—it is projected to strengthen only slightly and stabilize at an average of 3 percent in 2019 and 2020, as output gaps close and labor market slack gradually diminishes. By the end of the projection period, only about half of commodity exporters are expected to grow at or above their pre-crisis long-term averages. Forecasts were adjusted slightly down from January, as an upward revision to a number of large commodity exporters (e.g., Angola, Brazil, Kazakhstan, South Africa) was more than offset by a downgrade in

some other economies (e.g., Argentina, Nigeria, Venezuela). This overall outlook of a maturing cyclical recovery is also reflected in forecasts for EMDE regions with a substantial number of commodity exporters (Box 1.3; Chapter 2).

Growth in commodity importers is expected to decelerate to 5.8 percent in 2018 and edge further down to 5.7 percent by 2020, broadly in line with its potential rate. A structural slowdown in China is expected to be partly offset by a moderate pickup in other large economies, including India and Mexico. In commodity importers excluding China, an upgrade to growth projections in 2018 reflects an upward revision to forecasts for some large economies (e.g., Egypt, Mexico, Poland, Thailand).

Growth in low-income countries is projected to pick up to 5.7 percent in 2018, and stabilize at about 6.1 percent on average in 2019-20, slightly below the level reached earlier in the decade (Box 1.2). These forecasts are higher than in January, reflecting a stronger pickup in some metals exporters as higher metals prices help boost mining production. Growth in non-resource-intensive countries is projected to remain solid, supported by increasing agricultural production, infrastructure investment, and a rebound in remittances, with the larger economies expanding at a faster pace. In some fragile countries (e.g., The Gambia, Zimbabwe), political transitions will allow for a pickup in activity, as opportunities for reforms boost investor sentiment. However, the recovery will be slower than previously anticipated among oil exporters, as they continue to adjust to low oil revenue and the heavy burden of external commercial debt.

Despite the projected firming of activity in EMDEs in the near term, underlying potential growth—which has fallen considerably over the past decade—appears likely to decline further over the long term, reflecting earlier investment weakness, softening productivity, and increasingly adverse demographic patterns. Trends in these fundamental drivers of long-term growth suggest that EMDE potential growth could decrease by 0.5 percentage point on average over 2018-27. Notwithstanding its recent turnaround, in-vestment growth in many EMDEs is still modest

FIGURE 1.14 EMDE growth prospects

The recovery in EMDE growth is projected to mature during the forecast horizon, as negative output gaps in commodity exporters gradually narrow and investment growth stabilizes.

A. Growth

B. Contribution to investment growth
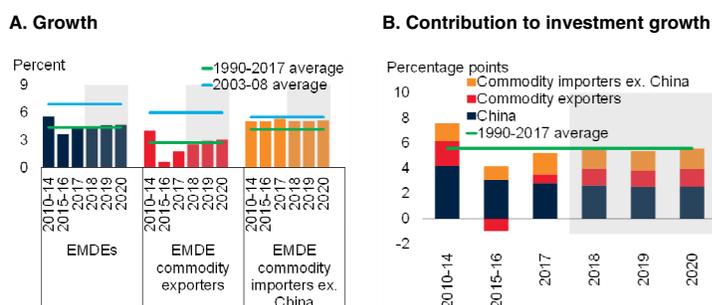
Source: World Bank.
A.B. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights. Shaded area indicates forecasts.
B. Investment refers to fixed asset investment.
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compared to its long-term average and will not be sufficient to offset headwinds to potential growth. Furthermore, tightening global financing conditions, higher borrowing costs, moderating capital flows, and lingering policy uncertainty may hamper investment growth in the coming years, further constraining potential growth (World Bank 2018a).

Outlook for per capita income and poverty

Current near-term growth prospects are encouraging but may not be sufficient to ensure continued progress toward global poverty alleviation (World Bank 2016). Countries that are home to most of the world's poor are expected to grow at a faster clip than other EMDEs. However, their population growth is also generally higher, implying that per capita prospects in those countries are still modest, particularly where extreme poverty is more prevalent (Figure 1.15). That said, significant disparities exist between the outlooks for the two regions comprising more than 80 percent of the world's extreme poor: South Asia and Sub-Saharan Africa. In South Asia, GDP per capita growth remains significantly above EMDE averages and will likely help a further reduction in poverty rates in coming years. In Sub-Saharan Africa, per capita income growth in countries with high poverty headcounts will remain modest, complicating efforts to reduce

BOX 1.3 Regional perspectives: Recent developments and outlook

The ongoing cyclical recovery in most EMDE regions with a substantial number of commodity exporters is projected to continue in 2018. Thereafter, the upturn in these regions is expected to mature, as commodity prices plateau. Robust activity in EMDE regions with large numbers of commodity importers is forecast to continue. Risks to the growth outlook continue to tilt to the downside.

FIGURE 1.3.1 Regional growth

The ongoing cyclical recovery in most EMDE regions with a substantial number of commodity exporters is projected to continue in 2018, but mature thereafter as commodity prices level off. Robust growth in EMDE regions with large numbers of commodity importers is projected to continue. Risks to the growth outlook continue to tilt down.

A. Regional growth, weighted average
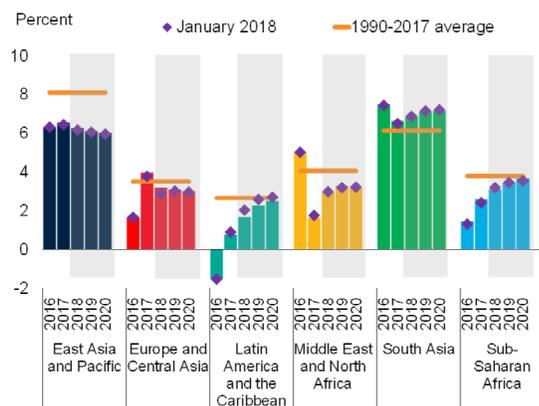
B. Regional growth, unweighted average
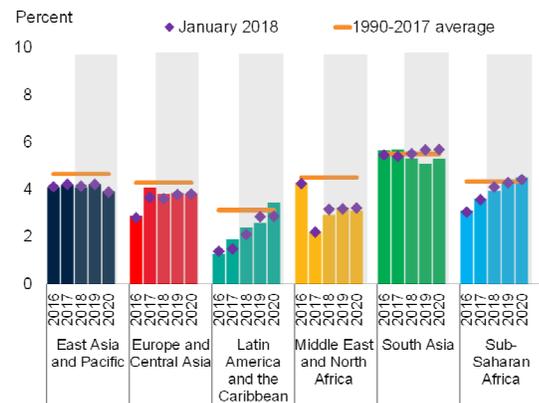
Source: World Bank.
A.B. Averages for 1990-2017 are constructed depending on data availability. For Europe and Central Asia, the long-term average uses data for 1995-2017 to exclude the immediate aftermath of the collapse of the Soviet Union.
A. Bars denote latest forecast; diamonds correspond to January 2018 *Global Economic Prospects* forecasts. Since the largest economies account for about 50 percent of GDP in some regions, weighted averages predominantly reflect the development in the largest economies in each region.
B. Unweighted average regional growth is used to ensure broad reflection of regional trends across all countries in the region.
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East Asia and Pacific. Growth in the region is projected to moderate to 6.3 percent in 2018, and to 6.1 percent on average in 2019-20. The structural slowdown in China will slightly offset a modest further pickup in the rest of the region. While upside surprises to global activity could lead to stronger-than-expected regional growth, risks to the regional forecast are tilted to the downside. They include the possibility of an abrupt tightening of global financing conditions and intensified trade restrictions. Highly leveraged economies and countries with large or rapidly rising fiscal deficits are particularly vulnerable to disruptions in real and financial activity.

Europe and Central Asia. Regional growth is anticipated to ease to 3.2 percent in 2018, as idiosyncratic factors supporting the recovery in some of the largest regional economies fade. Growth is expected to decline to 3 percent by 2020, as activity moderates in commodity importers amid increasing capacity constraints and less accommodative fiscal and monetary policies. Downside risks include the possibility of a disorderly tightening of financing conditions, lower-than-projected oil prices, and heightened policy uncertainty. If stronger-than-expected demand from advanced economies were to materialize, it would benefit trading partners in the region.

Latin America and the Caribbean. The modest regional recovery is projected to continue, with growth anticipated to rise to 1.7 percent in 2018 and average 2.4 percent in 2019-20. In the near term, the pickup will be supported by a cyclical recovery in Brazil and improving conditions in Chile, Colombia, Mexico, and Peru. Regional

BOX 1.3 Regional perspectives: Recent developments and outlook (*concluded*)

growth through 2020 will mainly reflect firming private consumption and investment. Downside risks are significant, however, including negative spillovers from a possible abrupt tightening of financing conditions or shift in investor sentiment regarding EMDEs, a breakdown in NAFTA negotiations or a rise in U.S. trade protectionism, escalation of domestic policy uncertainty, and disruptions from natural disasters. Larger-than-expected spillovers from the U.S. fiscal stimulus could result in stronger regional growth.

Middle East and North Africa. Growth in the region is expected to rebound from last year—when it decelerated to 1.6 percent due to oil production cuts and fiscal adjustments among oil exporters—and reach 3 percent in 2018. Activity among oil exporters is picking up in response to an easing of fiscal stances and momentum from the non-oil sector, while oil importers continue to benefit from improved competitiveness and foreign-investor confidence. Regional growth is projected to accelerate to an average of 3.3 percent in 2019-20, as domestic demand and exports further improve in both oil exporters and importers. The key downside risks are geopolitical tensions, renewed volatility in oil prices, and slower-than-expected pace of reforms. Rapid reconstruction progress in war-torn areas represents an important upside risk.

South Asia. Growth in the region is projected to accelerate to 6.9 percent in 2018, mainly reflecting strengthening domestic demand in India as temporary policy-driven disruptions fade. Elsewhere in the region, ongoing recoveries in Bangladesh,

Pakistan, and Sri Lanka are expected to be accompanied by moderating activity in Afghanistan, Bhutan, and Maldives. Over the medium term, growth is expected to remain strong and reach 7.2 percent by 2020 amid robust domestic demand. Downside risks continue to predominate. They include the possibility of fiscal slippages, delays in reforms to resolve financial vulnerabilities and improve the health of regional banking systems, and a faster-than-expected tightening in global financing conditions. Stronger-than-envisioned global growth could result in better regional growth outcomes.

Sub-Saharan Africa. Regional growth is projected to accelerate to 3.1 percent in 2018. This upswing reflects rising oil and metals production, encouraged by a recovery in commodity prices, and improving agricultural production following droughts. A rebound in consumer spending amid declining inflation and an increase in investment also underpin the pickup. Growth is expected to firm to an average of 3.6 percent in 2019-20, as the recovery strengthens in Angola, Nigeria, and South Africa—the region's largest economies. However, growth will remain below its long-term average and insufficient to substantially reduce poverty. Public debt levels are high and rising, and debt servicing costs will absorb a large share of government revenue in some countries. The main downside risks include a faster tightening of global financing conditions, lower-than-expected commodity prices, heightened conflicts, and weak implementation of reforms. Renewed growth momentum in advanced economies could provide positive spillovers to the region.

poverty rates. Per capita GDP growth is expected to stagnate among many oil and metals exporters in the region, where poverty headcounts are already high.

More generally, per capita income growth in commodity-exporting EMDEs, which has been weak in recent years, is expected to recover

modestly throughout the forecast horizon. Nevertheless, it will remain appreciably below that of commodity importers. Per capita income growth will be particularly weak in a number of oil exporters. At the projected pace, growth will be insufficient to restart the catch-up of income per capita with advanced economies in about one-third of EMDEs.

FIGURE 1.15 Per capita growth and poverty in EMDEs

Countries with the largest number of poor are expected to grow at a somewhat faster clip in 2018-20; however, per capita growth in Sub-Saharan Africa is projected to remain subdued, despite some recovery. In about one-third of EMDEs, income per capita growth will be insufficient in coming years to restart a catch-up process with advanced economies.

A. Per capita growth in EMDEs

B. Regional poverty headcounts

C. Per capita growth, by region

D. Share of EMDEs catching up to advanced-economy GDP per capita levels
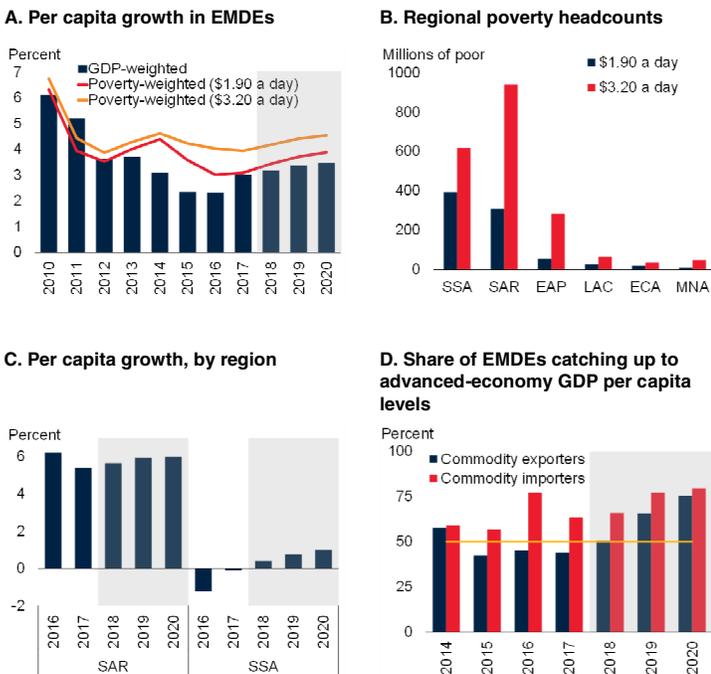
Source: World Bank.
A.C.D. Shaded areas indicate forecasts.
B.C. EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MNA = Middle East and North Africa, SAR = South Asia, and SSA = Sub-Saharan Africa.
A. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights. The poverty-weighted estimate of the per capita GDP growth excludes countries for which poverty head counts were not available.
B. Blue bars indicate the number of people living on or below the international poverty line of $1.90 per day, red bars are the number of people living on or below the lower-middle income poverty line of $3.20 per day. Data as of 2016.
D. EMDEs with per capita GDP growth of at least 0.1 percentage point higher than advanced-economy per capita GDP growth are those counted as converging. Advanced-economy growth rates calculated using constant 2010 U.S. dollar GDP weights. Sample includes 73 EMDE commodity exporters and 44 EMDE commodity importers.
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Risks to the outlook

Risks to the outlook remain tilted to the downside. They include the possibility of disruptive financial market developments and escalating trade protectionism amid elevated policy uncertainty. If a combination of downside risks were to materialize, it could trigger a sharper-than-expected slowdown in global growth, with particularly negative effects for countries with depleted policy buffers and sizable vulnerabilities. There is also the possibility that growth in major economies may surprise on the upside, with positive spillovers to trading partners.

Baseline forecasts point to global growth at 3.1 percent this year, helped by still-solid growth in advanced economies, robust activity in Asia, and a cyclical recovery in commodity-exporting EMDEs. However, with growth currently surpassing its estimated potential, world economic activity is expected to moderate in 2019 and 2020, as major central banks remove post-crisis accommodation, global capacity constraints become more binding, China's structural slowdown continues, and the upturn in commodity exporters levels off. With the rise of global interest rates, debt service costs will increase in both advanced economies and EMDEs. Shifting policies in major economies will have a significant bearing on the outlook and risks for global growth.

Risks to the outlook are tilted to the downside, with some becoming more acute (Figure 1.16). Following a prolonged period of exceptionally low interest rates and elevated asset prices, financial market risks have increased. A sudden tightening of global financing conditions could be triggered by a reassessment of inflation risks; by shifting expectations about monetary policies across major advanced economies; or by increased concerns about credit risks, including in EMDEs. The impact could be particularly severe in an environment where debt levels have reached record highs, refinancing needs are mounting, and credit quality has deteriorated in a number of EMDEs. An escalation of trade restrictions among major economies is also a major threat to the outlook, as it could derail the recovery in global trade and dampen confidence and investment worldwide. Heightened policy uncertainty and rising geopolitical tensions could also buffet activity. The materialization of these downside risks could lead to a sharper-than-expected global slowdown. This could represent a significant hurdle for many countries, especially for those that have not rebuilt fiscal buffers.

That said, the possibility of a stronger or longer-lasting upturn in major economies cannot be ruled out. This could lead to larger-than-expected cross-border spillovers in the near term, as well as improved supply-side conditions over the medium term.

A quantification of uncertainty around the global growth outlook suggests a wide range of possible outcomes, while confirming the predominance of downside risks (Ohnsorge, Stocker, and Some 2016). At current market conditions, the probability of global growth being more than 1 percentage point below baseline in 2019 is estimated at 21 percent, while that of growth being more than 1 percentage point above baseline is 16 percent. That range has widened from a year ago, reflecting increased uncertainty embedded in the distribution of key risk factors, particularly equity and oil price futures.

Disorderly tightening of financing conditions

The risk of an abrupt tightening of global financing conditions and associated financing stress has increased in 2018, reflecting a possible reassessment of inflation risks amid shifting market expectations of advanced-economy monetary policy, stretched asset valuations, and the possibility of further U.S. dollar appreciation. Such developments could have particularly severe consequences for more indebted EMDEs facing substantial refinancing needs in coming years. A sudden rise in borrowing costs could be triggered by a convergence of factors.

Inflation risks

Market participants currently ascribe a low probability of a rapid acceleration in inflation in major advanced economies. This follows a prolonged period of undershooting of central banks' inflation targets, and reflects the view that technological changes and globalization could keep inflation persistently low (Autor and Dorn 2013; Eickmeier and Kühnlenz 2013; Elsby, Hobijn, and Şahin 2013). However, a number of factors could contribute to a more pronounced increase in inflation than currently predicted.

First, a period of persistently low unemployment and increased labor market churning could re-inforce workers' bargaining power, potentially leading to faster wage growth (Danninger 2016; Davis and Haltiwanger 2014). At comparable unemployment rates, wage growth in advanced economies during the previous business cycle was

FIGURE 1.16 Risks: Tilted to the downside

Global growth is expected to remain solid in the near term. However, uncertainty is elevated and downside risks have increased.

A. Probability distribution around global growth forecasts

B. Probability of global growth in 2019 being below/above baseline
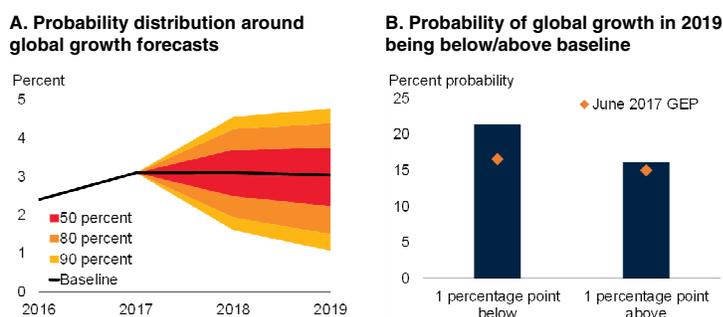
Sources: Bloomberg, World Bank.
A.B. The fan chart shows the forecast distribution of global growth using time-varying estimates of the standard deviation and skewness extracted from the forecast distribution of three underlying risk factors (oil price futures, the S&P 500 equity price futures, and term spread forecasts). Each of the risk factor's weight is derived from the model described in Ohnsorge, Stocker, and Some (2016). Values for 2018 are computed from the forecast distribution of 6-month-ahead oil price futures, S&P 500 equity price futures, and term spread forecasts. Values for 2019 are based on 18-month-ahead forecast distributions. Last observation is May 2018.
B. Bars show the probability that global growth is 1-percentage-point above or below baseline forecasts 18 months ahead.
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considerably higher (Figure 1.17). If not matched by similar increases in productivity growth, a faster-than-expected recovery in wage growth could lead to an increase in current and future expected inflation. Second, U.S. fiscal stimulus will provide a boost to growth in an economy already operating close to full employment, increasing the risk of overheating. Third, the global output gap is expected to disappear this year, with potentially far-reaching implications for inflation dynamics in traded goods (World Bank 2018a). A reassessment of inflation risks could contribute to a sudden rise in term premiums from current exceptionally low levels, which would push up long-term yields and generate substantial volatility in U.S. and global bond markets.

Monetary policy uncertainty

Changes in market expectations about interest rate and balance sheet policies of major central banks could trigger financial stress. Several factors make financial markets particularly vulnerable to such a reassessment. Policy interest rates in the United States remain well below neutral levels, and market and policymaker expectations about their

FIGURE 1.17 Downside risks: Financial stress

A sudden reassessment of the pace of wage growth in advanced economies could contribute to a jump in long-term yields, particularly in the United States, where term premiums are negative and policy interest rates are increasing. EMDEs remain susceptible to such risks, with both private and public debt levels considerably higher than in the pre-crisis period. Debt in low-income countries has been trending up, as has the number of countries at risk of debt distress.

A. G4 wage growth and unemployment

B. U.S. term premium and long-term yields

C. U.S. policy interest rates, inflation, and growth

D. EMDE debt as a share of GDP, by borrowing sector

E. EMDE interest payments on debt as a share of GDP, by borrowing sector

F. Evolution of debt distress in LICs
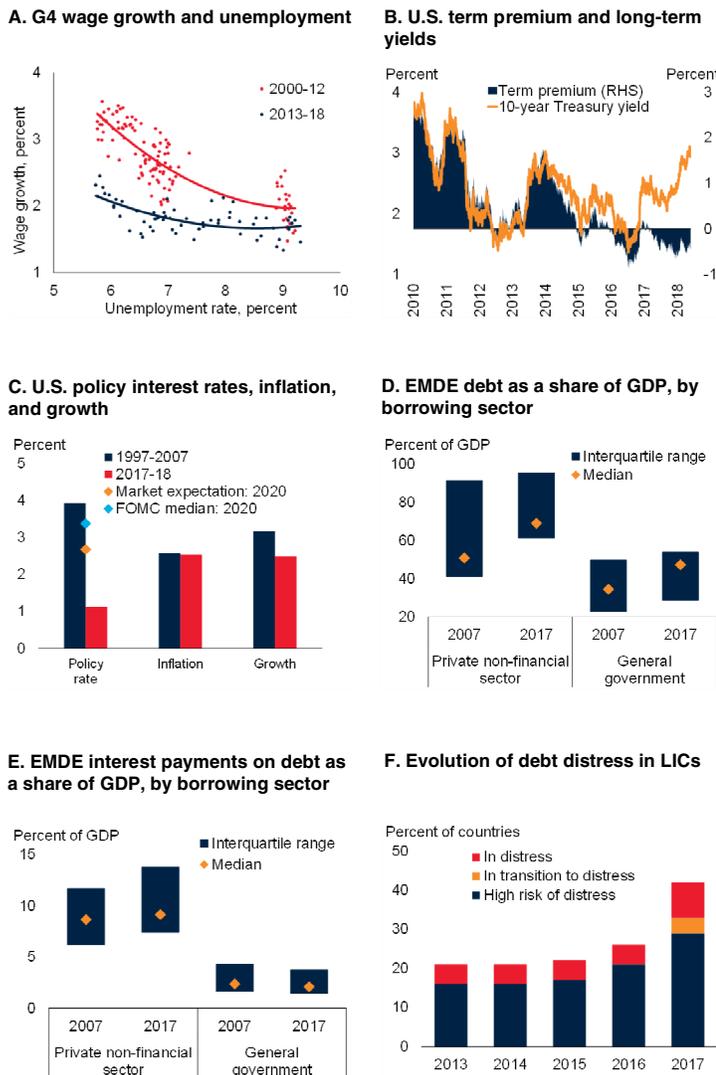
Sources: Adrian, Crump, and Moench (2013); Bank for International Settlements; Bloomberg; Federal Reserve Bank of St. Louis; Haver Analytics; International Monetary Fund; World Bank.
A. The G4 includes the Euro Area, Japan, the United Kingdom, and the United States. Last observation is March 2018.
B. Term premium estimates from the term structure model of Adrian, Crump, and Moench (2013). Last observation is May 25, 2018.
C. Figure shows period averages. Policy rate refers to the effective federal funds rate. Last observation is April 2018.
D. Debt is defined as loans and debt securities. Sample includes 16 EMDEs.
E. Interest payments include interest paid on loans and debt securities. Sample includes 12 EMDEs.
F. Figure shows the percent of low-income and developing countries eligible to access the IMF's concessional lending facilities that are either at risk of, or in, debt distress. The sample represents a larger group of countries than that defined in Table 1.2.1 as low-income by the World Bank.
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outlook still diverge. In addition, strong foreign demand for U.S. Treasuries has played a major role compressing U.S. long-term interest rates, partially offsetting the impact of a faster pace of U.S. interest rate hikes. Unlike the bond market "conundrum" in 2005-06, when rising demand from foreign official institutions had a similar dampening effect, the recent increase in demand was mostly driven by foreign private investors (Cœuré 2018). These inflows have been encouraged by continued aggressive monetary policy easing in the Euro Area and Japan, contributing to a growing gap between U.S. Treasury and comparable sovereign bond yields in those jurisdictions—and, during 2018, to a renewed appreciation of the U.S. dollar. Shifting expectations about advanced-economy monetary policy could lead to sudden portfolio adjustments, faster-than-expected increases in global interest rates, or disorderly exchange rate developments.

Stretched asset price valuations

A prolonged period of very low interest rates has encouraged risk-taking in financial markets and rising asset price valuations (Lian, Ma, and Wang 2017). Elevated asset prices make global financial markets more prone to sudden adjustments and bouts of volatility (BIS 2017). The equity price-to-earnings ratio is historically high in the United States, while corporate bond spreads in both advanced economies and EMDEs remain significantly below pre-crisis averages. A correction in asset valuations could weaken growth prospects through tighter financing conditions, lower confidence, and negative wealth effects (Bluedorn, Decressin, and Terrones 2013).

EMDE vulnerabilities

EMDEs remain vulnerable to risks of sudden market adjustments and tighter global financing conditions, which could be amplified by further U.S. dollar appreciation, triggering disorderly exchange rate developments. Credit growth has slowed in most countries but corporate sector vulnerabilities remain elevated, and both private and public debt levels are considerably higher than in the pre-crisis period. Rising borrowing costs could substantially increase the burden of debt

servicing, which was compressed in recent years by low global interest rates and risk premiums. In turn, rising debt service costs could weaken investment and lower medium-term growth (Special Focus 2; Borensztein and Ye forthcoming; Drehmann, Juselius, and Korinek 2017; Jordà, Schularick, and Taylor 2013; Lombardi, Mohanty, and Shim 2017). A reversal in capital inflows and sharp currency depreciations could also increase default risks and raise financial stability concerns among economies with external vulnerabilities. EMDE debt denominated in U.S. dollars remains elevated in many countries and increased in 2017 amid favorable borrowing conditions.

Large current account deficits, elevated short-term external debt, and reliance on portfolio flows render some countries particularly vulnerable to rollover risk and sudden stops in capital flows. In some oil-importing EMDEs, rising oil prices could further exacerbate current account deficits and associated fragilities. The transmission of global financial shocks can be amplified in EMDEs with pegged exchange rate regimes compared with countries with flexible ones (Obstfeld, Ostry, and Qureshi 2018).

Public debt burdens and vulnerabilities continue to rise across low-income countries (LICs). More than 40 percent of LICs are in debt distress or at high risk of debt distress—more than twice the share in 2013 (IMF 2018; World Bank 2018e). In these countries, the increase in public debt levels has been accompanied by a substantial change in creditor composition and debt instruments. Increased reliance on commercial loans with shorter maturities has exposed debtor countries to currency, interest rate, and refinancing risks (Devarajan 2018; Gill and Karakülah 2018). Debt vulnerabilities among LICs could become more acute in the absence of measures to increase domestic revenue mobilization, rationalize public spending, and boost growth.

Escalating trade protectionism

The risk of escalating trade restrictions has substantially intensified amid ongoing trade disputes between the United States and major trading partners. A broad-based increase in tariffs

FIGURE 1.18 Downside risks: Trade protectionism

An escalation of tariffs up to legally-allowed limits could have large negative effects on trade, particularly in EMDEs. Even the threat of shifting trade policies, particularly in the United States, could have negative effects on EMDE investment. The drive toward trade liberalization has slowed, with the number of new trade agreements falling to an 18-year low in 2017.

A. Impact on trade from worldwide increase in tariffs to bound levels by 2020

B. U.S. trade policy uncertainty

C. Investment impact of 10-percent rise in U.S. economic policy uncertainty

D. New regional trade agreements
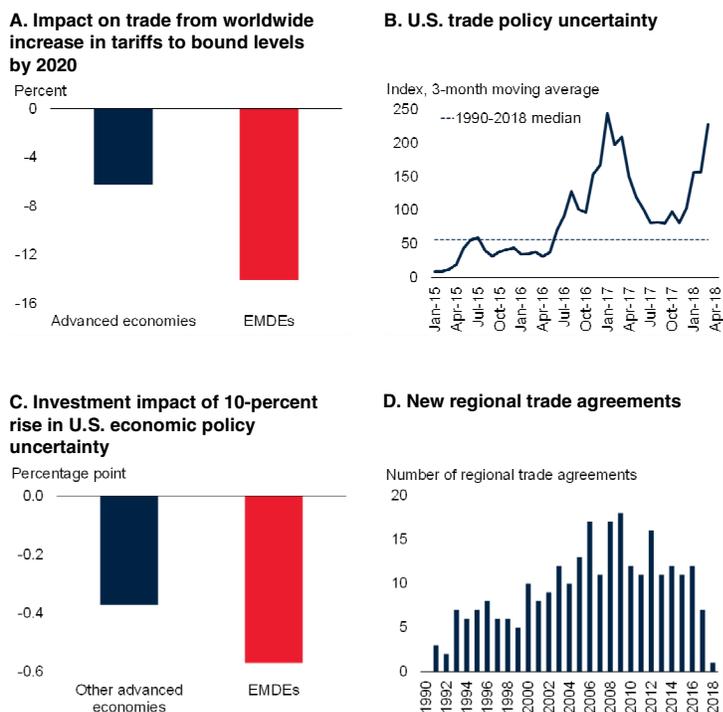
Sources: Baker, Bloom, and Davis (2016); Bloomberg; Haver Analytics; Kutlina-Dimitrova and Lakatos (2017); World Bank; World Trade Organization.
A. Bars denote the percent deviation from baseline in 2020. Data are calculated from simulations using the GDyn computable general equilibrium model (Ianchovichina and McDougall 2000; Ianchovichina and Walmsley 2012). Trade-weighted aggregates include 36 advanced economies and 71 EMDEs.
B. Dashed horizontal line reflects the historical median from January 1990 to March 2018. Trade policy-related uncertainty in the United States is based on an index presented in Baker, Bloom, and Davis (2016), and computes the frequency of articles in domestic newspapers mentioning terms related to trade policy (e.g., import tariffs, import barriers, WTO, dumping, etc.). Last observation is March 2018.
C. Figure shows median impact. Cumulative impulse response after 1 year on investment growth in 23 advanced economies and 18 EMDEs to a 10-percent increase in the U.S. economic policy uncertainty (EPU). Vector autoregression estimated for 1998Q1-2016Q2 with two lags. The model for advanced economies includes U.S. EPU, MSCI index for advanced economies (MXGS), U.S. 10-year bond yields, aggregate real GDP and investment growth in 23 advanced economies. The model for EMDEs includes U.S. EPU, MSCI emerging market equity price index, J.P Morgan's Emerging Market Bond Index Global (EMBIG), aggregate real GDP growth, and investment growth in 18 EMDEs. G7 real GDP growth, U.S. 10-year bond yields, and MSCI world equity price index are added as exogenous variables.
D. Bars denote the number of regional trade agreements in force.
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worldwide would have major adverse consequences for global trade and activity (Ossa 2014; Nicita, Olarreaga, and Silva forthcoming). An escalation of tariffs up to legally-allowed bound rates could translate into a decline in global trade flows amounting to 9 percent, similar to the drop seen during the global financial crisis in 2008-09 (Figure 1.18; Kutlina-Dimitrova and

Lakatos 2017). The impact of increased protectionism would be more severe in EMDEs than in advanced economies. Highly protected sectors, such as agriculture and food processing, would be likely to be among the most negatively affected. Non-tariff barriers could also be raised, adding to the cost of trading across borders. Costs associated with shipping, logistics, legal and regulatory impediments are already far outstripping tariff costs, particularly in EMDEs (UNESCAP 2017).

If it were to materialize, a substantial escalation of trade-restrictive measures between the United States and China could lead to economic losses for these two economies and cascading trade costs through global value chains (Bown 2017; Erbahar and Zi 2017; Escaith 2017; Irwin 2017). Sectoral dislocations associated with shifting trade patterns could have persistent negative effects on labor markets (Autor, Dorn, and Hanson 2016). Any setbacks to activity in the either country would result in significant negative spillovers for the rest of the world through trade, confidence, financial, and commodity-market channels (Kose et al. 2017a; Huidrom, Kose, and Ohnsorge 2017).

Even the threat of substantial shifts in trade policies in major economies, and associated uncertainty, could have negative consequences for financial markets, investment, and activity worldwide. The impact of U.S. policy uncertainty is particularly significant for investment in EMDEs, especially in those with large trade or financial market linkages with the United States (World Bank 2017a; Bhattarai, Chatterjee, and Park 2018).

Uncertainty surrounding the outcome of negotiations for major trade agreements and the non-renewal of preferential schemes could have adverse consequences for involved countries. Despite the recent ratification of a number of deeper trade agreements that include comprehend-sive provisions beyond the liberalization of tariff barriers, the appetite for trade liberalization has generally waned, particularly across major advanced economies. This is reflected in the number of new trade agreements falling to an 18-year low in 2017.

Policy uncertainty and geopolitical developments

Measures of global policy uncertainty are still above historical norms, albeit below a peak in 2016 (Figure 1.19). The risks of destabilizing policy and political changes remain elevated, reflecting the increased polarization of public opinion, a backlash against globalization, and rising support for populist parties across the world (Rodrik 2018; Inglehart and Norris 2016).

Electoral outcomes in a number of EMDEs and advanced economies, including in Europe, could lead to renewed uncertainty. Periods of significant government changes and political instability are generally associated with lower growth in the affected economies (Aisen and Veiga 2011; Perotti 1996). If the affected economies are sizable and tightly interconnected with trading partners (for example, a large Euro Area member state), the resulting negative spillovers could depress activity and investment in other countries, including EMDEs (World Bank 2015; World Bank 2017a). A lack of trust in governments also increases the risk of instability during economic downturns (Nunn, Qian, and Wen 2018).

Geopolitical risks remain elevated amid persistent tensions on the Korean Peninsula and intensifying strains in the Middle East. In that region, continued conflict, heightened tensions, and renewed uncertainties following the reintroduction of sanctions on Iran could exacerbate volatility in oil markets, hamper confidence, and further amplify instability (Karasapan 2017; Polachek and Sevastianova 2012). Security conditions remain precarious in many Sub-Saharan African countries. In the past, protracted periods of low commodity prices have tended to increase the probability of civil unrest in that region, as well as in others with large numbers of commodity exporters (Bazzi and Blattman 2014; Ciccone 2018). Heightened diplomatic tensions involving Russia's relationship with the United States and the European Union could also lead to an escalation of retaliatory measures. Renewed intensification of geopolitical risks could severely impact growth and development prospects for the affected regions, and even hinder activity at the global level.

A combination of global downside risks

After a decade of recovery from the global financial crisis, economic activity is still lagging previous expansions and is expected to decelerate in coming years (Figure 1.20). Whether the slowdown will be gradual, as currently predicted, or abrupt will depend on a number of factors, including the materialization of some of the aforementioned downside risks. Currently, the probability of a recession in major economies, such as the United States, is low (Bauer and Mertens 2018). However, the global economy has experienced an abrupt slowdown or recession in every decade, which was invariably preceded by a period when a significant majority of countries were operating above capacity. This proportion is estimated to be around 50 percent in 2018, and is expected to increase further in 2019.

The next global slowdown or recession could be triggered by the combined materialization of several downside risks. For instance, a full-blown escalation of trade-restrictive measures along with a sudden resurgence of global inflation could negatively impact confidence and lead to disruptive financial market developments. Weakening growth and higher borrowing costs could intensify debt and financial stability concerns, while rising unemployment could amplify political uncertainties and protectionist tendencies.

The capacity of many countries to confront a synchronous slowdown has diminished since the global financial crisis. Monetary policy in advanced economies could face renewed constraints, as policy interest rates are still at historic lows, and fiscal space has deteriorated in both advanced economies and EMDEs. Moreover, potential growth has deteriorated and long-term investment prospects have continued to worsen, despite a tentative stabilization of market expectations about the long-term growth outlook (Box 1.1). These conditions render the global economy vulnerable to adverse shocks that may lead to a global slowdown or recession. Such an event could further damage potential growth, particularly if accompanied by financial stress and significant deleveraging pressures (World Bank 2018a; Kose and Terrones 2015).

FIGURE 1.19 Downside risks: Policy and geopolitical uncertainty

Global policy uncertainty is still above historical norms, but has generally moderated from a peak reached in 2016. The risk of unanticipated political swings remains elevated amid rising support for populist parties. In the past, periods of low commodity prices were associated with an increased incidence of conflict in commodity exporters.

A. Global economic policy uncertainty
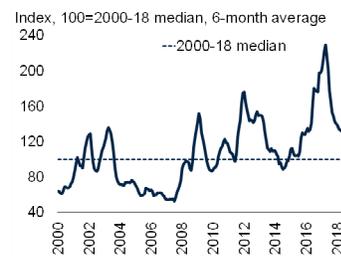
B. Global rise of populism
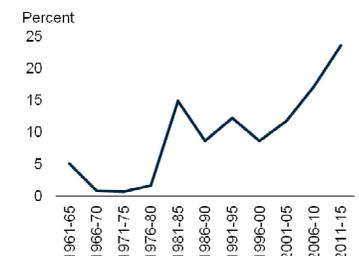
C. Elections in advanced economies and EMDEs
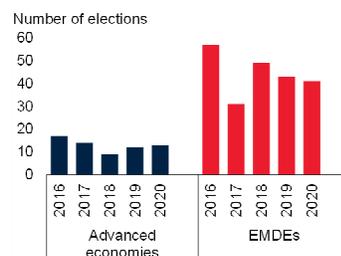
D. Conflict in EMDE commodity exporters and commodity prices
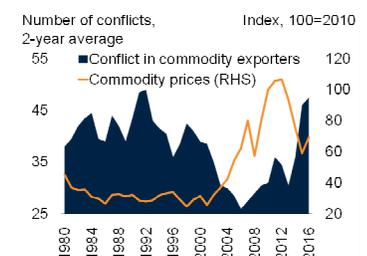
Sources: Allansson, Melander, and Themnér (2017); Baker, Bloom, and Davis (2016); Election Guide, International Foundation for Electoral Systems; national sources; Rodrik (2018); World Bank.
A. Policy uncertainty is the Economic Policy Uncertainty index computed by Baker, Bloom, and Davis (2016), and is based on the frequency of articles in domestic newspapers mentioning economic policy uncertainty. The index is normalized to equal 100 at its January 2000-April 2018 median, as indicated by the dashed horizontal line. Last observation is April 2018.
B. Data measures the vote share, or support, for populist parties, defined as those which pursue an electoral strategy of emphasizing divisions between an in-group and an out-group, over time among countries with at least one populist party, as defined and computed by Rodrik (2018). Sample includes 8 EMDEs and 11 advanced economies.
C. Bars indicate the number of presidential and parliamentary elections held in EMDEs and advanced economies in each year. The sum excludes local authority elections.
D. Conflicts are the two-year average of the sum of armed conflicts, or conflicts that involve two armed and opposing actors. Commodity index is the average of energy, non-energy, and precious metals price indexes, based on nominal U.S. dollar prices.
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Region-specific downside risks

There are various region-specific downside risks that accompany the global risks discussed earlier. Most regions face domestic policy uncertainties associated with the possibility of fiscal slippages, reform setbacks, and lingering financial stability concerns.

Renewed geopolitical tensions in Europe and Central Asia, the Middle East and North Africa, South Asia, as well as around the South China Sea

FIGURE 1.20 Downside risks: History repeating itself?

Activity has recovered but still lags behind previous expansions. While the probability of a recession in major economies, such as the United States, remains low, it may be creeping up. Past global recessions were preceded by a period when most countries operated at or above full capacity. The next episode could be triggered by the materialization of a combination of downside risks, which could further weaken long-term investment prospects.

A. Global GDP during expansion periods
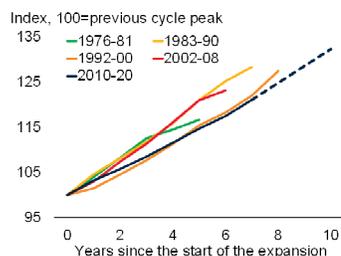
B. Probability of U.S. recession
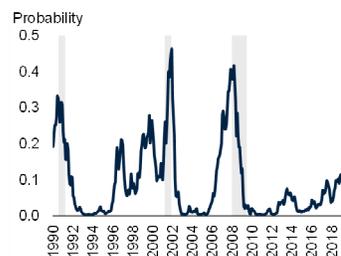
C. Output gaps around global recessions/slowdowns
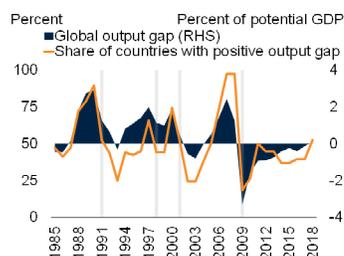
D. Five-year-ahead forecasts of investment growth
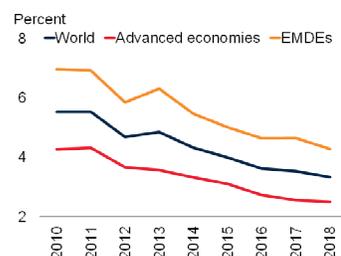
Sources: Consensus Economics, Federal Reserve Bank of New York, National Bureau of Economic Research (NBER), World Bank.
A. Global GDP levels in constant 2010 U.S. dollars, indexed to 100 at start of expansion periods. Cycle dates based on global recessions and slowdowns identified in Kose and Terrones (2015). Dashed line corresponds to 2018-20 forecasts.
B. Figure shows probability of a recession in 12 months. Probabilities derived from the U.S. yield curve model of the Federal Reserve Bank of New York. Shaded areas indicate recessions, as identified by the National Bureau of Economic Research (NBER). Last observation is April 2018 (12-month-ahead probability).
C. Output gaps calculated using multivariate filter. Methodology is described in Box 1.1 of the January 2018 edition of the *Global Economic Prospects* report. Grey bars indicate the two global recessions in 1991 and 2009, and the two global slowdowns in 1998 and 2001.
D. Five-year-ahead forecasts of investment growth, where the horizontal axis is the forecast vintage. Figure uses data surveyed for the latest available month in each year. Unweighted averages of 24 advanced economies and 21 EMDEs. Last observation is April 2018.
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and the Korean Peninsula, could weaken confidence and disrupt trade, investment, and migrant flows in these regions. A worsening of political instability or armed conflict could have substantial adverse effects in Sub-Saharan Africa. Lower-than-expected commodity prices could also derail the recovery in key commodity-exporting economies that are important economic partners for other countries in their regions. Finally, natural disasters, such as severe storms or droughts, could become more frequent, buffeting

activity in many regions, including in East Asia and Pacific, Latin America and the Caribbean, South Asia, and Sub-Saharan Africa.

Stronger and longer-lasting cyclical recovery

Despite various downside risks, a more sustained and longer-lasting recovery in major advanced economies and EMDEs remains possible, particularly if policy uncertainty dissipates. This could generate larger-than-expected spillovers through global trade and confidence channels. In particular, positive growth surprises in the United States would be a notable boost for activity among trading partners, including many EMDEs (Figure 1.21; Kose et al. 2017a; Huidrom, Kose, and Ohnsorge 2017). A persistent period of elevated confidence across major economies could further amplify the recovery, making it more synchronous and self-sustained (Angeletos, Collard, and Dellas 2017; Benhabib, Wang, and Wen 2015; Levchenko and Nayar 2017).

Over time, the cyclical recovery could help reverse some of the damage to potential output growth caused by the global financial crisis (World Bank 2018a). In particular, a persistent period of weak aggregate demand since 2008 might have contributed to the loss of skills and matching efficiency on labor markets (Bell and Blanchflower 2010; Bell and Blanchflower 2011), weak corporate sector performance (Nguyen and Qian 2014), financing constraints (Queralto 2013), and to slowing total factor productivity growth (Oulton and Sebastiá-Barriel 2017). In the United States, these factors have accounted for a significant share of the slowdown in potential output growth since the crisis (Reifschneider, Wascher, and Wilcox 2015; Summers 2014). There is also evidence of lasting damage from the crisis in other advanced economies and in EMDEs (Ball 2014; World Bank 2018a).

Absent the build-up of macroeconomic and financial imbalances, a prolonged period of strong aggregate demand could help raise labor partici-pation, investment and productivity growth. A pickup in productivity in major advanced economies would allow for additional growth without a rise in inflation, which would help

sustain favorable financing conditions and generate positive cross-border and inter-industry spillovers (Badinger and Egger 2016). An investment revival in EMDEs would help counterbalance the forces weighing down on potential growth in those countries.

Policy challenges

Challenges in advanced economies

Advanced-economy monetary policy will gradually become less stimulative, as output gaps become positive and inflation picks up. Fiscal policy is expected to be broadly neutral for growth, with the significant exception of the United States. As monetary and fiscal stimuli wane in the medium term and potential growth softens in the longer term, the outlook is expected to weaken, highlighting the need for structural reform to boost productivity and labor force participation.

Monetary and financial policies

As the recovery firms and output gaps become positive, inflation should gradually rise toward central bank targets. The pace of this convergence, however, is subject to considerable uncertainty. Throughout the recovery, inflation has generally been overestimated (Figure 1.22). Recent inflation has been less responsive to strengthening activity than might have been expected, perhaps reflecting hidden slack or structural forces. Inflation expectations may have shifted down following a period of persistently low and below-target actual inflation (Kiley and Roberts 2017; Hills, Nakata, and Schmidt 2016). Globalization may have reduced the sensitivity of inflation to domestic pressures (Auer, Levchenko, and Sauré 2017; Ihrig et al. 2010). Trends in technology and competition may be suppressing wages and prices (Kurz 2017; Autor et al. 2017). Central banks are appropriately taking a gradual approach to policy normalization.

Major central bank balance sheets remain large by historical standards, but have likely peaked globally. The Federal Reserve has started to withdraw quantitative easing, while the European Central Bank is tapering its asset purchases. Changing market expectations about the speed of

FIGURE 1.21 Upside risks: Longer-lasting upturn

Upside risks stem from the possibility of stronger-than-expected growth in major economies, particularly in the United States. Absent the build-up of macroeconomic and financial imbalances, a longer-lasting recovery could help repair crisis-related damages to potential growth.

A. Impact of a 1-percentage-point increase in U.S. growth after 1 year
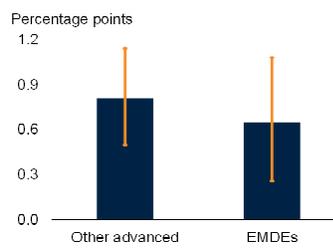
B. Actual and potential output growth in advanced economies and EMDEs in the post-crisis period
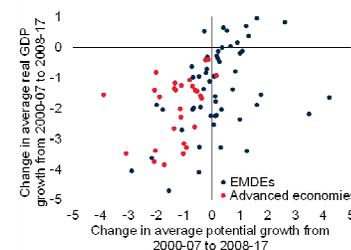
Source: World Bank.
A. Cumulative impulse responses of a 1-percentage-point increase in U.S. growth on growth in other advanced economies and in EMDEs. Solid bars represent medians and error bars represent 16-84 percent confidence intervals.
B. Red dots indicate advanced economies and blue dots are EMDEs. Sample includes 34 advanced economies and 66 EMDEs.
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the process could lead to sudden financial market movements, reminiscent of the 2013 Taper Tantrum. Careful and transparent communication by central banks about their plans for both policy rates and balance sheets can avoid adverse financial market reactions, particularly in an environment where high asset prices are based on assumptions that monetary policy tightening will proceed in an orderly fashion.

Fiscal policy

The fiscal policy stance of advanced economies turned from contractionary to expansionary, on balance, between 2015 and 2017, contributing to the upturn in growth during this period. In most advanced economies, the fiscal stance is expected to be largely neutral for growth over the forecast horizon.

The major exception is the United States, which is undertaking a substantial, and procyclical, fiscal expansion. Fiscal stimulus is an important part of countercyclical policy, especially when monetary policy is constrained (Christiano, Eichenbaum, and Rebelo 2011). However, for an economy operating close to full potential, the benefits of stimulating demand are reduced, while the costs

FIGURE 1.22 Monetary and fiscal policies in advanced economies

Inflation has generally come in below forecasts in recent years, suggesting that central banks should take a gradual approach to raising rates. Major central bank balance sheets are close to their peak size, and managing the unwinding of unconventional policy will require careful communication. Fiscal balances have stabilized in most advanced economies, with the key exception of the United States, where fiscal policy will be highly procyclical, with limited growth spillovers. Debt levels in advanced economies have risen significantly in the past decade, which may hinder their ability to respond to future negative shocks.

A. Euro Area Consensus inflation forecasts
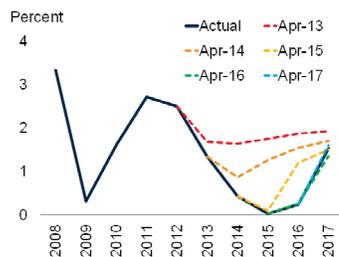
B. U.S. Consensus inflation forecasts
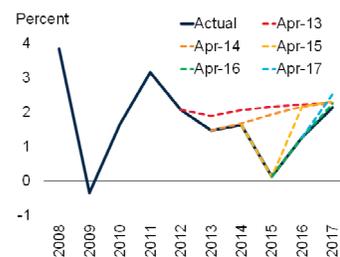
C. Central bank balance sheets
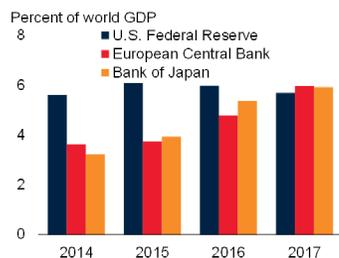
D. Structural fiscal balance

E. Estimates of cross-border spillovers from fiscal policy
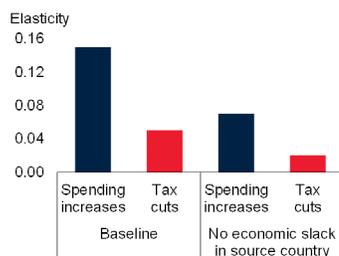
F. Public debt
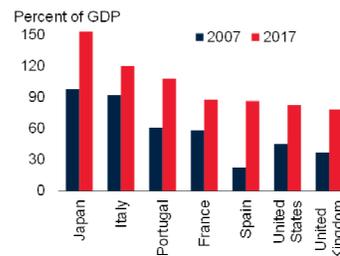
Sources: Consensus Economics, European Central Bank, Federal Reserve Bank of St. Louis, Haver Analytics, International Monetary Fund, World Bank.
A.B. Series indicate date at which inflation forecast surveys were taken.
C. Annual average of monthly assets of central banks. Data use current U.S. dollar GDP weights.
D. Shaded area indicates forecasts. Structural balance is the fiscal balance adjusted for the economic cycle and for one-off effects.
E. Average one-year response of recipient country GDP to a fiscal shock equal to 1 percent of source country GDP, as calculated by Blagrave et al. (2017).
F. Net general government debt as a percentage of GDP. For cross-country comparability, the U.S. figure is adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.
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are magnified as interest rates rise and private investment is crowded out. The same conditions also limit the magnitude of positive spillovers to other countries (Blagrave et al. 2017).

More generally, many advanced economies have added significantly to their public debt load, which may hinder their ability to respond to negative shocks in the future (Romer and Romer 2017). Accordingly, they need to take advantage of the confluence of strong global growth and still low borrowing costs to rebuild fiscal space (Kose et al. 2017b; IMF 2018).

Structural policies

Potential output in advanced economies is constrained by aging populations and weak productivity growth (Figure 1.23). As the recovery matures, and policy stimulus is gradually withdrawn, growth will tend to converge toward its slower pace of potential. Structural reforms can raise this pace by boosting labor participation and productivity growth.

A critical challenge is to continue to support an open and fair global trade system and pursue further trade liberalization. One area with untapped potential is trade in services, which comprises a rising share of global trade despite being subject to considerable restrictions. Reducing barriers to services trade—for instance, by increasing regulatory cooperation and reducing barriers to entry for foreign service providers—has the potential to boost long-term growth prospects while reducing policy uncertainty (Borchert, Gootiiz, and Mattoo 2012; OECD 2017). More generally, increasing trade openness should be accompanied by actions to facilitate re-employment for workers in regions and sectors dislocated by globalization (IMF, World Bank, and WTO 2017).

In contrast, actions to protect certain domestic sectors, such as steel or aluminum tariffs, may lead to net domestic job losses. The increase in costs for downstream users can reduce more jobs than the protected sector gains (François and Baughman 2018). Such losses would be multiplied if other countries retaliate in kind (Akcigit, Ates, and Impullitti 2018).

Challenges in emerging and developing economies

EMDE policymakers need to be able to respond to a rise in inflation and cope with advanced-economy monetary policy normalization, as well as manage possible bouts of financial market volatility. Deteriorating debt dynamics have reduced fiscal space, underlining the importance of revenue mobilization and medium-term fiscal frameworks to rebuild buffers. EMDEs face various structural challenges to boost longer-term prospects. They include the need to intensify economic diversification in commodity exporters, boost skills and adaptability to confront rapid technological change, and promote regional trade integration. China's key policy challenge is to manage the transition to slower but more balanced and sustainable growth.

Policy challenges in China

Authorities in China have implemented a wide range of reforms in recent years (IMF 2017a; World Bank 2017c; World Bank 2018a). These include steps to reduce excess capacity in the industrial sector (Figure 1.24; World Bank 2018b). Notable progress has been made on mixed-ownership reforms aimed at diversifying the ownership structure of state-owned enterprises (SOEs). Currently, more than two-thirds of China's centrally administered SOEs and their subsidiaries have allowed outside investors, restructured, or gone public. Following progress in opening its equity and bond markets to foreigners, China is now taking additional steps to remove foreign ownership limits in financial institutions and some other sectors.

Reforms have also included stricter regulatory policies for the housing market, as well as monetary, financial, and regulatory measures that have contributed to some reduction in corporate debt as a share of GDP, even if household and public-sector debt have continued to increase (BIS 2018a). The authorities have also made progress in fiscal and regulatory reforms. For example, the tax burden on consumers and businesses, as well as transport logistics costs, are being further lowered through cuts in value-added tax rates, social security contributions, tariffs, and road tolls. In addition, recent regulatory measures are expected

FIGURE 1.23 Structural policy in advanced economies

Potential output in advanced economies is constrained by weak population and productivity growth, suggesting that current levels of growth cannot be maintained in the longer term.

A. Working-age population growth

B. Productivity growth
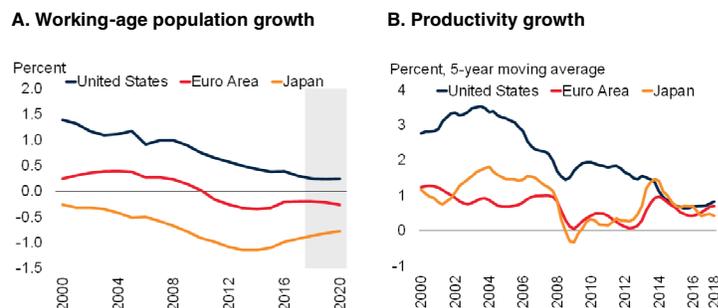
Sources: Haver Analytics, World Bank.
A. The series is a year-on-year percentage change in the working-age population, which is defined as individuals between ages 15-64 years.
B. Productivity measures output per employed person. Last observation is 2018Q1.
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to significantly shorten the processing time for starting business and streamline foreign business registration.

The key economic policy challenge is to manage the transition to slower but more balanced and sustainable growth. This will require continued implementation of reforms to reduce financial vulnerabilities, promote market competition and private sector development, reallocate capital and labor toward more productive firms and sectors, and foster innovation through stronger intellectual property rights, as well as additional research and development. This will also necessitate further actions to bolster household consumption, including additional reforms to make the fiscal system more progressive and rebalance the intergovernmental allocation of revenues and expenditures. Reallocation of public spending from investment to education, health, pensions, and safety nets would increase aggregate consumption and boost human capital. Advancing the reform of the household registration (hukou) system, and of rural land transfers, would contribute to a reduction of income inequality. Encouraging market mechanisms to promote green growth and more efficient, sustainable use of natural resources would enhance environmental sustainability (World Bank 2018a; World Bank 2018h).

FIGURE 1.24 Policy challenges in China

China has implemented a wide range of reforms, including significant steps to reduce excess capacity and to diversify the ownership structure of state-owned enterprises. While monetary and prudential policies have contributed to some reduction of corporate debt, the stock of total debt has continued to increase due to still rising household and public-sector debt. Progress on fiscal reforms includes the reduction of tax and social security burdens on businesses.

A. Industrial capacity utilization
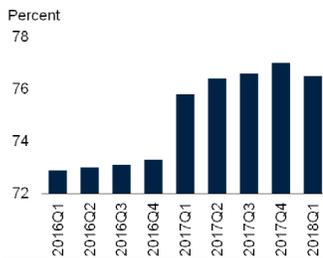
B. Industrial state-owned enterprises and state-controlled enterprises with mixed ownerships
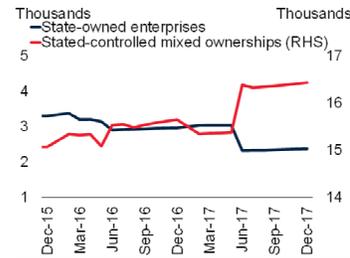
C. Public, household, and corporate debt
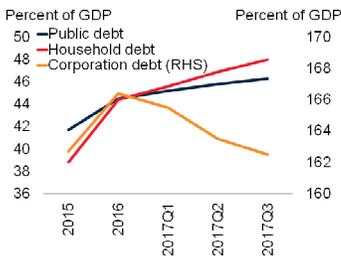
D. Social security contribution, highest mandatory tax rates
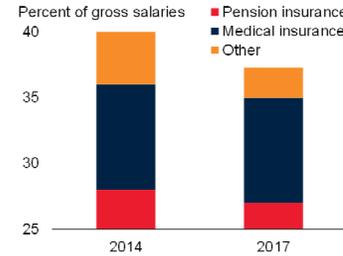
Sources: Bank for International Settlements, China National Bureau of Statistics, Haver Analytics, Institute of International Finance, Ministry of Finance of the People's Republic of China, Ministry of Human Resources and Social Security of the People's Republic of China, World Bank.
A. Last observation is 2018Q1.
B. Both lines represent industrial enterprises. State-controlled mixed ownership enterprises refer to enterprises of whose total assets the state-owned assets have a majority or dominate share. Last observation is December 2017.
C. Total debt comprises of credit to household and non-financial corporations and general government debt (broad definition). The sum of credit to household and non-financial corporations is consistent with the People's Bank of China Aggregate Financing to the Real Economy (stock) level. Public debt, which is general government debt, includes central and local government debt and social security funds, but excludes public enterprises. Data presented in the chart are broadly consistent with the IMF estimates of total debt. Includes debt swaps and other debt restructuring operations.
D. Measures the sum of employer and employee contributions.
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EMDE monetary and financial policies

Among EMDEs more generally, median inflation in commodity exporters has been moderating toward that of commodity importers. Policy interest rate adjustments this year have consisted mostly of cuts in commodity exporters, extending easing cycles already underway in some economies (e.g., Brazil, Colombia, Kazakhstan, Peru, Russia, Zambia; Figure 1.25). Thus far, short-term, survey-based inflation expectations in EMDEs

have shown modest upward momentum. However, with oil prices rising and the aggregate EMDE output gap closing, there may be greater upward pressure on inflation going forward. Moreover, a closed global gap could amplify this tendency through imported inflation (World Bank 2018a).

The challenges associated with increasing inflation pressures could be compounded if monetary policy normalization in advanced economies, and the associated tightening of international financing conditions, leads to capital outflows and currency depreciation among EMDEs (Chari, Stedman, and Lundblad 2017; Dahlhaus and Vasishtha 2014). Some countries have already had to adjust their monetary policy stance in response to rapid adjustments in exchange rates and capital flows in the first half of 2018. The current policy mix in the United States amplifies the challenge of sudden changes in market sentiment. If the Federal Reserve were to hike policy rates more steeply than markets expect to offset overheating and inflationary pressures generated by the large fiscal expansion, there could be additional pressure for rate increases in some EMDEs. At the same time, policymakers in EMDEs need to continue preparing their domestic financial sectors for potentially adverse spillovers from post-crisis banking regulatory tightening in advanced economies (Briault et al. 2018).

How susceptible individual countries may be to capital flow reversals depends on their existing vulnerabilities and other domestic factors, such as their degree of financial openness and institutional quality (Byrne and Fiess 2016). In anticipation of rising borrowing costs and the possibility of renewed, more persistent episodes of market volatility, it is critical for EMDE policymakers to maintain an environment where expectations of longer-term inflation are low and stable. This includes credible commitment to explicit inflation targets in those countries that have implemented such a framework. In some countries, it will also be necessary to tackle vulnerabilities, such as sizable current account deficits or high stocks of corporate debt. Although maintaining an appropriate level of exchange rate flexibility and building policy buffers should be first lines of

defense in confronting sudden financial shocks, EMDE policymakers also need to be prepared to use additional tools, such as intervention in foreign exchange markets, or even targeted capital inflow management measures if other options have been exhausted and a financial crisis is imminent (IMF 2017b). To reduce financial stability risks associated with elevated corporate debt, prudential policies and bankruptcy protection regimes should be reinforced, while access to equity finance should be further developed (Special Focus 2).

EMDE fiscal policy

Public finances are fragile in various EMDEs. Many economies are running sizable government deficits—a trend expected to persist over the next two years—while adverse debt dynamics will continue to constrain fiscal space across EMDEs (Figure 1.26). Limited fiscal buffers leave EMDEs short of an effective fiscal instrument should they need to react to a negative economic shock. In LICs, public debt-to-GDP ratios remain below levels observed prior to the mid-2000s following debt relief initiatives, but have increased rapidly in recent years. Debt vulnerabilities are compounded in those countries by rising exposure to international markets, a lack of transparency, and limited debt management capabilities. The increased reliance on commercial loans and non-traditional sources has created debt-service difficulties in some countries. Across EMDEs more generally, the challenges posed by inadequate fiscal buffers are expected to be amplified as global financing conditions tighten, especially if procyclical U.S. fiscal measures are accompanied by higher-than-expected U.S. and global interest rates.

In oil exporters, fiscal deficits narrowed in 2017, in part aided by recovering energy prices, but are projected to remain large (e.g., Algeria, Bahrain, Ghana, Nigeria; World Bank 2018a). Government revenue growth was positive in 2017 and is set to accelerate in 2018. However, the improvement is not enough to bring revenues as a share of GDP back to levels observed before the 2014-16 oil price collapse, and government debt continues to rise.

FIGURE 1.25 EMDE monetary policy

Policy interest rate actions in commodity exporters in the first half of 2018 consisted mostly of cuts, extending easing cycles already well underway in some economies. This is consistent with moderating inflation and still negative output gaps. Survey-based inflation expectations are rising in commodity importers, and have stabilized in commodity exporters after an extended period of downward adjustment.

A. Policy interest rates
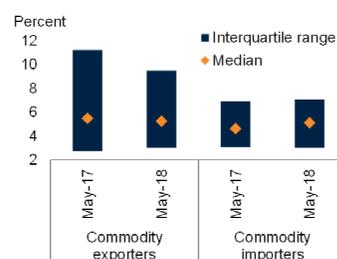
B. One-year-ahead inflation expectations
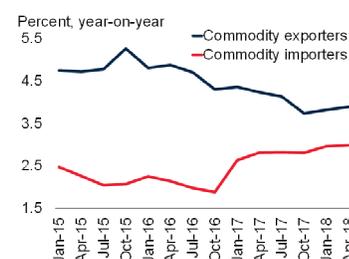
Sources: Consensus Economics, Haver Analytics, World Bank.
A. The blue bars show the interquartile range of policy rates for each country group. Sample includes 37 commodity exporters and 26 commodity importers.
B. Figure shows median one-year-ahead inflation expectations based on a quarterly survey conducted by Consensus Economics. Sample includes nine commodity exporters and 11 commodity importers. Last observation is April 2018.
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In other commodity exporters, government finances deteriorated following the decline in commodities prices after 2011. Fiscal balances bottomed out in 2015-16 and are envisaged to further improve; however, they remain firmly negative. Although the fiscal sustainability gap in commodity exporters is expected to narrow in 2018, the improvement is not yet sufficient to place debt on a sustainable path. These trends suggest that there is still significant need for fiscal consolidation in commodity exporters. In commodity importers, robust growth has supported government revenues. However, government expenditure growth is expected to outpace that of revenues, contributing to rising gross government debt.

Going forward, tightening global financing conditions will have substantial implications for fiscal policy in EMDEs. For sovereign borrowers, public balance sheets could come under stress as governments face rising costs in financing deficits and rolling over maturing debt (IMF 2017b). EMDEs with elevated external borrowing— especially from private creditors—are vulnerable to capital flow reversals, which can increase refinancing risks and the burden of servicing debt

FIGURE 1.26 EMDE fiscal policy

Government debt has been rising across EMDEs, further constraining fiscal space. In LICs, external and non-concessional debt have been increasing, putting further strain on domestic revenues as interest payments continue to climb. Fiscal sustainability gaps could deteriorate across all EMDE regions in response to increasing interest rates. Tax policy appears to be procyclical across many EMDEs, which could exacerbate fluctuations in their business cycles.

A. Gross government debt
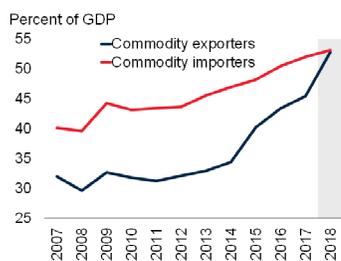
B. External debt in LICs
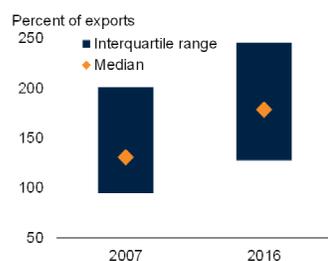
C. Non-concessional debt and interest payments on debt in LICs
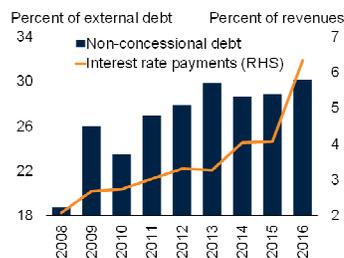
D. Fiscal balances
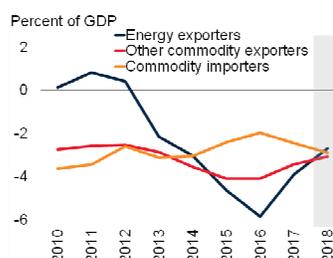
E. Impact of interest-rate shock on fiscal sustainability gaps in EMDEs, by region
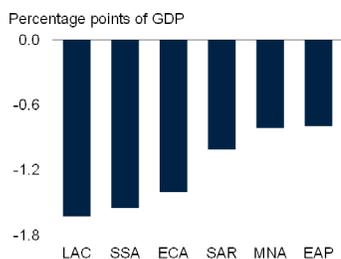
F. Share of tax changes during contractions, 1981-2017
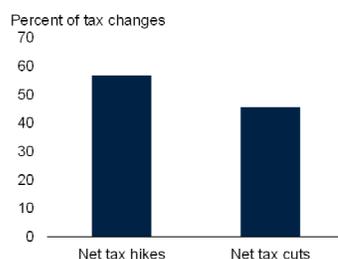
Sources: Haver Analytics, International Monetary Fund, Kose et al. (2017b), Végh and Vuletin (2015), World Bank.
A.D. Shaded area indicates forecasts.
A. Figure shows the constant 2010 U.S. dollar GDP-weighted average for each country group of gross government debt, using an unbalanced sample. The sample in 2018 includes 80 commodity exporters and 60 commodity importers.
B.C. LICs = low-income countries.
B. External debt measures debt owed to non-residents. The unbalanced sample includes 21 LICs.
C. Figure shows median values for LICs. The unbalanced sample includes 29 LICs for non-concessional debt and up to 15 LICs for interest rate payments, depending on data availability. Interest rate payments include those made on government debt to domestic and foreign residents.
D. Figure shows median in each country group. Sample includes 36 energy exporters and 54 other commodity exporters (i.e., agricultural and metals exporters), as well as 63 commodity importers.
E. EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MNA = Middle East and North Africa, SAR = South Asia, and SSA = Sub-Saharan Africa. Figure shows the estimated deterioration in the fiscal sustainability gap driven by a 1-standard deviation interest rate increase. Sustainability gap is measured as the difference between the primary balance and the debt-stabilizing primary balance. A negative bar indicates government debt is rising along an accelerated trajectory. Sample includes 70 EMDEs.
F. A net tax hike occurs when the number of tax cuts exceeds the number of tax cuts, while a net tax cut occurs when the number of tax hikes is less than the number of tax cuts. Tax changes are measured as the change in statutory rates in either the corporate income, personal income, or value-added tax as described in Végh and Vuletin (2015). Output gaps that are more negative than -1 percent of potential GDP indicate an economic contraction. Unbalanced sample, where data for 2017 includes 16 EMDEs.
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(IMF 2018). Although aggregate corporate debt in EMDEs has fallen modestly since 2016, it remains, on average, 27 percentage points of GDP higher than in 2006 (Special Focus 2; Beltran, Garud, and Rosenblum 2017). Deterioration of corporate debt profiles could lead to rising contingent liabilities for the public sector, which would compound the challenges associated with elevated public debt.

Although favorable global growth and recovering revenues are likely to improve fiscal space, EMDE policymakers need to continue to actively address underlying fiscal vulnerabilities. Placing government finances on a more sustainable path could prevent the need for procyclical fiscal consolidation in the presence of negative shocks—as was the case in commodity exporters in 2016-17, when sizable negative output gaps were accompanied by contractionary fiscal stances (World Bank 2018a). Realigning government spending with revenues could also help stabilize growing public debt levels, while managing the composition of debt could ease the servicing burden on tax revenues. The urgency to strengthen or rebuild fiscal buffers should be balanced against other pressing considerations. These include protecting social safety nets and financing growth-enhancing investment, including in infrastructure. Mobilizing fiscal revenues and reallocating spending toward investment and infrastructure projects can prioritize such needs when fiscal space is constrained, which is generally the case in LICs. Across EMDEs, introducing medium-term expenditure frameworks and fiscal rules to contain deficits, as well as improving overall governance, can build credibility to support revenue collection and buck the historical trend of procyclical fiscal policy. This should be complemented by measures to enhance debt transparency, improve debt management capacity, and promote sustainable lending practices, particularly in LICs.

EMDE structural policies

While EMDE growth is expected to continue to accelerate in 2018, potential growth has declined considerably over the past decade, and structural challenges are intensifying. For commodity

exporters, prospects of a secular slowdown in the demand for commodities call for accelerated efforts to diversify their economies (Special Focus 1). For all EMDEs, rapid changes in manufacturing and technology imply rising challenges and opportunities, putting ever-increasing emphasis on education, skills, and adaptability to bolster long-term growth prospects.

Fostering diversification

Resource-rich countries need to enhance the overall competitiveness of their economies. In addition to fostering human and physical capital and improving institutions and governance, they need to pursue policies that help diversify their economies away from natural resources (Gill et al. 2014). For low- and middle-income countries, increased diversification is generally associated with higher levels of income per capita (Figure 1.27; Cadot, Carrère, and Strauss-Kahn 2011; Imbs and Wacziarg 2003). For resource-intensive countries, low levels of economic diversification are particularly challenging, as sharp commodity price fluctuations disproportionately impede investment, growth, and stability in those countries (Bahar 2016; Hesse 2008; Lederman and Maloney 2007; Papageorgiou and Spatafora 2012; IMF 2016). Furthermore, there appears to be an inverse relationship between resource intensity and education outcomes, which could reflect a lower quality of institutions more generally. This can further hamper the potential for development in resource-rich countries (World Bank 2018i).

In the long run, the prospect of persistently moderate commodity prices intensifies the need for reforms to encourage economic diversification, particularly in less diversified oil producers. Such a process generally occurs with incremental changes around existing sectors and comparative advantages, leveraging available skills and infrastructure (Hausmann, Hwang, and Rodrik 2007).

- The successful diversification experience of some energy producers (e.g., Malaysia, Mexico) suggests the need to support both vertical diversification in oil, gas, and petro-chemical sectors, as well as horizontal diversi-

fication beyond these sectors. Continued commitment to reforms aimed at improving governance and the business climate, and reducing regulatory barriers to competition and to foreign investment, has the potential to diminish reliance on the oil sector (Callen et al. 2014; Devarajan 2017; Stocker et al. 2018).

- Similarly, metals and agricultural exporters can benefit from vertical diversification—the development of industries closely related to existing production and export structures—and the expansion of high value-added resource-based manufacturing activities. For instance, mining and forestry have become knowledge-intensive sectors with high technological content in both upstream and downstream activities. Successful examples of vertical diversification include Thailand, Chile, and Uganda (Hesse 2008; Gylfason and Nguessa Nganou 2014; Maloney and Valencia Caicedo 2017).

While incremental diversification around resource sectors can help foster learning and the adoption of new technologies, proper regulatory and institutional frameworks need to be in place to attract new investments, help the development of higher value-added export sectors, and boost competitiveness and participation in regional and global value chains. Regulations and institutions that slow the emergence of new sectors should be identified and reformed in order to support efficiency-seeking and productivity-enhancing investments, including through improved competition policies. Rapid technological changes also offer new opportunities for private-sector-led growth, including in digital services and information technologies (World Bank 2018i). Diversification can be hindered by the absence of local market access, emphasizing the need for further regional integration, particularly in Sub-Saharan Africa (Imbs 2018).

Adapting to technological change

Despite heightened uncertainty about trade policies in major economies, the potential for export-led manufacturing growth remains

FIGURE 1.27 EMDE structural policy

Decreasing export concentration is generally associated with rising income per capita. The need for increased diversification is particularly acute among oil-exporting EMDEs. Automation creates new challenges for manufacturing-led growth in EMDEs. Regional trade agreements offer prospects of increased integration, particularly in Sub-Saharan Africa. Improving basic reading and mathematics proficiency remains a major priority in some regions.

A. Export concentration and GDP per capita levels
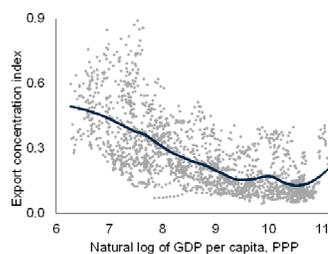
B. Export concentration, 2016
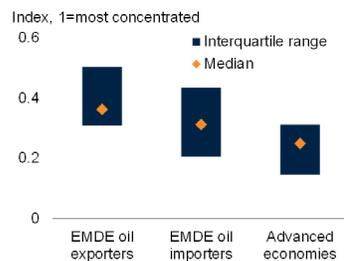
C. Supply of industrial robots, by industries worldwide
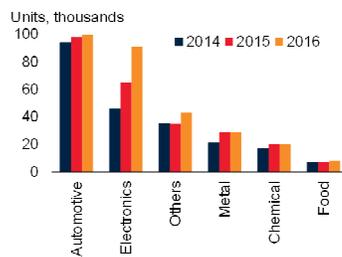
D. Size of new regional trade agreements
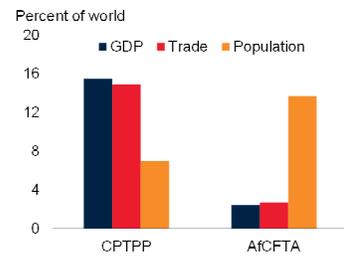
E. Impact of AfCFTA on employment, by sector
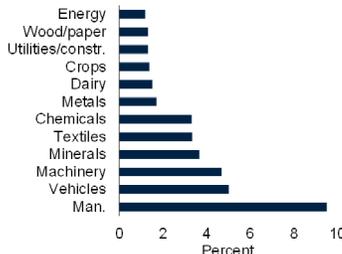
F. Students proficient in math and reading
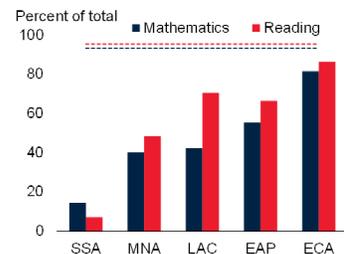
Sources: International Federation for Robotics; Saygili, Peters, and Knebel (2018); United Nations Conference on Trade and Development (UNCTAD); World Bank.

A.B. Herfindahl-Hirschmann concentration index measures the degree of product concentration, where values closer to 1 indicate a country's exports are highly concentrated on a few products.

A. GDP per capita measured in Purchasing Power Parity (PPP) terms. Trend computed using a local polynomial regression over a sample of 104 countries and over the period 1995 to 2015. Outlier data trimmed at the 10 percent level using a density based clustering algorithm.

B. Orange diamonds denote the median and blue bars represent the interquartile range of individual country groups. Sample includes 34 oil-exporting EMDEs (excludes South Sudan), 116 oil-importing EMDEs, and 36 advanced economies.

C. Estimated annual supply of industrial robots at year-end.

D. CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, AfCFTA = African Continental Free Trade Area. Data are as of 2017.

E. Man. refers to other manufactured goods. Utilities/const. refers to utilities/construction. The employment effects of the African Continental Free Trade Area (AfCFTA) have been estimated using the Global Trade Analysis Project (GTAP) model. The GTAP model is a static, multi-regional, multi-sectoral general equilibrium model assuming perfect competition, constant returns to scale, and imperfect substitution between foreign and domestic goods and among imports from different sources.

F. SSA = Sub-Saharan Africa, MNA = Middle East and North Africa, LAC = Latin America and Caribbean, EAP = East Asia and Pacific, ECA = Eastern Europe and Central Asia. Data for South Asia are unavailable. Dashed horizontal lines show advanced-economy average.

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significant in many EMDEs, as their productivity levels, which lag the global technological frontier, have substantial scope for convergence. A rising share of manufacturing employment and increased vertical specialization have generally been associated with higher productivity and income per capita levels (Diao, McMillan, and Rodrik 2017; Hallward-Driemeier and Nayyar 2018; Szirmai and Verspagen 2015). Manufacturing can foster the diffusion of technologies, particularly for countries that are currently less integrated into global value chains, and thus boost long-term growth prospects.

Rapid technological changes—including increased digitalization and the use of advanced robotics—may significantly affect countries' comparative advantages. Increased diffusion and adoption of digital technologies in EMDEs are likely to be positive for growth and job creation, particularly in countries with elevated levels of digital literacy. Mobile and internet technologies can lower costs of market access, foster entrepreneurship, and improve labor market efficiency, thereby helping workers and firms match skills to jobs.

While evidence of employment-saving industrial automation is limited in EMDEs, task-replacing technologies could potentially contribute to labor displacement over time, including in more traditional manufacturing activities (Acemoglu and Restrepo 2018; Autor and Salomons 2018; Maloney and Molina 2016). At the same time, the increasing services intensity of manufacturing can create important labor market opportunities and productivity advancement in EMDEs (Enache, Ghani, and O'Connell 2016; Kinfemichael and Morshed 2015; WTO 2017; UNCTAD 2017a).

These trends suggest rapid changes in the types of investments and skills needed for manufacturing-led growth in EMDEs. Opportunities and risks will vary across sectors, depending on the extent of trade in international markets, the degree of export concentration, the level of automation, and the importance of complementary services. Labor-intensive industries, including commodity-based and less-automated manufacturing processes, remain important entry points for less-industrialized economies. This applies to rapidly

expanding urban areas in Sub-Saharan Africa, where an improved manufacturing base and greater openness to regional and international trade could unlock potential for higher per capita income growth (Lall, Henderson, and Venables 2017).

For manufacturing sectors that are more easily automated, and where trade is more concentrated, advanced technology may be more disruptive and labor-saving, but necessary to raise efficiency and maintain competitiveness. Successful industri-alization strategies will need to focus on strengthening international competitiveness, increase skills and adaptability, support firms' capacity to absorb new technologies, and foster the development of complementary services.

Promoting trade openness

Measures that reduce barriers to trade could contribute to boosting value chain integration, investment, and productivity. Despite the lack of progress in multilateral trade negotiations, 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 trad-ing partners, and the African Continental Free Trade Area (AfCFTA). These have the potential to boost not only intra-regional trade and incomes of member countries, but also to provide a counterbalance against rising protectionist sentiments.

Full implementation of the CPTPP, signed by 11 countries, together accounting for 16 percent of global GDP and 14 percent of global trade, is expected to provide a boost to trade flows for its members, even if potential gains have been reduced following the withdrawal of the United States from the original TPP (Maliszewska, Olekseyuk, and Osorio-Rodarte 2018). The AfCFTA was launched by countries representing a notably smaller share of global GDP and trade; however, once ratified by its 44 members, it would

be the largest free-trade area in terms of population and number of countries. The AfCFTA has the potential to substantially foster intra-regional trade flows, contribute to greater economic diversification, and lead to higher value-added products and greater innovation in Africa (Saygili, Peters, and Knebel 2018; UNCTAD 2017b).

Deep regional trade agreements—those that go beyond tariff reductions and that contain wide-ranging commitments in the areas of competition, investment, services, and the protection of intellectual property rights—are associated with larger trade and income gains (Constantinescu et al. forthcoming; Hofmann, Osnago, and Ruta 2017). Promoting such commitments could therefore yield sizable dividends for EMDEs. Successful regional trade arrangements also need to be platforms for further integration with the rest of the world, as shown by the positive experiences in Europe and Asia.

Improving education and training

Policies related to education and training programs can be redesigned to adapt available skills to changing development needs and new technologies, thereby boosting growth and employment prospects (World Bank 2018j). As countries become increasingly engaged in more complex production processes, higher levels of tertiary school enrollment and investment in skills related to information and communication technology (ICT) have a bigger payoff. Training programs that are responsive to changing industry needs are particularly important (Hallward-Driemeier and Nayyar 2018). As technologies are likely to change more quickly than national education systems are able to adapt to them, innovative ways of imparting skills will need to be developed, including through experimentation and impact evaluation. The importance of equipping people with the necessary skills to adapt to new opportunities is emphasized in the G20's agenda on the future of work.

For many low- and middle-income countries—particularly in Sub-Saharan Africa and in the Middle East and North Africa—improving basic numeracy, literacy, and ICT-related skills remains

a key priority. Even though school enrollment and average years of schooling have markedly increased over the last decade, learning and the acquisition of basic skills remain insufficient in these countries (Altinok, Angrist, and Patrinos 2018). Early learning deficits are magnified over time and tend to accentuate inequality, whereas higher inter-generational mobility in education is associated with higher growth and lower poverty (PASEC 2015; World Bank 2017d). Improving learning outcomes requires better measurement and monitoring, improved school practices, and greater accountability. Helping to develop "soft" skills that foster adaptability, as well as initiative and problem solving, could come at a premium in view of the rapid and unforeseen changes in skills requirements and the increasing automation of repetitive tasks.

TABLE 1.2 List of emerging market and developing economies[1]

Commodity exporters[2]		Commodity importers[3]	
Albania*	Madagascar	Afghanistan	Philippines
Algeria*	Malawi	Antigua and Barbuda	Poland
Angola*	Malaysia*	Bahamas, The	Romania
Argentina	Mali	Bangladesh	Samoa
Armenia	Mauritania	Barbados	Serbia
Azerbaijan*	Mongolia	Belarus	Seychelles
Bahrain*	Morocco	Bhutan	Solomon Islands
Belize	Mozambique	Bosnia and Herzegovina	Sri Lanka
Benin	Myanmar*	Bulgaria	St. Kitts and Nevis
Bolivia*	Namibia	Cabo Verde	St. Lucia
Botswana	Nicaragua	Cambodia	St. Vincent and the Grenadines
Brazil	Niger	China	Swaziland
Burkina Faso	Nigeria*	Comoros	Thailand
Burundi	Oman*	Croatia	Tunisia
Cameroon*	Papua New Guinea	Djibouti	Turkey
Chad*	Paraguay	Dominica	Tuvalu
Chile	Peru	Dominican Republic	Vanuatu
Colombia*	Qatar*	Egypt	Vietnam
Congo, Dem. Rep.	Russia*	El Salvador	
Congo, Rep.*	Rwanda	Eritrea	
Costa Rica	Saudi Arabia*	Fiji	
Côte d'Ivoire	Senegal	Georgia	
Ecuador*	Sierra Leone	Grenada	
Equatorial Guinea*	South Africa	Haiti	
Ethiopia	Sudan*	Hungary	
Gabon*	Suriname	India	
Gambia, The	Tajikistan	Jamaica	
Ghana*	Tanzania	Jordan	
Guatemala	Timor-Leste*	Kiribati	
Guinea	Togo	Lebanon	
Guinea-Bissau	Tonga	Lesotho	
Guyana	Trinidad and Tobago*	Macedonia, FYR	
Honduras	Turkmenistan*	Maldives	
Indonesia*	Uganda	Marshall Islands	
Iran*	Ukraine	Mauritius	
Iraq*	United Arab Emirates*	Mexico	
Kazakhstan*	Uruguay	Micronesia, Fed. Sts.	
Kenya	Uzbekistan	Moldova, Rep.	
Kosovo	Venezuela*	Montenegro	
Kuwait*	West Bank and Gaza	Nepal	
Kyrgyz Republic	Zambia	Pakistan	
Lao PDR	Zimbabwe	Palau	
Liberia		Panama	

*Energy exporters.

[1] Emerging market and developing economies (EMDEs) include all those that are not classified as advanced economies. Dependent territories are excluded. Advanced economies include Australia; Austria; Belgium; Canada; Cyprus; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hong Kong SAR, China; Iceland; Ireland; Israel; Italy; Japan; the Republic of Korea; Latvia; Lithuania; Luxembourg; Malta; Netherlands; New Zealand; Norway; Portugal; Singapore; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; the United Kingdom; and the United States.

[2] An economy is defined as commodity exporter when, on average in 2012-14, either (i) total commodities exports accounted for 30 percent or more of total goods exports or (ii) exports of any single commodity accounted for 20 percent or more of total goods exports. Economies for which these thresholds were met as a result of re-exports were excluded. When data were not available, judgment was used. This taxonomy results in the classification of some well-diversified economies as importers, even if they are exporters of certain commodities (e.g., Mexico).

[3] Commodity importers are all EMDEs that are not classified as commodity exporters.

References

Acemoglu, D., and P. Restrepo. 2018. "Artificial Intelligence, Automation and Work." NBER Working Paper No. 24196, National Bureau of Economic Research, Cambridge, Massachusetts.

Adrian, T., R. K. Crump, and E. Moench. 2013. "Pricing the Term Structure with Linear Regressions." *Journal of Financial Economics* 110 (1): 110-138.

Aisen, A., and F. J. Veiga. 2011. "How Does Political Instability Affect Economic Growth?" IMF Working Paper 11/12, International Monetary Fund, Washington, DC.

Akcigit, U., S. Ates, and G. Impullitti. 2018. "Innovation and Trade Policy in a Globalized World." NBER Working Paper 24543, National Bureau of Economic Research, Cambridge, MA.

Allansson, M., E. Melander, and L. Themnér. 2017. "Organized Violence, 1989–2016." *Journal of Peace Research* 54 (4): 574-587.

Altinok, N., N. Angrist, and H. A. Patrinos. 2018. "Global Data Set on Education Quality (1965-2015)." Policy Research Working Paper 8314, World Bank, Washington DC.

Amendolagine, V., A. Presbitero, R. Rabellotti, M. Sanfilippo, and A. Seric. 2017. "FDI, Global Value Chains, and Local Sourcing in Developing Countries." IMF Working Paper 17/284, International Monetary Fund, Washington, DC.

Angeletos, G.-M., F. Collard, and H. Dellas. 2017. "Quantifying Confidence." NBER Working Paper No. 20807, National Bureau of Economic Research, Cambridge, MA.

Auboin, M., and F. Borino. 2017. "The Falling Elasticity of Global Trade to Economic Activity: Testing the Demand Channel." WTO Staff Working Paper ERSD-2017-09, World Trade Organization, Geneva, Switzerland.

Auer, R., A. Levchenko, and P. Sauré. 2017. "International Inflation Spillovers via Input-Output Linkages." BIS Working Papers 623, Bank for International Settlements, Basel, Switzerland.

Auerbach, A., W. Gale, and A. Krupkin. 2018. "The Federal Budget Outlook: Even Crazier After All These Years." Urban-Brookings Tax Policy Center, Washington, DC.

Autor, D., and D. Dorn. 2013. "The Growth of Low-Skill Services Jobs and the Polarization of the U.S. Labor Market." *American Economic Review* 103 (5): 1553–97.

Autor, D., D. Dorn, and H. Hanson. 2016. "The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade." *Annual Review of Economics.*

Autor, D., D. Dorn, L. F. Katz, C. Patterson, and J. V. Reenan. 2017. "The Fall of the Labor Share and the Rise of Superstar Firms." IZA Discussion Paper No. 10756, Institute for the Study of Labor (IZA), Bonn, Germany.

Autor, D., and A. Salomons. 2018. "Is Automation Labor-Displacing? Productivity Growth, Employment, and the Labor Share." Brookings Papers on Economic Activity.

Badinger, H., and P. Egger. 2016. "Productivity Spillovers Across Countries and Industries: New Evidence from OECD Countries." *Oxford Bulletin of Economics and Statistic*s 78 (4): 501-521.

Bahar, D. 2016. "The Path to Growth and Development: Diversification or Specialization?" Brookings Future Development (blog), November 4. https://www.brookings.edu/blog/future-develop ment/2016/11/04/what-is-the-path-to-growth-and-development-diversification-or-specialization/.

Baker, S. R., N. Bloom, and S. J. Davis. 2016. "Measuring Economic Policy Uncertainty." *Quarterly Journal of Economics* 131 (4): 1593-1636.

Ball, L. 2014. "Long-Term Damage from the Great Recession in OECD Countries." *European Journal of Economics and Economic Policies: Intervention* 11 (2): 149-160.

Bauer, M. D., and T. M. Mertens. 2018. "Economic Forecasts with the Yield Curve." *FRBSF Economic Letter* 2018-7, Federal Reserve Bank of San Francisco.

Bazzi, S., and C. Blattman. 2014. "Economic Shocks and Conflict: Evidence from Commodity Prices." *American Economic Journal: Macroeco-nomics* 6 (4): 1-38.

Beegle, K., L. Christiaensen, A. Dabalen, and I. Gaddis. 2016. "Poverty in a Rising Africa." *Africa Poverty Report*. World Bank, Washington, DC.

Bell, D. N. F., and D. G. Blanchflower. 2010. "Recession and Unemployment in the OECD." *CESifo Forum* 11 (1): 14–22.

———. 2011. "Young People and the Great Recession." *Oxford Review of Economic Policy* 27 (2): 241–267.

Beltran, D., K. Garud, and A. Rosenblum. 2017. "Emerging Market Nonfinancial Corporate Debt: How Concerned Should We Be?" IFDP Notes, Board of Governors of the Federal Reserve System, Washington, DC.

Benhabib, J., P. Wang, and Y. Wen. 2015. "Sentiments and Aggregate Demand Fluctuations." *Econometrica* 83 (2): 549–585.

Bhattarai, S. and A. Chatterjee, and W. Y. Park. 2018. "Effects of US Quantitative Easing on Emerging Market Economies." Globalization and Monetary Policy Institute Working Paper 255, Federal Reserve Bank of Dallas, Dallas, TX.

Bhorat, H., and F. Tarp. 2016. "The Pursuit of Long-Run Economic Growth in Africa: An overview of Key Challenges." *In Africa's Lions: growth Traps and Opportunities for Six African Economies*, edited by H. Bhorat and F. Tarp. Washington, DC: Brookings Institution.

BIS (Bank for International Settlements). 2017. "BIS Quarterly Review: December 2018." Bank for International Settlements, Basel, Switzerland.

———. 2018a. "BIS Statistical Bulletin." March. Bank for International Settlements, Basel, Switzerland.

———. 2018b. "BIS Quarterly Review." March. Bank for International Settlements, Basel, Switzerland.

Blagrave, P., G. Ho, K. Koloskova, and E. Vesperoni. 2017. "Fiscal Spillovers: The Importance of Macroeconomic and Policy Conditions in Transmission." Spillover Notes No. 17/02, International Monetary Fund, Washington, DC.

Bluedorn, J. C., J. Decressin, and M. E. Terrones. 2013. "Do Asset Price Drops Foreshadow Recessions?" IMF Working Paper 13/203, International Monetary Fund, Washington, DC.

Bonis, B., J. Ihrig, and M. Wei. 2017. "Projected Evolution of the SOMA Portfolio and the 10-year Treasury Term Premium Effect." FEDS Notes, Board of Governors of the Federal Reserve System, Washington, DC.

Borchert, I., B. Gootiiz, and A. Mattoo. 2012. "Policy Barriers to International Trade in Services: New Empirical Evidence." Policy Research Working Paper 6109, World Bank, Washington, DC.

Borensztein, E., and L. S. Ye. Forthcoming. "Corporate Debt Overhang and Investment: Firm-level Evidence." Mimeo, World Bank, Washington, DC.

Bown, C. 2017. "Economics and Policy in the Age of Trump." Centre for Economic Policy Research, London.

———. 2018. "More than Soybeans: Trump's Section 301 Tariffs and China's Response." Trade and Investment Policy Watch, Peterson Institute for International Economics, Washington, DC.

Briault, C., E. Feyen, I. D. M. Gonzalez, B. C. Y. Kwok, J. Rademacher, and I. Skamnelos. 2018. "Cross-Border Spillover Effects of the G20 Financial Regulatory Reforms: Results from a Pilot Survey." Policy Research Working Paper 8300, World Bank, Washington, DC.

Byrne, J., and N. Fiess. 2016. "International Capital Flows to Emerging Markets: National and Global Determinants." *Journal of International Money and Finance* 61: 82–100.

Brynjolfsson, E., and A. McAfee. 2014. *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York, NY: W.W. Norton & Company.

Cadot, O., C. Carrère, and V. Strauss-Kahn. 2011. "Export Diversification: What's behind the Hump?" *Review of Economics and Statistics* 93: 590-605.

Callen, T., R. Cherif, F. Hasanov, A. Hegazy, and P. Khandelwal. 2014. "Economic Diversification in

the GCC: Past, Present, and Future." IMF Staff Discussion Note 14/12, International Monetary Fund, Washington, DC.

CBO (Congressional Budget Office). 2018a. *The Budget and Economic Outlook*: 2018 to 2028. Washington, DC: Congressional Budget Office.

———. 2018b. *CBO Estimate for Senate Amendment 1930, The Bipartisan Budget Act of 2018*. Washington, DC: Congressional Budget Office.

———. 2018c. *An Update to the Budget and Economic Outlook*. Washington, DC: Congressional Budget Office.

Cette, G., J. Fernald, and B. Mojon. 2016. "The Pre-Great Recession Slowdown in Productivity." *European Economic Review* 88: 3-20.

Chari, A., K. D. Stedman, and C. Lundblad. 2017. "Taper Tantrums: QE, Its Aftermath and Emerging Market Capital Flows." NBER Working Paper 23474, National Bureau of Economic Research, Cambridge, MA.

Christiano, L., M. Eichenbaum, and S. Rebelo. 2011. "When is the Government Spending Multiplier Large?" *Journal of Political Economy* 119 (1): 78-121.

Ciccone, A. 2018. "International Commodity Prices and Civil War Outbreak: New Evidence for Sub-Saharan Africa and Beyond." Barcelona GSE Working Paper Series Working Paper No. 1016, Barcelona Graduate School of Economics, Barcelona, Spain.

Cœuré, B. 2018. "What Yield Curves Are Telling Us." Speech at the Financial Times European Financial Forum, "Building a New Future for International Financial Services," Dublin, January 31.

Constantinescu, C., A. Mattoo, A. Mulabdic, and M. Ruta. Forthcoming. "Global Trade Watch: Trade Developments in 2017." World Bank, Washington, DC.

Dahlhaus, T., and G. Vasishtha. 2014. "The Impact of U.S. Monetary Policy Normalization on Capital Flows to Emerging-Market Economies." Working Paper 2014-53, Bank of Canada, Ottawa.

Danninger, S. 2016. "What's Up with U.S. Wage Growth and Job Mobility?" IMF Working Paper 16/122, International Monetary Fund, Washington, DC.

Davis, S. J., and J. Haltiwanger. 2014. "Labor Market Fluidity and Economic Performance." NBER Working Paper 20479, National Bureau of Economic Research, Cambridge, MA.

Devarajan, S. 2017. "How to Use Oil Revenues Efficiently." Future Development, Brookings Institution, Washington, DC.

———. 2018. "Low-income Country Debt: Déjà Vu All Over Again?" Future Development, Brookings Institution, Washington, DC.

Diao, X., M. McMillan, and D. Rodrik. 2017. "The Recent Growth Boom in Developing Economies: A Structural Change Perspective." NBER Working Paper 23132, National Bureau of Economic Research, Cambridge, MA.

Didier, T., M. A. Kose, F. Ohnsorge, and L. S. Ye. 2015. "Slowdown in Emerging Markets: Rough Patch or Prolonged Weakness?" World Bank Policy Research Note 15/04, World Bank, Washington, DC.

Draghi, M. 2018. "Monetary Policy in the Euro Area." Speech at The ECB and Its Watchers XIX Conference, Institute for Monetary and Financial Stability, Frankfurt, March 14.

Drehmann, M., J. Juselius, and A. Korinek. 2017. "Accounting for Debt Service: The Painful Legacy of Credit Booms." Bank of Finland Research Discussion Paper 12/2017.

ECB (European Central Bank). 2017. "September 2017 ECB Staff Macroeconomic Projections for the Euro Area." Frankfurt am Main.

———. 2018. "Mario Draghi: Introductory Statement to the Press Conference." Frankfurt am Main, March 8.

Eickmeier, S., and M. Kühnlenz. 2013. "China's Role in Global Inflation Dynamics." Discussion Paper 07/2013, Deutsche Bundesbank, Frankfurt am Main.

Elsby, M. W., B. Hobijn, and A. Şahin. 2013. "The Decline of the U.S. Labor Share." *Brookings Papers on Economic Activity* 2013 (2): 1-63.

Enache, M., E. Ghani, and S. O'Connell. 2016. "Structural Transformation in Africa: A Historical View." Policy Research Working Paper 7743, World Bank, Washington, DC.

Erbahar, A., and Y. Zi. 2017. "Cascading Trade Protection: Evidence from the U.S." *Journal of International Economics* 108: 274-299.

Escaith, H. 2017. "Accumulated Trade Costs and Their Impact on Domestic and International Value Chains." In *Global Value Chain Development Report 2017: Measuring and Analyzing the Impact of GVCs on Economic Development*, published by World Bank, IDE-JETRO, OECD, Research Center of Global Value Chains (UIBE), and the WTO.

Fernald, J. G., R. E. Hall, J. H. Stock, and M. W. Watson. 2017. "The Disappointing Recovery of Output after 2009." Spring 2017. Brookings Papers on Economic Activity, Brookings Institution, Washington, DC.

FOMC (Federal Open Market Committee). 2018. "Economic Projections of Federal Reserve Board Members and Federal Reserve Bank Presidents Under their Individual Assessments of Projected Appropriate Monetary Policy, March 2018." Projection Materials, Board of Governors of the Federal Reserve System, Washington, DC.

François, J., and L. M. Baughman. 2018. "Does Import Protection Save Jobs? The Estimated Impacts of Proposed Tariffs on Imports of U.S. Steel and Aluminum." Policy Brief, The Trade Partnership, Washington DC.

Freund, C. 2018. "Global Imbalances and the Trade Slowdown." Peterson Institute Working Paper 18-2, Peterson Institute for International Economics, Washington DC.

Georgieva, D. P., N. V. Loayza, and F. Mendez-Ramos. 2018. "Global Trade: Slowdown, Factors, and Policies." Research & Policy Briefs 12, World Bank, Washington, D.C.

Gill, I., I. Izvorski; W. van Eeghen, and D. De Rosa. 2014. *Diversified Development: Making the Most of Natural Resources in Eurasia. Europe and Central Asia Studies*. Washington, DC: World Bank.

Gill, I., and K. Karakülah. 2018. "Sounding the Alarm on Africa's Debt." Future Development, Brookings Institution, Washington, DC.

Gordon, R. J. 2016. *The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War*. Princeton, NJ: Princeton University.

Gylfason, T., and J.-P. Nguessa Nganou. 2014. "Diversification, Dutch Disease, and Economic Growth: Options for Uganda." In *Economic Diversification Policies in Natural Resource Rich Economies*, edited by S. Mahroum, and Y. Al-Saleh. Routledge: 134-163.

Hallward-Driemeier, M., and G. Nayyar. 2018. *Trouble in the Making? The Future of Manufacturing-Led Development*. Washington, DC: World Bank.

Hausmann, R., J. Hwang, and D. Rodrik. 2007. "What You Export Matters." *Journal of Economic Growth* 12 (1): 1-25.

Hesse, H. 2008. "Export Diversification and Economic Growth." In *Breaking into New Markets: Emerging Lessons for Export Diversification*, edited by R. Newfarmer, W. Shaw, and P. Walkenhorst. Washington, DC: World Bank.

Hills, T., T. Nakata, and S. Schmidt. 2016. "The Risky Steady State and the Interest Rate Lower Bound." Finance and Economics Discussion Series Working Paper 2016-009, Board of Governors of the Federal Reserve System, Washington, DC.

Hirata, H., E. Islamaj, and M. A. Kose. 2018. "Understanding Global Productivity Cycles." Mimeo, World Bank, Washington, DC.

Ho, G., and P. Mauro. 2016. "Growth—Now and Forever?" *IMF Economic Review* 64 (3): 526-547.

Hofmann, C., A. Osnago, and M. Ruta. 2017. "Horizontal Depth: A New Database on the Content of Preferential Trade Agreements." Policy Research Working Paper 7981, World Bank, Washington, DC.

Huidrom, R., M. A. Kose, and F. L. Ohnsorge. 2017. "How Important are Spillovers from Major Emerging Markets?" International Macroeconomics and Finance Series Discussion Paper 12022, Centre for Economic Policy Research, London, United Kingdom.

Ianchovichina, E., and R. McDougall. 2000. "Theoretical Structure of Dynamic GTAP." GTAP Technical Paper 17, Center for Global Trade Analysis, Purdue University, West Lafayette, IN.

Ianchovichina, E., and T. L. Walmsley. 2012. *Dynamic Modeling and Applications for Global Economic Analysis*. Cambridge, United Kingdom: Cambridge University Press.

Ihrig, J., S. Kamin, D. Lindner, and J. Marquez. 2010. "Some Simple Tests of the Globalization and Inflation Hypothesis." *International Finance* 13 (3): 343-375.

Imbs, J. 2018. "Monetary Regimes to Cope with Volatile Commodity Export Prices: Two Proposals." In *Rethinking the Macroeconomics of Resource-Rich Countries*. VoxEU.org ebook, CEPR's Policy Portal, April 24, edited by Arezki, A, R. Boucekkine, J. Frankel, M. Laksaci, and R. van der Ploeg, https://voxeu.org/system/files/epublication Resource_Rich_Countries_eBook.pdf.

Imbs, J., and R. Wacziarg. 2003. "Stages of Diversification." *American Economic Review* 93 (1): 63-86.

IMF (International Monetary Fund). 2016. "Economic Diversification in Oil-Exporting Arab Countries." Annual Meeting of Arab Ministers of Finance, Bahrain.

IMF (International Monetary Fund). 2017a. "People's Republic of China 2017 Article IV Consultation—Staff Report." International Monetary Fund, Washington, DC.

———. 2017b. *Global Financial Stability Report: Is Growth at Risk?* Washington, DC: International Monetary Fund.

———. 2018. IMF Fiscal *Monitor: Capitalizing on Good Times.* Washington, DC: International Monetary Fund.

IMF (International Monetary Fund), World Bank, and WTO (World Trade Organization). 2017. *Making Trade an Engine of Growth for All: The Case for Trade and for Policies to Facilitate Adjustment.* Washington, DC: International Monetary Fund.

Inglehart, R., and P. Norris. 2016. "Trump, Brexit, and the Rise of Populism: Economic Have-Nots and Cultural Backlash." HKS Faculty Research Paper Working Paper RWP16-026, Harvard John. F. Kennedy School of Government, Cambridge, MA.

Irwin, D. 2017. "The False Promise of Protectionism: Why Trump's Trade Policy Could Backfire." *Foreign Affairs* 96: 45-56.

JCT (Joint Committee on Taxation). 2017. "Macroeconomic Analysis of The Conference Agreement for H.R. 1, The "Tax Cuts and Jobs Act." Joint Committee on Taxation Publication JCX-69-17, Washington, DC.

Jordà, O., M. Schularick., and M. Taylor. 2013. "When Credit Bites Back." *Journal of Money, Credit and Banking*, 45 (s2): 3-28.

Juhn, G., and P. Loungani. 2002. "Further Cross-Country Evidence on the Accuracy of the Private Sector's Output Forecasts." *IMF Staff Papers* 49 (1): 49-64.

Karasapan, O. 2017. "The Internally Displaced in the Middle East and North Africa: Harbingers of Future Conflict?" Brookings Future Development (blog), July 5. https://www.brookings.edu/blog/future-development/2017/07/05/the-internally-dis placed-in-the-middle-east-and-north-Africa-harbin gers-of-future-conflict/.

Kiley, M. and J. Roberts. 2017. "Monetary Policy in a Low Interest World." BPEA Conference Draft. Brookings Papers on Economic Activity, Washington, DC.

Kilic Celik, S., M. A. Kose, F. Ohnsorge, and M. Some. 2018. "Potential Growth." World Bank Policy Research Working Paper, forthcoming, World Bank, Washington, DC.

Kinfemichael, B., and A. K. M. Morshed. 2015. "Unconditional Convergence of Labor Productivity in the Service Sector." Discussion Paper Series, Southern Illinois University, Carbondale.

Kose, M. A., and E. S. Prasad. 2010. *Emerging Markets: Resilience and Growth amid Global Turmoil.* Washington, DC: Brookings Institution.

Kose, M. A., and M. E. Terrones. 2015. *Collapse and Revival. Understanding Global Recessions and Recoveries.* Washington, DC: International Monetary Fund.

Kose, M. A., C. Lakatos, F. L. Ohnsorge, and M. Stocker. 2017a. "The Global Role of the U.S. Economy: Linkages, Policies and Spillovers." Policy Research Working Paper 7962, World Bank, Washington, DC.

Kose, M. A., S. Kurlat, F. L. Ohnsorge, and N. Sugawara. 2017b. "A Cross-Country Database of Fiscal Space." Policy Research Working Paper 8157, World Bank, Washington, DC.

Kurz, M. 2017. "On the Formation of Capital and Wealth." Discussion Paper 17-016, Stanford Institute for Economic Policy Research, Stanford, CA.

Kutlina-Dimitrova, Z., and C. Lakatos. 2017. "The Global Costs of Protectionism." Policy Research Working Paper 8277, World Bank, Washington, DC.

Lall, S., J. Henderson, and A. Venables. 2017. *Africa's Cities: Opening Doors to the World.* Washington DC: World Bank.

Lederman, D., and W. Maloney. 2007. "Trade Structure and Growth." In *Natural Resources: Neither Curse nor Destiny*, edited by D. Lederman and W. Maloney. Washington, DC: World Bank.

Levchenko, A. A., and N. P. Nayar. 2017. "TFP, News and "Sentiments:" The International Transmission of Business Cycles." 2017 Meeting Papers No. 1076, Society for Economic Dynamics.

Lian, C., Y. Ma, and C. Wang. 2017. "Low Interest Rates and Risk Taking: Evidence from Individual Investment Decisions." Mimeo, Massachusetts Institute of Technology, MA.

Lo, S., and K. Rogoff. 2015. "Secular Stagnation, Debt Overhang and Other Rationales for Sluggish Growth, Six Years On." BIS Working Paper 482, Bank for International Settlements, Basel.

Lodefalk, M. 2017. "Servicification of Firms and Trade Policy Implications." *World Trade Review* 16 (1): 59-83.

Lombardi, M., M. Mohanty, and I. Shim. 2017. "The Real Effects of Household Debt in the Short and Long Run." BIS Working Paper 607, Bank for International Settlements, Basel, Switzerland.

Maliszewska, M., Olekseyuk, Z., and I. Osorio-Rodarte. 2018. "Economic and Distributional Impacts of Comprehensive and Progressive Agreement for Trans-Pacific Partnership: The Case of Vietnam." World Bank, Washington DC.

Maloney, W., and C. Molina. 2016. "Are Automation and Trade Polarizing Developing Country Labor Markets, Too?" Policy Research Working Paper 7922, World Bank, Washington, DC.

Maloney, W., and F. Valencia Caicedo. 2017. "Engineering Growth: Innovative Capacity and Development in the Americas." CESifo Working Paper Series 6339, CESifo Group Munich.

Miroudot, S., and C. Cadestin. 2017. "Services in Global Value Chains: Trade Patterns and Gains from Specialisation." Trade Policy Papers 208, Organisation for Economic Co-operation and Development, Paris.

Nguyen, H., and R. Qian. 2014. "Demand Collapse or Credit Crunch to Firms? Evidence from the World Bank's Financial Crisis Survey in Eastern Europe." *Journal of International Money and Finance* 47 (2014): 125-144.

Nicita, A., M. Olarreaga, and P. Silva. Forthcoming. "Cooperation in WTO's Tariff Waters?" *Journal of Political Economy.*

Nunn, N., N. Qian, and J. Wen. 2018. "Distrust and Political Turnover." NBER Working Paper 24187, National Bureau of Economic Research, Cambridge, MA.

Obstfeld, M., J. Ostry, and M. Qureshi. 2018. "Global Financial Cycles and the Exchange Rate Regime: A Perspective from Emerging Markets." Centre for Economic Policy Research, London.

OECD. 2017. *Services Trade Policies and the Global Economy.* Paris: Organisation for Economic Co-operation and Development.

Ohnsorge, F. L., M. Stocker, and Y. M. Some. 2016. "Quantifying Uncertainties in Global

Growth Forecasts." Policy Research Working Paper 7770, World Bank, Washington, DC.

Ossa, R. 2014. "Trade Wars and Trade Talks with Data." *American Economic Review* 104 (12): 4104–4146.

Oulton, N., and M. Sebastiá-Barriel. 2017. "Effects of Financial Crises on Productivity, Capital and Employment." *Review of Income and Wealth* 63 (s1): S90-S112.

Papageorgiou, C., and N. Spatafora. 2012. "Economic Diversification in LICs; Stylized Facts and Macroeconomic Implications." IMF Staff Discussion Notes 12/13, International Monetary Fund, Washington, DC.

PASEC (Programme d'Analyse des Systèmes Éducatifs de la Confemen). 2015. PASEC 2014: *Education System Performance in Francophone Sub-Saharan Africa: Competencies and Learning Factors in Primary Education*. Dakar, Senegal.

Perotti, R. 1996. "Growth, Income Distribution and Democracy: What the Data Say." *Journal of Economic Growth* 1 (2): 149-87.

Polachek, S. W., and D. Sevastianova. 2012. "Does Conflict Disrupt Growth? Evidence of the Relationship between Political Instability and National Economic Performance." *Journal of International Trade & Economic Development* 21(3): 361-388.

Queralto, A. 2013. "A Model of Slow Recoveries from Financial Crises." International Finance Discussion Papers 1097, Board of Governors of the Federal Reserve System, Washington, DC.

Rachel, L., and T. D. Smith. 2015. "Secular Drivers of the Global Real Interest Rate." Bank of England Staff Working Paper 571, Bank of England, London.

Reifschneider, D., W. Wascher, and D. Wilcox. 2015. "Aggregate Supply in the United States: Recent Developments and Implications for the Conduct of Monetary Policy." *IMF Economic Review* 63 (1): 71-109.

Rodrik, D. 2018. "Populism and the Economics of Globalization." *Journal of International Business Policy*: 1-22.

Romer, C., and D. Romer. 2017. "Why Some Times are Different: Macroeconomic Policy and the Aftermath of Financial Crises." NBER Working Paper 23931, National Bureau of Economic Research, Cambridge, MA.

Saygili, M., R. Peters, and C. Knebel. 2018. "African Continental Free Trade Area: Challenges and Opportunities of Tariff Reductions." UNCTAD Research Paper 2017/15, United Nations Conference on Trade and Development, Geneva, Switzerland.

Stocker, M., J. Baffes, Y. M. Some, D. Vorisek, and C. Wheeler. Forthcoming. "The 2014–16 Oil Price Collapse in Retrospect: Sources and Implications." Policy Research Working Paper, World Bank, Washington, DC.

Summers, L. H. 2014. "U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound." *Business Economics* 49 (2): 65-73.

———. 2015. "Have We Entered an Age of Secular Stagnation? IMF Fourteenth Annual Research Conference in Honor of Stanley Fischer, Washington, DC." *IMF Economic Review* 63 (1): 277-280.

———. 2016. "Secular Stagnation and Monetary Policy." Federal Reserve Bank of St. Louis *Review*, Second Quarter 2016, 93-110.

Szirmai, A., and B. Verspagen. 2015. "Manufacturing and Economic Growth in Developing Countries, 1950–2005." *Structural Change and Economic Dynamics* 34 (C): 46-59.

UNCTAD (United Nations Conference on Trade and Development). 2017a. *Trade and Development Report 2017 Beyond Austerity: Towards a New Global Deal.* Geneva: UNCTAD.

UNCTAD (United Nations Conference on Trade and Development). 2017b. *From Regional Economic Communities to a Continental Free Trade Area.* Geneva: UNCTAD.

UNESCAP (United Nations Economic and Social Commission for Asia and the Pacific). 2017. *Trade Facilitation and Paperless Trade Implementation. Global Report 2017.* UNESCAP, Bangkok.

Végh, C. A., and G. Vuletin. 2015. "How is Tax Policy Conducted Over the Business Cycle?"

American Economic Journal: Economic Policy 7(3): 327-370.

World Bank. 2015. *Global Economic Prospects: Having Fiscal Space and Using It.* January. Washington, DC: World Bank.

———. 2016. *Poverty and Shared Prosperity 2016: Taking on Inequality.* Washington DC: World Bank.

———. 2017a. *Global Economic Prospects: Weak Investment in Uncertain Times.* January. Washington, DC: World Bank.

———. 2017b. "Migration and Remittances: Recent Developments and Outlook." *Migration and Development Brief* 28. World Bank, Washington, DC.

———. 2017c. "China Economic Update." December. World Bank, Washington, DC.

———. 2017d. *Fair Progress? Educational Mobility around the World.* Washington DC: World Bank.

———. 2018a. *Global Economic Prospects: Broad-Based Upturn, but for How Long?* January. Washington, DC: World Bank.

———. 2018b. "Enhancing Potential." East Asia and Pacific Economic Update. April. Washington, DC: World Bank.

———. 2018c. *Fiscal Adjustment in Latin America and the Caribbean: Short-Run Pain, Long-Run Gain?* April. Washington, DC: World Bank.

———. 2018d. "Cryptocurrencies and Blockchain: Hype or Transformational Technologies." Europe and Central Asia Economic Update. May. Washington, DC: World Bank.

———. 2018e. "Boosting Access to Electricity in Africa through Innovation, Better Regulation." *Africa's Pulse.* Volume 17. April. Washington, DC: World Bank.

———. 2018f. "Economic Transformation." *Middle East and North Africa Economic Monitor.* April issue. Washington, DC: World Bank.

———. 2018g. "Jobless Growth?" *South Asia Economic Focus.* Spring. Washington, DC: World Bank.

———. 2018h. *China—Systematic Country Diagnostic: Towards a More Inclusive and Sustainable Development.* Washington, DC: World Bank.

———. 2018i. "Economic Transformation." *MENA Economic Monitor.* Washington, DC: World Bank.

———. 2018j. *World Development Report 2018: Learning to Realize Education's Promise.* Washington, DC: World Bank.

World Bank, WTO, OECD, IDE-JETRO, and UIBE. 2017. *Global Value Chain Development Report: Measuring and Analyzing the Impact of GVCs on Economic Development.* Washington DC: World Bank.

WTO (World Trade Organization). 2017. *World Trade Report 2017 Trade, Technology and Jobs.* WTO: Geneva.

Yellen, J. L. 2016. "Macroeconomic Research after the Crisis." Speech at "The Elusive 'Great' Recovery: Causes and Implications for Future Business Cycle Dynamics" 60th Annual Economic Conference, Federal Reserve Bank of Boston, Boston, Massachusetts, October 14.
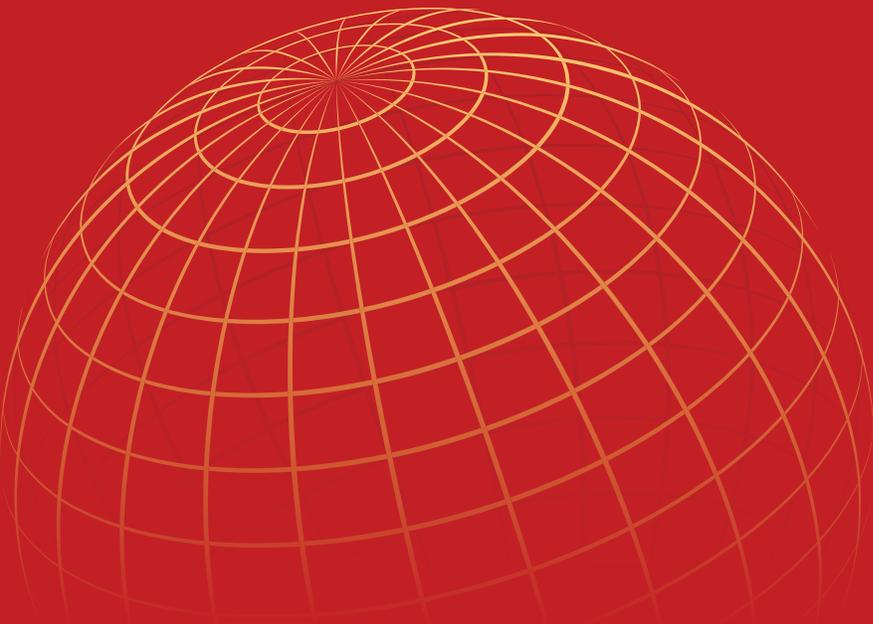
SPECIAL FOCUS 1

The Role of Major Emerging Markets in Global Commodity Demand

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Rapid growth among the major emerging markets over the past 20 years has boosted global demand for commodities. The seven largest emerging markets (EM7) accounted for almost all the increase in global consumption of metals, and two-thirds of the increase in energy consumption over this period. As these economies mature and shift towards less commodity-intensive activities, their demand for most commodities may plateau. While global energy consumption growth may remain broadly steady, growth in global demand for metals and food could slow by one-third over the next decade. This would dampen global commodity prices. China would likely remain the single largest consumer of many commodities, although consumption growth in other EM7 countries might accelerate. For the two-thirds of emerging market and developing economies that depend on raw materials for government and export revenues, these prospects reinforce the need for economic diversification and the strengthening of policy frameworks.

Introduction

Global commodity demand surged in 2000-08, driven by rapid growth in large emerging market and developing economies (EMDEs), especially China. Over this period, real energy prices rose 154 percent, metals prices increased 107 percent, and food prices rose 62 percent (Figure SF1.1). Commodity prices peaked in 2011, and fell sharply in 2014, driven by the collapse in the price of crude oil. While commodity prices have since recovered as a result of the cyclical global economic recovery, over the longer term, economic developments in major EMDEs will be a critical factor for the path of demand.

This Special Focus explores the role of the seven largest EMDEs, the EM7 (Brazil, China, India, Indonesia, Mexico, the Russian Federation, and Turkey). Together, these economies account for about 25 percent of global GDP and 50 percent of the world's population. In commodity markets, this group about for around 60 percent of the consumption of metals and 40 percent of the consumption of energy and food. The EM7 have also driven much of the increase in industrial materials demand over the past two decades, with China alone accounting for 83 percent of the global increase in metals consumption and 48 percent of the increase in energy consumption.

Note: This Special Focus was prepared by John Baffes, Alain Kabundi, Peter Nagle, and Franziska Ohnsorge. Research assistance was provided by Xinghao Gong.

FIGURE SF1.1 Developments in commodity markets

Consumption of commodities has surged over the past 20 years. Growth in consumption of metals, particularly aluminum, has been much faster than GDP and population growth, while energy consumption growth has been slower than GDP growth.

A. Real commodity prices
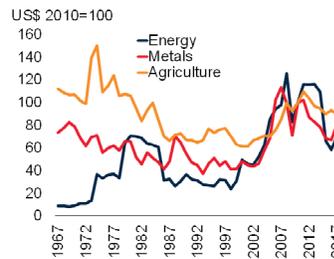
B. Cumulative growth in GDP, population, energy and metals consumption, 1996-2016
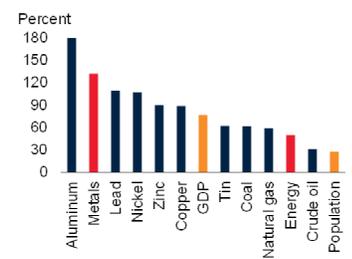
C. Average growth in GDP, population, energy and metals consumption, 1996-2016
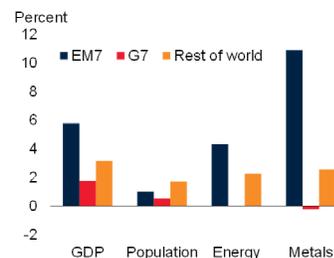
D. Share of global commodity consumption
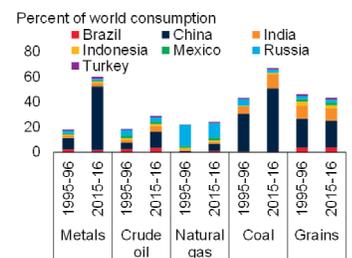
Sources: BP Statistical Review, U.S. Department of Agriculture, World Bank, World Bureau of Metals Statistics.

A. Deflated using the manufacturing unit value index from the January 2018 edition of the *Global Economic Prospects* report.

B.-D. Metals aggregate includes aluminum, copper, lead, nickel, tin, and zinc. Energy aggregate includes coal, crude oil, natural gas, nuclear, and renewables.

C. G7 includes Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. EM7 includes Brazil, China, India, Indonesia, Mexico, Russia, and Turkey.

D. Grains includes maize, rice, and wheat.

Click here to download data and charts.

FIGURE SF1.2 Vulnerabilities to oil price fluctuations

The oil price collapse in 2014 severely set back economic activity and worsened fiscal positions in oil-exporting countries. Oil-exporting countries tend to have an above-average export concentration compared with other EMDEs. Activity in oil exporters with lower levels of export concentration recovered more quickly than in those with high export concentrations. The deterioration in fiscal deficits was greater in oil-exporting EMDEs with higher reliance on oil-related revenues.

A. Share of oil-exporting EMDEs with increasing/decreasing growth
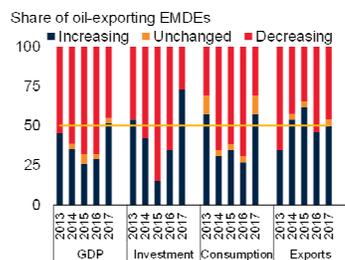
B. Export concentration, 2016
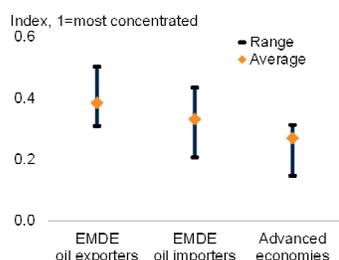
C. GDP changes since 2014, by export concentration
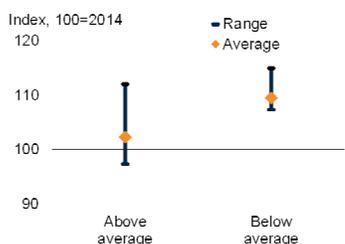
D. Change in fiscal balance since 2014, by reliance on oil revenue
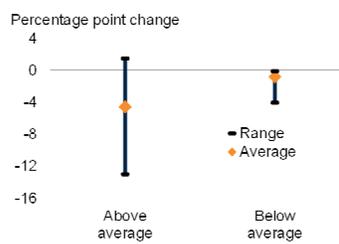
Sources: International Monetary Fund, United Nations Conference on Trade and Development (UNCTAD), World Bank.
A. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights. Increasing/decreasing growth are changes of at least 0.1 percentage point from the previous year. Countries with a slower pace of contraction from one year to the next are included in the increasing growth category.
B.-D. Figure shows average and interquartile range for the separate categories. Sample includes 31 oil-exporting EMDEs as defined in World Bank 2018a.
B.C. Export concentration is measured by a Herfindahl-Hirschmann Index, where values closer to 1 indicate a country's exports are highly concentrated on a few products.
C. "Above average" and "below average" groups are defined by countries above or below the sample average for export concentration in 2014.
D. Change in overall fiscal balance is measured from 2014-17. Above average and below average oil revenue groups are defined by countries above or below the sample average of oil revenues as a share of GDP based on 2014 data.
Click here to download data and charts.

EMDEs are likely to remain important drivers of commodity market developments, although the importance of individual countries will change. While China has been the main driver of growth in industrial materials, its expected growth slowdown and shift towards less commodity-intensive activities such as services could herald softer commodity consumption in the future. Global growth is expected to be increasingly driven by economies that are, at present, much less commodity intensive than China. Weaker

commodity consumption growth is a key factor behind the World Bank's forecast of modest price growth over the medium-term (World Bank 2018a).

Slowing commodity demand and modest price increases will have important consequences for growth and poverty alleviation among other EMDEs. Two-thirds of EMDEs depend significantly on agriculture and mining and quarrying for government and export revenues, and more than half of the world's poor live in commodity-exporting EMDEs (World Bank 2016a). This exposes these economies to commodity price shocks (Didier et al. 2016; Baffes et al. 2015). For example, the crude oil price collapse in mid-2014 resulted in a growth slowdown in 70 percent of EMDE oil exporters, with the largest impact in countries with higher levels of export concentration (Figure SF1.2; World Bank 2017a, 2018b). The fall in prices weakened fiscal positions and led to sharp cuts in government spending. The prospect of weaker commodity prices intensifies the need for reforms to encourage economic diversification in commodity exporters, and to strengthen monetary and fiscal policy frameworks (World Bank 2018a).

This Special Focus addresses the following questions:

- What impact have the EM7 had on consumption of major commodities?

- What is the role of per capita income growth in rising commodity consumption?

- What are the prospects for global commodity consumption?

- What policy measures can commodity exporters implement to boost resilience?

This Special Focus presents a comprehensive and detailed analysis of the role of major emerging markets in global consumption of a wide range of commodities. It also presents estimates for the income elasticities of consumption for a range of energy, metals, and food products. In doing so, it expands on previous research looking at the impact of China and India on commodity

consumption (World Bank 2015b; Pesaran et al. 1998, 1999; Stuermer 2017). Finally, it develops a set of stylized scenarios of consumption growth prospects based on estimated income elasticities, together with long-term population and GDP projections.

The role of the EM7 in commodity consumption

EM7 in the global economy. The share of the EM7 in the global economy has grown rapidly. Since 2010, the EM7 accounted for more than half of global growth, 19 percent of global trade and 18 percent of global FDI flows (Figure SF1.3). They now account for 25 percent of global GDP (at market exchange rates) and 50 percent of the global population.

Given their size and international integration, the EM7 economies can produce significant cross-border spillovers: estimates suggest that a 1 percentage point increase in EM7 growth is associated with a 0.9 percentage point increase in growth in other emerging market and developing economies and a 0.6 percentage point increase in global growth at the end of two years (Huidrom, Kose, and Ohnsorge 2017; World Bank 2016b). Individual EM7 countries can also have global and regional impacts:

- *China* plays a uniquely important role among the EM7. Growth spillovers from China have a global reach, while those of other EM7 are largely regional (World Bank 2016a). China has almost as large a share of global GDP (12 percent) as the other EM7 combined (13 percent).

- *Brazil* and *Mexico* are the largest economies in Latin America and the Caribbean (LAC), accounting for 60 percent of regional GDP. Shocks to growth in Brazil, in particular, have a statistically significant impact on neighboring EMDEs (World Bank 2016b).

- *Russia* accounts for 46 percent of GDP in Europe and Central Asia (ECA). It has important spillovers to Central Asia and Eastern Europe through long-established trade, investment, and migration links.

FIGURE SF1.3 EM7 in the global economy

The role of the EM7 in the global economy has grown rapidly and they now account for 25 percent of global GDP, although they remain smaller than the G7. Since 2010, EM7 have accounted for more than half of global growth, 19 percent of global trade, and 18 percent of global FDI flows. Shocks to growth in EM7 countries can have sizeable spillovers at the global level, as well as to other EMDEs.

A. Contribution to global growth

B. Share of global GDP

C. Share of global trade, remittances, and FDI

D. Impact of a 1-percentage-point increase in EM7 growth on growth in other EMDEs and globally
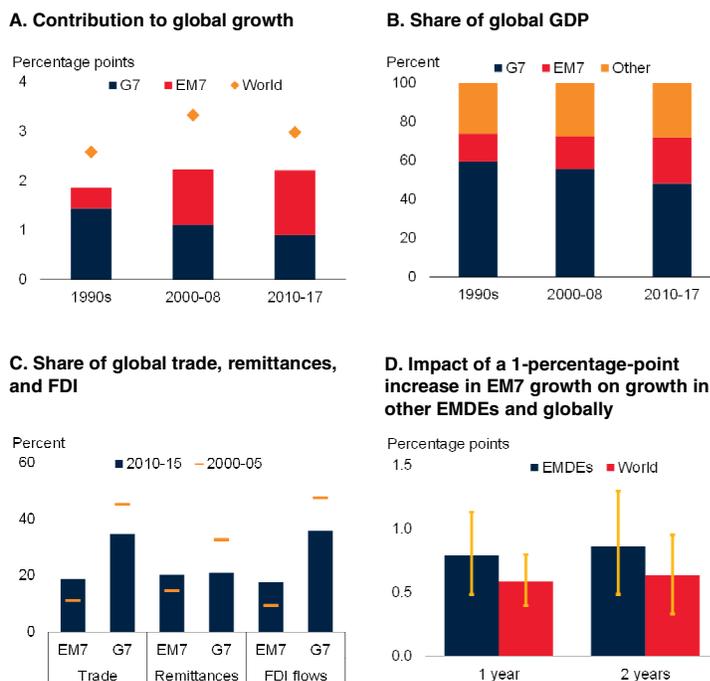
Sources: United Nations Conference on Trade and Development (UNCTAD), World Bank.
A.-C. EM7 includes Brazil, China, India, Indonesia, Mexico, Russia, and Turkey. G7 includes Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.
A.B. Aggregate growth rates and GDP shares calculated using constant 2010 U.S. dollar weights.
C. World shares of EM7 and G7 countries of trade (exports and imports of goods and services), remittances (both paid and received), and FDI flows (inward plus outward) over respective periods.
D. Results are derived from a Bayesian vector autoregression using the methodology outlined in Huidrom, Kose and Ohnsorge (2017). The model includes, in this order, G7 growth, the U.S. interest rate, J.P. Morgan's Emerging Market Bond Index (EMBI), EM7 growth, oil prices, and growth in other EMDEs. Other EMDEs consists of 15 countries. Cumulative impulse responses of a 1-percentage point increase in EM7 growth on growth in other EMDEs (blue) and global growth (red), at the 1-year and 2-year horizons. Solid bars represent medians, and error bars represent 16-84 percent confidence intervals.
Click here to download data and charts.

EM7 in commodity markets. The EM7 are important participants in commodity markets, both as consumers and producers (Box SF1.1, Annex Tables SF1.1, and SF1.2).[1] The group accounts for a larger share of global consumption than the G7 in coal, all base metals, precious metals, and most foods (rice, wheat, soybeans; Figure SF1.4).

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[1] "Consumption" includes the use of commodities for final consumption, as well as intermediate inputs into the manufacture of other products, including for export. To the extent that these other products are exported, the source country of final demand may not coincide with the source country of commodity demand.

BOX SF1.1 The role of the EM7 in commodity production

After decades of rapid growth, the EM7 have become major commodity producers. China is the world's single-largest producer of coal, several base metals, and fertilizers, while other EM7 are also key suppliers of several commodities. As a result, policies that affect EM7 commodity production—such as recent trade- and security-related measures—can move global markets.

Following several decades of rapid growth in commodity production, in part in response to rising domestic demand, the EM7 have become major commodity producers. For many commodities, their production exceeds that of the G7 economies by a wide margin. China in particular is now a major commodity producer, although its consumption of most commodities has outpaced its production.

This box analyzes the following questions:

- What is the role of EM7 in today's commodity production?

- How has this role evolved over time?

EM7's current role in commodity production

Major producers of many commodities. The EM7 account for more than half of global production in coal, rice, and most base metals (aluminum, copper, lead, tin, and zinc). In some energy commodities (oil and natural gas), they account for more than one-fifth of global production. EM7 production dwarfs G7 production in coal, metals, rice and maize, while it almost matches G7 production in crude oil, natural gas, and wheat. The EM7 produce about 20 times as much rice as G7 economies, almost eight times as much aluminum, and three to five times as much copper, coal, and zinc.

Individual EM7 countries. Individual EM7 countries, especially China, dominate global production of several commodities (Table SF1.2):

- *China* is the world's largest producer of coal, several metals (aluminum, refined copper, lead and gold), rice, and fertilizers.

- *India* is the largest producer of cotton and the second-largest producer of fertilizers.

- *Russia* is the second-largest producer of aluminum and natural gas, and third largest producer of oil.

- *Brazil* is the largest producer of coffee and sugar, the second-largest producer of soybeans, and the third-largest producer of bauxite.

- *Indonesia* is the largest producer of tin and palm oil and the second largest producer of rubber.

- *Mexico* is the largest producer of silver.

China's production of rice and wheat is almost as large as that of all other EM7 combined, while its production of most base metals (aluminum, copper, lead, zinc, and tin) is a multiple of that of all other EM7 combined.

Evolution of the EM7's role over time

Role of the EM7 in energy and metals markets. Between 1996 and 2016, the EM7 share of global metals production more than doubled to 60 percent and their share of global energy production increased to 39 percent (Figure SF1.1.1). Over this period, the EM7 accounted for almost 90 percent of the increase in metals production and over half of the increase in global energy production.

Role of China in energy and metals markets. The growing role of the EM7 in global commodity production largely reflects expansion in China. China's share of global metals production increased to 48 percent between 1996 and 2016 (driven by aluminum), and its share of global energy production nearly doubled, to 18 percent in 2016. Growing domestic production dampened the impact of the increase in China's demand on global commodity markets, with domestic supply accounting for nine-tenths of the increase in China's metals consumption. China's consumption of copper and nickel was more dependent on imports than consumption of other metals. While production of metals rose in the other EM7, they lost global market share (from 16 percent to 12 percent) to China. The EM7 share of energy production rose slightly, driven by oil in Brazil and Russia, and coal in India and Indonesia.

BOX SF1.1 The role of the EM7 in commodity production (*continued*)

FIGURE SF1.1.1 EM7 in commodity production

The EM7 are some of the largest commodity producers in the world. Their share of global production of commodities has increased rapidly over the past 20 years, and they now account for around 60 percent of metals production, and 40 percent of energy and agricultural production.
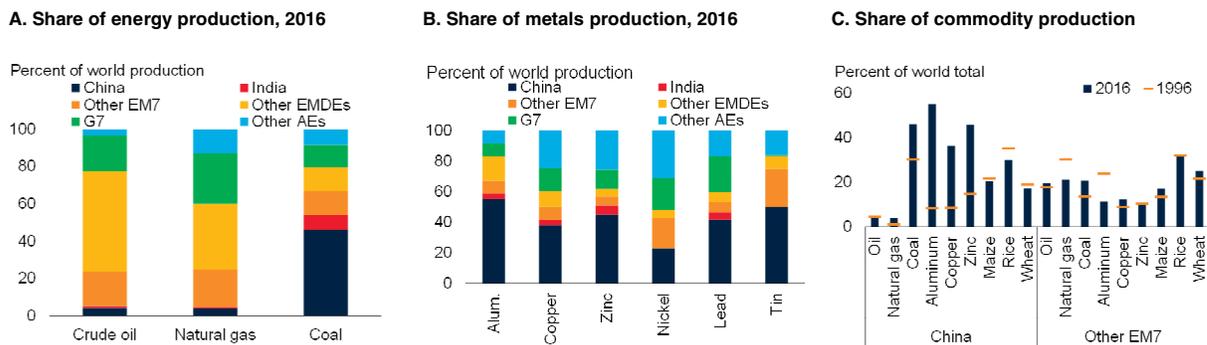
A. Share of energy production, 2016

B. Share of metals production, 2016

C. Share of commodity production

Sources: BP Statistical Review, U.S. Department of Agriculture, World Bank, World Bureau of Metals Statistics.
A.B. "AEs" stands for advanced economies. "Other EM7" includes Brazil, Indonesia, Mexico, Russia, and Turkey (and excludes China and India).
A. Other AEs contains five countries. Other EMDEs is calculated as the residual of the global total.
B. Alum. refers to the metal aluminum. Other AEs contains 10 countries. Other EMDEs contains 25 countries.
C. Other EM7 includes Brazil, India, Indonesia, Mexico, Russia, and Turkey.
Click here to download data and charts.

Role of EM7 in agricultural commodities. In contrast to energy and metals, the role of the EM7 in agricultural production has been fairly constant over the last two decades, similar to the evolution of their consumption. The EM7 share of the three main grains (maize, rice, and wheat) has stayed broadly flat at about 44 percent since 1996.

Role of the EM7 in other EMDEs. Some of the EM7 are increasingly involved in production in other EMDEs through investments, or partnerships and subsidiaries. Sub-Saharan Africa has been one of the main beneficiaries of investment, which has been prevalent in agriculture and metals, notably rare

earths (Deininger et al. 2011; Dollar 2016). Again, China has been the most prominent country, although Russia has also been a key player, particularly in aluminum.

Conclusion

The EM7 have become some of the world's largest commodity producers after a period of rapid production growth. As a result, policies that affect their production or ability to export commodities—such as environmental policies to reduce pollution, or trade-related measures—can move global commodity markets and have spillovers to other regions.

China and India are particularly prominent consumers. China is the world's largest consumer of coal, several industrial metals (aluminum, refined copper, and lead) and fertilizers. India is the world's largest consumer of palm oil, and its second-largest consumer of coal (about one-quarter of China's consumption) and gold (for fabrication, about two-thirds of Chinese consump-

tion). India is also the third-largest consumer of crude oil and natural rubber.

Combined, China's and India's use of commodities is a multiple of the remaining five EM7. For example, consumption in the two countries is more than ten times the remaining EM7 in coal, aluminum, and nickel, and more than six times in

FIGURE SF1.4 EM7 in commodity markets

China's share of global metals and coal consumption rose to around 50 percent in 2016, while the share of the other EM7 is smaller, but still significant. Over the last 20 years, the EM7 account for the majority of the increase in metals consumption, two-thirds of the increase in energy consumption, and more than one-third of the increase in agricultural commodity consumption. While the global commodity intensity of GDP has generally declined, it increased from the mid-2000s for metals, mainly due to growth in consumption in China, and is now back at its 1965 level.

A. Share of energy and agricultural consumption, 2016
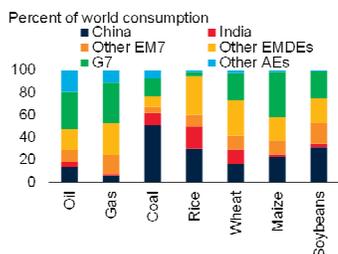
B. Share of metals consumption, 2016
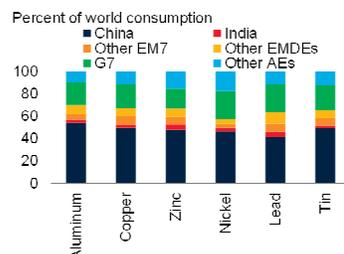
C. Contribution to average annual growth in energy consumption
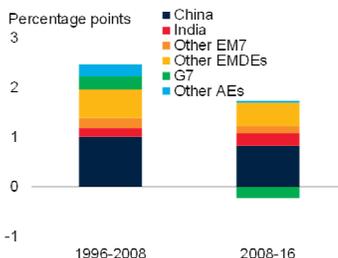
D. Contribution to average annual growth in metals consumption
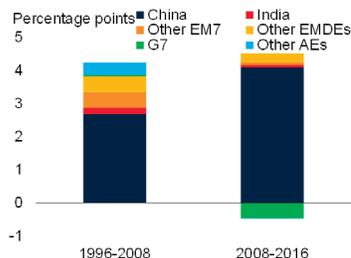
E. EM7 share of commodity consumption

F. Change in commodity intensity of consumption growth
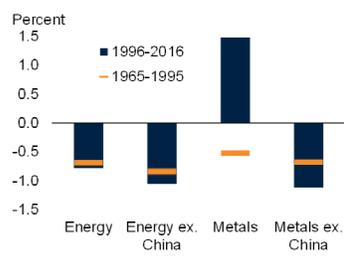
Sources: BP Statistical Review, U.S. Department of Agriculture, World Bank, World Bureau of Metals Statistics.
A.-D. "AEs" stands for advanced economies. Other EM7 includes Brazil, Indonesia, Mexico, Russia, and Turkey.
A.C. "Other AEs" contains 18 advanced economies. Other EMDEs contains 32 countries.
B.D. "Other AEs" contains 17 advanced economies. Other EMDEs contains 31 countries.
F. Commodity intensity calculated as global energy and metals use (in volumes) relative to global GDP (in 2010 U.S. dollars), including and excluding China.
Click here to download data and charts.

copper, zinc, lead, and tin. China and India consume 50 percent more crude oil than the other five EM7, while their maize and wheat consumption is twice as high and their rice consumption

five times as high. In turn, the EM7 account for four times the consumption of other EMDEs in coal and metals, and a similar amount of crude oil and grains.

Evolution of the EM7 share in commodity consumption. Over the past two decades, EM7 countries have driven the growth in global demand, especially for energy and metals. The EM7 accounted for 92 percent of the increase in metals consumption, 67 percent of the increase in energy consumption, and 39 percent of the increase in global food consumption between 1996 and 2016. The increase in demand for metals was such that the ratio of global metals consumption to GDP—which had been declining prior to the 1990s—reversed trend and started to rise rapidly by the turn of the century. This reversal largely reflected developments in China, which accounted for 83 percent of the increase in global consumption between 1996 and 2016, and occurred despite rising global demand for services, which are much less materials-intensive than goods (Tilton 1990, Radetzki et al. 2008). In contrast, the energy intensity of global GDP continued to decline, in line with its prior trend, supported by efficiency improvements as well as the shift of global demand toward services.

Drivers of commodities consumption

Several factors have supported the growing role of the EM7 in global commodity markets. This section takes a quantitative look at the role of per capita income growth and slowing population growth, as well as prices, in driving global demand for key commodities. The rest of the Special Focus, considers three energy products (crude oil, coal, and natural gas) and three metals (aluminum, copper, and zinc). These make up 85 percent of energy and base metals consumption. It also considers four foods (rice, wheat, maize, and soybeans), which collectively cover 70 percent of arable land.[2]

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[2] This Special Focus does not consider iron ore or non-food agricultural commodities. The use of iron ore is more complex than the other metals considered here since it is an input into the production of steel. Competitive price benchmarks for iron ore are only available from 2005.

Per capita incomes and consumption. Per capita consumption of most commodities generally plateaus as per capita income rises, and may even decline at higher levels of income (crude oil, coal, copper, zinc, and rice; Figures SF1.5 and SF1.6). Natural gas shows less sign of plateauing than other commodities, which may reflect a shift in consumer demand to cleaner fuels as incomes rise. China has seen a much faster increase than other countries in its per capita use of aluminum and coal during 1965-2016, with higher consumption for a given level of per capita income.

The increase in coal and aluminum consumption relative to per capita income in China over the period 1965-2016 has also been faster than that of the Republic of Korea, a country which underwent rapid industrialization in the 1960s to 80s. Growth in China's copper and zinc per capita consumption relative to per capita income has been broadly in line with Korea's, while that of crude oil has been weaker. Per capita commodity consumption remains significantly higher than other EM7 across all categories except natural gas, due to high per capita consumption in Russia.

Income elasticity of consumption. The relationship between consumption and income is captured by the income elasticity of demand: the percent increase in commodity consumption associated with a 1 percent increase in income. Elasticities vary significantly between the long and short run, but tend to be larger in the long run as adjustment of consumption to higher incomes takes time.[3] The long-run elasticity is more relevant to the multi-decade trends described in this Special Focus.

Income elasticities can vary as per capita incomes rise and as economies mature. With rising incomes, consumer demand tends to shift towards less resource-intensive goods and services, which results in a fall in income elasticities (Tilton 1990; Radetzki et al. 2008). Consumer demand also tends to shift toward cleaner forms of energy such as natural gas, from more polluting and inefficient sources such as firewood and coal (Burke and

FIGURE SF1.5 Consumption of industrial commodities and income

The relationship between per capita income and industrial commodity consumption per capita shows signs of plateauing for most commodities as income rises. A notable exception is natural gas, which likely reflects preferences for cleaner fuels over more polluting fuels such as coal.

A. Oil consumption per capita vs. GDP per capita

B. Natural gas consumption per capita vs. GDP per capita

C. Coal consumption per capita vs. GDP per capita

D. Aluminum consumption per capita vs. GDP per capita

E. Copper consumption per capita vs. GDP per capita

F. Zinc consumption per capita vs. GDP per capita
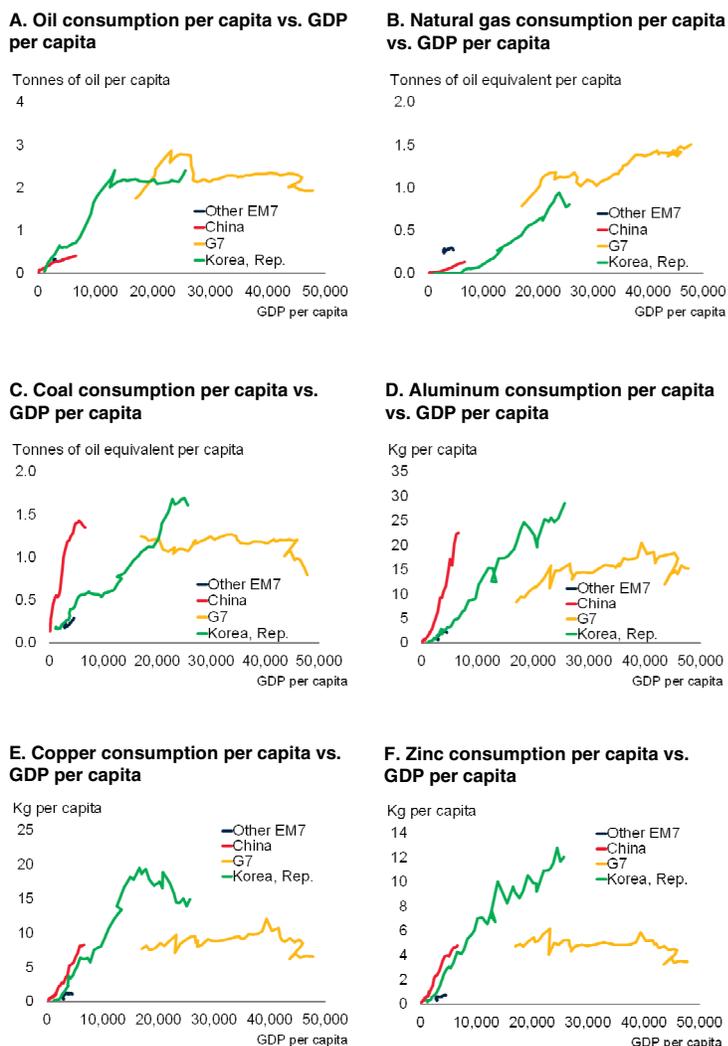
Sources: BP Statistical Review, World Bank, World Bureau of Metal Statistics.
A.-F. GDP per capita in constant 2010 U.S. dollars. Lines show the evolution of income and commodity consumption per capita over the period 1965-2016. Each data point represents one country or group for one year. Data for other EM7 are available from 1985-2016 for crude oil, natural gas, and coal, and 1992-2016 for aluminum, copper, and zinc.
Click here to download data and charts.

Csereklyei 2016). Food consumption also tends to switch away from grains to products with higher protein and fat content such as meat (Salois et al. 2012). In addition, demand for industrial materials slows as economies mature and infrastructure needs are increasingly met.

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[3] Dahl and Roman (2004) find a short-run income elasticity for crude oil of 0.47 and a long-run income elasticity of 0.84.

FIGURE SF1.6 Food consumption and income

The relationship between income per capita and food consumption per capita is more varied than that of income per capita and industrial commodities per capita. For rice, the relationship is heterogenous between countries, which may reflect domestic preferences or availability. Maize and soybeans exhibit a broadly linear relationship, reflecting their use in animal feed and biofuels, which have a relatively high income elasticity.

A. Rice consumption per capita vs. GDP per capita
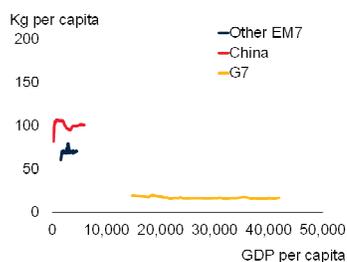
B. Wheat consumption per capita vs. GDP per capita
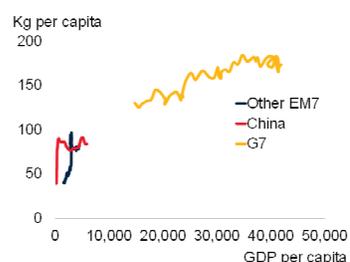
C. Maize consumption per capita vs. GDP per capita
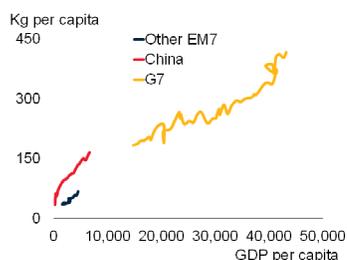
D. Soybean consumption per capita vs. GDP per capita
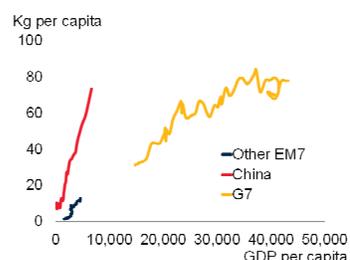
Sources: U.S. Department of Agriculture, World Bank.
A.-D. GDP per capita in constant 2010 U.S. dollars. Lines show the evolution of income and grains consumption per capita over the period 1965-2016. Due to data restrictions "G7" includes the United States, Japan, Canada and all EU28 countries.
Click here to download data and charts.

Estimates of long-run income elasticities. Estimates of long-run income elasticities of demand vary by commodity, between countries, and over time, as incomes rise (Annex Table SF1.3).

- *Energy.* For energy, most studies have found an income elasticity of demand of less than unity (Burke and Csereklyei 2016; Csereklyei and Stern 2015; Jakob et al. 2011). That implies per capita energy consumption grows more slowly than per capita real GDP, consistent with a declining energy intensity of demand. Several papers find that income elasticities of demand fall as income rises (Dahl 2012; Foquet 2014; Jakob et al. 2012).[4]

- *Metals.* For metals, the elasticity of income depends on the availability of substitutes and the range of uses. Because of its wide applicability, demand for aluminum has been found to grow more than proportionately with rising output, i.e. with an above-unitary elasticity, while tin and lead, because of environmental concerns, grow less than proportionately, i.e., with a below-unitary elasticity (Stuermer 2017).

- *Food commodities.* Elasticities of food products vary widely. Elasticities for grains are generally below unity, with demand driven by population, rather than income, beyond a subsistence income threshold (Engel 1857; Baffes and Etienne 2016; World Bank 2015b). Valin et al. (2014) find a median income elasticity of demand of close to 0.1 for rice and wheat. Elasticities are generally higher for foods with higher fat and protein contents, such as animal products, suggesting that consumers switch to these types of foods as incomes rise (Salois, Tiffin, and Balcombe 2012; Valin et al. 2014, World Bank 2015b). The use of maize and soybeans as animal feed means that their elasticities are driven more by demand for meat than demand for direct consumption, resulting in higher elasticities.[5]

Estimates of price elasticities. Demand for commodities tends to be price inelastic. Within energy, price elasticities for crude oil range from zero to -0.4 (Huntington, Barrios, and Arora 2017; Dahl and Roman 2004). For metals, Stuermer (2017) finds the largest price elasticity for aluminum (-0.7), but smaller elasticities for copper (-0.4), tin, and zinc (less than or equal to -0.2). As with income elasticities, price elasticities of demand tend to be larger in the long-run than the short-run, as consumers have more

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[4] An exception is Burke and Csereklyei (2016), who find the long-run income elasticity of demand increases as per capita real

GDP rises. This finding likely reflects their country sample which includes a number of low income countries whose long-run income elasticity of demand tends to be very low, as a result of their reliance on non-commercial fuels (i.e., biomass). Elasticities in low income countries may also be kept artificially low by policies such as energy subsidies (Joyeux and Ripple 2011).

[5] For example, 70 percent of soybeans in the United States are used for animal feed (USDA 2015).

time to respond to changes in prices by finding substitutes, or efficiency gains.[6]

Estimation of long-run income elasticities. The remainder of this section reports estimates for the long-run income elasticities of the energy, metals, and agricultural commodities shown in Figures SF1.5 and SF1.6.

An autoregressive distributed lag model is used to estimate the logarithm of per capita commodity consumption (in physical units) as a function of per capita real GDP in U.S. dollars (Annex SF1.1).[7] The sample covers up to 33 countries (21 advanced economies and 12 EMDEs) for energy and metals, with annual data from 1965-2016 (Annex Table SF1.4). A different dataset, with predominantly EMDE representation and fewer advanced economies, is available for food, with 55 countries for rice, 35 countries for wheat, 47 countries for maize, and 32 countries for soybeans. A quadratic term for per capita real GDP is included to account for non-linearities in the relationship between per capita commodity consumption and per capita income (Meier, Jamasb, and Orea 2013). The regression controls for real commodity prices.[8]

Estimation results. The estimated long-run elasticities differ widely across commodities and across income levels (Table SF1.1; Figure SF1.7). As expected, for most commodities long-run elasticities decline with rising per capita income (indicated by a negative coefficient on squared per capita income in Table SF1.1 and Annex Table SF1.5). In general, long-run income elasticities for metals tend to be above those of energy and food.

- *Metals*. Elasticities of metals decline with rising incomes, but remain elevated (0.4) even

at the top quartile of 2017 per capita incomes. Aluminum and copper have the highest long-run income elasticities (0.8 and 0.7, respectively; Figure SF1.7), while zinc is considerably lower at 0.3.[9]

- *Energy*. Long-run income elasticities for crude oil and coal also decline as per capita incomes rise. At the median per capita income in 2017, the income elasticity of crude oil is 0.5, while that of coal is 0.6.[10] The elasticity for coal, however, drops rapidly with rising per capita incomes as users switch from biomass, such as wood, to more efficient coal at low incomes, and subsequently from coal toward cleaner energy sources at high incomes. At the highest quartile of per capita incomes in 2017, the estimated income elasticity of coal is negative. For natural gas, in contrast, a significant non-linear relationship between income and consumption was not found, but rather a linear relationship was noted, with an elasticitiy of 0.4. Natural gas' use as fuel for electricity generation has grown rapidly, so few countries have reached the "plateau stage" within the sample.

- *Food commodities*. The estimated elasticity of rice consumption declines sharply as incomes rise, turning negative at the first income quartile in 2017. For wheat, the decline in elasticities as incomes rise is less pronounced, with the elasticity remaining positive, albeit low, for all income levels.[11] In contrast, for maize and soybeans the relationship between income and consumption appears to be linear, and elasticities are much higher than rice and

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[6] For example, Dahl and Roman (2004) find a short-run price elasticity of crude oil of -0.11, and a long-run price elasticity of -0.43.

[7] This methodology allows for cross-country heterogeneity in short-term coefficient estimates but imposes homogeneity in long-term coefficient estimates. The Hausman test (Annex Table SF1.5) suggests that this assumption is appropriate.

[8] To account for potential endogeneity, a Generalized Methods of Moments (GMM) model is also estimated. The results are robust (Annex Table SF1.6). They are also qualitatively robust to including a time trend to account for potential long-term productivity growth (Annex Table SF1.7).

[9] The estimates for the metals commodities are weaker than Stuermer (2017), which found an elasticity of 1.5 for aluminum, 0.9 for copper, and 0.7 for zinc. The differences likely arise from the use of manufacturing output, rather than GDP, as the explanatory variable. Using manufacturing output controls for changes in the composition of growth in the economy over time, which is caused by the share of manufacturing output declining in favor of services over time.

[10] Huntington, Barrios, and Arora (2017) also find an elasticity of crude oil of 0.5.

[11] The elasticity at median incomes in 2017 for wheat was a little higher, and for rice a little lower, than found by Vanin et al. (2014).

TABLE SF1.1 Estimation results

Commodity	Log per capita income	Squared log per capita income	Income elasticity at 2017 median income
Aluminum	3.50	-0.15	0.8
Zinc	2.60	-0.12	0.3
Copper	2.95	-0.12	0.7
Crude oil	2.31	-0.10	0.5
Coal	6.04	-0.31	0.6
Natural gas[1]	0.38	...	0.4
Rice	1.39	-0.09	-0.3
Wheat	1.05	-0.04	0.3
Maize[1]	0.85	…	0.8
Soybeans[1]	0.84	...	0.8

Note: Results shown are a sub-set of the estimations obtained using the pooled mean group model (see Annex SF1.1). Values for log and log squared per capita income are the coefficients for these variables as estimated by the model. Income elasticities are calculated using these coefficients, together with median global per capita income in 2017. Annex Table SF1.5 displays the full set of results from the estimation, including both short-run and long-run coefficients.
[1] indicates linear regression results for commodities which do not appear to have a non-linear relationship with income.

wheat at 0.8.[12] These commodities are heavily used as animal feed (and also biofuels), so their use is closely linked to demand for meat which tends to have a higher income elasticity of demand than grains.

For most commodities, the estimated long-run income elasticities for the EM7 countries are much higher than for the G7. While the focus here is on long-run trends, it is worth noting that consumption adjusts quite slowly: the regressions imply adjustment periods to the long-run equilibrium of three to eight years for grains, four to seven years for metals, and six to fourteen years for energy.[13]

EM7 consumption growth in 2010-16. This section compares in-sample fitted growth rates

generated by the model with actual growth rates over 2010-16 (these years are at the end of the sample period). The regressions capture well EM7 consumption growth for metals (6.9 percent) and energy (3.3 percent) during these years. That said, across metals, actual consumption growth of zinc somewhat exceeds the model estimates, while that of aluminum falls short (Figure SF1.7). Across energy, actual growth of crude oil and natural gas was somewhat stronger than the fitted values and that of coal much less. The over-prediction of coal and underprediction of natural gas may reflect active policy measures to rein in pollution in China over this period. The model somewhat over-estimates growth of rice and wheat consumption, and slightly under-estimates growth of maize and soybeans consumption.

The role of structural growth differences. One source of a nonlinear relationship between GDP and commodity use is the changing composition of output. The sectoral components of GDP differ in their use of energy, metals, and agricultural inputs. The GTAP (Global Trade Analysis Project) database allows the intensity of use of agricultural goods, energy, and metals by different sectors of the economy to be calculated (Figure SF1.7).[14]

- *Metals intensity*. The metals intensity of global manufacturing was about twenty times that of global services in 2011. Similarly, the metals intensity of global investment and exports was about seven times that of household consumption.

- *Energy*. Differences in energy intensities between sectors are smaller, but still pronounced; the energy intensity of manufacturing is two-and-a half times that of services. The energy intensity of global investment is much lower than that for household consumption and exports.

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[12] Figure SF1.6 suggests that the relationship for soybeans and maize is linear. The initial regressions for these foods generated significant coefficients for the quadratic term but not for the linear term. The regression cannot distinguish well between a linear and a quadratic relationship, so the quadratic term was dropped.

[13] In line with the literature, the model also generates modest price elasticities, but the emphasis here is on income elasticities.

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[14] The GTAP Data Base contains complete bilateral trade in goods and services, intermediate inputs among sectors, as well as taxes and subsidies imposed by governments for 140 regions and for 57 sectors. The latest reference year is 2011. See Aguiar, Narayanan, and McDougall (2016).

- *Agricultural commodities.* Agricultural intensities tend to be slightly lower than energy and metals intensities across all sectors, with the highest intensity in household consumption.

This suggests that countries with manufacturing-driven growth may experience a greater increase in energy and metals consumption for a given increase in output than economies driven more by services. Likewise, countries with investment-driven or exports-driven growth will see a greater increase in metals consumption than economies driven by household consumption.

Different engines of growth may have accounted for some of the under-estimation of metals consumption growth in China, and over-estimation in other EM7. For example, investment accounted for half of cumulative growth during 2010-16 in China, compared to one-quarter of cumulative growth in India, the second-largest EM7 economy, despite both countries growing at similar average rates (7.5-8 percent) during this period. In addition, manufacturing has been a more important driver of growth in China, growing twice as fast as in India on average over the past 10 years. This also helps explain the higher metals intensity of GDP in China than in its peers (World Bank 2015b).

The role of policies. Policies that favor energy-intensive and industrial sectors can significantly change the commodity intensity of demand. In the 1980s, in Russia and the former Soviet Union countries, the energy intensity of output (measured as energy use relative to GDP per capita) was much higher than in their free-market peers, particularly for energy. Countries that industrialized under central planning tended to exhibit high energy intensity because resource allocation was not determined by market mechanisms such as price or competition (Urge-Vorsatz et al. 2006, Ruhl et al. 2012). Following the collapse of the Soviet Union, and coinciding with rapid per capita income growth, the energy intensity of GDP in these countries fell steadily, although it remains elevated. China has a similar profile, with extremely high energy intensity in the 1980s, but this has steadily declined as per capita incomes rose.

FIGURE SF1.7 Estimated commodity consumption growth

Income elasticities of consumption decline with rising per capita incomes, but they differ widely across commodities and across income levels. Estimated elasticities for EM7 countries were considerably higher than for G7 countries throughout the sample. For 2010-16, the regressions capture well EM7 commodities consumption growth at the aggregate level, but their performance differs for individual metals, energy, and foods. Greater reliance on industrial production instead of services may account for faster metals consumption growth in China than in other EM7.

A. Income elasticities at 2017 income levels
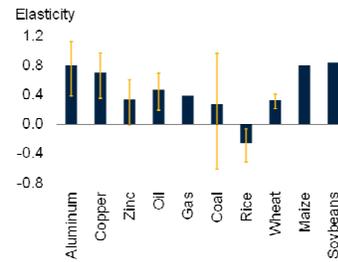
B. Income elasticities in EM7 and G7 countries, 2010-16
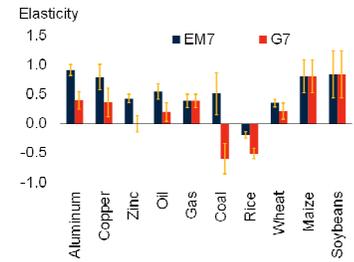
C. EM7 consumption growth, 2010-16
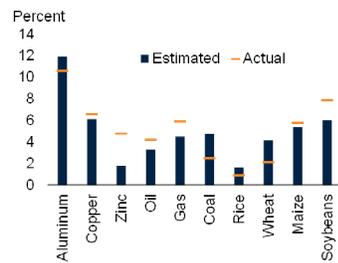
D. Commodity consumption growth, by country and group, 2010-16
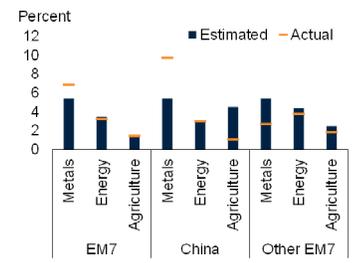
E. Sectoral use of energy, metals, and agricultural inputs
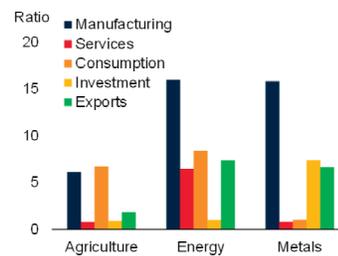
F. Intensity of metals and energy consumption
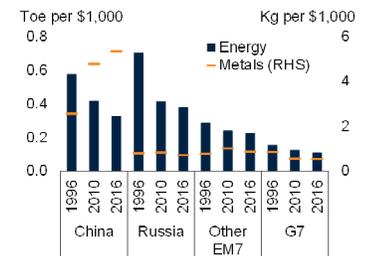
Sources: Aguiar et al. (2016), BP Statistical Review, U.S. Department of Agriculture, World Bank, World Bureau of Metals Statistics.
A.B. Income elasticity is defined as percent change in commodity consumption for each 1 percent increase in commodity prices. Estimated based on regression coefficients in Annex Table SF1.5.
A. Blue bars indicate elasticities at median real global per capita income in 2017; vertical bars indicate elasticities at upper and lower income quartiles. Gas, maize and soybeans have a linear elasticity and therefore do not have vertical bars.
B. Elasticities at median incomes over 2010-16, Vertical bars are 95 percent confidence intervals.
C.D. Estimated in-sample fitted values based on regression coefficients in Annex Table 1.5.
E. Use of energy, metals, and agricultural inputs by different sectors of the economy. Calculations show the gross value added of an input (e.g., energy) used by a sector (e.g., manufacturing) as a share of total gross value added of that sector. Values capture both direct and indirect use. Of the 57 sectors included in the Global Trade Analysis Project (GTAP) database, manufacturing contains sectors 19 to 42 and services contains sectors 47 to 57. For the inputs, agriculture includes sectors 1 to 12, energy includes sectors 15 to 17, 32, 43, and 44, and metals includes sectors 18, 35, and 36. The inclusion of sector 32, petroleum and coke, in manufacturing significantly increases its energy use; excluding this sector would reduce the energy use of manufacturing from 16 to 8.7.
F. Toe stands for tons of oil equivalent. Intensity of consumption calculated as consumption of energy or metals (in volumes) relative to output in constant 2010 U.S. dollars. Other EM7 includes Brazil, India, Indonesia, Mexico, Russia, and Turkey.
Click here to download data and charts.

Prospects for commodities demand

A hypothetical scenario is developed for the period 2018-27, and compared to the estimated values over 2010-16 as calculated by the model. This enables an assessment of the impact of changes in population and income growth, shifts between countries with different commodity intensities of demand, and within-country shifts as their incomes rise. The scenario is calculated separately for all countries in the estimation sample, and then summed to produce a global estimate. The sample includes advanced economies, the EM7, and other EMDEs. Data limitations exclude many smaller emerging markets and frontier markets, with sub-Saharan Africa (SSA) and the Middle East and North Africa (MENA) particularly under-represented in energy and metals.

Baseline scenario. The baseline assumptions for 2018-27 use existing estimates:

- *UN projections for population growth*. Slowing population growth is expected to dampen commodity consumption growth. The United Nations (2017) project that global population growth will slow slightly from 1.2 percent on average during 2010-16, to a 1 percent on average during 2018-27 (Figure SF1.8). The slowdown is most pronounced in the EM7.

- *Real output growth matches potential growth as estimated in World Bank (2018a)*. Real per capita income growth is expected to be broadly constant on average but slow by 0.2 percentage point in the EM7 countries.

- *Income elasticities are as in Annex Table SF1.5*. With continued per capita income growth, the elasticities of consumption of the EM7 economies are expected to decline (except for natural gas, maize and soybeans), by as much as one-third for coal.

- *Real commodity prices are assumed to be constant at current levels*. This assumption mitigates concerns about potential endogeneity arising from using World Bank price forecasts.

The assumed scenario for these fundamental drivers would mean slower global and EM7 demand growth in 2018-27 relative to the post-global-crisis period 2010-16 for virtually all commodities considered here. The slowdowns would be particularly pronounced for metals, especially in China. Even so, the country would remain the single largest consumer of energy and metals (Figure SF1.8). While per capita incomes in some of the other EMDEs would grow faster than in China, their current levels of commodity consumption are so much lower that their contribution to aggregate consumption growth would remain relatively modest.

- *Metals consumption*. Global metals consumption growth would slow by 1.4 percentage points to just under 3 percent on average during 2018-27. Because of still-high EM7 income elasticities and robust growth, the slowdown in EM7 consumption would be milder, by 0.4 percentage point to 4.9 percent. Growth in aluminum and copper would remain high, reflecting their high income elasticity of demand, while growth in zinc would remain modest, reflecting a near-zero G7 income elasticity.

- *Energy consumption*. Energy consumption growth would remain broadly steady at 2.3 percent globally but would slow by 0.4 percentage point to 3.1 percent in EM7 economies.[15] Rapid output growth in other EMDEs would shift the composition of global energy consumption toward more energy-intensive economies. Global crude oil consumption growth would remain broadly steady.

- *Food commodities*. Consumption growth of the foodstuffs included here would slow by 1 percentage point to 1.8 percent over 2018-27.[16] Rice and wheat would drive the slowdown because of their low-income

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[15] BP (2018) expects energy growth to remain broadly steady between 2010-16 and 2017-25, while EIA (2017) expects growth to slow over this period.

[16] OECD (2017) expect a slowing in growth of consumption of cereals of about 1 percentage point.

elasticities and slowing population growth. In contrast, consumption growth of maize and soybeans would strengthen slightly.

Alternative growth paths. The baseline scenario described in the previous section depends critically on per capita income growth. The implications of upside and downside risks to the income growth path are discussed in two alternative model-based scenarios. Finally, policy measures—including those unrelated to commodity demand—could also lead to different paths of commodity consumption (Box SF1.2).

The first is a faster-growth scenario. Kilic Celik, Kose, and Ohnsorge (forthcoming) estimate the impact on potential growth if countries implemented reforms to fill investment gaps, expand labor force participation by women and older workers, and improve life expectancy and educational outcomes. Each country is assumed to repeat its best ten-year improvement on record in each of these dimensions over the next decade. For EMDEs, this would imply raising investment by almost 3 percent of GDP, life expectancy by 2.5 years, enrolment and secondary school completion rates by 5-7 percentage points, and female labor force participation by 10 percentage points. Such a concerted reform push could lift average annual global potential growth by 0.7 percentage point for the next ten years.

The second is a slower-growth scenario. This could, for example, be triggered by a financial crisis that is followed by a deep recession. Deep recessions leave lasting damage to output, as a result of hysteresis effects. The latter include the loss of human capital (job skills) associated with long-term unemployment, and the loss of embodied technical progress implied by lower investment. World Bank (2018b) estimates that deep recessions have, on average, reduced potential growth in the following five years by 1 percentage points.

These alternative growth paths make a significant difference to the projections, especially for the most income-elastic products (Figure SF1.8).

- *Faster-growth scenario.* In a faster-growth scenario, global metals consumption growth

FIGURE SF1.8 Commodity consumption scenarios

The baseline scenario suggests that fundamental drivers would slow global and EM7 commodity consumption growth between 2010-16 and 2018-27. The deepest slowdowns would occur in metals consumption. Despite China's expected output and commodity consumption growth slowdown, it would remain the largest consumer of energy and metal commodities among the EM7.

A. Population growth
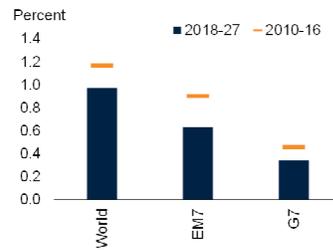
B. Per capita output growth
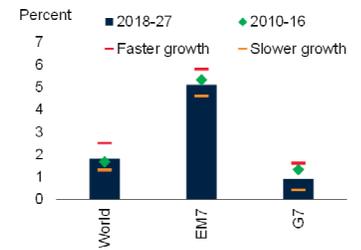
C. Income elasticities of EM7 commodity consumption
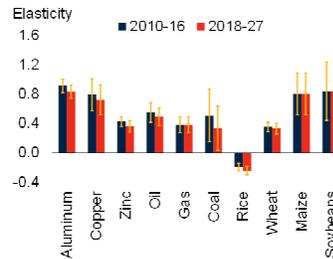
D. Scenario forecasts of global commodity demand growth
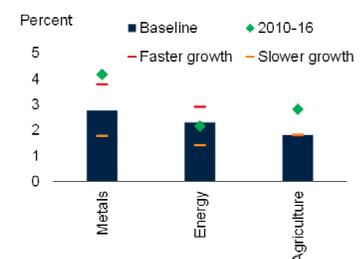
E. EM7 commodity demand in physical units
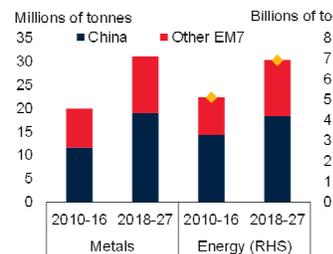
F. Scenario forecasts of EM7 commodity demand growth
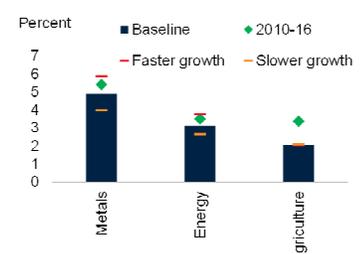
Sources: BP Statistical Review, United Nations, U.S. Department of Agriculture, World Bank, World Bureau of Metals Statistics.
Note: All growth rates are averaged over the period.
A. 2018-27 are based on UN Population Projections (2017).
B. 2018-27 data are forecasts of per capita potential growth based on World Bank (2018b) and UN Population Projections (2017).
C. Predicted values based on regression coefficients in Annex Table SF1.5. Vertical lines are 95 percent confidence intervals.
D.-F. To ensure comparability, 2010-16 is model-predicted commodity demand growth. The faster growth "reform" scenario assumes 0.7 percentage point higher output growth through 2018-27, while the slower growth "recession" scenario assumes 1 percentage point lower output growth for the first five years of 2018-27, based on World Bank (2018b).
E. Toe stands for tonnes of oil equivalent. Projected average annual commodity demand in billion tons of oil equivalent for energy and in millions of tonnes for metals.
Click here to download data and charts.

BOX SF1.2 Commodity consumption: Implications of government policies

Government policies—with respect to infrastructure investment, pollution control, energy use, and international trade—can have a major impact on commodity consumption.

Infrastructure investment. Significant infrastructure investment gaps exist at the global level, and closing these would provide both direct and indirect boosts to commodities consumption (World Bank 2016b, 2017a). The difference between expected investment needs and current actual investment in EMDEs is estimated at $1–$2 trillion per year (1.25 to 2.5 percent of global GDP).[1] By sector, the investment requirements are largest in electricity generation, followed by construction and transportation. Fiscal and structural policies such as increased public investment, structural governance reforms, and improved access to finance could boost investment directly and through the crowding-in of complementary private sector investment (World Bank 2017a).

China's Belt and Road Initiative (BRI) aims to promote economic development and integration across countries in Asia, Europe and Africa (State Council 2015). Outward foreign direct investment (FDI) from China increased substantially after the launch of the BRI from $28.6 billion in 2003 to $183 billion in 2016, with most of the increase going to countries on the BRI. The majority of FDI deals have been in manufacturing, while the construction and infrastructure sector has seen more rapid growth (Figure SF1.2.1).

Because of the high metal-intensity of investment, such policies could boost metals consumption. In addition, investment in electricity generation in EMDEs could result in energy demand shifting away from the decentralized use of biomass, toward centralized generation of electricity from fossil fuels and renewable sources of energy.

Pollution control. Environmental concerns are also likely to shape consumption patterns in commodity markets. For example, in energy markets, pollution or climate-change considerations, as embodied by the

2015 Paris Agreement, could accelerate the use of policy tools, such as carbon pricing, which favor the use of renewable energy and discourage the use of highly polluting fossil fuels (World Bank 2018a). During the past five years, global consumption of natural gas has increased nearly 10 percent while coal consumption has declined 2 percent.

Subsidies. Although aimed at protecting consumers, the use of energy subsidies can encourage energy consumption, discourage investment in energy efficiency and renewables, and impose large fiscal costs. The use of energy subsidies globally was equal to around 6.5 percent of global GDP in 2013. They are particularly prevalent in EMDEs (13-18 percent of GDP; IMF 2015; Rentschler 2018). The use of energy subsidies is high in the Middle East and North Africa (MENA), which accounts for half of all energy subsidies (World Bank 2014). The energy price collapse in 2014 provided impetus for subsidy reform, with more than half of commodity-exporting EMDEs doing so during 2014-2016 (World Bank 2018b). Additional subsidy reforms could further reduce energy consumption.

Biofuels. The diversion of food commodities to the production of biofuels will also affect demand for food commodities. Biofuels currently account for just over 1.5mb/d, or 1.6 percent, of global liquid energy consumption. Most biofuel production is not profitable at current energy and agricultural prices but is supported through various forms of mandates and trade measures (De Gorter, Drabik, and Just 2015). Biofuels come principally in the form of maize-based ethanol from the United States, sugar-based ethanol from Brazil, and plant oil-based biodiesel from Europe. Other smaller producers include China, Indonesia, and Thailand. The policy-driven diversion of food commodities to biofuels was motivated by energy security concerns and, especially, environmental benefits (Hill et al. 2006). However, interest has waned recently and biofuel production growth has slowed amid evidence of the

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[1] Bhattacharya et al. (2012); McKinsey Global Institute (2013).

BOX SF1.2 Commodity consumption: Implications of government policies (*continued*)

FIGURE SF1.2.1 Developments in commodity markets

A number of policy actions could have unintended spillovers to commodity consumption. A renewed infrastructure push, for example to fill infrastructure investment gaps or in the context of China's "Belt and Road Initiative" could raise manufacturing and construction activity and, hence, metal demand. Environmental policies to control pollution could reduce and shift energy demand towards cleaner fuels, including natural gas and renewables. Biofuel production is likely to slow, however, as policy makers gradually acknowledge the limited environmental benefits of biofuel policies.

A. Change in sectoral distribution of outward FDI deals before and after the BRI
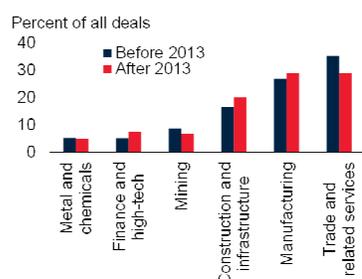
B. CO_2 emissions from different fuels
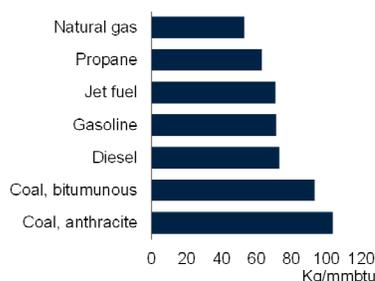
C. Global biofuels production
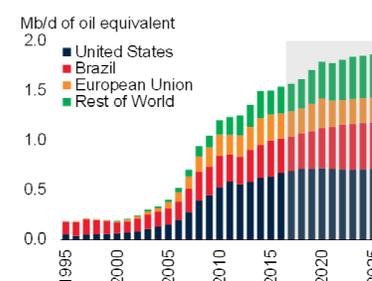
Sources: BP Statistical Review, Energy Information Administration, International Energy Agency, Organisation for Economic Co-operation and Development, Ministry of Commerce People's Republic of China, World Bank.
A. BRI stands for Belt and Road Initiative. Change in the average annual number of outward foreign direct investment (FDI) deals received by EMDEs before and after 2013. The sample covers EMDEs.
B. CO2 emissions in kilograms (kg) per million British thermal units (mmbtu) of fuel consumed.
C. Shaded area represents OECD (2017) projections. Units are million barrels of oil equivalent per day.
Click here to download data and charts.

limited environmental and energy independence benefits of biofuel policies (Searchinger et al. 2008; German et al. 2010). For example, biofuel production growth exceeded 20 percent per annum during 2001-10 but slipped to about 4 percent during the past five years. Current projections by the Organisation for Economic Cooperation and Development and the Food and Agriculture Organization of the United Nations (OECD/FAO) point to even lower biofuels production growth in the next decade (Figure SF1.2.1).

Food wastage. Although difficult to measure, by some accounts food waste may account for a quarter of global food production, amounting to roughly $680 billion in high income countries and $310 billion in developing countries, according to the Food and Agriculture Organization of the United Nations (FAO 2018). Policy interventions and technological improvements could significantly reduce food waste, which in turn would reduce demand for food commodities (Bellemare et al 2017; Delgado, Schuster, and Torero, 2017).

Trade policies and sanctions. Trade-restricting measures could have direct and indirect effects on commodity consumption and prices. A broad-based increase in tariffs would have major adverse consequences for global trade and activity (Ossa 2014; Nicita, Olarreaga, and Silva, forthcoming). An escalation of tariffs up to legally allowed bound rates could translate into a decline in global trade flows amounting to 9 percent (Kutlina-Dimitorva and Lakatos 2017). Such a fall in trade volumes would have a direct negative impact on oil consumption, given its use in transport fuel. A 5 percent drop in global trade could reduce international fuel oil bunker demand by at least 180 kb/d, or roughly 5 percent (IEA 2018). A reduction in global activity arising from trade-restricting measures would also reduce commodity demand. Finally, the imposition of sanctions could affect prices if they disrupt operations by major commodity-producing nations or companies (Box SF1.1).

could be one-third higher than under the baseline scenario and remain virtually at its post-crisis rates. Global and EM7 energy consumption growth might also be 0.6-0.7 percentage point stronger than under the baseline scenario and could rise above post-crisis rates. Aggregate food consumption would be little changed from baseline, but there would be further substitution away from rice and wheat (with low income elasticities) toward maize and soybeans (with higher elasticities).

- *Slower-growth scenario.* A slower-growth scenario would set back global metals consumption growth, relative to baseline, by one-third (1 percentage point) and global energy consumption growth by almost one-half (0.9 percentage point). Food consumption growth would, again, weaken only marginally with offsetting changes to rice and wheat compared to maize and soybeans.

The scenarios described above are stylized, and only show the impact of the baseline projections for income and population changes in the sample of countries. Prospects may differ considerably from these projections, depending on trajectories for variables not included in the model. For example, population growth in SSA is expected to be much higher than for advanced economies and the EM7, although it is not captured in this scenario. As such, these estimates could be biased downwards. The estimates also do not allow for the endogeneity of prices. Endogenous relative price changes would moderate the changes, in either direction, from the baseline paths.

Despite implying a slowdown in growth, all the model-based projections show that consumption of energy and other commodities expands significantly from current levels. This, however, would in itself likely stimulate innovation and the adoption of new technologies, including efficiency improvements that further reduce consumption (Arezki and Matsumoto 2017). An accelerated uptake of more fuel-efficient technologies (e.g., electric vehicles and natural gas-powered commercial trucks) could also reduce crude oil consumption prospects (Cherif, Hasanov, and

Pande 2017; International Energy Agency 2017). The uptake of more climate-friendly technologies will also lead to shifts in demand for the metals and minerals that are required to manufacture new technologies. Countries that are key suppliers of these elements could benefit from these developments. Low-carbon energy systems are likely to be more metal intensive than high-carbon systems, although the use of commodities varies greatly between different low-carbon technologies (World Bank 2017b).

Policy implications

The baseline scenario outlined above suggests consumption growth of metals and staple foods will likely slow over the next decade, and that of energy will remain well below pre-crisis rates. More modest commodity consumption growth, all else equal, would dampen pressures on prices.

Many EMDEs, especially smaller ones, are heavily exposed to commodity markets. In four-fifths of EMDEs, commodities account for 30 percent of goods exports or more, or an individual commodity accounts for 20 percent of goods exports. On average, export concentrations are largest among crude oil exporters. Oil exporters also tend to be heavily reliant on fiscal revenues from the sector. For example, prior to the oil price collapse in 2014, hydrocarbon revenues accounted for more than half of fiscal revenues in eight EMDEs, including Nigeria and Saudi Arabia, and more than one-quarter of revenues in four EMDEs, including Mexico and Russia (World Bank 2017a).

The prospect of persistently lower demand heightens the need for commodity exporters to diversify. Over the medium term, diversification away from resource-based production would help raise GDP per capita and improve growth prospects for commodity-exporting EMDEs. Cross-country studies underscore that greater diversification of exports and government revenues bolsters long-term growth prospects and resilience to external shocks (Lederman and Maloney 2007; Hesse 2008; IMF 2016a). The successful diversification experience of some energy producers (e.g., Malaysia, Mexico) highlights the

benefits of both vertical diversification (e.g., in crude oil, natural gas, and petrochemical sectors) as well as horizontal diversification. These involve reforms to improve the business environment, education, and skills acquisition (Callen et al. 2014).

In a majority of commodity-exporting EMDEs fiscal reforms are necessary to establish a firmer foundation for long-term fiscal sustainability (Mendes and Pennings 2017). The establishment of well-managed strategic investment funds with resource revenues can help in this regard (e.g. Chile, Norway). These funds can create opportunities for attracting private investment, deepening domestic capital markets, and building the capacity of governments to act as professional long-term investors (Halland et al. 2016).

Reforms to fiscal and monetary policy frameworks could also help reduce procyclicality and foster resilience to commodity price fluctuations (Frankel 2017). However, such policies are insufficient to mitigate the challenge of weaker commodity consumption discussed here.

Conclusion

Based on current trends, metals and foods consumption growth could slow by one-third over the next decade. Energy consumption growth would remain broadly constant at post-crisis rates, and shift towards faster-growing EMDEs. Aluminum and copper consumption would continue to grow steadily. Rice and wheat consumption growth is expected to slow as population growth slows, while rising incomes

would result in a shift to foods such as meat, which require growing inputs of maize and soybeans. Slowing GDP growth and industrial rebalancing notwithstanding, China will remain the single largest source of EM7 commodity consumption growth.

Advances in global technology, shifts in consumer preferences, and policies to encourage cleaner fuels could trigger much steeper slowdowns in global use of some commodities than current trends indicate. A rapid shift away from investment-driven and industrial production-driven growth in China could sharply lower its demand for metals. Similarly, a tightening of environmental regulations could reduce coal use more than in the baseline. Improved technologies (such as electric cars), lower costs of alternative fuels, and policies favoring cleaner fuels, could reduce the use of petroleum in transportation. However, they could also increase demand for raw materials used in the production of these technologies, such as rare earths.

Demand for most commodities may decelerate over the next decade as economies mature, infrastructure needs are met, and GDP and population growth slows. Much of future GDP growth will come in the services sector, which is not materials-intensive, while environmental and resource concerns and new technologies will reduce demand for traditional raw materials, as well as encouraging substitutions between them. These trends have already become evident in advanced economies, and a similar path could be expected for the major EMDEs.

ANNEX SF1.1 Modeling income elasticities

The empirical approach adopted in this focus is based on the pooled mean group (PMG) auto-regressive distributed lag (ARDL) (p,q,r) model developed by Pesaran et al. (1999), where p, q, and r are respectively the lag length of the dependent variable and the two explanatory variables. The model is of the following form:

$$c_{ij,t} = \Sigma_{k=1}^{p} \lambda_{ij,k} c_{ij,t-k} + \Sigma_{l=0}^{q} \delta_{ij,l} y_{ij,t-l}$$
$$+ \Sigma_{l=0}^{q} \varphi_{ij,l} y_{ij,t-l}^2 + \Sigma_{m=0}^{r} \gamma_{ij,m} p_{ij,t-m} + \alpha_{ij} + \varepsilon_{ij,t} \quad (1)$$

where $c_{ij,t}$ is the logarithm of real per capita consumption (in millions of tonnes for metals and food commodities and in tonnes of oil equivalent for energy commodities) of commodity i for country j at year t; $y_{ij,t}$ is real per capita income for country j at year t; $p_{ij,t}$ denotes the local currency-denominated world price of commodity i relative to the local currency-denominated GDP deflator, α_{ij} represents country fixed effects, and $\varepsilon_{ij,t}$ is the stochastic error term which has zero mean and constant variance. The quadratic term, $y_{ij,t}^2$, in equation (1) accounts for nonlinearities inherent in most demand function which, in this case, represents the level at which income plateaus.

The error correction form of equation (1) is:

$$\Delta c_{ij,t} = \rho_i (c_{i,t-1} - \theta_{i,1} y_t - \theta_{i,2} y_t^2 - \theta_{i,3} p_t)$$
$$+ \Sigma_{k=1}^{p-1} \lambda_{ij,k}^* \Delta c_{ij,t-k} + \Sigma_{l=0}^{q-1} \delta_{ij,l}^* \Delta y_{ij,t-l}$$
$$+ \Sigma_{l=0}^{q-1} \varphi_{ij,l}^* \Delta y_{ij,t-l}^2 + \Sigma_{m=0}^{r-1} \gamma_{ij,m}^* \Delta p_{ij,t-m} \quad (2)$$
$$+ \alpha_{ij} + \varepsilon_{ij,t}$$

where $\theta_{i,1}$, $\theta_{i,2}$, and $\theta_{i,3}$ represent the long-run dynamics of the demand function, such that:

$$\theta_{i,1} = \Sigma_{l=0}^{q} \delta_{ij,l} / (1 - \Sigma_{k=1}^{p} \lambda_{ij,k}),$$

$$\theta_{i,2} = \Sigma_{l=0}^{q} \varphi_{ij,l} / (1 - \Sigma_{k=1}^{p} \lambda_{ij,k}), \text{ and}$$

$$\theta_{i,3} = \Sigma_{m=0}^{r} \gamma_{ij,m} / (1 - \Sigma_{k=1}^{p} \lambda_{ij,k})$$

and λ^*, δ^*, φ^*, and γ^* capture the short-run relationship, where:

$$\lambda^* = -\Sigma_{n=k+1}^{p} \lambda_{ij,n},$$

$$\delta^* = -\Sigma_{n=l+1}^{q} \delta_{ij,n},$$

$$\varphi^* = -\Sigma_{n=l+1}^{q} \varphi_{ij,n}, \text{ and}$$

$$\gamma^* = -\Sigma_{n=m+1}^{r} \gamma_{ij,n}$$

Specifically, $\theta_{i,1}$ and $\theta_{i,2}$ are the long-term elasticities of demand with respect to a rise in per capita income, whereas $\theta_{i,3}$ is the long-run elasticity of demand with respect to real price. $\rho_i = -(1 - \Sigma_{k=1}^{p} \lambda_{ij,k})$ denotes the speed of adjustment towards the long-term equilibrium relationship.

From equation (2), income elasticities for each commodity and country are calculated by taking the partial derivative of the long-run estimation with respect to income, as follows:

$$\eta_t = \frac{\partial c_t}{\partial y_t} = \theta_1 + 2\theta_2 y_t$$

The model is applied to three energy commodities (crude oil, coal, and natural gas) and three metal commodities (aluminum, copper, and zinc), which together make up 85 percent of energy and base metals consumption respectively. Annual data from 1965-2016 for 33 countries were used in the analysis. The model is also applied to four food commodities (rice, wheat, maize, and soybean) which, together, account for 70 percent of arable land. For lack of data, a different dataset was chosen for food commodities, with predominantly EMDE representation and few advanced economies (Annex Table SF1.4).

Data on per capita income (expressed in real 2005 terms) were obtained from the World Bank's World Development Indicators; commodity consumption was taken from the BP Statistical Review (energy) and World Bureau of Metal Statistics (metals); world commodity prices were

taken from the World Bank's *Pink Sheet,* and were converted into real terms by using country-specific GDP deflators. Exchange rates were taken from the St. Louis Federal Reserve Bank's FRED database.

The models were estimated using the PMG ARDL (1,1,1,1), the lag length indicated as optimal by the BIC criterion. Results are reported in Annex Table SF1.5. The models for natural gas, maize and soybeans turned out to be linear whereas all other models were nonlinear, with statistically significant linear and quadratic terms. The Hausman test suggests that the PMG estimator is appropriate in virtually all instances.

The ARDL approach is appropriate when both the cross-sectional and the time dimension are moderate to large, with the time dimension being larger the cross-sectional dimension—as it is here. Alternatively, the fixed- or random-effects, or even the generalized methods of moments (GMM) of Arellano and Bond (1991), could be used. The results are broadly robust to the use of a GMM estimation which includes lagged (by 1 year) independent variables as instruments (Annex Table SF1.6). Similarly, the results are qualitatively robust to including a time trend (Annex Table SF1.7).

The backward-looking fitted values and the forward-looking scenarios are aggregated from country-level data, using country-specific per capita income and GDP deflators, and global commodity prices from World Bank (2018a). For each country, all regression coefficients (short- as well as long-run coefficients) are applied to country-specific per capita income and deflated commodity prices. The resulting fitted or predicted per capita consumption levels (in physical units) are multiplied by the size of the population, as provided by UN Population Statistics or UN Population Projections. Total world consumption is the sum of these country-level fitted or predicted consumption levels.

$$C_{(i,WORLD,t)} = \sum_{i=1}^{I} \hat{c}_{i,j,t} \times pop_{i,t}$$

where $\hat{c}_{i,j,t}$ is the fitted value of per capita consumption in country i of commodity j at time t, and $pop_{i,t}$ is the population of country i at time t.

The forward-looking scenarios assume that real per capita income grows at potential growth over the next decade, as estimated by the production function approach in World Bank (2018b), deflated by population growth as forecast by the UN Population Projections. For all scenarios, commodity prices are assumed to be constant, to mitigate potential endogeneity concerns.

ANNEX TABLE SF1.1.A Top 10 commodity consumers, 2016

	Aluminum		Copper		Zinc		Oil		Natural Gas	
1	China	54.4	China	49.7	China	48.2	United States	20.3	United States	22.0
2	United States	8.8	United States	7.7	United States	5.7	China	12.8	Russia	11.0
3	Germany	3.8	Germany	5.3	India	4.8	India	4.6	China	5.9
4	Japan	3.0	Japan	4.2	Korea, Rep.	4.5	Japan	4.2	Iran	5.7
5	Korea, Rep.	2.5	Korea, Rep.	3.2	Germany	3.5	Saudi Arabia	4.0	Japan	3.1
6	India	2.4	Italy	2.5	Japan	3.4	Russia	3.3	Saudi Arabia	3.1
7	Turkey	1.6	Brazil	2.2	Belgium	2.6	Brazil	3.1	Canada	2.8
8	Italy	1.6	Taiwan, China	2.2	Spain	1.9	Korea, Rep.	2.9	Mexico	2.5
9	United Arab Emirates	1.4	India	2.1	Italy	1.9	Germany	2.5	Germany	2.3
10	Brazil	1.3	Turkey	2.0	Turkey	1.7	Canada	2.4	United Kingdom	2.2
	Others	19.2	Others	18.9	Others	21.8	Others	39.8	Others	39.4

ANNEX TABLE SF1.1.B Top 10 commodity consumers, 2016

	Coal		Maize		Rice		Wheat	
1	China	50.6	United States	30.0	China	29.8	European Union	17.6
2	India	11.0	China	22.7	India	20.3	China	15.7
3	United States	9.6	European Union	7.1	Indonesia	7.8	India	13.1
4	Japan	3.2	Brazil	5.9	Bangladesh	7.3	Russia	6.1
5	Russia	2.3	Mexico	4.0	Vietnam	4.6	United States	4.0
6	South Africa	2.3	India	2.5	Philippines	2.7	Pakistan	3.4
7	Korea, Rep.	2.2	Egypt	1.5	Thailand	2.3	Egypt	2.7
8	Germany	2.0	Japan	1.4	Myanmar	2.1	Turkey	2.4
9	Indonesia	1.7	Canada	1.3	Japan	1.8	Iran	2.4
10	Poland	1.3	Vietnam	1.3	Brazil	1.7	Indonesia	1.6
	Others	13.8	Others	22.4	Others	19.6	Others	31.1

Sources: BP Statistical Review, Food and Agriculture Organization, U.S. Department of Agriculture, World Bureau of Metal Statistics.
Notes: Numbers indicate shares of global consumption. Refined consumption for aluminum, copper, and zinc.

ANNEX TABLE SF1.2.A Top 10 commodity producers, 2016

	Aluminum		Copper		Zinc		Oil		Natural Gas	
1	China	55.0	China	36.2	China	45.8	United States	13.4	United States	21.1
2	Russia	6.1	Chile	11.2	Korea, Rep.	7.4	Saudi Arabia	13.4	Russia	16.3
3	Canada	5.5	Japan	6.7	Canada	5.1	Russia	12.2	Iran	5.7
4	United Arab Emirates	4.3	United States	5.2	India	4.5	Iran	5.0	Qatar	5.1
5	India	3.3	Russia	3.7	Japan	3.9	Iraq	4.8	Canada	4.3
6	Australia	2.8	India	3.3	Spain	3.7	Canada	4.8	China	3.9
7	Norway	2.3	Congo, Dem. Rep.	3.0	Peru	2.5	United Arab Emirates	4.4	Norway	3.3
8	Bahrain	1.7	Germany	2.9	Kazakhstan	2.4	China	4.3	Saudi Arabia	3.1
9	Saudi Arabia	1.5	Korea, Rep.	2.6	Mexico	2.3	Kuwait	3.4	Algeria	2.6
10	United States	1.4	Poland	2.3	Finland	2.1	Brazil	2.8	Australia	2.6
	Others	16.0	Others	22.9	Others	20.3	Others	31.3	Others	32.1

ANNEX TABLE SF1.2.B Top 10 commodity producers, 2016

	Coal		Maize		Rice		Wheat	
1	China	46.1	United States	35.8	China	29.9	European Union	20.0
2	United States	10.0	China	20.8	India	22.6	China	17.1
3	Australia	8.2	Brazil	8.9	Indonesia	7.6	India	13.0
4	India	7.9	European Union	5.9	Bangladesh	6.7	Russia	11.2
5	Indonesia	7.0	Argentina	3.2	Vietnam	5.8	United States	6.2
6	Russia	5.3	India	2.6	Thailand	4.2	Canada	3.9
7	South Africa	3.9	Mexico	2.6	Myanmar	2.7	Ukraine	3.6
8	Colombia	1.7	Ukraine	2.3	Philippines	2.5	Pakistan	3.5
9	Poland	1.4	Canada	1.4	Brazil	1.7	Australia	2.8
10	Kazakhstan	1.2	Russia	1.3	Japan	1.6	Turkey	2.8
	Others	7.3	Others	15.2	Others	14.7	Others	16.0

Sources: BP Statistical Review, Food and Agriculture Organization, U.S. Department of Agriculture, World Bureau of Metal Statistics.
Notes: Numbers indicate shares of global production. Refined production for aluminum, copper, and zinc.

ANNEX TABLE SF1.3 Literature review of long-run income elasticities of demand for commodities

Authors and Publication Year	Data/sample	Methodology	Results
Stuermer (2017)	12 advanced economies and 3 EMDEs, annual data, 1840-2010	Auto-regressive distributive lag	Income elasticity of demand is estimated to be 1.5 for aluminum, 0.9 for copper, 0.7 for zinc, 0.6 for tin, and 0.4 for lead.
Burke and Csereklyei (2016)	132 countries, annual data, 1960-2010.	Ordinary least squares (OLS) with panel data, in levels and growth rates.	Aggregate income elasticity of energy demand is estimated to be 0.7. Income elasticity is found to rise with higher incomes, in contrast to other studies. This results from the inclusion of low income countries, which typically have a much lower income elasticity of demand for energy as they rely on non-commercial fuels (biomass). Controlling for this results in constant elasticities across income groups.
Csereklyei and Stern (2015)	93 countries, annual data, 1971-2010.	OLS in growth rates.	Average income elasticity of energy demand is estimated to be between 0.6 to 0.8. As income rises, the rate of growth of energy use per capita declines.
Huntington, Barrios, and Arora (2017)	Review of 38 papers providing 258 estimates of price and income elasticities of energy demand.	Review of existing studies.	Income elasticity of oil demand is found to be 0.5 on average, and 0.9 for natural gas.
Fouquet (2014)	UK energy use, annual data, 1700-2000.	Vector error correction model	Long run income elasticity for energy demand for transport peaks at 3 before declining to around 0.3 as income rises.
Joyeux and Ripple (2011)	30 OECD and 26 non-OECD countries, annual data, 1973-2007	Error correction model with pooled mean group estimators.	For OECD countries, income elasticity estimated to be 1.1, for non-OECD countries, income elasticity of energy demand estimated to be 0.9.
Jakob, Haller and Marschinski (2011)	30 EMDEs and 21 advanced economies, annual data, 1971-2005.	Difference-in-differences estimator on panel data.	Find income elasticity of primary energy demand of 0.63 for EMDEs and 0.18 for advanced economies (although statistically insignificant).
Vanin et al. (2014)	Review of 10 global economic models for agricultural commodities	Review of different modeling approaches	Find median income elasticities for rice and wheat close to 0.1. First and third quartile range of estimates range from 0 to 0.2.

ANNEX TABLE SF.1.4 Economy samples, by commodity modeled

Aluminum, zinc, oil, gas	Copper	Coal	Rice	Wheat	Maize	Soybeans
Australia[1] [2]	Australia[1]	Australia[2]	Argentina[3]	Algeria	Algeria	Argentina[3]
Austria	Austria	Austria	Australia	Argentina[3]	Argentina[3]	Australia
Belgium	Belgium	Belgium	Bangladesh	Australia	Australia	Bolivia
Brazil	Brazil	Brazil	Benin[3]	Bangladesh	Bolivia	Brazil[3]
Canada[2]	Canada	Canada[2]	Bolivia	Bolivia	Brazil[3]	Canada
China	China	Denmark	Brazil[3]	Brazil[3]	Cameroon[3]	Chile[3]
Hong Kong SAR, China	Finland	Finland	Burkina Faso[3]	Canada	Canada	China
Denmark	France	France	Cameroon[3]	Chile[3]	Chile[3]	Colombia
Finland	Germany	Germany	Chad	China	China	Ecuador[3]
France	Greece	Greece[2]	Chile[3]	Colombia	Colombia	Egypt[3]
Germany	India	India	China	Ecuador[3]	Côte d'Ivoire[3]	Guatemala[3]
Greece[2]	Italy	Ireland	Colombia	Egypt.[3]	Cuba	India
India	Japan	Italy	Congo, Rep.	Guatemala[3]	Ecuador[3]	Indonesia[3]
Indonesia[2]	Mexico	Japan	Costa Rica[3]	India	Egypt[3]	Iran
Ireland	Netherlands	Mexico	Côte d'Ivoire[3]	Iran	Ghana[3]	Japan
Italy	Portugal	Netherlands	Cuba	Japan	Guatemala[3]	Korea, Rep.
Japan	South Africa[1]	New Zealand	Dominican Republic[3]	Kenya	Honduras[3]	Mexico
Mexico	Korea, Rep.	Norway[2]	Ecuador[3]	Lesotho	India	Morocco[3]
Netherlands	Spain	Portugal	Egypt[3]	Mexico	Indonesia[3]	Myanmar
New Zealand	Sweden	South Africa	El Salvador	Morocco[3]	Iran	Nigeria
Norway[2]	Switzerland	Korea, Rep.	Gambia, The[3]	Nepal[3]	Japan	Pakistan[3]
Portugal	Taiwan, China	Spain	Ghana[3]	New Zealand[3]	Kenya	Paraguay[3]
Singapore	Turkey	Sweden	Guatemala[3]	Nigeria	Korea, Rep.	Peru[3]
South Africa[1]	United Kingdom	Switzerland	Guyana[3]	Norway	Lesotho	South Africa
Korea, Rep.	United States	Taiwan, China	Honduras[3]	Pakistan[3]	Madagascar[3]	Switzerland
Spain		Turkey	India	Paraguay[3]	Malawi[3]	Taiwan, China
Sweden		United Kingdom	Indonesia[3]	Peru[3]	Mexico	Thailand
Switzerland		United States	Iran	South Africa	Morocco[3]	Turkey
Taiwan, China			Japan	Sudan[3]	Nepal[3]	United States
Thailand			Kenya	Taiwan, China	Nicaragua[3]	Uruguay[3]
Turkey			Korea, Rep.	Tunisia	Nigeria	Venezuela
United Kingdom			Liberia	Turkey	Pakistan[3]	Zambia
United States			Madagascar[3]	Uruguay[3]	Panama	Zimbabwe[3]
			Malawi[3]	Zambia	Paraguay[3]	
			Malaysia	Zimbabwe[3]	Peru[3]	
			Mali		Philippines	
			Mexico		Senegal[3]	
			Morocco[3]		South Africa	
			Nepal[3]		Taiwan, China	
			Nigeria		Thailand	
			Pakistan[3]		Turkey	
			Panama		United States	
			Paraguay[3]		Uruguay[3]	
			Peru[3]		Venezuela	
			Philippines		Vietnam	
			Senegal[3]		Zambia	
			Sierra Leone[3]		Zimbabwe[3]	
			Sri Lanka[3]			
			Taiwan, China			
			Thailand			
			Togo[3]			
			Turkey			
			United States			
			Uruguay[3]			
			Venezuela			

Source: World Bank.
Note: 1 indicates metals exporter; 2 indicates energy exporter, 3 indicates agricultural exporter. An economy is defined as an exporter if exports of the commodity account for 20 percent or more of their total exports. Greece, Portugal, and South Africa are not included in the estimation of gas consumption due to missing observations (for 17, 32, and 27 years, respectively).

ANNEX TABLE SF.1.5 Estimation results for pooled mean group estimation

	Aluminum	Zinc	Copper	Oil	Coal	Gas 1/	Gas	Rice	Wheat	Maize 1/	Maize	Soybeans 1/	Soybeans
Long run													
Log per capita income	3.50***	2.60***	2.95***	2.31***	6.04***	0.30	0.38***	1.39***	1.05***	0.28	0.85***	-0.65	0.84***
	(0.40)	(0.23)	(0.71)	(0.46)	(1.28)	(1.04)	(0.57)	(0.12)	(0.20)	(0.24)	(0.02)	(0.50)	(0.04)
Squared log per capita income	-0.15***	-0.12***	-0.12***	-0.10***	-0.31***	0.01		-0.09***	-0.04***	0.05***		0.10***	
	(0.02)	(0.01)	(0.04)	(0.02)	(0.06)	(0.05)		(0.01)	(0.01)	(0.02)		(0.03)	
Log real price	-0.31***	-0.17***	-0.36***	-0.47***	0.15**	-0.27***	-0.29***	0.03	0.01	-0.22***	-0.19***	-0.48***	-0.68***
	(0.04)	(0.03)	(0.06)	(0.05)	(0.07)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.11)	(0.09)
Short run													
Adjustment coefficient	-0.26***	-0.28***	-0.14***	-0.07***	-0.10***	-0.17***	-0.17***	-0.22***	-0.33***	-0.19***	-0.15***	-0.14***	-0.13***
	(0.03)	(0.03)	(0.03)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.02)	(0.02)
Log change in per capita income	-19.06**	2.90	1.04	4.28*	-13.41***	31.60	0.63***	-2.28	-2.44	-1.61	0.49***	-13.54	0.89**
	(9.43)	(13.55)	(7.20)	(2.34)	(3.78)	(21.43)	(0.20)	(6.58)	(6.88)	(4.95)	(0.14)	(21.28)	(0.42)
Squared log change in per capita income	1.07**	-0.01	0.07	-0.17	0.70***	-1.51		0.08	0.07	0.15		1.33	
	(0.47)	(0.67)	(0.36)	(0.11)	(0.18)	(1.06)		(0.46)	(0.38)	(0.32)		(1.33)	
Log change in real price	0.09**	0.05	-0.03	-0.01*	-0.01	0.03*	0.03*	-0.02**	-0.01	0.02	0.01	-0.03	-0.02
	(0.04)	(0.03)	(0.03)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.15)	(0.02)	(0.10)	(0.10)
Constant	-4.56***	-3.50***	-2.10***	-0.90***	-2.85***	-0.86***	-0.78***	-0.40***	-0.53***	0.61***	0.29***	0.93***	0.36***
	(0.54)	(0.42)	(0.36)	(0.08)	(0.44)	(0.17)	(0.17)	(0.07)	(0.08)	(0.15)	(0.11)	(0.18)	(0.09)
Joint Hausman test-statistic	5.25	7.72	3.26	3.66	4.53	3.02	5.80	2.52	1.45	1.62	5.43	5.86	2.31
p-value	0.15	0.05	0.35	0.30	0.21	0.39	0.06	0.47	0.69	0.66	0.07	0.12	0.32
log likelihood	886.27	711.20	743.02	3065.46	1557.88	1134.57	1141.82	1647.65	1141.82	1534.65	1462.82	85.70	47.73
Observations	1,668	1,658	1,275	1,683	1,366	1,366	1,443	2,692	1,781	2,372	2,372	1,500	1,500
Number of countries	33	33	25	33	28	30	30	55	35	47	47	32	32
Memorandum item:													
Income elasticity at 2017 median income	0.8	0.3	0.7	0.5	0.6	...	0.4	-0.3	0.3	...	0.8	...	0.8

Note: *** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

1/ Indicates robustness check but not baseline regression. All other regressions are baseline regressions.

ANNEX TABLE SF.1.6 Estimation results under generalized method of moments

	Aluminum	Zinc	Copper	Oil	Coal	Gas	Rice	Wheat	Maize	Soybeans
Log per capita income	3.99***	3.81***	2.57***	2.41***	4.19***	0.27***	1.49***	0.70***	0.47***	0.48***
	(0.21)	(0.18)	(0.36)	(0.12)	(0.25)	(0.09)	(0.13)	(0.12)	(0.03)	(0.05)
Squared log per capita income	-0.17***	-0.19***	-0.06***	-0.10***	-0.19***		-0.09***	-0.04***		
	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)		(0.00)	(0.01)		
Log real price	-0.45***	-0.18***	0.00	-0.05***	0.07	-0.47***	-0.33	-0.04	-0.48***	-1.33***
	(0.05)	(0.04)	(0.12)	(0.01)	(0.08)	(0.13)	(0.02)	(0.03)	(0.09)	(0.15)
Constant	-19.51***	-18.16***	-17.67***	-13.60***	-23.64***	-4.16***	-1.83***	-1.46***	6.29***	10.01***
	(0.83)	(0.77)	(0.73)	(0.63)	(1.13)	(0.87)	(0.50)	(0.47)	(0.51)	(0.97)
Adj. R^2	0.86	0.81	0.80	0.96	0.90	0.84	0.91	0.91	0.12	0.11
J-statistic	0	0	0	0	0	0	0	0	0	0
Observations	1,608	1,583	1,275	1,617	1,428	1,583	2,776	1,730	2,372	1,501
Number of countries	33	33	25	33	28	33	55	35	47	32

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Standard errors in parentheses.

One lag of independent variables is used as instruments. The J-statistics confirm their validity.

ANNEX TABLE SF.1.7 Estimation results including trend

	Aluminum	Zinc	Copper	Oil	Coal	Gas	Rice	Wheat	Maize	Soybeans
Long run										
Log per capita income	4.23***	2.20***	11.06***	1.90***	4.16***	0.71***	0.52***	3.42***	1.37***	1.03***
	(0.45)	(0.22)	(0.95)	(0.47)	(0.99)	(0.09)	(0.14)	(0.24)	(0.24)	(0.21)
Squared log per capita income	-0.19***	-0.08***	-0.57***	-0.06**	-0.23**			-0.21***		-0.03***
	(0.03)	(0.02)	(0.05)	(0.03)	(0.05)			(0.01)		(0.01)
Log real price	-0.21***	-0.16***	-0.26***	-0.01***	-0.02	-0.25***	0.00	-0.04	-0.03	-0.02
	(0.04)	(0.03)	(0.04)	(0.00)	(0.06)	(0.03)	(0.02)	(0.03)	(0.06)	(0.02)
Short run										
Adjustment coefficient	-0.27***	-0.28***	-0.16***	-0.07***	-0.06***	-0.17***	-0.24***	-0.27***	-0.12***	-0.33***
	(0.03)	(0.03)	(0.03)	(0.07)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.04)
Log change in per capita income	-18.98*	11.17	2.13	3.69**	-1.78	0.60**	0.19***	11.32**	0.80*	-2.56
	(9.81)	(14.16)	(8.04)	(2.23)	(3.22)	(0.21)	(0.03)	(5.73)	(0.43)	(6.79)
Squared log change in per capita income	1.06**	-0.45	-0.04	-0.14	0.13			-0.76*		0.08
	(0.49)	(0.71)	(0.42)	(0.11)	(0.16)			(0.41)		(0.37)
Log change in real price	0.08*	0.05*	-0.03	-0.01*	0.00	0.03	-0.09	-0.02	-0.07	0.00
	(0.04)	(0.03)	(0.03)	(0.06)	(0.02)	(0.02)	(0.02)	(0.01)	(0.10)	(0.02)
Constant	-5.40***	-3.39***	-8.00***	-0.92***	-1.34***	-1.29***	1.41***	-2.94***	-0.71***	-0.55***
	(0.64)	(0.41)	(1.32)	(0.08)	(0.37)	(0.27)	(0.19)	(0.37)	(0.15)	(0.08)
Joint Hausman test-statistic	4.46	5.45	5.01	2.99	11.07	0.82	1.21	1.20	6.34	6.27
p-value	0.22	0.14	0.17	0.39	0.01	0.66	0.55	0.75	0.10	0.10
Log likelihood	889.59	694.75	755.16	3067.80	1546.83	1146.19	1529.00	1978.46	47.31	1696.66
Observations	1,668	1,680	1,275	1,683	1,428	2692	2,372	2,775	1,500	1,781
Number of countries	33	33	25	33	28	33	47	55	32	35

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Standard errors in parentheses.

References

Aguiar, A., B. Narayanan, and R. McDougall. 2016. "An Overview of the GTAP 9 Data Base." *Journal of Global Economic Analysis* 1(1): 181-208.

Arezki, R., and A. Matsumoto. 2017. "Shifting Commodity Markets in a Globalized World." International Monetary Fund, Washington, DC.

Baffes, J., and X. Etienne. 2016. "Analyzing Food Price Trends in the Context of Engel's Law and the Prebisch-Singer Hypothesis." *Oxford Economic Papers* 63 (3): 1-26.

Baffes, J., M. A. Kose, F. Ohnsorge, and M. Stocker. 2015. "The Great Plunge in Oil Prices: Causes, Consequences, and Policy Responses." Policy Research Note 1, World Bank, Washington, DC.

Baffes, J., and C. Savescu. 2014. "Monetary Conditions and Metal Prices." *Applied Economics Letters* 21 (7): 447-452.

Bellemare, M. F., M. Cakir, H. H. Peterson, L. Novak, and J. Rudi. 2017. "On the Measurement of Food Waste." *American Journal of Agricultural Economics*, 99 (5) 1: 1148-1158.

Bhattacharya, A., M. Romani, and N. Stern. 2012. "Infrastructure for Development. Meeting the Challenge." Centre for Climate Change Economics and Policy Policy Paper.

British Petroleum. 2017. *BP Statistical Review of World Energy 2017*. London: British Petroleum Company.

———. 2018. *BP Energy Outlook 2018*. London: British Petroleum Company.

Burke, P., and Z. Csereklyei. 2016. "Understanding the Energy-GDP Elasticity: A Sectoral Approach." *Energy Economics* 58 (8): 199-210.

Callen, T., R. Cherif, F. Hasanov, A. Hegazy, and P. Khandelwal. 2014. "Economic Diversification in the GCC: Past, Present, and Future." IMF Staff Discussion Note 14/12, International Monetary Fund, Washington, DC.

Cherif, R., F. Hasanov, and A. Pande. 2017. "Riding the Energy Transition: Oil Beyond 2040." IMF Working Paper No. 17/120. International Monetary Fund, Washington, DC.

Csereklyei, Z., and D. Stern. 2015. "Global Energy Use: Decoupling or Convergence?" *Energy Economics* 51 (September): 633-641.

Cuddington, J., and D. Jerrett. 2008. "Super Cycles in Real Metal Prices?" IMF Staff Papers 55 (4): 541-565. International Monetary Fund, Washington, DC.

Cuddington, J., and A. M. Zellou. 2013. "A Simple Mineral Market Model: Can it Produce Super Cycles in Prices?" *Resources Policy* 38 (1): 75-87.

Dahl, C. 2012. "Measuring Global Gasoline and Diesel Price and Income Elasticities." *Energy Policy*, 41 (February): 2-13.

Dahl, C., and C. Roman. 2004. *Energy Demand Elasticities—Fact or Fiction: A Survey Update.* Colorado School of Mines, Division of Economics and Business, Golden, CO.

De Gorter, H., D. Drabik, and D. Just. 2015. *The Economics of Biofuel Policies: Impacts on Price Volatility in Grain and Oilseed Markets.* New York: Palgrave McMillan.

Deininger, K., D. Byerlee, J. Lindsay, A. Norton, H. Selod, and M. Stickler. 2016. *Rising Global Interest in Farmland. Can it Yield Sustainable and Equitable Benefits?* Washington DC: World Bank.

Delgado, L., M. Schuster, and M. Torero. 2017. "Reality of Food Losses: A New Measurement Methodology." IFPRI Discussion Paper 1686, International Food Policy Research Institute (IFPRI), Washington, DC.

Didier, T., M. A. Kose, F. Ohnsorge, and L. S. Ye. 2016. "Slowdown in Emerging Markets: Rough Patch or Prolonged Weakness?" Policy Research Note 4, World Bank, Washington, DC.

Dienes, L., I. Doboz, and M. Radetzki. 1994. *Energy and Economic Reform in the Former Soviet Union.* London: Palgrave Macmillan.

Dollar, D. 2016. *China's Engagement with Africa From Natural Resources to Human Resources.* Washington, DC*:* The Brookings Institution.

Engel, E. 1857. "Die Produktions- und Consumtionsverhältnisse des Königreichs Sachsen." *Zeitschrift des Statistischen* Bureaus des Königlich Sächsischen Ministerium des Inneren, 8-9, 28-29.

FAO (Food and Agriculture Organization of the United Nations). 2018. "Key Facts on Food Loss and Waste You Should Know!" http://www.fao.org/save-food/resources/keyfindings/en/. Accessed on May 8, 2018.

Foquet, R. 2014. "Long-run Demand for Energy Services: Income and Price Elasticities over Two-Hundred Years." *Review of Environmental Economics and Policy* 8 (2): 186-207.

Frankel, J. A. 2017. "How to Cope with Volatile Commodity Export Prices: Four Proposals." Working Papers 335, Center for International Development at Harvard University, Cambridge, MA.

Geman, L., G. Schoneveld, M. Skutch, R. Andriani, K. Obidzinski and P. Pacheco with H. Komarudin, A. Andrianto, M. Lima and A. Dayang Norwana. 2010. "The Local Social and Environmental Impacts of Biofuel Feedstock Expansion: A Synthesis of Case Studies from Asia, Africa and Latin America." CIFOR InfoBrief no. 34, Center for International Forestry Research, Bogor, Indonesia.

Halland, H., M. Noel, S. Tordo, and J. J. Kloper-Owens. 2016. "Strategic Investment Funds : Opportunities and Challenges." Policy Research Working Paper 7851, Washington, DC, World Bank.

Hesse, H. 2008. "Export Diversification and Economic Growth." Working Paper 21, Commission on Growth and Development, World Bank, Washington, DC.

Hill, J., E. Nelson, D. Tilman, S. Polasky, and D. Tiffany. 2006. "Environmental, Economic, and Energetic Costs and Benefits of Biodiesel and Ethanol Biofuels." *Proceedings of the National Academy of Science* 103 (30), 11206-11210.

Huidrom, R., M. A. Kose, F. Ohnsorge. 2017. "How Important are Spillovers from Major Emerging Markets?" Policy Research Working Paper 8093, World Bank, Washington, DC.

Huntington, H., J. Barrios, and V. Arora. 2017. "Review of Key International Demand Elasticities for Major Industrializing Economies." U.S. Energy Information Administration Working Paper, Washington, DC.

IEA (International Energy Agency). 2017. *World Energy Outlook 2017.* Paris: International Energy Agency.

———. 2018. *Oil Market Report* (April). Paris: International Energy Agency.

IMF (International Monetary Fund). 2016a. *Economic Diversification in Oil-Exporting Arab Countries.* Annual Meeting of Arab Ministers of Finance.

———. 2016b. *China's Footprint in Global Commodity Markets.* Spillover Notes, September. Washington, DC: International Monetary Fund.

Jacks, D. 2013. "From Boom to Bust: A Typology of Real Commodity Prices in the Long Run." NBER Working Paper 18874, National Bureau of Economic Research, Cambridge, MA.

———. 2016. "What Drives Commodity Price Booms and Busts?" Federal Reserve Bank of Dallas Working Paper 1614, Dallas, TX.

Jakob, M., M. Haller, R. and Marschinski. 2012. "Will History Repeat Itself? Economic Convergence and Convergence in Energy Use Patterns." *Energy Economics* 34(1): 95–104.

Joyeux, R., and R. Ripple. 2011. "Energy Consumption and Real Income: A Panel Cointegration Multi-country Study." *Energy Journal.* 32 (2): 107-141.

Kilic Celik, S., M. A. Kose, F. Ohnsorge, and M. Some. Forthcoming. "Potential Growth" Working Paper, World Bank, Washington, DC.

Kindleberger, C. P. 1958. "The Terms of Trade and Economic Development." *The Review of Economic and Statistics* 40 (1): 72-85.

Kutlina-Dimitrova, Z., and C. Lakatos. 2017. "The Global Costs of Protectionism." Policy Research Working Paper No. 8277, World Bank, Washington, DC .

Lederman, D., and W. Maloney. 2007. "Trade Structure and Growth." In *Natural Resources: Neither Curse nor Destiny*. Washington, DC: World Bank.

McKinsey Global Institute. 2013. "Infrastructure Productivity: How to Save $1 Trillion a Year." Policy Report.

Meier, H., T. Jamasb, and L. Orea. 2013. "Necessity of Luxury Good? Household Energy Spending and Income in Britain 1991-2007." *Energy Journal* 34 (4): 109-128

Mendes, A., and S. Pennings. 2017. "Consumption Smoothing and Shock Persistence: Optimal Simple Fiscal Rules for Commodity Exporters." Policy Research Working Paper 8035, World Bank, Washington, DC.

Nicita, A., M. Olarreaga, and P. Silva. Forthcoming. "Cooperation in WTO's Tariff Waters?" *Journal of Political Economy.*

OECD (Organization for Economic Cooperation and Development). 2017. *OECD-FAO Agricultural Outlook 2017-2026.* Paris: OECD Publishing.

Ossa, R. 2014. "Trade Wars and Trade Talks with Data." *American Economic Review* 104 (12): 4104-46.

Pesaran, M., Y. Shin, and R. Smith. 1999. "Pooled Mean Group Estimation of Dynamic Heterogeneous Panels." *Journal of the American Statistical Association* 294 (446): 621-634.

Pesaran, M., R. Smith, and T. Akiyama. 1998. *Energy Demand in Asian Developing Countries.* Oxford, UK: Oxford University Press.

Prebisch, R. 1950. *The Economic Development of Latin America and Its Principal Problems.* New York: United Nations.

Radetzki, M., R. Eggert, G. Lagos, M. Lima, and J. Tilton. 2008. "The Boom in Mineral Markets:

How Long Might it Last?" *Resources Policy* 33 (3): 125-128.

Rentschler, J. 2018. *Fossil Fuel Subsidy reforms: A Guide to Economic and Political Complexity.* New York: Routledge Studies in Energy Policy.

Roache, S. K. 2012. "China's Impact on World Commodity Markets." IMF Working Paper WP/12/115, International Monetary Fund, Washington, DC.

Ruhl, C., P. Appleby, J. Fennema, A. Naumov, and M. Schaffer. 2012. "Economic Development and the Demand for Energy: A Historical Perspective on the Next 20 Years." *Energy Policy* 50 (November): 109-116.

Salois, M., R. Tiffin, and K. G. Balcombe. 2012. "Impact of Income on Nutrient Intakes: Implications for Undernourishment and Obesity." *The Journal of Development Studies* 48 (12): 1716-1730.

Searchinger, T., R. Heimlich, R. A. Houghton, F. Dong, A. Elobeid, J. Fabiosa, S. Tokgoz, D. Hayes, and T. H. Yu. 2008. "Use of U.S. Croplands for Biofuels Increases Greenhouse Gases through Emissions from Land Use Change." *Science* 319 (5867): 1238-40.

Singer, H. W. 1950. "The Distribution of Gains Between Investing and Borrowing Countries." *American Economic Review* 40 (2): 473-485.

The State Council of the People's Republic of China. 2015. "China Unveils Action Plan on Belt and Road Initiative." http://english.gov.cn/news/top_news/2015/03/28content_281475079055789.htm. Accessed on Feb 8, 2018.

Stuermer, M. 2017. "Industrialization and the Demand for Mineral Commodities." *Journal of International Money and Finance* 76 (September): 16-27.

———. 2018. "150 Years of Boom and Bust: What Drives Mineral Commodity Prices?" *Macroeconomic Dynamics* 22 (3): 702-717.

Stuermer, M. and J. von Hagen. 2012. "Der Einfluss des Wirtschaftswachstums aufstrebender Industrienationen auf die Märkte mineralischer

Rohstoffe." DERA Rohstoffinformationen 12. Deutsche Rohstoffagentur (DERA) in der Bundesanstalt für Geowissenschaften und Rohstoffe, Berlin.

Tilton, J. 1990. *World Metal Demand: Trends and Prospects.* Washington, DC: Resources for the Future Press.

Urge-Vorsatz, D., G. Miladinovab, and L. Paizs. 2006. "Energy in transition: from the iron curtain to the European Union." *Energy Policy* 34 (15), 2279–2297.

UN (United Nations). 2017. Department of Economic and Social Affairs, Population Division. *World Population Prospects: The 2017 Revision.* DVD Edition.

USDA (United States Department of Agriculture). 2015. *USDA Coexistence Fact Sheets: Soybeans.* Washington, DC: USDA.

Valin, H., R. Sands, D. van der Mensbrugghe, G. Nelson, H. Ahammad, E. Blanc, B. Bodirsky, et al. 2014. "The Future of Food Demand: Understanding Differences in Global Economic Models." *Agricultural Economics* 45 (1): 51-67.

World Bank. 2009. *Global Economic Prospects: Commodities at the Crossroads.* Washington, DC: World Bank.

———. 2014. "Corrosive Subsidies." *World Bank Middle East and North Africa Region Economic Monitor.* Washington, DC: World Bank.

———. 2015a. *Global Economic Prospects: Having Fiscal Space and Using it.* January. Washington, DC: World Bank.

———. 2015b. *Global Economic Prospects: The Global Economy in Transition.* June. Washington, DC: World Bank.

———. 2015c. "How important are China and India in Global Commodity Consumption?" In *Commodity Markets Outlook.* July. Washington, DC: World Bank.

———. 2016a. *Global Economic Prospects: Divergences and Risks.* June. Washington, DC: World Bank

———. 2016b. *Global Economic Prospects: Spillovers amid Weak Growth.* January. Washington, DC: World Bank.

———. 2017a. *Global Economic Prospects: Weak Investment in Uncertain Times.* January. Washington, DC: World Bank.

———. 2017b. *The Growing Role of Minerals and Metals for a Low Carbon Future.* Washington, DC: World Bank.

———. 2018a. *Commodity Markets Outlook.* April. Washington, DC: World Bank.

———. 2018b. *Global Economic Prospects: Broad-Based Upturn, for How Long?* January. Washington, DC: World Bank.
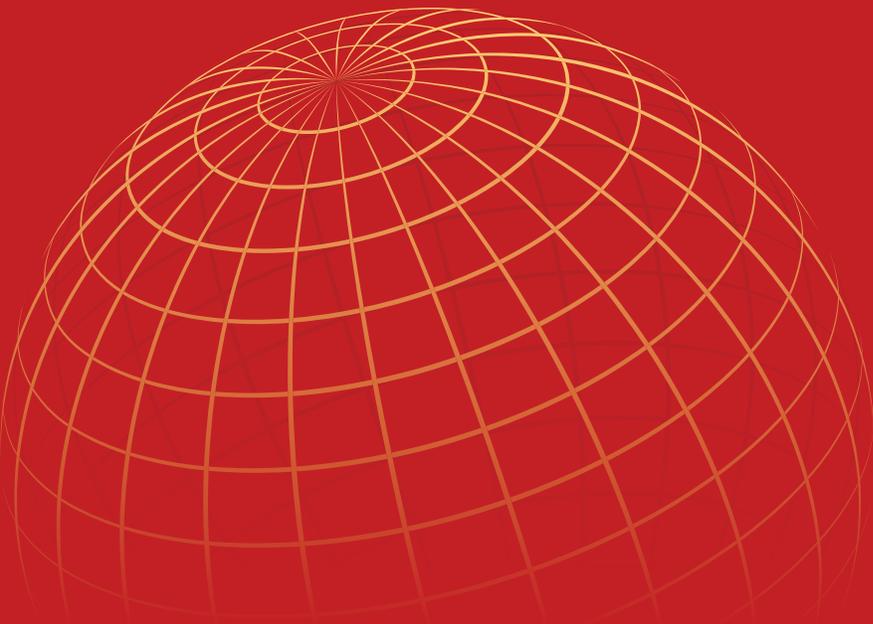
SPECIAL FOCUS 2

Corporate Debt:
Financial Stability and Investment Implications

Corporate Debt:
Financial Stability and Investment Implications

Average corporate debt in emerging market and developing economies (EMDEs) has risen over the past decade. This trend raises concerns for their financial stability and growth prospects. Debt service costs of EMDE firms are expected to rise as advanced economies normalize monetary policy, and debt is increasingly held by firms with riskier balance sheets. Firm-level empirical analysis also suggests that debt overhang may be associated with weak investment, especially in large or highly leveraged firms. Countercyclical and macroprudential policies can address financial stability concerns. Structural policies, including the strengthening of bankruptcy regimes, are appropriate tools to address the investment implications of elevated corporate debt.

Introduction

By 2017, corporate debt in emerging market and developing economies (EMDEs) had reached levels that significantly exceeded its average prior to the global financial crisis as well as its longer-term average (1995-2007; Figure SF2.1). EMDE corporate debt now also rivals the size of government debt. While the increase in corporate indebtedness among EMDEs partly reflects improved and deeper access to capital markets, it raises two concerns.

First, excessive corporate debt can threaten financial stability, leading to distress in the non-financial corporate sector and systematic balance sheet difficulties in the banking sector. Most directly, as policy interest rates rise and the cost of debt service increases, incidence of corporate distress tends to intensify. Firms may also become more vulnerable to balance sheet shocks, such as through currency mismatches associated with U.S. dollar appreciation.[1] Deterioration in nonfinancial corporate balance sheets may transmit to the banking sector as well. Previous episodes of rapid corporate debt buildup have at times coincided with episodes of financial stress, which can have adverse macroeconomic consequences.[2]

Second, elevated corporate debt may have implications for longer-term growth if it coincides with a period of subdued post-crisis private investment growth (World Bank 2017; Kose et al. 2017). Excessive corporate debt could dampen investment and the expansion of productive capacity necessary for healthy growth, as a disproportionate amount of corporate earnings would need to be paid to creditors rather than equity investors. This channel can adversely impact the growth prospects of EMDEs, and is the primary topic addressed in this Special Focus.

The Special Focus first discusses trends in EMDE corporate debt and associated financial stability risks. It subsequently assesses empirical linkages between corporate debt and investment activity based on firm-level data, with a focus on the "debt overhang" channel. The analysis focuses on nonfinancial corporations, as they are foremost in private capital investment activity and thus are most germane to the linkage between corporate debt and investment.

Four questions are addressed:

- How has corporate debt evolved in EMDEs?

- What are the financial stability risks associated with elevated corporate debt?

- Does a "debt overhang" dampen capital investment in the EMDE corporate sector?

[1] Large unhedged exposure in foreign exchange combined with depreciation of currency may raise this vulnerability (Acharya et al. 2015).

[2] Debt overhangs were found to have impacted investment on European economies after the global financial crisis, and leverage was found to have an impact on U.S. firms during the crisis (Kalemli-Ozcan, Laeven, and Moreno 2015; Giroud and Mueller 2017). Also,

the Republic of Korea's Chaebol debt-driven expansion abruptly ended and required massive corporate restructuring during the Asian Financial Crisis. These issues were compounded by an insolvency system that was unable to effectively resolve corporate distress.

- What are the main policy implications associated with elevated corporate debt?

This Special Focus documents the rise in corporate debt over the past decade in EMDEs, and finds that an increasing share of debt is held by firms with higher financial risk (e.g., lower interest coverage ratios). Moreover, high corporate debt has been associated with weaker investment growth. At both the country and firm level, private investment growth has been correlated with corporate debt service capacity. Moreover, the adverse effect of debt overhangs on investment is more pronounced among large and highly leveraged firms. This investigation studies this medium-term channel that may impact investment for an extended period of time even absent the occurrence of a crisis.

This analysis contributes to the literature on corporate debt overhangs by analyzing the reaction of investment to debt overhang by large and small private firms for a diverse sample of large EMDEs. It subsequently explores cross-sectional dimensions, such as firm size, that may affect the sensitivity of investment to debt overhang across firms. The literature on this linkage has thus far focused on stock exchange listed firms, which may not fully reflect the state of the corporate sector in EMDEs.

The analysis points to both cyclical and structural policy priorities:

- From a cyclical perspective, the financial stability risks highlight the need for the build-up of fiscal buffers to prevent a corporate default surge from having systemic consequences. Prudential regulations that monitor liquidity and currency risks in large firms' debt would also be appropriate, especially since the boom in corporate debt has been concentrated among large (and likely systemically important) firms.

- From a structural policy perspective, in cases where debt overhangs are slowing private investment over an extended period, policy measures to curb debt bias—such as thin capitalization rules or equity market

promotion—are warranted. Policies to encourage equity financing and promote debt/equity balance are especially relevant for small firms. Similarly, policies to strengthen bankruptcy regimes may both improve investment activity by increasing investor confidence and by mitigating the macroeconomic costs of bankruptcies when they occur.

Corporate debt landscape in EMDEs

Corporate debt in EMDEs has, on average, risen from about 60 percent of GDP in 2006 to 86 percent of GDP in 2017 (Figure SF2.1). This increase has been especially pronounced in China, where corporate debt reached more than 160 percent of GDP by 2017. In other EMDEs, corporate debt has risen by more than 10 percentage points of GDP over 2006-2017.[3]

Trends in EMDE corporate debt are quite heterogeneous across countries, and their rise has been concentrated in larger EMDEs. In 2016-17, a number of large emerging economies—especially in Latin America and the Caribbean (LAC) and Europe and Central Asia (ECA)—experienced lower credit growth, partly due to higher credit risks associated with higher debt built-up in earlier years.

A number of other features characterize recent developments in corporate debt among EMDEs:

- **EMDEs versus advanced economies.** By 2017, China's corporate debt-to-GDP ratio far exceeded the average of advanced economies. For other EMDEs, corporate debt levels are still substantially below that of advanced economies.[4]

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[3] In China, the decline in the corporate debt-to-GDP ratio over the past two years was primarily driven by slowing credit growth. In other EMDEs, while credit growth slowed as well, faster nominal GDP growth in 2017 also contributed to the decline in corporate debt-to-GDP ratios.

[4] The benchmark sample of 16 EMDEs with Bank for International Settlements (BIS) data consists of mostly large EMDEs that comprise four-fifth of EMDE GDP.

- **Regional dimensions.** The increase in corporate debt ratios over the past decade was most pronounced in East Asia and Pacific (EAP) and ECA.[5] Corporate debt ratios also rose in most other regions of the world over the past decade, and tend to range between 30 to 40 percent of GDP.

- **Corporate versus other sectors.** Corporate debt is, on average, substantially higher than household and financial sector debt in EMDEs. By 2017, corporate debt is now comparable in magnitude to sovereign debt (Figure SF2.2).

- **Domestic versus foreign currency.** The rise in corporate debt has been supported by both borrowing in local and foreign currency.[6] Outside of China, the contribution of foreign currency debt has been substantial, constituting nearly half of the growth in corporate debt over 2010-2017.

- **External versus domestic sources.** More than one-tenth of outstanding corporate debt in EMDEs is financed by cross-border sources.[7] Outside of China, about one-third of corporate debt is financed by cross-border sources, consistent with the trends for currency composition of corporate debt.

- **Bond versus bank debt.** Bond debt remains a modest but increasing fraction of total corporate debt, as corporates have shifted from bank loans to bond issuances over the past decade (Ohnsorge and Yu 2017; Feyen et al. 2015; Ayala, Nedeljkovic, and Saborowski 2017; World Bank 2016). As of 2017, debt securities are estimated to be about one-fifth of EMDE corporate debt. Bond issuances in

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[5] In the Sub-Saharan Africa (SSA) region, growing public debt burdens of low-income countries are of particular concern. Please see Chapter 2 for more details.

[6] The increase in foreign currency debt is not driven by nominal exchange rate valuation. Over the period 2006-2017, the average real effective exchange rate in the sample EMDE economies depreciated by about 5 percent.

[7] Based on data from the BIS, external sources of corporate funding can be proxied by the sum of the stock of outstanding cross-border bank claims and amount of outstanding international debt securities in each country. The residual would be domestic funding.

FIGURE SF2.1 Corporate debt in EMDEs: General trends

Corporate debt in EMDEs has risen over the past decade and is now substantially above long-term averages. The increase in corporate debt has occurred in both commodity exporters and importers. Credit growth has slowed in recent years, especially in a few large commodity exporters. The increase in corporate debt has been especially pronounced among several large EMDEs across regions.

A. Corporate debt

B. Corporate debt: EMDEs ex. China

C. Corporate debt: EMDE commodity importers vs. exporters

D. Corporate credit growth

E. Corporate debt: Pre- and post-crisis

F. Corporate debt in EMDE regions
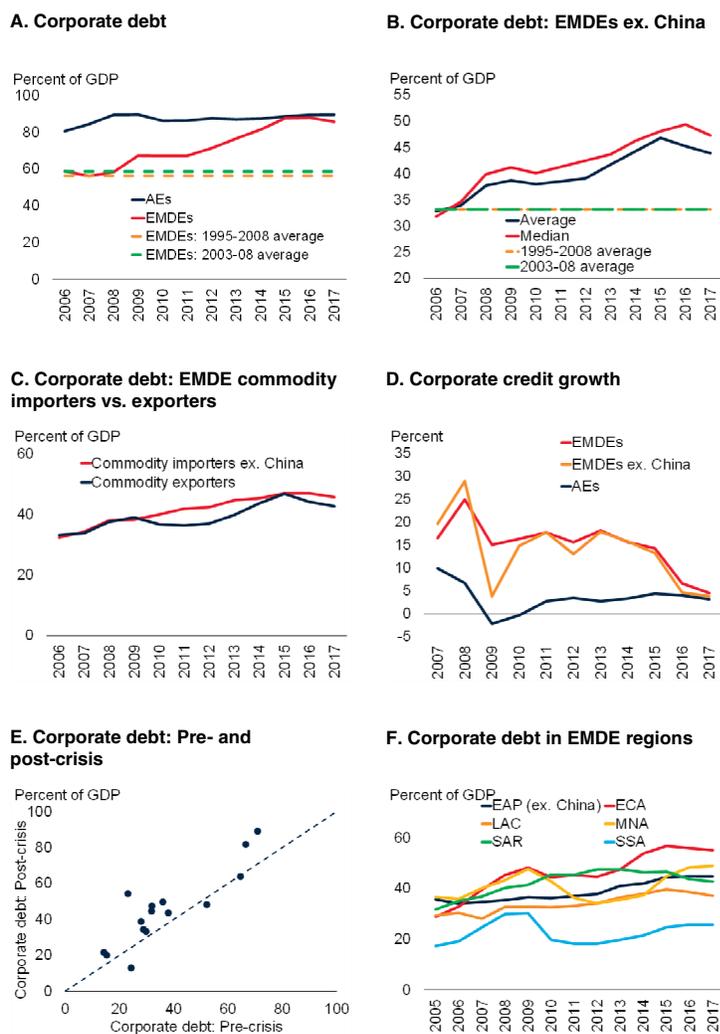
Sources: Bank for International Settlements, Institute for International Finance (IIF).
A-D. Figures show GDP-weighted averages for 16 EMDEs (seven commodity importers and nine commodity exporters) and 27 advanced economies (AEs).
E. Average annual corporate debt-to-GDP ratio. Each blue dot denotes an economy. Excludes outliers. Pre-crisis and post-crisis denote 2003-07 and 2010-17, respectively. Dotted line denotes 45 degree line.
F. EAP ex. China = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MNA = Middle East and North Africa, SAR = South Asia, and SSA = Sub-Saharan Africa. Figure shows GDP-weighted averages that include 4 EAPs, 8 ECAs, 11 LACs, 8 MNAs, 4 SARs, and 7 SSAs (includes expanded sample with IIF data).
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EMDEs tend to be fixed rate, as opposed to floating rate bonds (Gozzi et al. 2015).

- **Maturity.** Maturity of bonds and syndicated loans in EMDEs have remained stable over

FIGURE SF2.2 Corporate debt in EMDEs: Composition

Corporate debt in EMDEs has reached levels comparable to, if not exceeding, that of government debt. Outside of China, foreign currency debt has contributed substantially to the rise in EMDE corporate debt in recent years.

A. Debt across sectors, inc. China

B. Debt across sectors, ex. China

C. Corporate debt: Domestic vs. foreign currency contribution, inc. China

D. Corporate debt: Domestic vs. foreign currency contribution, ex. China
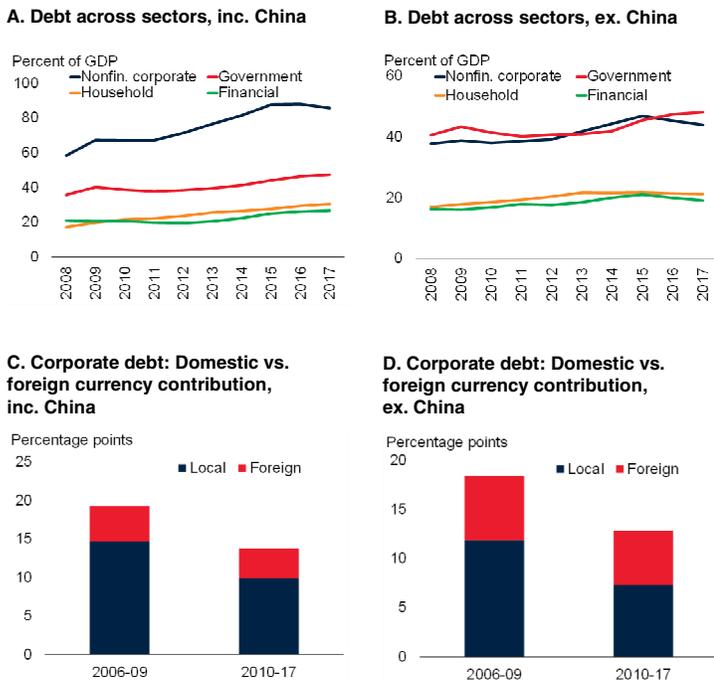
Sources: Bank for International Settlements, Institute for International Finance.
A.B. GDP-weighted averages for 16 EMDEs in A and 15 EMDEs in B.
C.D. Percentage point contribution of foreign and local currency-denominated corporate debt growth over the period denoted. GDP-weighted annual averages for 16 EMDEs in A and 15 EMDEs in B.
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the past decade (averaging about 7 years). Large firms were able to issue longer-term bonds, especially in the international capital markets (Cortina, Didier, and Schmukler, forthcoming). For smaller firms, the use of long-term finance remains limited compared to advanced economies (World Bank 2015).

Corporate debt in China has risen sharply, from 107 to 163 percent of GDP from 2006-2017 (Figure SF2.3). Although the stock of corporate debt has declined in the past two years, it remains elevated by international standards. The rise has been concentrated in the real estate, mining and construction sectors, and in state-owned enterprises. This was mostly financed domestically through the banking system as well as nonbank financial intermediaries. The increase in the corporate debt-to-GDP ratio was spurred by the economy's investment-intensive growth model

over most of the post-crisis period, and has contributed to overcapacity in some industries (Maliszewski et al. 2016).

Corporate investment growth has slowed sharply since 2012, both in state-owned enterprises and private enterprises. The slowdown in the former group has partly reflected policy-driven capacity cuts in highly indebted industrial sectors (World Bank 2017).

High corporate leverage in China has been associated with a deterioration of corporate financial performance. Policies that were adopted to address the associated vulnerabilities include macroprudential measures to tighten lending conditions for real estate, capacity reduction targets for heavy industries, and restructuring for weak state-owned enterprises. Use of bankruptcy procedures has also increased (IMF 2017a; Maliszewski et al. 2016).

Corporate debt and financial stability

Over the past decade, increased access to debt, especially non-bank credit, has partly reflected development of EMDE financial markets.[8] However, as EMDE corporate debt has risen, risks to financial stability have grown in several dimensions, both external and domestic.

External dimensions. During most of the post-crisis period, debt service and financing costs were contained by low global interest rates and compressed risk premiums. Global, rather than firm- and country-specific factors, have been more important drivers of the increase in corporate debt (IMF 2015; Feyen et al. 2015; Ayala, Nedeljkovic, and Saborowski 2017). Countries that had experienced a higher rise in corporate debt also

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[8] For example, credit registry coverage has increased in EMDEs from an average of 4 percent of adults to 13 percent from 2006-2017, and has helped expand financial access (Love, Martínez Pería, and Singh 2013). These economies were also increasingly able to issue debt in the home currency (Hale, Jones, and Spiegel 2016). Other capital market developments in EMDEs are highlighted in Cortina, Didier, and Schmukler (forthcoming); Didier and Schmukler (2014); and Didier, Llovet Montanes, and Schmukler (2017).

tended to have more open capital accounts. Higher debt is also associated with riskier corporate balance sheets (Figure SF2.4).

There is a risk of a disorderly tightening of global financing conditions as monetary policy normalizes among advanced economies (Chapter 1, Arteta et al. 2015). Funding conditions for EMDE corporates could significantly worsen, due to higher interest rates and risk premiums, and also the potential reversal of capital flows. Debt service cost may be especially sensitive to interest rates for floating rate bonds. A sharp appreciation of the U.S. dollar may also weaken balance sheets to the extent that foreign currency liabilities are not matched by assets. Many EMDE multinationals have issued bonds for intra-company financial intermediation across subsidiaries, channeling external financial conditions into the domestic financial system (Bruno and Shin 2017; Shin 2013).

Domestic dimensions. Although moderate levels of corporate debt can be benign, excessive levels of debt for individual corporations may affect bank balance sheets and banks' ability to extend credit, given bank debt still constitutes about four-fifth of outstanding EMDE corporate debt. The potential impact on loan supply could subsequently lower aggregate demand and collateral values. Higher corporate debt also has implications for the public sector balance sheet, given the contingent liability it may pose, especially during periods of crisis (World Bank 2016). This is especially relevant in developing economies, where implicit liabilities associated with state-owned enterprises are often not consolidated in official government debt statistics. In the majority of EMDEs that experienced sharp increases in corporate debt, public debt also rose sizably, as common factors like low global interest rates supported the expansion of both types of debt.

Largely accommodative financial conditions have supported a rapid rise in bond issuances in recent years. Although bond financing is less vulnerable than bank financing on some grounds, such as longer average maturity, it bears other vulnerabilities. These include weaker monitoring standards associated with the more dispersed

Corporate debt in China has risen sharply over the past decade, although it has stabilized in the past two years. Leverage has been particularly pronounced in heavy-industry sectors, such as mining and utilities. The increase in corporate debt coincided with a deceleration in investment growth and business conditions.

A. Corporate debt

B. Firm leverage across industries

C. Investment growth

D. Business conditions
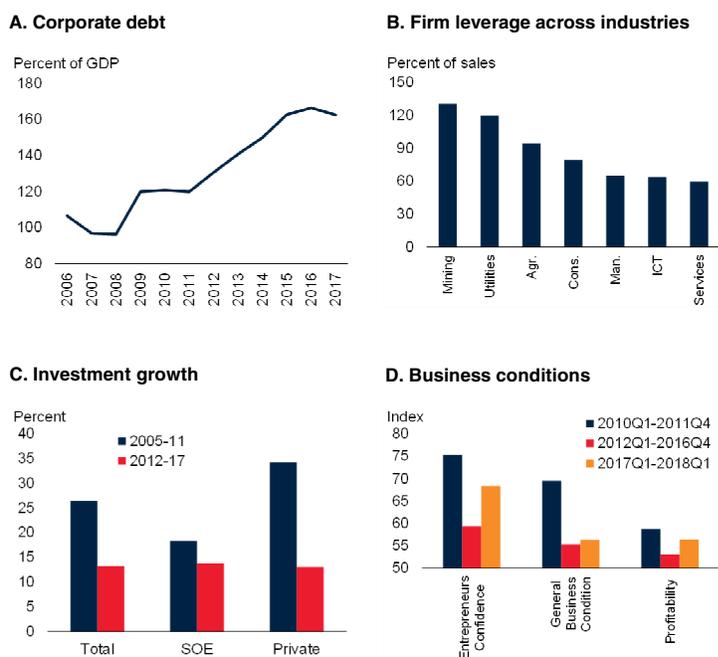
Sources: Bank for International Settlements, Haver Analytics, Orbis.
B. Agr. = Agriculture, Cons. = Construction, Man. = Manufacturing, and ICT = Information and communications technology. Figure shows medians across firms in 2015. Based on Orbis data sample for mostly non-state-owned private firms.
C. Figure shows period average annual nominal growth in fixed asset investment. "SOE" stands for state-owned enterprises. "Private" stands for private enterprises.
D. Figure shows period averages of quarterly data. China industrial enterprise survey of 5,000 leading enterprises to rate their perception on selected topics. An index reading higher than 50 indicates improvement.
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nature of bond investors, allowing more firms with weaker fundamentals to issue during benign financing conditions but raising vulnerabilities in a downturn. In the next three years, a rising amount of bonds maturing within one year also entails rollover risk if financial conditions tighten abruptly (Figure SF2.4).

Not only have corporate debt levels risen, evidence suggests that this debt has been disproportionately raised by firms that are risky, as measured by their low interest coverage ratios and other balance sheet distress indicators (Figure SF2.5; Feyen et al. 2017). Moreover, procyclical retrenchment by such firms can harm macroeconomic conditions, affect lenders (via reduced borrowing demand, and higher losses and non-performing loans) and

FIGURE SF2.4 Corporate debt in EMDEs: Macroeconomic vulnerabilities

In the majority of EMDEs, the corporate debt ratio has risen in tandem with an increase in foreign currency debt. The increase in the corporate debt ratio has been more pronounced in economies that had more open capital account and are associated with higher corporate vulnerability. Given a growing amount of international bonds is expected to mature in EMDEs over the next three years, rollover risks may rise if financial conditions tighten abruptly.

A. Change in corporate debt: Total vs. foreign, 2006-post-crisis peak
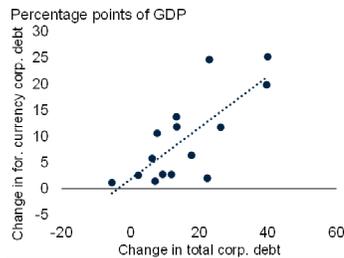
B. Change in corporate debt: Financial openness
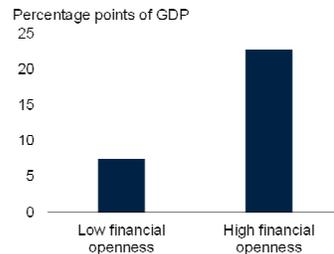
C. Corporate Vulnerability Index: High and low debt
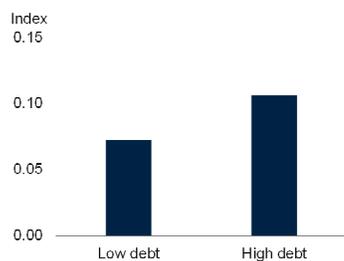
D. International corporate bonds maturing in one year: EMDEs
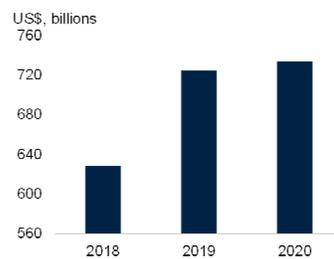
Sources: Bank for International Settlements, Chinn-Ito Index, Feyen et al. (2017), Haver Analytics, Institute for International Finance, World Bank.

A. Post-crisis peak is country- and indicator-specific and denotes the highest corporate/foreign currency corporate debt-to-GDP ratio in each country over 2010-17. Each dot refers to an economy. Excludes outliers.

B. Median corporate debt change from 2006-post-crisis peak year, which is country-specific. High/low financial openness cutoff is based on the median capital account restrictiveness index of Chinn and Ito (2006, updated to 2015), and for each country is measured over the average of 2010-15. Includes 16 EMDEs.

C. The corporate vulnerability index (CVI) tracks financial conditions of the non-financial corporate sector. The CVI uses firms' balance sheet information covering seven indicators: interest coverage ratio, leverage ratio, net debt-to-EBIT ratio, current-to-long term liabilities ratio, quick ratio, return to assets, and market-to-book ratio. The CVI ranges from 0 (i.e., firms in a particular country are not financially vulnerable in any of the seven indicators) to 1 (i.e., all firms in a particular country are financially vulnerable in all seven indicators). For more details, see Feyen et al. (2017). Y-axis denotes medians. Includes 16 EMDEs for 2010-17. High/low debt cutoff is based on medians.

D. Denotes amount of international bonds outstanding with remaining maturity of 12 months in each year denoted (data as of 2018Q1). Includes 54 EMDEs.

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impact government finances via cyclical revenue weakness. This suggests that higher corporate leverage can make the corporate sector more vulnerable to weaker growth or higher debt service costs. Stress tests on EMDE corporates have shown that a combination of exchange rate shocks and weaker-than-expected growth could significantly erode firms' interest coverage ratios and an interest rate shock may boost the share of

risky debt from 25 to 31 percent (Chow 2015; Beltran, Garud, and Rosenblum 2017). These vulnerabilities may be mitigated to some extent, however, by improvement in corporate profitability in 2017 (IMF 2018).

Leverage in the EMDE corporate sector is highly heterogeneous and has been concentrated in a number of industrial sectors, such as construction and utilities. Domestically-owned firms exhibit higher leverage than multinationals, which can access funds via intra-company borrowing across affiliates within the conglomerate (e.g., Desai, Foley, and Forbes 2008). Large firms account for nearly four-fifth of corporate debt.[9] Exchange-listed firms account for about one-quarter of debt. High concentrations of debt in large and interconnected firms can amplify systemic risks, even if corporate debt were moderate in aggregate.

Corporate debt and economic growth

Analytical linkages

Elevated corporate debt in EMDEs not only poses risks for financial stability, it also poses the risk of dampening investment and long-term growth.[10] The increase in China's corporate debt has raised concerns regarding investment efficiency, especially among state-owned enterprises (Maliszewski et al. 2016). In India, high corporate leverage has been concentrated in a number of industries (e.g., mining, transportation, construction), and may have been a significant factor behind weak private investment growth (Das and Tulin 2017). In Brazil, high corporate leverage also contributed to

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[9] Large firms are defined as those with assets greater than $50 million, similar to the criteria used by the European Union. Results are not sensitive to alternative measures of large firms, such as those defined by the International Finance Corporation (IFC) (larger than $15 million). In robustness checks of the empirical analysis, the sample was broken into small, medium, and large firms based on the IFC criteria, but there is no significant differences between small and medium-sized firms.

[10] See Acharya et al. (2015); World Bank (2016); IMF (2015); Feyen et al. (2017); de Mooij and Hebous (2017); Demirgüç-Kunt, Martinez-Peria, and Tressel (2015); Alter and Elekdag (2016); Brown and Lane (2011); Beltran, Garud, and Rosenblum (2017); Corsetti et al. (2015); Alfaro, Asis, Chari, and Panizza (2017); and Occhino and Pescatori (2015).

weak investment during 2014-early 2017 (IMF 2017b).

Indeed, since 2011, EMDEs in general have experienced weak private investment growth. Further, countries that had more elevated corporate debt in the 2011-17 period showed lower average private investment growth (Figure SF2.6).[11]

Although debt flows may help finance investment, an excessively large stock of debt may eventually constrain investment by creating conflicts of interest between equity and debt holders (Myers 1977). This conflict arises because the larger a firm's debt, the greater the extent to which equity holders need to share the fruits of that investment with debt holders. This reduces the attractiveness of investment from the perspective of the equity holders, possibly leading to underinvestment even in value-enhancing investment projects.

In the subsequent firm-level analysis, the measure of debt overhang is defined as the ratio of total debt to earnings before interest and taxes (EBIT), where total debt is the sum of current liabilities and long-term debt. This measure includes both bonded and bank debt, and conforms to the basic insight that a firm is more likely to experience debt overhang when its debt relative to earnings is high (Myers 1977). The measure of debt overhang used here more closely accounts for a firm's debt relative to earnings capacity than a simple measure of leverage.[12] The analysis confirms that firms with high debt overhang tend to have lower net investment rates (Figure SF2.6).

While the theory that corporate debt overhang dampens investment dates back several decades, the empirical literature on the linkage in EMDEs

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[11] This relationship does not appear to have been driven by differences in cross-country growth, as countries with a higher corporate debt-to-real-GDP growth ratio, a proxy for "corporate debt efficiency," also experienced lower private investment growth. A similar metric was used to assess investment efficiency for China by Maliszewski et al. (2016).

[12] This analysis draws on Borensztein and Ye (forthcoming). Other works that have used this measure to proxy for debt overhang include IMF (2018); Chen and Lu (2016); and Kalemli-Ozcan, Laeven, and Moreno (2015). In the baseline specification, results on leverage are consistent with literature that uses leverage as a proxy for a debt constraint and finds a negative relationship between leverage and investment (Das and Tulin 2017; Magud and Sosa 2015).

FIGURE SF2.5 Corporate debt riskiness in EMDEs

Not only has corporate debt become more elevated, but the share of debt held by high-risk firms has also increased. Corporate leverage is particularly high in industrial sectors, such as utilities and mining. Leverage is also significantly higher in domestic firms as compared to multinationals, which have greater access to internal capital markets via affiliates.

A. Corporate Vulnerability Index

B. Share of debt held by high risk firms (ICR < 2)

C. Industry leverage (ex. China)

D. Leverage: Domestic vs. foreign ownership

E. Debt-to-sales ratio

F. Net investment rate
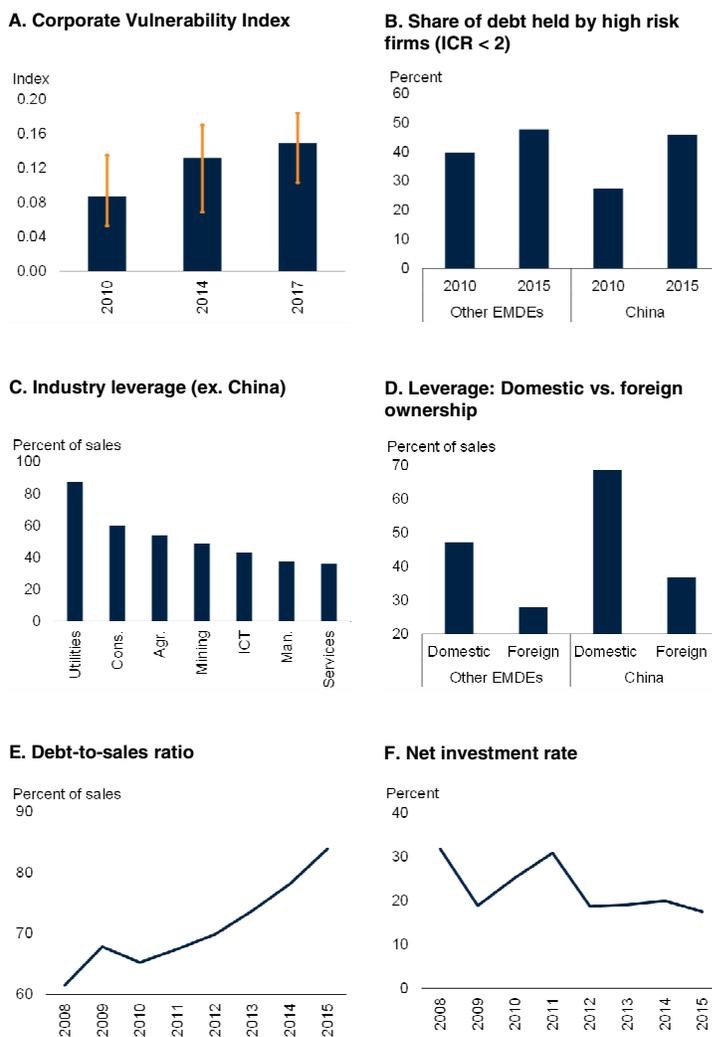
Sources: Feyen et al. (2017), Haver Analytics, Orbis, World Bank.

A. The corporate vulnerability index (CVI) tracks financial conditions of the non-financial corporate sector. The CVI uses firms' balance sheet information covering seven indicators: interest coverage ratio, leverage ratio, net debt-to-EBIT ratio, current-to-long term liabilities ratio, quick ratio, return to assets, and market-to-book ratio. The CVI ranges from 0 (i.e., firms in a particular country are not financially vulnerable in any of the seven indicators) to 1 (i.e., all firms in a particular country are financially vulnerable in all seven indicators). For more details, see Feyen et al. (2017). Includes 47 EMDEs. Medians. Vertical lines indicate interquartile range.

B. Denotes share of total debt held by firms with interest coverage ratio (ICR) less than 2 (threshold for "risky" firms). Based on a balanced sample of firms for 13 EMDEs.

C.D. Firm total debt scaled by sales. Median across firms in 2015. Based on all available firm-level data in Orbis for 13 EMDEs.

C. Agr. = Agriculture, Cons. = Construction, ICT = Information and communications technology, and Man. = Manufacturing.

E.F. Sales-weighted averages of debt-to-sales ratio and net investment rate based on a fully balanced sample of firms over 2008-15.

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FIGURE SF2.6 Correlates of corporate debt and private investment growth in EMDEs

Increased corporate debt in EMDEs has coincided with a period of weak private investment growth after 2011. Elevated corporate debt has been associated with weaker private investment growth, both at the macroeconomic and microeconomic levels. This relationship is not driven by differences in country-level growth performance or firm-level earnings.
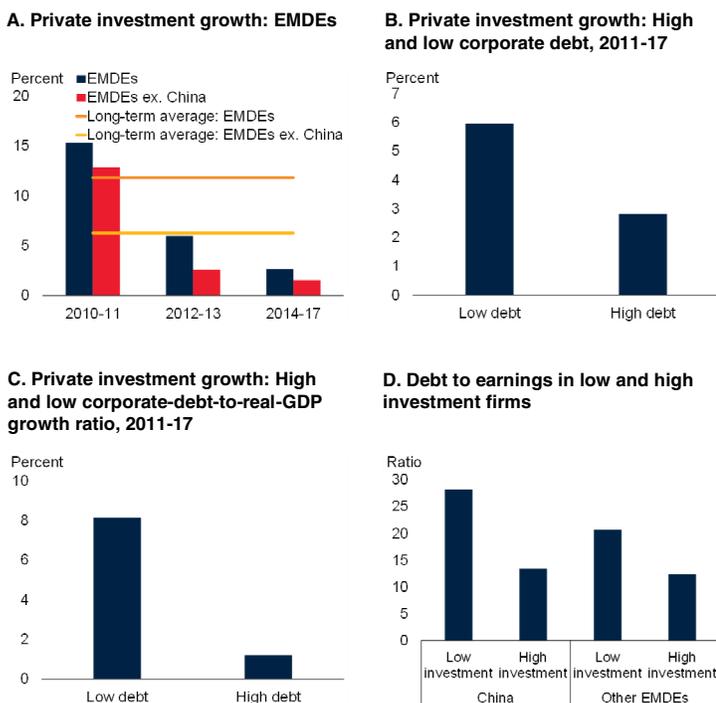
A. Private investment growth: EMDEs

B. Private investment growth: High and low corporate debt, 2011-17

C. Private investment growth: High and low corporate-debt-to-real-GDP growth ratio, 2011-17

D. Debt to earnings in low and high investment firms

Sources: Bank for International Settlements, Haver Analytics, International Monetary Fund, Institute for International Finance, Orbis, Oxford Economics, World Bank.
A. GDP-weighted average of 12 EMDEs (available data among BIS corporate debt sample countries). Data are estimates for some EMDEs. Long-term average refers to 1995-2008. Period average of annual growth rates.
B. High-low denotes country-year observations of corporate debt-to-GDP ratio above/below the median. Includes 16 EMDEs. Data are not available for 2016-17 for some economies. Y-axis denotes median private investment growth.
C. High-low denotes country-year observations of corporate debt-to-GDP ratio to real GDP growth above/below the median. Includes 16 EMDEs. Data are not available for 2016-17 for some economies. Y-axis denotes median private investment growth.
D. Low and high investment rates denote the bottom and top one-thirds, respectively, of the investment rate distribution. Inverse of median EBIT (3-year smoothed average) to debt ratio in 2015. Investment denotes net investment. Based on all available data in Orbis for 13 EMDEs.
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is more recent. A few papers report that leverage contributes to weak investment growth in EMDEs (e.g., World Bank 2017; IFC 2016; Magud and Sosa 2015; Das and Tulin 2017). At the firm level, Magud and Sosa (2015) and IFC (2016) introduce a debt variable for a cross section of listed firms in various EMDEs, and found a negative relationship between leverage and investment. Kalemli-Ozcan, Laeven, and Moreno (2015) test the effect on fixed investment of corporate debt (relative to current earnings) for a

broad sample of European firms in the aftermath of the financial crisis.[13]

This analysis attempts to expand upon this literature by studying the reaction of investment to debt overhangs by both large and small private firms for a diverse sample of large emerging and developing economies, and subsequently exploring two cross-sectional dimensions that may affect the sensitivity of investment to debt overhangs: size and leverage.

Building on the macroeconomic trends and correlates highlighted earlier, the next section will analyze the extent to which future profits are put at risk by high levels of debt and may discourage investment at the micro-level. The analysis employs data covering a large sample of companies that include both large, publicly-traded and smaller, privately-owned firms for a diverse group of EMDEs.

Empirical findings

Firm-level fixed effects panel estimation is conducted to estimate the relationship between debt service capacity (inverse of "debt overhang") and investment activity. Net investment for a broad cross-section of private and public firms in 13 EMDEs is modelled as a function of the ratio of EBIT to total debt, in addition to a number of standard correlates that are associated with investment (e.g., sales growth, cash flows), based on 2007-2015 data. The analysis includes fixed effects at the firm- and country-industry-year levels, which further control for other observed and unobserved factors that may impact investment activity, such as macroeconomic shocks (See Annex SF2.1 for more details on the data and empirical methodology). In the baseline specification, the analysis examines the relationship between debt service capacity and investment, conditional upon leverage.

Linkage between corporate debt and investment. The results suggest that debt overhangs are negatively associated with investment across EMDE firms. In

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[13] Kalemli-Ozcan, Laeven, and Moreno (2015) is grounded on a similar framework but focuses on European firms in a crisis setting.

other words, debt service capacity is positively (and significantly) associated with net investment (Table SF2.1). This relationship is robust for samples that include and exclude China, although the sensitivity is smaller for the China sample.[14] Furthermore, the relationship is not sensitive to the inclusion of cash flow or leverage as explanatory variables in the regression equation, although the magnitude decreases slightly once controlling for these two variables. The result is not driven by volatility in earnings over time (see Annex SF2.1).

In the full sample, the magnitude of the coefficient implies that an increase in debt service capacity from the 10th percentile to the 90th percentile is associated with about 1.4 percentage point higher net investment to sales ratios. In the China and non-China samples, this interquartile increase is associated with about 1 percentage point and 2 percentage points higher investment rates, respectively. These sensitivities amount to about one-third of the average level of net investment-to-sales ratio in both the China and non-China sample.

In aggregate, debt overhang is associated with 16 percent of the decline in the net investment-to-sales ratio in the sample from 2011-2015. This effect was concentrated in the China sample, however, where deterioration in debt service capacity is higher than the non-China sample and is associated with about one-fifth of the decline in investment from 2011-15.

Small and large firms. The analysis also examines whether the debt overhang-investment sensitivity varies across small and large firms, as a large literature in macroeconomics and finance has established the importance of size for determining a firm's access to credit (e.g., Chodorow-Reich 2014; Gertler and Gilchrist 1994). Large firms, defined as firms with assets above $50 million, tend to enjoy wider access to both bank credit and bond markets, and thus may be more likely to

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FIGURE SF2.7 Linkage between debt overhang and investment across firms

Investment is more sensitive to corporate debt service capacity among large firms and firms that are highly indebted.

A. Small and large firms

B. High and low leverage firms
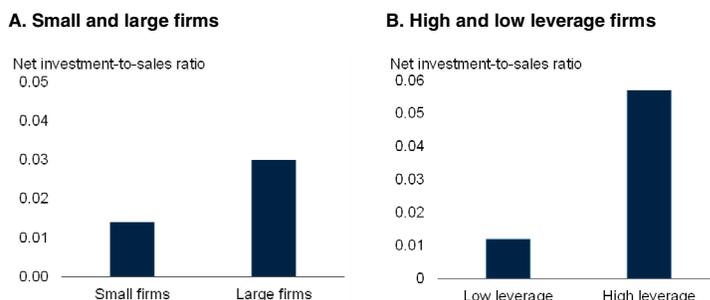
Sources: Orbis, World Bank.
A. Denotes sensitivity of net investment to debt service capacity (in response to one percentage point increase in debt service capacity), based on the specification in eq. (1) in Annex for small and large firms. Large firms are defined as firms with assets greater than $50 million and include one fifth of the sample. See text for more details.
B. Denotes sensitivity of net investment on debt service capacity (in response from one percentage point change in debt service capacity) based on the specification in eq. (1) in Annex, under low and high leverage. High-low leverage cutoff is based on the median within a country-industry pair, and thus the share of highly leveraged firms is 50 percent. See text for more details.
Click here to download data and charts.

increase their liabilities and run into a debt overhang when a serious shock hits. This is evident by the disproportionate amount of debt they hold. Large firms may also be more exposed to international financial and goods markets, and thus be more sensitive to debt service costs associated with fluctuations in global financing conditions. Focusing on large firms is also warranted for policy implications, as a growing literature has shown that large firms' performance can have a systemic impact and is more correlated with aggregate growth of an economy (Gabaix 2011), can be more sensitive to macroeconomic shocks (Alfaro et al. 2017), and serve as a key channel for foreign shocks transmission (di Giovanni, Levchenko, and Mejean 2014, 2018).

By estimating the baseline equation for small and large firms separately, the analysis finds that the debt overhang effect is present among both groups (Figure SF2.7). The coefficients for large firms in both the overall and non-China sample are larger than those of smaller firms, although the coefficient is not significant for China's large firms. Estimates of the full regression show that the debt overhang impact on investment among large firms is twice that of small firms. This suggests that larger firms are more sensitive to debt

overhang, and that the consequences from their disproportionate undertaking of leverage may outweigh the advantage they have in terms of better access to finance.

Low and highly indebted firms. Since the effect of debt overhangs may be nonlinear, the analysis examines whether the sensitivity varies across high and low-leverage firms. The threshold for high and low levels of debt is defined as the median within a country-industry pair, given that leverage levels may be to some extent driven by the business structure and operational needs of an industry. The debt overhang sensitivity is found to be larger for firms with high debt levels, and moreover, the effect of debt overhang is nearly three times higher in high-debt firms than low-debt firms (Figure SF2.7). These results suggest that the sensitivity of investment to debt overhang can vary significantly, conditional upon pre-existing leverage levels. At high levels of debt, the debtor-equity holder conflict becomes more prominent, as a greater proportion of positive net present value (NPV) projects needs to be paid back to creditors. This means that debt service capacity becomes more binding, and causes higher cutbacks in investment when debt is high.[15]

Overall, the results suggest that the debt overhang channel is a vulnerability for investment across EMDE firms. This linkage is especially pronounced in large firms and highly leveraged firms.[16]

Policy implications

This Special Focus points to both financial stability and growth-related challenges facing policymakers in countries where corporations exhibit high debt levels. To reduce financial

stability risks associated with elevated corporate debt, cyclical and prudential policies need to be the primary lever. To lift investment activity and mitigate the medium-term consequences of corporate debt overhang, structural policies geared toward promoting financial development are appropriate.

Cyclical policies

Fiscal policy. Corporate distress, such as defaults arising from debt overhang, can provoke the government to provide sizable financial support and contribute to larger public debt burdens (World Bank 2016). This can cause public borrowing costs to rise and fiscal space to shrink, and can force governments to tighten fiscal policy during times of weak growth. Fiscal space in EMDEs has deteriorated during the post-crisis period, even as corporate debt ratios have risen (Figure SF2.8). This suggests that the risk of corporate debt distress is an additional argument for boosting or at least maintaining fiscal buffers in the present environment as insurance against corporate distress.

Prudential policy. The analysis suggests that large firms have taken on a disproportionate share of aggregate debt stock, raising the possibility that there could be financial stability implications if these firms faced balance sheet distress. This argues for increased stress testing of corporate balance sheets and greater monitoring of the largest firms, especially their foreign exchange hedging and liquidity management. These types of policies can increase the scope for adequate preparation for possible corporate distress. They can help to reduce the potential disruptions that could result from tightening advanced-economy financial conditions and increased volatility of international financial flows. Preemptive policies that improve bank risk management and lending practices, such as liquidity requirements in the Basel III accord or caps on foreign currency exposure on bank balance sheets, would help constrain bank risky borrowing (BIS 2013). These policies help prevent EMDE corporates from taking on excessive debt under benign financing conditions and periods of high corporate profitability.

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[15] An alternative to exogenously-specified debt thresholds is to allow for endogenous thresholds in the relationship between debt service capacity and investment. Threshold regressions following Hansen (1999) based on a balanced sample also suggests a similar nonlinear relationship between debt service capacity and investment under low and high levels of debt to sales ratio.

[16] The analysis also experiments with sensitivity of debt service capacity to investment across countries of varying financial development, creditor rights protection, and public debt levels. The analysis does not find consistent evidence that this sensitivity varies significantly along these lines.

Structural policies

The foregoing analysis illustrates the potential for excessive corporate debt to dampen private investment. There are a number of structural policy options that can help reduce this risk:

- Most tax systems favor the use of debt over equity by providing tax deductibility for interest payments. Policies such as "thin capitalization rules," which limit the amount of debt companies can issue relative to equity, have been found to be effective in lowering debt ratios and reducing financial distress under certain conditions (de Mooij and Hebous 2017).

- The quality of debt could be increased by improving credit information and collateral registries to shorten collateral recovery times and reduce default losses. These policies help improve credit-relevant information flows and break down information asymmetries, and thereby help channel more credit to those firms that lack access to credit, especially among small- and medium-sized enterprises (SMEs).

- Many EMDEs have not developed their equity markets to full potential in part because of regulatory burdens that discourage new listings and weaknesses in corporate governance and shareholder rights that undermine the integrity and liquidity of stock markets. Addressing these shortcomings would strengthen equity markets and mitigate debt biases. Equity financing helps increase firms' resilience, improves their creditworthiness, and lessens the risk of large-scale, broad-based, and correlated corporate retrenchments. Promoting a more balanced debt/equity mix and incentivizing equity financing may be particularly relevant for small firms, which tend to rely mostly on bank and internal financing.

- An excessive accumulation of corporate debt can occur when explicit or implicit state guarantees are too generous, and when bankruptcy regimes do not allow quick and fair debt workouts for companies. Overall,

FIGURE SF2.8 Policy implications

Fiscal space has deteriorated in EMDEs since the crisis, which may increase the costs of financial support in cases of systemic corporate distress. Policies to promote equity market development in EMDEs, including strengthening corporate shareholder rights, can help achieve a more balanced debt/equity mix. Strengthening bankruptcy protection, which lags behind global best practices in EMDEs, may help contain corporate distress costs from debt overhang.

A. Fiscal sustainability gap: EMDEs

B. Equity market concentration

C. Bankruptcy rights protection: EMDEs

D. Corporate shareholder rights: EMDEs
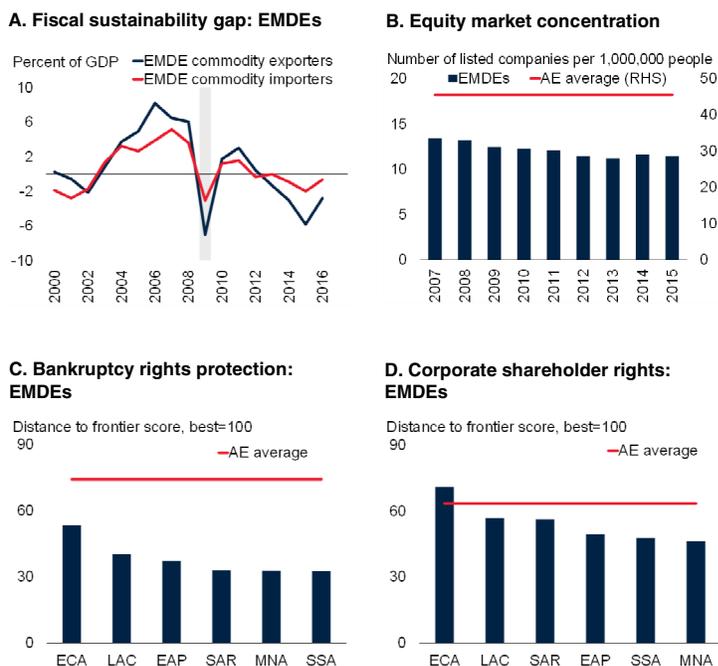
Sources: International Monetary Fund, World Bank.
A. Simple averages. A sustainability gap is defined as the difference between the actual fiscal balance and the debt-stabilizing balance (Kose et al. 2017). Sustainability gaps are measured under current conditions. The year of global recession (2009) is shaded in gray.
B. Number of listed companies per 1,000,000 people.
C.D. AE = Advanced Economies, EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, SAR = South Asia, and SSA = Sub-Saharan Africa. Denotes year 2017. Distance to frontier score based on World Bank *Doing Business* report.
C. Distance to frontier score for strength of insolvency resolution. AE, EAP, ECA, LAC, MNA, SAR, SSA include 37, 20, 19, 28, 16, 8, and 44 economies, respectively.
D. Distance to frontier score for strength of shareholder rights protection. AE, EAP, ECA, LAC, MNA, SAR, SSA include 37, 20, 21, 29, 16, 8, and 44 economies, respectively.
Click here to download data and charts.

EMDE bankruptcy protection law lags international best practices, implying scope for policy reforms in this area. Historical experience suggests strengthening bankruptcy protection can boost investment activity and facilitate responsible corporate risk-taking, helping to relieve the costs of debt overhang (e.g., Gopalan, Mukherjee, and Singh 2016; World Bank 2014). For small firms, these policies should also promote long-term financing, which has been limited in EMDEs (World Bank 2015). Recent reforms in

bankruptcy procedures have occurred in several EMDEs, including the introduction of a new bankruptcy law in Egypt, strengthening of secured creditors' rights in India, and setting up new restructuring mechanisms in Poland (IMF 2017c; World Bank 2018b).

TABLE SF2.1 Debt overhang and investment: Baseline specification

VARIABLES	(1) all	(2) all	(3) all	(4) all	(5) ex China	(6) ex China	(7) ex China	(8) ex China	(9) China	(10) China	(11) China	(12) China
Debt overhang (inverse)	0.020***	0.018***	0.017***	0.017***	0.033***	0.028***	0.030***	0.027***	0.009***	0.009***	0.007***	0.007***
	(0.002)	(0.002)	(0.003)	(0.003)	(0.006)	(0.005)	(0.006)	(0.006)	(0.002)	(0.002)	(0.002)	(0.002)
Cash flows			0.068***	0.034			0.045	0.013			0.126***	0.105**
			(0.026)	(0.027)			(0.031)	(0.032)			(0.043)	(0.042)
Leverage		-0.013***		-0.013***		-0.013***		-0.013***		-0.017***		-0.016***
		(0.002)		(0.002)		(0.002)		(0.002)		(0.005)		(0.005)
Maturity	-0.081***	-0.068***	-0.083***	-0.068***	-0.106***	-0.088***	-0.108***	-0.089***	-0.045***	-0.039***	-0.047***	-0.040***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.020)	(0.020)	(0.020)	(0.020)	(0.012)	(0.012)	(0.012)	(0.012)
Sales growth	0.013***	0.013***	0.014***	0.013***	-0.001	-0.002	-0.001	-0.002	0.024***	0.024***	0.024***	0.024***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)
Size	-0.057***	-0.083***	-0.059***	-0.083***	-0.050***	-0.082***	-0.052***	-0.083***	-0.057***	-0.076***	-0.054***	-0.073***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)	(0.008)	(0.007)	(0.008)	(0.005)	(0.006)	(0.006)	(0.006)
Observations	453,793	453,793	453,793	453,793	241,173	241,173	241,173	241,173	212,620	212,620	212,620	212,620
R-squared	0.361	0.362	0.361	0.362	0.353	0.354	0.353	0.354	0.388	0.389	0.388	0.389

All right hand side variables are lagged by one year. Clustered standard errors by firm in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Notes: Dependent variable is net investment to sales ratio. Debt overhang (inverse) denotes the ratio of earnings before interest and taxes (EBIT) to total debt. Cash flows is EBIT-to-sales ratio, Leverage is total debt-to-sales ratio, Maturity is the ratio of long-term debt to total debt, Size is log of sales. EBIT is three-year smoothed average. Regressions include firm and country-sector-year fixed effects. Regression sample includes 129,687 firms.

Annex SF2.1 Data and methodology: Firm-level analysis

Data

The firm-level analysis is based on data from ORBIS, produced by Bureau van Dijk Electronic Publishing (BvD). The sample contains firm-level balance sheet information in 13 large EMDEs across Africa, Asia, Europe, and Latin America. The countries include Brazil, China, Colombia, Hungary, India, Malaysia, Mexico, the Philippines, Poland, the Russian Federation, South Africa, Thailand, and Turkey. The balance sheet information comes from regulatory and other sources (e.g., local chambers of commerce).

The sample is an unbalanced panel based on data for 2007-2015. In contrast to most other major firm-level databases (e.g., Worldscope), most firms in the sample are non-publicly-listed firms (more than 95 percent). About 90 percent of firms in the sample have an asset size below $50 million (the cutoff for "large firm"). Industry-level information is available based on the NACE Rev. 2 classification.

A limitation of the Orbis dataset is that it does not comprise the full universe of firms in the EMDE sample considered, and hence may not necessarily reflect the entire corporate sector in these economies. Nevertheless, compared to other standard firm-level datasets, it covers a much larger sample of private firms, which are important drivers of economic activity in the EMDE corporate sector.[17]

The primary aim of the firm-level analysis is to take advantage of the dataset's highly granular cross-sectional structure and employ a rich set of interactive fixed effects. It also aims to control for factors that are intrinsic to industry operations or demand, as well as to explore heterogeneity in corporate debt behavior across firms.

The dataset comprises those firms in the ORBIS database that have available data on fixed assets,

long-term corporate debt, earnings before interest and taxes (EBIT), and total assets (above $5 million) in at least one year over the sample period. A cleaning procedure similar to Kalemli-Ozcan, Laeven, and Moreno (2015) is conducted to generate a usable dataset, including the following:

1. drop company-years that simultaneously lack data on total assets, sales, and employment.

2. drop entire company for all years if total assets, employment, sales, tangible fixed assets, or fixed assets is negative in any given year.

3. drop companies denoted as non-profit organizations

4. change value to "missing" if long-term debt or current liabilities are negative.

This yields an unbalanced sample of 434,256 firms. In the non-China sample, the number of firms in each country is not dominated by any particularly country.[18] All observations are winsorized (transformed by limiting extreme values) at the 1 percent level to prevent the impact of extreme outliers.

Methodology

Investment is measured from data on the stock of fixed assets. Thus, investment is measured on a net basis, calculated as the annual difference in fixed assets (deflated in real terms, scaled by real sales). Total debt is defined as the sum of long-term debt plus current liabilities. The primary debt overhang variable is measured as the ratio of a rolling three-year average of earnings before interest and taxes (EBIT) to current total debt, which is an indicator of the size of accumulated debt relative to expected

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[17] Based on a balanced sample for the sample as a whole, however, their trends in debt and net investment broadly reflect that of the aggregate (Figure SF2.5). The empirical results are also robust to estimation based on a balanced sample.

[18] The sample comprises 6,758 firms in Brazil, 225,699 firms in China, 11,245 firms in Colombia, 6,677 firms in Hungary, 19,886 firms in India, 21,268 firms in Malaysia, 1,246 firms in Mexico, 5,345 firms in the Philippines, 19,487 firms in Poland, 87,402 firms in Russia, 228 firms in South Africa, 19,711 firms in Thailand, and 9,304 firms in Turkey. In the full baseline regression, constraints on data availability across all variables yields a firm sample of about 130,000 firms.

profits (Myers 1977). In the regression framework, this variable is expressed as the ratio of EBIT to total debt rather than its reciprocal to avoid problems in cases where EBIT may be equal to or close to zero.

To examine the sensitivity of investment to debt overhang, the baseline estimating equation is as follows:

$$y_{cijt} = a_0 + a_1 Overhang_{cij,t-1} + X_{cij,t-1}'\delta + u_i + v_{cjt} + \varepsilon_{cijt} \quad (1)$$

where y_{cijt} denotes the net investment rate of firm i, industry j, country c, and year t. $Overhang_{cijt}$ denotes the benchmark measure of firm debt overhang as described earlier. In other words, $Overhang_{cijt}$ measures the debt-service capacity of a firm. A higher value of a_1 thus implies a higher sensitivity of investment to debt-service capacity. $X_{cij,t-1}$ denotes a vector of control variables, which include firm size (log of total sales in U.S. dollars), sales growth, cash flows (EBIT-to-sales ratio), leverage (debt-to-sales ratio), and debt maturity (ratio of long-term debt to total debt). Long-term debt is defined in the dataset as debt held by each firm with residual maturity greater than one year. These variables are considered standard control variables in the corporate finance literature. ε_{cijt} is the error term. The standard errors in the benchmark specification are clustered at the firm level, but the results are robust to clustering at the country-industry level. Given that the debt overhang measure includes EBIT as well as total debt, it may be correlated to some extent with cash flow and leverage. Thus, these two variables are included sequentially to check the robustness of the debt overhang sensitivity.

Given the well-known volatility of EBIT, a three-year rolling average is used in calculating this variable. The result is also robust to a measure of debt overhang where each firm's sample average EBIT is used for all years. All variables on the right-hand side are lagged by one period. The specification also includes firm fixed effects, u_i, and country-industry-year fixed effects, v_{cjt}, to control for firm-level time invariant heterogeneity and a rich set of unobserved and observed time-varying factors at the country-industry level, respectively. These factors may include, for example, industry demand effects or macro-economic shocks. The estimations are also conducted for China and non-China separately.

References

Acharya, V., S. Cecchetti, J. Gregorio, Ş. Kalemli-Özcan, P. Lane, and U. Panizza. 2015. "Corporate Debt in Emerging Economies: A Threat to Financial Stability?" *Brookings Institution Report*, Washington, DC: Brooking Institution.

Alfaro, L., G. Asis, A. Chari, and U. Panizza. 2017. "Lessons Unlearned? Corporate Debt in Emerging Markets." NBER Working Paper 23407, National Bureau of Economic Research, Cambridge, MA.

Alter, A., and S. Elekdag. 2016. "Emerging Market Corporate Leverage and Global Financial Conditions." IMF Working Paper 16/243, International Monetary Fund, Washington, DC.

Arteta, C., M. A. Kose, F. Ohnsorge, and M. Stocker. 2015. "The Coming U.S. Interest Rate Tightening Cycle: Smooth Sailing or Stormy Waters?" Policy Research Note 2, World Bank, Washington, DC.

Ayala, D., M. Nedeljkovic, and C. Saborowski. 2017. "What Slice of the Pie? The Corporate Bond Market Boom in Emerging Economies." *Journal of Financial Stability* 30 (C): 16-35.

Beltran, D., K. Garud, and A. Rosenblum. 2017. "Emerging Market Nonfinancial Corporate Debt: How Concerned Should We Be?" International Finance Discussion Paper Notes, June, Board of Governors of the Federal Reserve System, Washington, DC.

BIS (Bank for International Settlements). 2013. "Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools." Bank for International Settlements, Switzerland.

Borensztein, E., and L. S. Ye. Forthcoming. "Corporate Debt Overhang and Investment: Firm-level Evidence." Mimeo, World Bank, Washington, DC.

Brown, M., and P. Lane. 2011. "Debt Overhang in Emerging Europe." Policy Research Working Paper 5784, World Bank, Washington, DC.

Bruno, V., and H. S. Shin. 2017. "Global Dollar Credit and Carry Trades: A Firm-level Analysis." *Review of Financial Studies* 30 (3): 703-49.

Chen, S., and Y. Lu. 2016. "Does Balance Sheet Strength Drive the Investment Cycle? Evidence from Pre– and Post-Crisis Cyprus." IMF Working Paper 16/248, International Monetary Fund, Washington, DC.

Chinn, M. D., and H. Ito. 2006. "What Matters for Financial Development? Capital Controls, Institutions, and Interactions." *Journal of Development Economics* 81 (1): 163-192.

Chodorow-Reich, G. 2014. "The Employment Effects of Credit Market Disruptions: Firm-level Evidence from the 2008-09 Financial Crisis." *Quarterly Journal of Economics* 129 (1): 1-59.

Chow, J. 2015. "Stress Testing Corporate Balance Sheets in Emerging Economies." IMF Working Paper 15/216, International Monetary Fund, Washington, DC.

Corsetti, G., L. P. Feld, P. R. Lane, L. Reichlin, H. Rey, D. Vayanos, and B. Weder di Mauro. 2015. *A New Start for the Eurozone: Dealing with Debt, Monitoring the Eurozone* 1, London: The Center for Economic Policy Research.

Cortina, J., T. Didier, and S. Schmukler. Forthcoming. "Corporate Debt Maturity in Developing Countries: Sources of Long and Short-termism" *World Economy*.

Das, S., and V. Tulin. 2017. "Financial Frictions, Underinvestment, and Investment Composition : Evidence from Indian Corporates." IMF Working Paper 17/134, International Monetary Fund, Washington, DC.

Demirguc-Kunt, A., M. S. Martinez-Peria, and T. Tressel. 2015. "The Impact of the Global Financial Crisis on Firms' Capital Structure." Policy Research Working Paper 7522, World Bank, Washington, DC.

de Mooij, R., and S. Hebous. 2017. "Curbing Corporate Debt Bias: Do Limitations to Interest Deductibility Work?" IMF Working Paper 17/22, International Monetary Fund, Washington, DC.

Desai, M., F. Foley, and K. Forbes. 2008. "Financial Constraints and Growth: Multinational and Local Firm Responses to Currency Depreciations." *Review of Financial Studies* 21(6): 2857-2888.

Didier, T., R. Llovet Montanes, and S. Schmukler. 2017. "The International Financial Integration of East Asia and the Pacific." *Journal of The Japanese and International Economies* 44 (June): 52-66.

Didier, T., and S. Schmukler. 2014. "Debt Markets in Emerging Economies: Major Trends." *Comparative Economic Studies* 56 (2): 200-228.

di Giovanni, J., A. Levchenko, and I. Mejean. 2014. "Firms, Destinations, and Aggregate Fluctuactions." *Econometrica* 82 (4), 1303-1340.

———. 2018. "The Micro Origins of International Business Cycle Movement." *American Economic Review* 108 (1), 82-108.

Feyen, E., S. Ghosh, K. Kibuuka, and S. Farazi. 2015. "Global Liquidity and External Bond Issuance in Emerging Markets and Developing Economies." Policy Research Working Paper 7363, World Bank, Washington, DC.

Feyen E., N. Fiess, I. Zuccardi Huertas, and L. Lambert. 2017. "Which Emerging Markets and Developing Economies Face Corporate Balance Sheet Vulnerabilities? A Novel Monitoring Framework." Policy Research Working Paper 8198, World Bank, Washington, DC.

Gabaix, X. 2011. "The Granular Origins of Aggregate Fluctuations." *Econometrica* 79 (3): 733-72.

Gertler, M., and S. Gilchrist. 1994. "Monetary Policy, Business Cycles, and the Behavior of Small Manufacturing Firms." *Quarterly Journal of Economics* 109 (2): 309–340.

Giroud, X., and H. Mueller. 2017. "Firm Leverage, Consumer Demand, and Employment Losses During the Great Recession." *The Quarterly Journal of Economics* 132 (1): 271–316.

Gopalan, R., A. Mukherjee, and M. Singh. 2016. "Do Debt Contract Enforcement Costs Affect Financing and Asset Structure?" *Review of Financial Studies* 29 (10): 2774–2813.

Gozzi, J. C., R. Levine, M. S. Martinez Peria, and S. Schmukler. 2015. "How Firms Use Corporate Bond Markets under Financial Globalization." *Journal of Banking and Finance* 58 (September): 532-551.

Hale, G., P. Jones, and M. Spiegel. 2016. "The Rise in Home Currency Issuance." Working Paper 2014-19, Federal Reserve Bank of San Francisco, San Francisco.

Hansen, B. 1999. "Threshold Effects in Non-Dynamic Panels: Estimation, Testing, and Inference." *Journal of Econometrics* 93 (2): 345-368.

IFC (International Finance Corporation). 2016. "A New Look at the Determinants of Investment in Emerging Markets." Mimeo, World Bank, Washington, DC.

IMF (International Monetary Fund). 2015. "Corporate Leverage in Emerging Markets—A Concern?" *Global Financial Stability Report*, Chapter 3, October 2015. Washington, DC: International Monetary Fund.

———. 2017a. "People's Republic of China-Article IV Consultation." International Monetary Fund, Washington, DC.

———. 2017b. "Brazil-Article IV Staff Consultation, Selected Issues." International Monetary Fund, Washington, DC.

———. 2017c. "Financial System Stability Assessment: India." December, International Monetary Fund, Washington, DC.

———. 2018. "The Riskiness of Credit Allocation: A Source of Financial Vulnerability." *Global Financial Stability Report*, Chapter 2, April. Washington, DC.: International Monetary Fund.

Kalemli-Ozcan, S., L. Laeven, and D. Moreno. 2015. "Debt Overhang, Rollover Risk, and Investment in Europe." Mimeo, University of Maryland.

Kalemli-Ozcan, S., B. Sorensen, C. Villegas-Sanchez, V. Volosovych, and S. Yesiltas. 2015. "How to Construct Nationally Representative Firm Level Data from the ORBIS Global Database." NBER Working Paper 21558, National Bureau of Economic Research, Cambridge, MA.

Kose, M. A., S. Kurlat, F. Ohnsorge, and N. Sugawara. 2017. "A Cross-Country Database of Fiscal Space." Policy Research Working Paper 8157, World Bank, Washington, DC.

Kose, M. A., F. Ohnsorge, L. Ye, and E. Islamaj. 2017. "Weakness in Investment Growth: Causes, Implications and Policy Responses." Policy Research Working Paper 7990, World Bank, Washington, DC.

Love, I., M. S. Martínez Pería, and S. Singh. 2013. "Collateral Registries for Movable Assets: Does Their Introduction Spur Firms' Access to Bank Finance?" Policy Research Working Paper 6477, World Bank, Washington, DC.

Magud, N., and S. Sosa. 2015. "Investment in Emerging Markets: We Are Not in Kansas Anymore...Or Are We?" IMF Working Paper 15/77, International Monetary Fund, Washington, DC.

Maliszewski, W., S. Arslanalp, J. Caparusso, J. Garrido, S. Guo, J. S. Kang, W. R. Lam, et al. 2016. "Resolving China's Corporate Debt Problem." IMF Working Paper 16/203, International Monetary Fund, Washington, DC.

Myers, S. 1977. "Determinants of Corporate Borrowing." *Journal of Financial Economics* 5 (2): 147-175.

Occhino, F., and A. Pescatori. 2015. "Debt Overhang in a Business Cycle Model." *European Economic Review* 73 (January): 58-84.

Ohnsorge, F., and S. Yu. 2017. "Recent Credit Surge in Historical Context." *Journal of International Commerce, Economics and Policy* 8 (1): 1-22.

Shin, H. 2013. "The Second Phase of Global Liquidity and its Impact on Emerging Economies." *Proceedings of the Asia Economic Policy Conference*, November, Federal Reserve Bank of San Francisco.

World Bank. 2014. *World Development Report: Risk and Opportunity, Managing Risk for Development.* World Bank: Washington, DC.

———. 2015. *Global Financial Development Report: Long-term Finance.* World Bank: Washington, DC.

———. 2016. *Global Economic Prospects: Divergences and Risks.* World Bank: Washington, DC.

———. 2017. *Global Economic Prospects: Weak Investment in Uncertain Times.* World Bank: Washington, DC.

———. 2018a. *Global Economic Prospects: Broad-based Upturn, but for How Long?* World Bank: Washington, DC.

———. 2018b. *Doing Business 2018: Reforming to Create Jobs.* World Bank: Washington, DC.
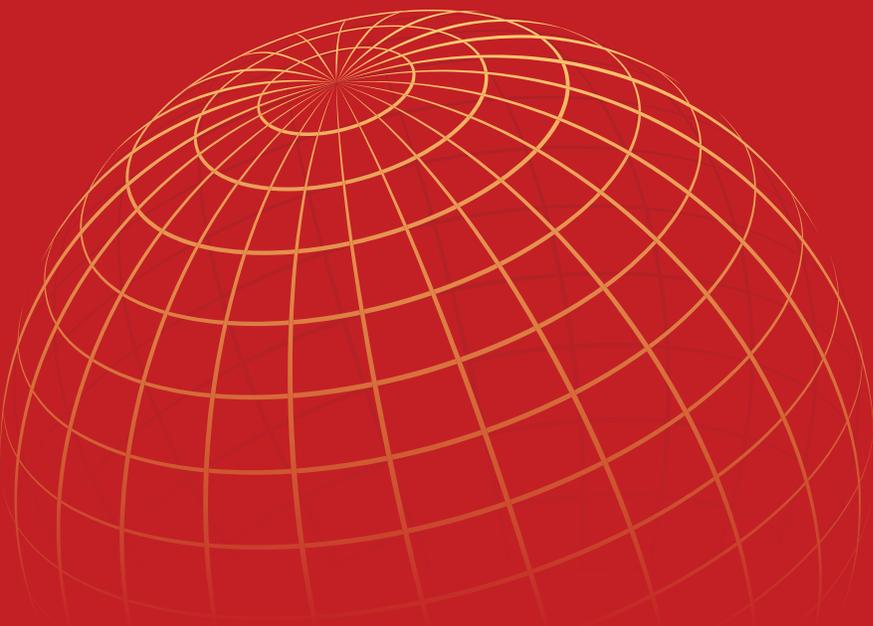
REGIONAL OUTLOOKS

EAST ASIA and PACIFIC

Growth in the East Asia and Pacific region is expected to remain solid, slowing marginally to 6.3 percent in 2018 and to an average of 6.1 percent in 2019-20, broadly as previously projected. This modest easing reflects a structural slowdown in China that is only partly offset by a maturing cyclical pickup in the rest of the region. While upside surprises to global activity could lead to stronger-than-expected regional growth, risks to the forecast remain tilted to the downside and include intensified trade restrictions and an abrupt tightening of global financing conditions.

Recent developments

Growth in the East Asia and Pacific region accelerated slightly to 6.6 percent in 2017, reflecting solid exports and strong domestic demand (World Bank 2018a; Figure 2.1.1). Conditions are mostly favorable for the region in 2018, including robust global trade, moderate borrowing costs, and sustained capital inflows.

Regional financial markets have generally remained buoyant, despite volatility in early and mid-2018 related to the prospects of faster monetary policy tightening in advanced economies and escalating trade tensions. Bond spreads in some countries have increased, following bouts of volatility in stock markets, but remain close to the low levels that prevailed in 2017.

Domestic monetary conditions have tightened somewhat and tighter prudential policies have kept credit growth in check. Several major economies have renewed their fiscal consolidation efforts in 2018 (e.g., China, Indonesia, the Lao People's Democratic Republic, Malaysia, Vietnam).

Note: The author of this section is Ekaterine Vashakmadze. Research assistance was provided by Brent Michael Harrison and Jinxin Wu.

Growth across the region remains solid. Exports continue to increase both in volume and value terms, benefiting from the recovery in global investment and trade, as well as stronger trade and investment integration within Asia and between Asia and Eurasia (Chapter 1). Private consumption continues to be supported by solid consumer confidence and rising household wealth, amid moderate inflation.

While inflation has generally picked up among commodity importers, it has been on a downward trend in commodity exporters as the impact of past currency depreciations wane. Output gaps have generally closed, but economic slack remains in several commodity exporters (e.g., Mongolia, Papua New Guinea). With the exception of China, where investment continues its policy-guided deceleration, investment spending in the region has remained strong, partly reflecting improved business confidence, continued capital inflows, and higher earnings (e.g., Cambodia, Lao PDR, Vietnam).

In China, a solid rebound of exports amid robust consumption growth helped output to expand in 2017 at a slightly faster-than-expected pace (Figure 2.1.2; World Bank 2017a). Domestic demand has remained solid in 2018, reflecting robust consumption growth and recovering private fixed asset investment. Tighter regulations, especially of the shadow banking sector, have

FIGURE 2.1.1 EAP: Recent developments

Growth in the region accelerated in 2017, reflecting solid exports and domestic demand, and has continued to be solid this year. Regional financial markets have generally remained buoyant despite volatility in early and mid-2018. With the exception of China, where investment continues its policy-guided deceleration, investment spending in the region has remained strong. Inflation is generally in line with targets.

A. Growth
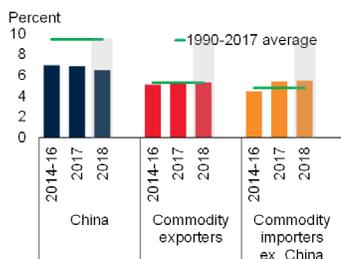
B. Export growth

C. Emerging market bond spreads
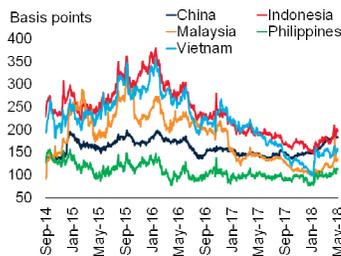
D. Equity prices

E. Investment

F. Inflation
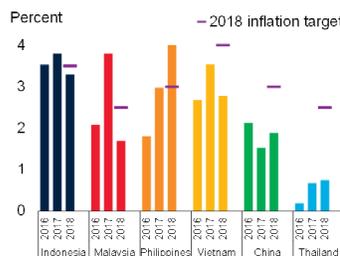
Sources: Haver Analytics, International Monetary Fund, World Bank.

Note: EAP stands for East Asia and Pacific. Commodity importers ex. China include Cambodia, Fiji, Philippines, Solomon Islands, Thailand, Vietnam, and Vanuatu. Commodity exporters include Indonesia, Lao PDR, Mongolia, Malaysia, Myanmar, Papua New Guinea, and Timor-Leste. 1990-2017 average for commodity exporters excludes Myanmar and Timor-Leste due to data limitations. Aggregate growth rates are calculated using constant 2010 U.S. dollar GDP-weights.

A.E. Data in shaded area are forecasts.

B. Data include only goods and reflect contributions to year-on-year 12-month moving average growth. Aggregate growth rate for EAP excluding China excludes Cambodia, Fiji, Lao PDR, Mongolia, Myanmar, Solomon Islands, Papua New Guinea, Timor-Leste, Vanuatu, and Vietnam due to data limitations. Last observation is February for China and March 2018 for EAP excluding China.

C. Measures the average spread of a country's sovereign debt (as measured by J.P. Morgan's Emerging Markets Bond Index) over their equivalent maturity U.S. Treasury bond. Last observation is May 24, 2018.

D. Last observation is May 25, 2018.

E. Investment refers to total fixed investment. Aggregate growth rate for EAP excluding China excludes Fiji, Myanmar, Solomon Islands, Papua New Guinea, and Timor-Leste due to data limitations.

F. Average year-on-year growth. The figure shows the midpoints of targeted ranges in 2018 in Indonesia (2.4-4.5 percent), the Philippines (2-4 percent), Vietnam (4 percent), China (3 percent), and Thailand (1-4 percent). For Malaysia, the midpoint of Bank Negara's 2018 forecast of 2-3 percent is used. Last observation is April 2018.

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continued to reduce housing price growth and stabilize credit growth in the first half of 2018. The stock of corporate debt, which peaked in 2016 at 167 percent of GDP, has continued to decline as percent of GDP in the first half of 2018, but remains high by international standards (BIS 2018). Tighter enforcement of capital flows helped ease capital outflows and exchange rate pressures. The renminbi appreciation has extended into 2018. China recorded its first current account deficit since 2001 in the first quarter of 2018, consistent with external rebalancing.

In commodity-exporting economies, the investment-led cyclical recovery has continued in response to higher commodity prices and low financing costs. That said, the pace of growth is increasingly reflecting country-specific factors. In Indonesia, the strength observed last year has continued into 2018, led by rising investment on the back of higher commodity prices and accelerated infrastructure spending (World Bank 2017b). Growth continues to recover in Mongolia, supported by strong coal production and vigorous private investment. In Malaysia, growth is moderating after a strong rebound last year. However, it remains robust and exports have continued to increase in the first half of 2018 (World Bank 2017c).

Activity in commodity-importing economies excluding China remains strong, broadly in line with its underlying potential rate. In Thailand, activity remained solid in the first half of the year, following a sharp cyclical recovery in 2017, supported by firming exports (World Bank 2018b). Growth in the Philippines and Vietnam remains robust, but capacity constraints (e.g., high capacity utilization rates) limit further acceleration, especially in the Philippines (World Bank 2017d).

Overall, the region benefits from solid fundamentals, including moderate domestic and external imbalances and significant policy buffers (World Bank 2018a). However, some countries in the region continue to face financial sector vulnerabilities, with elevated levels of debt (e.g., China, Lao PDR, Malaysia, Mongolia, Papua New Guinea, Thailand), still-fast credit growth

(e.g., China, the Philippines, Vietnam), high foreign participation in local-currency sovereign bond markets (e.g., Indonesia, Malaysia), and sizable fiscal deficits (e.g., Cambodia, Lao PDR, Mongolia, Vietnam).

Outlook

Regional growth is expected to gradually moderate from 6.3 percent in 2018 to 6.1 percent on average in 2019-2020, broadly unchanged from January forecasts (Tables 2.1.1 and 2.1.2; Figure 2.1.3). The slowdown in regional growth is largely due to the gradual structural slowdown in China, the region's largest economy. Activity in the rest of the region is expected to peak in 2018 and remain steady around its potential rate in 2019 and 2020. The outlook is predicated on broadly stable commodity prices in the next two years, solid but moderating global demand, and a gradual tightening of global financing conditions.

Growth in China is projected to slow from 6.5 percent in 2018 to 6.3 percent on average in 2019-20. Policy support is expected to ease, led by regulatory and macroprudential tightening. Fiscal policies are expected to become less accommodative to contain financial risks and encourage a continued rebalancing of the economy from investment to consumption and from industry to services. Growth in the rest of the region is projected to reach 5.4 percent in 2018 and remain broadly unchanged at 5.3 percent in both 2019 and 2020, as the cyclical recovery in these economies matures.

Growth in commodity exporters is expected to remain broadly stable at about 5.3 percent in 2019, in line with its potential, with significant cross-country divergence. This forecast is slightly above that of January, reflecting an upward revision to a number of commodity exporters (e.g., Malaysia, Mongolia), which more than offset a downgrade in some other economies (e.g., Papua New Guinea, Timor-Leste). The downgrade in growth projections for Papua New Guinea is due to a massive earthquake that hit the country in February and led to the temporary suspension of production of natural gas at the Hides gas field. Output gaps in most commodity exporting

FIGURE 2.1.2 China

In China, a strong rebound of exports amid robust consumption growth helped output to expand in 2017 at a slightly faster-than-expected pace. Tighter macroprudential policies have continued to reduce housing price growth and moderate credit growth in 2018. China recorded its first current account deficit since 2001 in the first quarter of 2018, consistent with ongoing external rebalancing.

A. Contributions to growth

B. Credit growth

C. Housing prices

D. Balance of payments
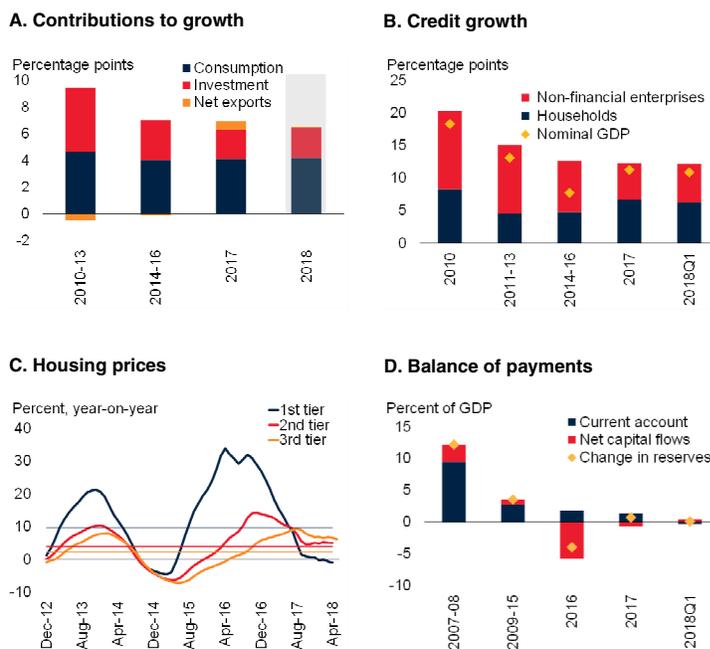
Sources: Haver Analytics, The People's Bank of China, World Bank.
A. Investment refers to gross capital formation, which includes change in inventories. Data in shaded area are forecasts.
B. Total social financing by uses. Last observation is 2018Q1.
C. The National Bureau of Statistics of China surveys house prices in 70 cities and divides them into three tiers. The first tier includes Shanghai, Beijing, Guangzhou, and Shenzhen. The second tier includes 31 provincial capital and sub-provincial capital cities. The third tier includes 35 other cities. Lines indicate February 2011-April 2018 averages. Last observation is April 2018.
D. Current account balance is based on seasonally adjusted data. Last observation is 2018Q1. Net capital flows and change in reserves are estimates.
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economies are expected to close over the forecast horizon, as the adjustment to low commodity prices runs its course and investment growth stabilizes.

Growth in commodity importers is projected to moderate and converge with its potential rate of about 5.3 percent in 2019 and 2020. In commodity importers excluding China, an upgrade to growth projections in 2018 reflects an upward revision to Thailand due to stronger exports, which are nevertheless projected to remain below the regional average.

For both commodity exporters and importers, capacity constraints and price pressures are

FIGURE 2.1.3 EAP: Outlook and risks

Regional growth is expected to moderate from 6.3 percent in 2018 to 6.1 percent on average in 2019-20, largely due to the gradual structural slowdown in China. Activity in the rest of the region is projected to stabilize as the cyclical rebound matures. Growth in commodity importers is projected to converge with its potential rate of about 5.2 percent and remain around this level in 2019-20. Domestic vulnerabilities, related to elevated domestic debt and external financing needs in some countries, would amplify the impact of external shocks, especially where policy buffers are limited.

A. Growth

B. Growth by groups

C. Total debt

D. Fiscal balances of 2018
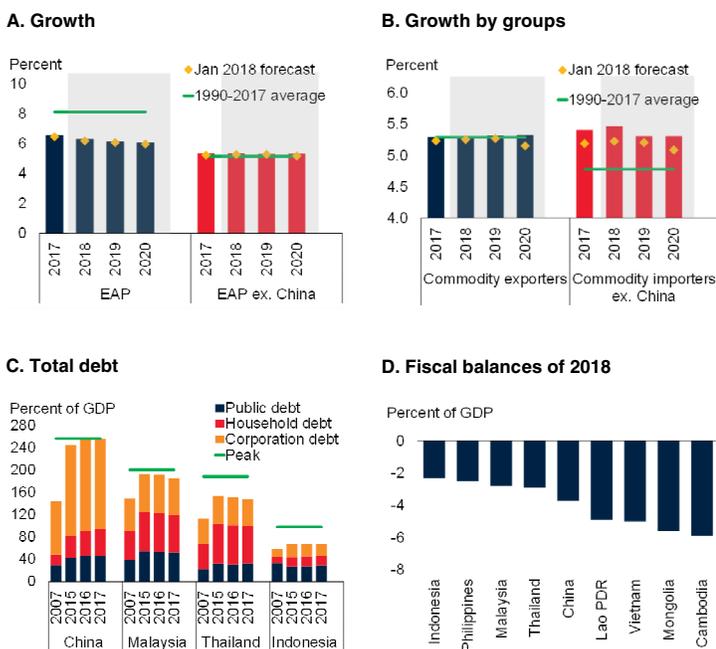
Sources: Bank of International Settlements, Haver Analytics, International Monetary Fund, World Bank.
Note: EAP stands for East Asia and Pacific.
A.B. Commodity importers ex. China include Cambodia, Fiji, Philippines, Solomon Islands, Thailand, Vietnam, and Vanuatu. Commodity exporters include Indonesia, Lao PDR, Malaysia, Mongolia, Myanmar, Papua New Guinea, and Timor-Leste. Shaded areas are forecasts. 1990-2017 average for commodity exporters excludes Myanmar and Timor-Leste due to data limitations. Aggregates are calculated using 2010 U.S. dollar GDP-weights.
C. The highest debt-to-GDP ratio since 1995Q1. The peak occurred in 1997Q4 in Thailand, 1998Q4 in Malaysia, 2001Q4 in Indonesia, and 2016Q4 in China. Last observation is 2017Q3.
D. Data reflect World Bank staff forecasts.
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expected to intensify over the forecast horizon, in part reflecting higher oil prices, leading to further tightening of monetary policy in the region.

Despite the projected robust activity in the region in the near term, underlying potential growth—which has fallen considerably over the past decade—is likely to decline further over the long term, reflecting increasingly adverse demographic patterns and a projected slowing pace of capital accumulation, which is needed to rein in credit growth (World Bank 2018a, 2018b).

Risks

While upside surprises to global activity could lead to stronger-than-expected regional growth, risks to the outlook remain tilted to the downside. Increased protectionist tendencies in some large economies continue to create uncertainty about the future of established trading relationships. The imposition of trade restrictions by advanced economies would disproportionately affect the more open economies in the region.

The economic impact of tariffs on imports to China, that have been discussed by the U.S. administration would likely be manageable provided they do not lead to escalation (Chapter 1; World Bank 2018a). However, there is a risk that such measures, may trigger retaliatory action and lead to broader trade restrictions. A significant disruption to activity in China would have large regional effects (World Bank 2016, 2018c). Rising geopolitical tensions, including in the Korean Peninsula and the South China Sea, could weigh on investor sentiment, leading to financial market volatility and softer regional investment (World Bank 2018a).

In addition, a faster-than-expected tightening of global financing conditions and associated financing stress—triggered, for instance, by changes in market expectations of advanced-economy monetary policy—could reduce capital inflows, heighten financial market volatility, and place pressure on regional exchange rates and asset prices. Rising borrowing costs could substantially increase the burden of debt servicing, which was contained in recent years by low global interest rates and risk premiums.

If a combination of downside risks were to materialize, it could trigger a sharper-than-expected slowdown in regional growth. Domestic vulnerabilities—elevated domestic debt and large external financing needs in some countries—would amplify the impact of external shocks, especially where policy buffers are limited, and dampen growth.

TABLE 2.1.1 East Asia and Pacific forecast summary

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences from January 2018 projections

|	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
EMDE EAP, GDP¹	**6.5**	**6.3**	**6.6**	**6.3**	**6.1**	**6.0**	**0.1**	**0.0**	**0.0**
(Average including countries with full national accounts and balance of payments data only)²									
EMDE EAP, GDP²	6.5	6.3	6.6	6.3	6.1	6.0	0.1	0.0	0.0
GDP per capita (U.S. dollars)	5.8	5.6	5.9	5.7	5.5	5.5	0.1	0.0	0.1
PPP GDP	6.4	6.3	6.5	6.2	6.1	6.0	0.1	0.1	0.1
Private consumption	6.7	6.8	6.9	7.0	6.8	7.0	-0.1	-0.2	0.1
Public consumption	8.9	9.3	7.5	7.6	7.5	7.4	-0.2	0.9	0.9
Fixed investment	6.5	6.6	5.8	5.5	5.3	5.5	-0.3	-0.5	-0.2
Exports, GNFS³	0.5	3.2	7.3	5.7	6.0	5.8	1.6	1.5	1.1
Imports, GNFS³	0.8	5.4	5.7	5.8	6.1	6.4	0.6	0.8	1.1
Net exports, contribution to growth	-0.1	-0.6	0.5	0.0	0.0	-0.2	0.2	0.2	-0.1
Memo items: GDP									
East Asia excluding China	4.9	4.9	5.3	5.4	5.3	5.3	0.1	0.0	0.1
China	6.9	6.7	6.9	6.5	6.3	6.2	0.1	0.0	0.0
Indonesia	4.9	5.0	5.1	5.2	5.3	5.4	-0.1	0.0	0.1
Thailand	3.0	3.3	3.9	4.1	3.8	3.8	0.5	0.3	0.4

Source: World Bank.

Note: e = estimate; f = forecast. EMDE = emerging market and developing economy. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars. Excludes Democratic People's Republic of Korea and dependent territories.

2. Sub-region aggregate excludes Democratic People's Republic of Korea, dependent territories, Fiji, Kiribati, the Marshall Islands, the Federated States of Micronesia, Myanmar, Nauru, Palau, Papua New Guinea, Samoa, Timor-Leste, Tonga, and Tuvalu, for which data limitations prevent the forecasting of GDP components.

3. Exports and imports of goods and non-factor services (GNFS).

For additional information, please see www.worldbank.org/gep.

TABLE 2.1.2 East Asia and Pacific country forecasts¹

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
Cambodia	7.0	7.0	6.8	6.9	6.7	6.6	0.0	0.0	-0.1
China	6.9	6.7	6.9	6.5	6.3	6.2	0.1	0.0	0.0
Fiji	3.6	0.4	3.8	3.5	3.4	3.3	0.0	0.1	0.1
Indonesia	4.9	5.0	5.1	5.2	5.3	5.4	-0.1	0.0	0.1
Lao PDR	7.3	7.0	6.7	6.6	6.9	6.9	0.0	0.0	0.0
Malaysia	5.0	4.2	5.9	5.4	5.1	4.8	0.2	0.1	0.1
Mongolia	2.4	1.5	5.1	5.3	6.4	6.5	2.2	-0.9	1.0
Myanmar	7.0	5.9	6.4	6.7	6.9	7.1	0.0	0.0	0.2
Papua New Guinea	5.3	1.9	2.2	-1.7	4.0	3.0	-4.2	1.6	-0.4
Philippines	6.1	6.9	6.7	6.7	6.7	6.6	0.0	0.0	0.1
Solomon Islands	3.7	3.5	3.2	3.0	2.9	2.8	0.0	0.1	0.1
Thailand	3.0	3.3	3.9	4.1	3.8	3.8	0.5	0.3	0.4
Timor-Leste²	4.0	5.3	-1.8	2.2	4.2	4.0	-2.0	-0.8	-1.0
Vietnam	6.7	6.2	6.8	6.8	6.6	6.5	0.3	0.1	0.0

Source: World Bank.

Notes: e = estimate; f = forecast. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not significantly differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars.

2. Non-oil GDP. Timor-Leste's total GDP, including the oil economy, is roughly four times its non-oil economy and is highly volatile as a result of sensitivity to changes in global oil prices and local production levels.

For additional information, please see www.worldbank.org/gep.

EUROPE and CENTRAL ASIA

Growth in the Europe and Central Asia region is anticipated to ease to 3.2 percent in 2018, down from 4.0 percent in 2017, as one-off supporting factors wane in some of the region's largest economies. By 2020, growth is expected to gradually moderate to 3.0 percent due to less supportive external conditions, intensifying capacity constraints, and less accommodative fiscal and monetary policy in commodity importers. Growth in commodity exporters is expected to continue strengthening amid higher commodity prices. Regional risks remain tilted to the downside, reflecting the possibility of a disorderly tightening of financing conditions, renewed policy uncertainty, and rising trade protectionism.

Recent developments

Regional growth was strong in 2017, reaching 4.0 percent, with broad-based recoveries across both commodity importers and commodity exporters (Figure 2.2.1).[1] Despite robust activity in late 2017 and early 2018, momentum has eased amid moderating export growth and less accommodative policies.

For commodity importers, the significant pickup in activity in 2017 was driven by strengthening demand from the Euro Area and disbursements of EU structural funds in Central Europe, but these factors have started to wane gradually.[2] In Turkey, growth sharply accelerated to 7.4 percent in 2017 from 3.2 percent in 2016, as it rebounded from the 2016 failed coup attempt and benefited from supportive policy measures including tax cuts, public transfers, and credit support measures for small and medium-sized enterprises (World Bank

2018d). The effect of supportive fiscal measures in Romania, which fueled a strong pickup in growth in 2017, have gradually faded in 2018. Meanwhile, activity is improving in commodity importers which experienced weak growth in 2017 due to domestic issues, such as rising political tensions (e.g., FYR Macedonia) and weaker public investment (e.g., Serbia).

Commodity exporters in the region continue to experience a cyclical upturn, supported by higher oil prices, a pickup of domestic demand, and strengthening export growth. In Russia, growth turned positive in 2017 after two years of contraction, reaching 1.5 percent. The improvement was marked by robust real wage gains, which supported a recovery in private consumption amid declining inflation and stabilizing labor markets. Rising confidence encouraged a significant rebound in investment growth—especially in the mining, transport, and manufacturing sectors—following four years of contraction. The recovery in Russia generated positive spillovers to neighboring economies in Central Asia, South Caucasus, and Eastern Europe.[3] New U.S. sanctions announced in April against Russian

[1] Commodity importers are Bulgaria, Belarus, Bosnia and Herzegovina, Croatia, Georgia, Hungary, Kosovo, Former Yugoslav Republic of Macedonia, Moldova, Montenegro, Poland, Romania, and Serbia. Commodity exporters are Albania, Azerbaijan, Armenia, Kazakhstan, Kyrgyz Republic, Russian Federation, Tajikistan, Turkmenistan, Uzbekistan, and Ukraine.

[2] Central European countries are Bulgaria, Croatia, Hungary, Poland and Romania.

[3] Eastern Europe countries are Belarus, Moldova, and Ukraine. South Caucasus countries are Armenia, Azerbaijan and Georgia. Central Asia countries are Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan.

FIGURE 2.2.1 ECA: Recent developments

Growth in the region strengthened in 2017, but high-frequency indicators suggest slowing momentum in 2018. Economic sanctions on Russia led to some increase in bond spreads, as in the previous episode in 2014. Investment in commodity-importing economies was particularly strong in 2017, but is expected to moderate in 2018. Fiscal policy is loosening and inflation expectations have risen in many commodity importers. Current account positions have deteriorated in some cases.

A. Contribution to regional growth
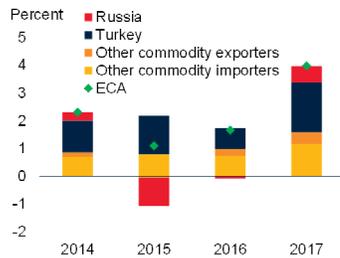
B. Bond spread for Russia after sanction
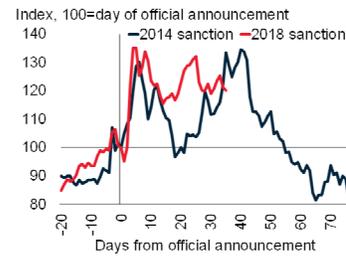
C. Investment
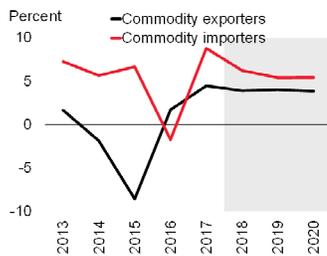
D. Structural fiscal balance
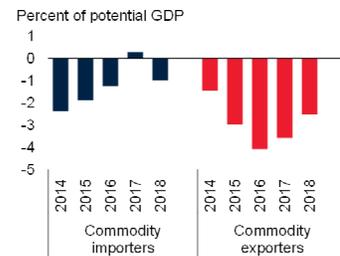
E. Inflation expectations
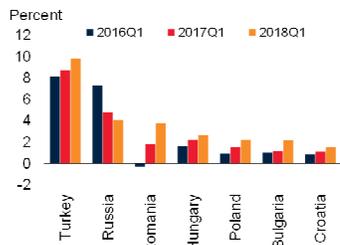
F. Current account balances
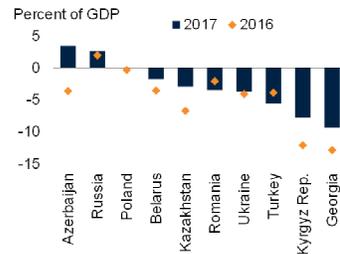
Sources: Consensus Economics, International Monetary Fund, J. P. Morgan, World Bank.
A. Aggregate growth rates calculated using 2010 U.S. dollar GDP weights.
B. Index value of Emerging Market Bond Index (EMBI) spread for Russia. EMBI spread is a measure of sovereign bond risk premiums. Index values are normalized to 100 (as reflected by the horizontal line) for the official date of the announcement of sanctions from the United States. Official dates are March 6 for 2014 sanctions and April 6 for 2018 sanctions. Last observation for the 2018 sanction is May 23, 2018.
C. Total investment growth for each group. Shaded area indicates forecasts.
D. Values are general government structural balance as a percent of potential GDP. Median for each group.
E. Average one-year-ahead inflation forecasts for given time from Consensus forecasts.
F. Current account balance as a percent of GDP for selected countries.
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organizations and individuals led to a depreciation of the Russian ruble and to increasing bond spreads.

In Kazakhstan, activity also rebounded in 2017, supported by expanding oil production and recovering activity in the non-oil sector (World Bank 2018e). Growth in Kazakhstan was further boosted by rising output from the new Kashagan oil field, which is exempt from the production cuts agreed to by some OPEC and non-OPEC countries. In Azerbaijan, curbs on oil production were offset by stronger non-oil sector activity and fiscal stimulus measures. While slow progress with structural reforms and lingering geopolitical uncertainty dampened confidence and growth in Ukraine in 2017, conditions have started to improve in 2018.

Inflation, current account, and public finances

The recovery in some commodity importers has been associated with persistent or widening imbalances. Inflation rates are above or close to target in some countries, and closing output gaps are contributing to rising domestic inflation pressures (e.g., Romania, Turkey). Inflation expectations are trending upward in the largest countries in Central Europe (e.g., Bulgaria, Croatia, Hungary, Poland, Romania), as well as in Turkey. Current account deficits have either worsened or remain persistently large amid rising oil prices and robust imports, while fiscal policy continues to be procyclical in some commodity importers (e.g., Romania, Turkey).

Among commodity exporters, inflation has generally moderated, reflecting the unwinding effects of past exchange rate depreciations or persistent economic slack (e.g., Azerbaijan, Kazakhstan, Russia). Current account positions have improved, supported by a rebound in oil prices, and the stabilization of inflation have allowed monetary policy to ease in some countries. In contrast, Uzbekistan, which devalued its currency in September 2017, subsequently tightened its monetary policy.

Outlook

Growth in the region is projected to moderate from 4.0 percent in 2017—which was significantly above potential—to 3.2 percent in 2018 and 3.0 percent in 2020 (Figure 2.2.2). The modest recovery continues among commodity exporters, supported by a further recovery in oil prices, but only partially offsets a slowdown in commodity importers. Despite the moderation, growth is expected to remain slightly above potential over the forecast horizon. The outlook for the region is predicated on stabilizing oil prices; more moderate, yet still-robust, growth in the Euro Area; an orderly tightening of global financing conditions; and an absence of rising geopolitical tensions.

Growth for commodity importers is expected to moderate from 5.9 percent in 2017 to 4.3 percent in 2018. Monetary and fiscal policies are expected to tighten as economies operate above capacity. Tighter labor market conditions and higher oil prices are expected to lead to rising inflation and tighter monetary policy, while past fiscal stimulus measures are expected to gradually unwind. External conditions are expected to become less supportive as well. Euro Area imports are projected to decelerate gradually, leading to more modest export growth in Central Europe, the Western Balkans, and Turkey. Global interest rates are expected to rise, increasing borrowing costs and affecting net capital inflows to the region, while rising oil prices could exacerbate current account vulnerabilities in some countries.

In Turkey, delays in fiscal consolidation and the extension of the credit support program is expected to temper the expected slowdown in 2018, amid tightening financing conditions and currency pressures. Inflation continues to be above target. In Central Europe, the positive effects from the accelerated disbursement in 2017 of EU structural funds—which are equivalent to more than 4 percent of GDP for some countries—are expected to wane in 2018. Procyclical fiscal measures in Romania are projected to continue in 2018.

FIGURE 2.2.2 ECA: Outlook and risks

Growth is expected to moderate towards potential over the projection period. Extensive trade openness, large current account deficit and elevated corporate debt levels leave the region vulnerable to external shocks.

A. Actual and potential growth

B. Growth forecast

C. Output gap

D. Working-age population growth

E. Trade openness

F. Corporate debt
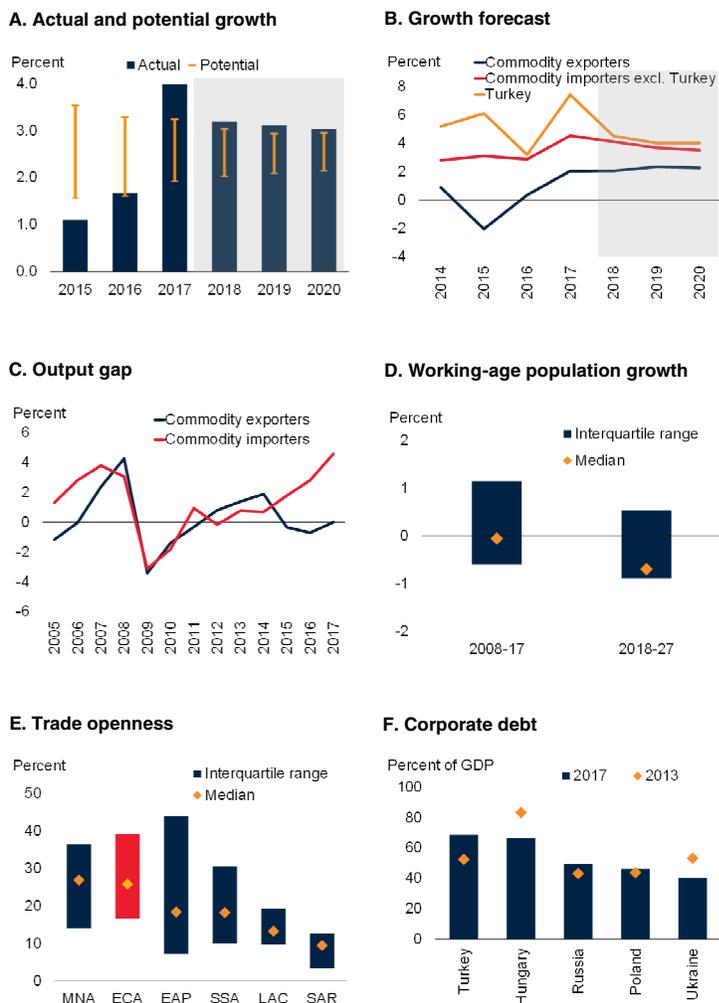
Sources: Bank for International Settlements, International Monetary Fund, Institute of International Finance (IIF), United Nations, World Bank.

A. Blue bars refer to GDP weighted average actual growth and vertical orange line show minimum-maximum range of potential growth estimates based of five different methodologies (production function approach, multivariate filter, IMF *World Economic Outlook* five-year-ahead forecast, Consensus Forecasts, and potential growth estimates in OECD *Economic Outlook* and OECD Long-Term Baseline Projections).

A.B. Shaded areas indicate forecasts.

B.C. Aggregate growth rates calculated using 2010 U.S. dollar GDP weights.

D.E. Bars indicate 25th and 75th percentiles.

D. Annual population growth for age 15-64 given period. Forecasts are taken from the medium forecast by the United Nations.

E. Value of trade over GDP in 2016 for each region. EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MNA = Middle East and North Africa, SAR = South Asia, and SSA = Sub-Saharan Africa.

F. The data used are IIF end-of-period estimates of non-financial corporate debt as a percentage of GDP.

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Among commodity exporters, the recovery from weak or negative growth in 2014-16 is expected to continue in 2018-20. In Russia, growth is projected to remain unchanged in 2018 at 1.5 percent as the effects of rising oil prices and monetary policy easing are offset by oil production cuts and heightened uncertainty associated with the latest sanctions. As dampening factors wane, growth in Russia is anticipated to strengthen to 1.8 percent in 2019-20, providing some support to activity in Central Asia, the South Caucasus region, and Eastern Europe (World Bank 2018f).

Assuming an easing of geopolitical tensions and progress in structural reforms, growth is projected to pick up in Ukraine. Azerbaijan is projected to emerge from two years of disappointing growth, mainly in response to fiscal stimulus measures supported by higher oil prices and expanded natural gas production. However, in Kazakhstan, growth is expected to slow in 2018, as the effect of the opening of the Kashagan oil field fades.

Over the long term, potential growth in the region is expected to decline further. Slower growth in the working-age population is expected to weigh on potential growth across the region. Delays or reversals to needed structural reforms have affected long-term growth prospects in a number of countries (e.g., Azerbaijan, Croatia, Russia, Ukraine). In Uzbekistan, far-reaching structural reforms—including exchange rate liberalization, tax reform, privatization of state owned enterprises, and banking sector reform—are expected to improve long-term growth prospects.

Risks

The outlook continues to be subject to considerable risks. While stronger-than-expected growth among major trading partners remains a possibility, risks remain tilted to the downside.

These include a disorderly tightening of financing conditions, heightened currency pressures, and renewed geo-political tensions and policy uncertainty.

A disorderly tightening of global financial conditions combined with a further appreciation of the U.S. dollar could trigger a sharp deterioration of external financing conditions and lead to a reversal of capital flows and weakening activity, particularly in countries with growing vulnerabilities. Current account deficits remain substantial in a number of countries (e.g., Georgia, Kazakhstan, Kyrgyz Republic, Romania, Turkey, Ukraine), and are financed by volatile portfolio investment flows in some cases (World Bank 2018g, 2018h). Filling external financing needs could become challenging, while currency pressures could intensify. Despite recent progresses in reforms, banking sectors remain vulnerable to external shocks (e.g., Azerbaijan, Kazakhstan, Moldova, Tajikistan).

An escalation of policy uncertainty and geopolitical tensions could also negatively affect activity in the region. Moreover, intensification of policy disagreements between some EU members and EU institutions—including in areas such as immigration policy and constitutional issues—could deter international investors. The region is also vulnerable to a rise in global protectionism, given its openness to trade and integration in global supply chains (World Bank 2018i).

Over the medium term, a weaker-than-expected energy price outlook would undermine the recovery in large energy-exporting countries, including Kazakhstan, Russia, and Uzbekistan. The slowdown could generate negative spillovers to neighboring countries, such as Armenia, Belarus, Georgia, Kyrgyz Republic, Moldova, and Tajikistan.

TABLE 2.2.1 Europe and Central Asia forecast summary

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
EMDE ECA, GDP[1]	**1.1**	**1.7**	**4.0**	**3.2**	**3.1**	**3.0**	**0.3**	**0.1**	**0.0**
EMDE ECA, GDP excl. Russia	3.6	2.9	5.5	4.2	3.9	3.8	0.6	0.1	0.1
(Average including countries with full national accounts and balance of payments data only)[2]									
EMDE ECA, GDP[2]	1.0	1.6	4.0	3.2	3.1	3.0	0.3	0.1	0.1
GDP per capita (U.S. dollars)	0.6	1.2	3.6	2.8	2.8	2.7	0.3	0.1	0.0
PPP GDP	0.8	1.6	3.9	3.2	3.1	3.0	0.3	0.1	0.1
Private consumption	-2.4	1.1	4.4	3.1	3.2	3.1	-0.2	-0.1	-0.2
Public consumption	0.1	3.1	1.5	1.5	1.4	1.3	0.2	-0.2	-0.3
Fixed investment	0.4	-0.2	6.8	5.2	4.8	4.7	1.5	0.9	0.9
Exports, GNFS[3]	3.9	3.6	6.5	4.8	4.7	4.7	0.1	0.0	0.1
Imports, GNFS[3]	-5.5	3.4	9.0	5.5	5.5	5.2	0.0	0.1	0.0
Net exports, contribution to growth	3.0	0.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
Memo items: GDP									
Commodity exporters[4]	-2.0	0.3	2.0	2.0	2.3	2.3	-0.1	0.0	0.0
Commodity importers[5]	4.5	3.0	5.9	4.3	3.8	3.7	0.6	0.1	0.1
Central Europe[6]	3.7	3.2	4.8	4.2	3.7	3.5	0.2	0.2	0.3
Western Balkans[7]	2.1	3.1	2.5	3.2	3.4	3.8	-0.1	-0.2	0.0
Eastern Europe[8]	-7.6	0.8	2.5	3.3	3.6	3.5	0.2	0.1	0.0
South Caucasus[9]	1.7	-1.6	2.0	2.6	4.0	3.7	0.7	1.5	0.4
Central Asia[10]	3.3	3.3	4.7	4.4	4.2	4.0	0.6	0.1	-0.3
Russia	-2.5	-0.2	1.5	1.5	1.8	1.8	-0.2	0.0	0.0
Turkey	6.1	3.2	7.4	4.5	4.0	4.0	1.0	0.0	0.0
Poland	3.8	2.9	4.6	4.2	3.7	3.5	0.2	0.2	0.4

Source: World Bank.

Notes: e = estimate; f = forecast. EMDE = emerging market and developing economy. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars.

2. Sub-region aggregate excludes Bosnia and Herzegovina, Kosovo, Montenegro, Serbia, Tajikistan, and Turkmenistan, for which data limitations prevent the forecasting of GDP components.

3. Exports and imports of goods and non-factor services (GNFS).

4. Includes Albania, Armenia, Azerbaijan, Kazakhstan, the Kyrgyz Republic, Kosovo, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

5. Includes Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Hungary, FYR Macedonia, Moldova, Montenegro, Poland, Romania, Serbia, and Turkey.

6. Includes Bulgaria, Croatia, Hungary, Poland, and Romania.

7. Includes Albania, Bosnia and Herzegovina, Kosovo, FYR Macedonia, Montenegro, and Serbia.

8. Includes Belarus, Moldova, and Ukraine.

9. Includes Armenia, Azerbaijan, and Georgia.

10. Includes Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan.

For additional information, please see www.worldbank.org/gep.

TABLE 2.2.2 Europe and Central Asia country forecasts[1]

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
Albania	2.2	3.4	3.8	3.6	3.5	3.5	0.0	0.0	0.0
Armenia	3.2	0.2	7.5	4.1	4.0	4.0	0.3	0.0	0.0
Azerbaijan	1.1	-3.1	0.1	1.8	3.8	3.2	0.9	2.3	0.6
Belarus	-3.8	-2.5	2.4	2.9	2.7	2.5	0.8	0.3	0.1
Bosnia and Herzegovina[2]	3.1	3.1	3.0	3.2	3.4	4.0	0.0	0.0	0.5
Bulgaria	3.6	3.9	3.6	3.8	3.6	3.6	-0.1	-0.4	-0.3
Croatia	2.3	3.2	2.8	2.6	2.7	2.8	0.0	-0.1	-0.2
Georgia	2.9	2.8	5.0	4.5	4.8	5.0	0.3	0.1	0.0
Hungary	3.1	2.0	4.0	4.1	3.2	3.0	0.3	0.1	0.1
Kazakhstan	1.2	1.1	4.0	3.7	3.3	2.8	1.1	0.5	-0.2
Kosovo	4.1	4.1	4.4	4.8	4.8	4.8	0.0	0.0	0.1
Kyrgyz Republic	3.9	4.3	4.6	4.2	4.8	5.0	0.0	0.0	0.4
Macedonia, FYR	3.9	2.9	0.0	2.3	2.7	3.0	-0.9	-1.2	-1.0
Moldova	-0.4	4.5	4.5	3.8	3.7	3.5	0.0	0.1	0.2
Montenegro	3.4	2.9	4.4	2.8	2.5	2.1	0.0	0.0	0.0
Poland	3.8	2.9	4.6	4.2	3.7	3.5	0.2	0.2	0.4
Romania	3.9	4.8	7.0	5.1	4.5	4.1	0.6	0.4	0.6
Russia	-2.5	-0.2	1.5	1.5	1.8	1.8	-0.2	0.0	0.0
Serbia	0.8	2.8	1.9	3.0	3.5	4.0	0.0	0.0	0.0
Tajikistan	6.0	6.9	7.1	6.1	6.0	6.0	1.1	0.5	0.3
Turkey	6.1	3.2	7.4	4.5	4.0	4.0	1.0	0.0	0.0
Turkmenistan	6.5	6.2	6.5	6.3	6.3	6.3	0.0	0.0	0.0
Ukraine	-9.8	2.3	2.5	3.5	4.0	4.0	0.0	0.0	0.0
Uzbekistan	7.9	7.8	5.3	5.0	5.1	5.5	-0.6	-1.2	-1.0

Source: World Bank.

Notes: e = estimate; f = forecast. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not significantly differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars, unless indicated otherwise.

2. GDP growth rate at constant prices is based on production approach.

For additional information, please see www.worldbank.org/gep.

LATIN AMERICA and THE CARIBBEAN

Growth in Latin America and the Caribbean is projected accelerate moderately, from 0.8 percent in 2017 to 1.7 percent in 2018 and 2.3 percent in 2019, largely reflecting accelerating growth in commodity exporters. A cyclical recovery is underway in Brazil, and conditions are improving in Chile, Colombia, Mexico, and Peru. Downside risks to the growth outlook are significant, however. External risks include an abrupt tightening of financing conditions and an escalation of trade protectionism. Domestic risks, including policy uncertainty and disruptions from natural disasters, also stand to inhibit growth.

Recent developments

Growth in Latin America and the Caribbean has been accelerating, driven by generally favorable domestic and external financing conditions, strengthening growth in the United States, and higher prices of key commodities relative to a year ago. Except in Brazil and, to a lesser degree, Colombia, negative output gaps are nearly closed.[1]

Private consumption was the main contributor to regional growth of 0.8 percent in 2017, and is estimated to have strengthened further in early 2018 amid supportive confidence and the effect of previous interest rate cuts. Regional investment has been recovering after a deep, prolonged contraction, supported by a strong recovery in commodity prices last year (Figure 2.3.1).

Robust global demand has boosted exports and helped narrow current account deficits as a share of GDP in some countries (e.g., Brazil, Mexico). At the regional level, however, import growth is outpacing export growth, owing to the recovery of domestic demand in commodity exporters, and as a result net exports still contribute slightly negatively to regional growth.

Note: This section was prepared by Dana Vorisek. Brent Harrison provided research assistance.

[1] Output gaps are calculated, using a multivariate filter, for seven LAC economies: Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, and Peru.

In Brazil, Argentina, and Chile—three of the largest commodity-exporting economies—industrial production growth was considerably higher in the first quarter of 2018 than a year before, and retail sales growth was higher in Brazil and Chile, supporting activity. However, a drought is disrupting agricultural production in Argentina, and the recent market volatility may have inhibited activity in the second quarter. In República Bolivariana de Venezuela, an economic and humanitarian crisis continues, and an increasing number of Venezuelans are migrating to neighboring countries.

In Mexico, the largest commodity-importing economy in the region, high-frequency indicators have been mixed. Trade is becoming more supportive of growth, and the contraction in investment in 2017 is fading, but sluggish retail sales point to slightly moderating private consumption growth.

In the Caribbean, strong external demand is benefiting most services-exporting economies (e.g., the Dominican Republic, Jamaica, St. Lucia, Grenada). Despite the hurricanes in the autumn of 2017, tourist arrivals to the Caribbean reached an all-time high last year.

Inflation is decelerating in most LAC economies, with the key exceptions of Argentina and the extreme case of Venezuela. Median inflation in commodity exporters is well below its historical

FIGURE 2.3.1 LAC: Recent developments

Growth in LAC is accelerating, driven in large part by a cyclical recovery in Brazil and improving conditions in other large commodity-exporting economies. Investment is picking up after an extended period of contraction, while private consumption is strengthening amid supportive confidence and the effect of previous interest rate cuts, despite an uptick in unemployment. Net exports in the region are still contributing negatively to growth, in part due to rapid import growth as domestic demand rises.

A. GDP growth

B. Investment growth

C. Confidence

D. Unemployment rate

E. Inflation

F. Export and import volume growth
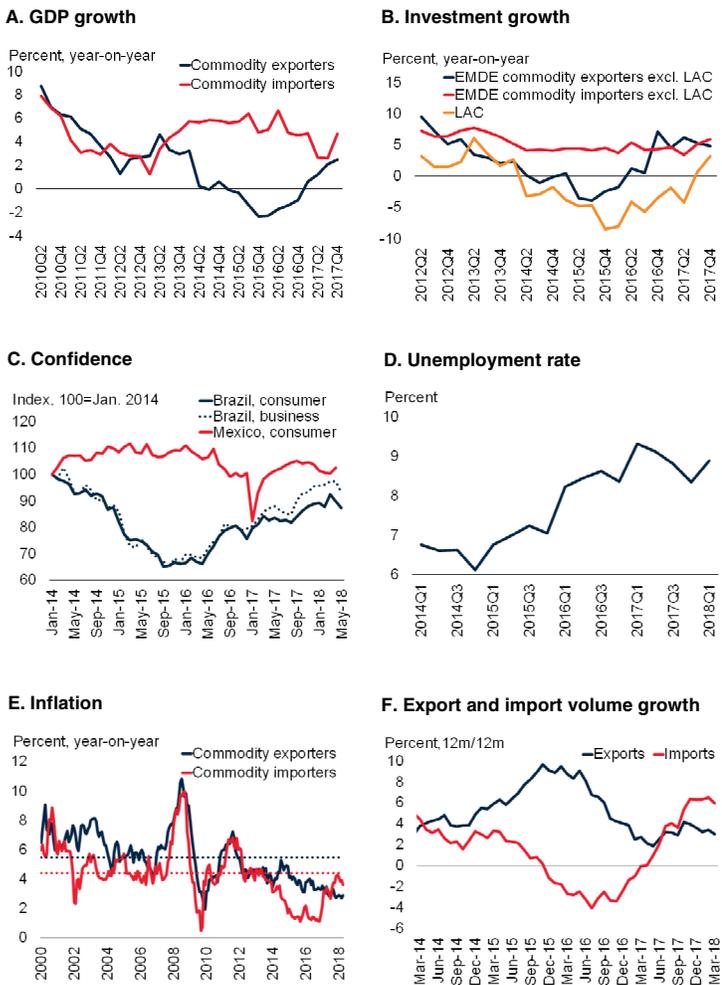
Sources: CPB Netherlands Bureau for Economic Policy Analysis, Haver Analytics, International Labor Organization, Oxford Economics, World Bank.

A. 2010 GDP-weighted averages. Sample includes 13 commodity exporters and three commodity importers. Last observation is 2017Q4.

B. Investment is gross fixed capital formation. Aggregate investment rates calculated using constant 2010 investment-weighted averages. Last observation is 2017Q4.

C. Last observation is May 2018 for Brazil and April 2018 for Mexico.

D. Regional average weighted by size of labor force in 2014. Sample includes Argentina, Belize, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Mexico, Peru, and Uruguay. Last observation is 2018Q1.

E. Lines show medians of 14 commodity exporters and eight commodity importers, and horizontal lines the averages from January 2000 to present. Last observation is April 2018.

F. Sample includes 13 economies. Last observation is March 2018.

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average. Policy interest rates in almost all commodity exporters have been cut during the first half of 2018. Brazil, Colombia, and Peru have cut rates repeatedly. Recent monetary policy statements, however, suggest that the easing cycle may be coming to an end. Among commodity importers, inflation has eased somewhat since early 2018 (e.g., in Mexico, El Salvador, Jamaica), after accelerating rapidly in 2017 on fuel and food price increases.

Although external financing conditions remain supportive, sovereign bond yields have risen modestly in the large economies in the region since the start of 2018, consistent with the trend across emerging markets. Yields have risen by a larger amount in Argentina, where the central bank hiked interest rates sharply in April and May in response to currency pressures.

Fiscal deficits in the region have narrowed slightly relative to levels seen during the commodity price plunge, yet are still high. There is significant need for fiscal consolidation, especially in light of high debt levels in many countries (Végh et al. 2018). Brazil's government debt, for instance, recently reached record levels, and critical pension reform legislation has been delayed until after the new administration takes office in early 2019. Government debt is also high in El Salvador, Uruguay, Venezuela, and most Caribbean countries. In Grenada and Jamaica, however, fiscal rules have provided the discipline needed to begin reducing debt.

Outlook

Regional growth is projected to accelerate during the forecast horizon, to 1.7 percent in 2018 and to 2.5 percent by 2020, still below the long-term (1990–2017) average of 2.7 percent. This outlook is lower than that produced in January, mostly due to large downward revisions to projections for Venezuela, but also to downgrades for Argentina (Tables 2.3.1 and 2.3.2). Regional growth through 2020 will come almost exclusively from private consumption and investment (Figure 2.3.2).

Accelerating private consumption growth in the region reflects the effect of previous interest rate cuts and supportive consumer confidence in some

large economies. Investment growth in LAC is expected to reach 3.7 percent in 2018, and to firm to 4.6 percent in 2020. The investment recovery will be supported by a broad-based cyclical recovery in Brazil, rising copper prices and fading disruptions in the mining industry (e.g., Chile, Peru), large infrastructure projects (e.g., Argentina, Colombia, Panama, Peru), and stable capital inflows.

In most large commodity exporters, including Brazil, Chile, Colombia, and Peru, growth is projected to accelerate in 2018 and 2019. In these economies, the recovery is expected to reflect upward momentum in private consumption, continued acceleration in investment growth, and, in all except Colombia, a modest contribution from net exports. In Argentina, on the other hand, growth is expected to slow in 2018 as monetary and fiscal tightening, together with the effects of the drought on the agricultural sector, counter strong momentum at the start of the year. In Ecuador, growth is expected to moderate during the forecast horizon in the context of gradual fiscal consolidation. For oil exporters across the region, the upward revision to oil prices will provide a boost to growth.

Growth in commodity importers, which are geographically concentrated in the Mexico and Central America and the Caribbean subregions, is also expected to strengthen in 2018, in part due to rising demand for exports as growth picks up in the United States. In Mexico, a reversion to positive investment growth is also projected to support growth through the forecast horizon, while private consumption growth is expected to stall at a lower rate than in recent years. The outlook for Central America is mixed, with growth in some agricultural exporters (e.g., Costa Rica, Guatemala) expected to accelerate moderately through 2020 and that in commodity importers (El Salvador, Panama) expected to stabilize or decelerate.

In the Caribbean, post-hurricane reconstruction, robust tourism, and supportive commodity prices are expected to lift growth in 2018. Some commodity-reliant economies (Suriname, Trinidad and Tobago) are expected to register their highest growth rates since before the 2014–

FIGURE 2.3.2 LAC: Outlook and risks

Growth in Latin America and the Caribbean is projected to continue to accelerate during the forecast horizon, driven almost exclusively by domestic demand—in particular, private consumption and investment. Although per capita GDP growth is projected to rise after a long period of contraction, it will only marginally exceed that in advanced economies by 2020, resulting in stalled convergence. Significant downside risks to the growth outlook remain, including an abrupt tightening of external financing conditions, increased trade protectionism, policy uncertainty, and the effects of natural disasters.

A. Regional growth

B. Capital inflows to LAC

C. Per capita GDP growth and potential growth

D. Economic policy uncertainty

E. Primary balance adjustment needed to stabilize government debt

F. Export losses in case of tariff hikes to WTO bound rates
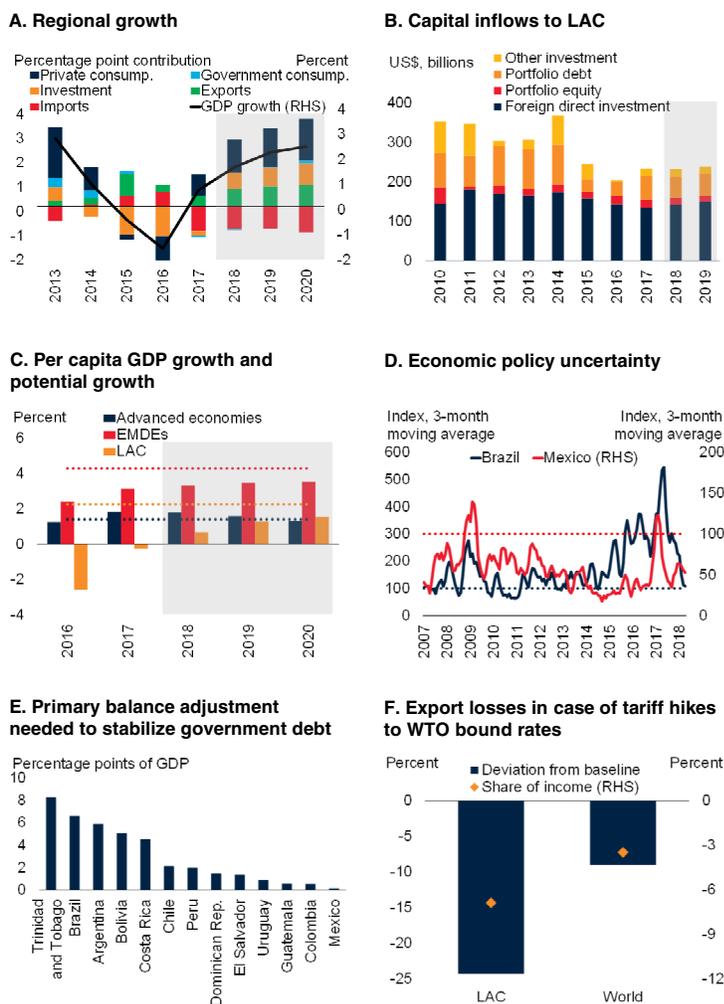
Sources: Baker, Bloom, and Davis (2016); Haver Analytics; Institute of International Finance; Kutlina-Dimitrova and Lakatos (2017); Végh et al. (2018); World Bank.
A. Bars show contribution of each of the components of GDP to regional growth.
A.C. GDP-weighted averages.
B. Sample includes Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela. Estimates as of May 2018.
C. Bars show annual per capita growth and lines average potential growth during 2016–20.
D. For Brazil, the index is normalized to equal 100 at its 1991–2011 median. For Mexico, the index is normalized to equal 100 at its 1996–2016 median. Horizontal lines show medians during these periods. Last observation is April 2018.
E. Calculated using methodology described in Végh et al. (2018). Venezuela, not shown in the figure, is estimated to need a primary balance adjustment of 26 percentage points of GDP to stabilize debt.
F. Based on simulations using the GDyn computable general equilibrium model. Results show cumulative decline by 2020, relative to a business-as-usual scenario, assuming that tariff hikes start in 2018. The scenario is defined as a worldwide increase in tariffs up to legally allowed bound rates coupled with an increase in the cost of traded services of 3 percent. World Trade Organization (WTO) bound tariffs are the maximum tariffs under WTO commitments.
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16 oil and metals price drop. Rapid development of an offshore oil industry is expected to boost Guyana's growth sharply in 2020.

Despite the cyclical recovery underway in the region, potential growth is expected to moderate in the medium term, averaging 2.3 percent in 2018–22, compared to an estimated 2.7 percent in 2013–17 (World Bank 2018c). This projection reflects slower labor force growth and capital accumulation, as well as continued weakness in total factor productivity, and raises doubts about the region's ability to deliver sustained progress on per capita income convergence with advanced economies. Per capita GDP growth in the region is projected to exceed that in advanced economies only in 2020, following a long stretch of contraction, but remain well below the EMDE average. This outlook reinforces the need for reforms to counter less favorable demographics, boost investment growth after the extended period of weakness, and raise persistently low productivity (World Bank 2018c).

Risks

Risks to the regional growth outlook continue to be predominantly downside, through external and domestic channels. However, the possibility of favorable spillovers as the United States implements fiscal stimulus cannot be ruled out.

Externally, an abrupt tightening of financing conditions or changes in investor sentiment regarding EMDEs as advanced economies unwind monetary policy accommodation, such as that experienced by Argentina recently, could set back capital inflows and growth in the region. This is a particular risk for countries with large current account deficits (e.g., Argentina, Bolivia, Nicaragua, Panama) or significant fiscal adjustment needs (e.g., Argentina, Brazil), and for those where credit quality has deteriorated. A marked tightening of the external financing environment or a softening of global commodity prices could also contribute to a growth slowdown, which may not be sufficiently addressed with countercyclical fiscal policy given the lack of fiscal space (Végh et al. 2018).

Downside risks also emanate from international trade channels. Adverse outcomes of the NAFTA renegotiations could hold back growth in Mexico. Additional trade-restricting actions by China and the United States could have negative effects on the region through trade, confidence, financial, and commodity market channels, and may encourage policy support for increased protectionism (Huidrom, Kose, and Ohnsorge 2017; Kose et al. 2017). Protectionism in the form of increases in actual tariffs to bound tariffs would reduce exports from LAC significantly (Kutlina-Dimitrova and Lakatos 2017). However, for some specific agricultural products, such as soybeans, and maize, tariff increases by China on U.S. exports could raise demand for LAC exports. Furthermore, the region has recently become more active in pursuing new trade agreements, most prominently between Mercosur and the European Union.

On the domestic front, a key downside risk is an escalation of policy uncertainty. The medium-term policy environment in the two largest economies in the region, Brazil and Mexico, could shift following presidential and legislative elections in the second half of the year. Significant delays in key reforms could lead to sudden changes in investor sentiment and derail a still-fragile investment recovery.

Recent years have also demonstrated the vulnerability of the region to floods, droughts, hurricanes, earthquakes, and wildfires, which threaten to become more common in the medium to long term as climate conditions change (Bello 2017).

An upside risk to the regional outlook is the possibility of stronger-than-expected favorable spillovers from the United States as it implements fiscal stimulus. This would tend to benefit Mexico and Central America the most. However, any boost would likely be short-lived given that U.S. fiscal stimulus is slated to fade later in the forecast horizon, and that the stimulus will occur in the context of expected monetary policy tightening.

TABLE 2.3.1 Latin America and Caribbean forecast summary

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences
from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
EMDE LAC, GDP[1]	**-0.4**	**-1.5**	**0.8**	**1.7**	**2.3**	**2.5**	**-0.3**	**-0.3**	**-0.2**
(Average including countries with full national accounts and balance of payments data only)[2]									
EMDE LAC, GDP[2]	-0.4	-1.5	0.8	1.7	2.3	2.5	-0.3	-0.3	-0.2
GDP per capita (U.S. dollars)	-1.5	-2.6	-0.3	0.7	1.3	1.5	-0.3	-0.3	-0.2
PPP GDP	0.2	-0.9	1.1	1.9	2.4	2.6	-0.3	-0.3	-0.2
Private consumption	-0.3	-1.7	1.4	2.1	2.5	2.7	0.0	-0.2	-0.2
Public consumption	0.9	0.0	-0.4	-0.2	0.2	0.7	-0.2	-0.7	0.0
Fixed investment	-5.5	-6.0	-0.9	3.7	4.0	4.6	1.1	0.4	0.9
Exports, GNFS[3]	4.3	1.3	2.0	3.2	3.7	3.9	-0.7	-0.3	0.1
Imports, GNFS[3]	-2.0	-2.9	4.8	4.3	4.1	4.6	0.8	-0.1	0.6
Net exports, contribution to growth	1.3	0.9	-0.6	-0.2	-0.1	-0.2	-0.3	-0.1	-0.2
Memo items: GDP									
South America[4]	-1.8	-3.2	0.2	1.3	2.1	2.3	-0.6	-0.4	-0.4
Mexico and Central America[5]	3.4	3.1	2.2	2.5	2.7	2.8	0.1	-0.1	0.1
Caribbean[6]	3.7	2.6	2.4	3.5	3.5	3.8	0.0	0.0	0.4
Brazil	-3.5	-3.5	1.0	2.4	2.5	2.4	0.4	0.2	-0.1
Mexico	3.3	2.9	2.0	2.3	2.5	2.7	0.2	-0.1	0.1
Argentina	2.7	-1.8	2.9	1.7	1.8	2.8	-1.3	-1.2	-0.4

Source: World Bank.

Notes: e = estimate; f = forecast. EMDE = emerging market and developing economy. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars. Excludes Cuba.

2. Aggregate includes all countries in notes 4, 5, and 6 except Grenada, St. Kitts and Nevis, and Suriname, for which data limitations prevent the forecasting of GDP components.

3. Exports and imports of goods and non-factor services (GNFS).

4. Includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela.

5. Includes Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama.

6. Includes Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

For additional information, please see www.worldbank.org/gep.

TABLE 2.3.2 Latin America Caribbean country forecasts[1]

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences
from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
Argentina	2.7	-1.8	2.9	1.7	1.8	2.8	-1.3	-1.2	-0.4
Belize	3.8	-0.5	1.2	2.0	1.9	1.7	-0.2	0.2	0.0
Bolivia	4.9	4.3	4.2	3.9	3.6	3.4	0.1	0.2	0.1
Brazil	-3.5	-3.5	1.0	2.4	2.5	2.4	0.4	0.2	-0.1
Chile	2.3	1.3	1.5	3.3	3.4	3.5	0.9	0.7	0.7
Colombia	3.0	2.0	1.8	2.7	3.3	3.6	-0.2	-0.1	0.2
Costa Rica	3.6	4.2	3.2	3.4	3.6	3.6	-0.2	0.1	0.1
Dominican Republic	7.0	6.6	4.6	5.0	4.7	4.6	0.1	0.0	-0.1
Ecuador	0.1	-1.6	3.0	2.2	1.5	0.9	1.4	0.6	-0.1
El Salvador[2]	2.4	2.6	2.3	2.3	2.2	2.2	0.5	0.4	0.3
Grenada	6.4	3.7	4.5	3.3	2.8	2.8	1.1	0.7	0.7
Guatemala	4.1	3.1	2.8	3.1	3.3	3.3	-0.3	-0.2	-0.2
Guyana	3.1	3.4	2.1	3.8	3.8	29.0	0.0	0.1	25.3
Haiti[3]	1.2	1.5	1.2	1.8	2.4	2.4	-0.4	-0.1	-0.1
Honduras	3.8	3.8	4.8	3.5	3.6	3.8	-0.1	0.1	0.3
Jamaica	0.9	1.4	0.5	1.7	1.9	2.0	-0.1	-0.1	0.0
Mexico	3.3	2.9	2.0	2.3	2.5	2.7	0.2	-0.1	0.1
Nicaragua	4.8	4.7	4.9	4.7	4.5	4.4	0.3	0.1	0.0
Panama	5.6	5.0	5.4	5.6	5.6	5.6	0.0	0.0	-0.1
Paraguay	3.0	4.0	4.3	4.3	4.2	4.2	0.3	0.2	0.2
Peru	3.3	4.0	2.5	3.5	3.8	3.8	-0.3	0.0	-0.2
St. Lucia	2.0	0.9	2.1	2.8	2.3	2.3	0.6	0.5	0.5
St. Vincent and the Grenadines	1.4	1.9	1.0	2.1	2.5	2.7	-0.6	-0.3	-0.1
Suriname	-2.6	-5.1	0.1	1.1	1.7	2.1	-1.1	0.5	0.9
Trinidad and Tobago	1.5	-6.0	-2.3	1.6	1.9	1.2	-0.3	-0.3	-0.4
Uruguay	0.4	1.7	2.7	3.3	3.1	2.9	0.5	-0.1	-0.3
Venezuela	-6.0	-16.5	-14.5	-14.3	-7.0	-4.0	-10.1	-7.6	-4.9

Source: World Bank.

Notes: e = estimate; f = forecast. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not significantly differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars.

2. A recent rebasing of El Salvador's GDP, from 1990 to 2014, has resulted in significant changes to historical growth rates compared to January 2018.

3. GDP is based on fiscal year, which runs from October to September of next year.

For additional information, please see www.worldbank.org/gep.

MIDDLE EAST and NORTH AFRICA

Growth in the Middle East and North Africa (MENA) region is projected to pick up to 3 percent in 2018 from 1.6 percent in 2017 as oil exporters ease fiscal adjustments amid firming oil prices. The region is also expected to benefit from a favorable global environment, post-conflict reconstruction efforts, and from oil importers' reforms to boost domestic demand and increase foreign investment. The outlook for growth in MENA is expected to improve slightly in both 2019 and 2020. Positive surprises in trading partner activity or reconstruction efforts could further raise growth prospects. Geopolitical tensions or possible renewed volatility in oil prices could cloud the outlook.

Recent developments

Growth in the Middle East and North Africa (MENA) region improved in early 2018. Oil exporters were recovering following a year of declining oil production and fiscal tightening (Figure 2.4.1).[1] Oil importers' growth was robust in 2017, and high-frequency data indicate that this momentum is continuing into 2018. Many countries in the MENA region are pursuing broad-based reforms that should eventually improve productivity, but growth continues to be challenged by geopolitical tensions and fiscal adjustment.

Low oil production led to slow growth for oil exporters in 2017, as members and non-members of the Organization of the Petroleum Exporting Countries (OPEC) adhered to agreement on production limits intended to support global oil prices. Generally subdued oil revenues since 2014

have been associated with tightening fiscal policies and diversification of revenues, such as the introduction of value-added taxes (VAT) in Saudi Arabia and the United Arab Emirates in 2018. Non-oil sectors showed modest growth, including in services and manufacturing. In 2018, a number of oil exporters have eased fiscal adjustment plans, in response to somewhat more buoyant oil prices and improved terms of trade, including by expanding capital expenditure plans in Algeria and Saudi Arabia.

Growth in large oil importers has been supported by broad-based improvements in domestic and external demand, reflecting progress in policy reforms, higher business confidence, and an improved global economy. In the Arab Republic of Egypt, the region's largest oil importer, investment and net exports have improved, supported by the stability of the exchange rate and stronger domestic demand. Morocco and Tunisia have also further benefited from more favorable agricultural production. International reserves have grown in Egypt and Morocco, aided by capital inflows, although they have declined in Tunisia due to a rising current account deficit and central bank interventions in the foreign exchange market. Other smaller oil importers still face sluggish growth that hinders progress on their labor market challenges.

Note: This section is prepared by Lei Sandy Ye. Research assistance is provided by Julia Roseman.

[1] The World Bank's Middle East and North Africa aggregate includes 16 economies. Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates comprise the Gulf Cooperation Council (GCC); all are oil exporters. Other oil exporters in the region are Algeria, Iran, and Iraq. Oil importers in the region are Djibouti, Egypt, Jordan, Lebanon, Morocco, Tunisia, and West Bank and Gaza. The Syrian Arab Republic, Yemen, and Libya are excluded from regional growth aggregates due to data limitations.

FIGURE 2.4.1 MENA: Recent developments

The MENA region is improving from a year of weak growth in 2017, associated with oil production reductions as well as fiscal adjustments in response to subdued oil prices. As oil prices have firmed, terms of trade have improved in large GCC oil exporters in the past year. Among the oil importers, industrial production has markedly improved, boosted by enhanced competitiveness and external conditions. Inflation in the region has been generally contained.

A. Growth
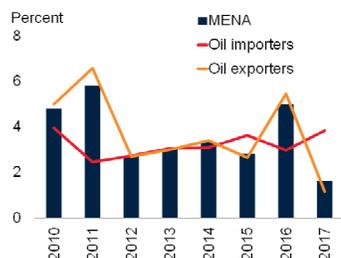
B. Fiscal break-even prices: Oil exporters
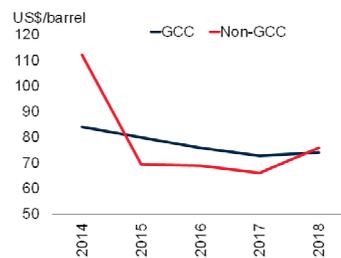
C. Real effective exchange rate: GCC
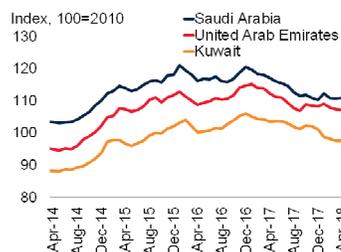
D. Industrial production growth: Oil importers
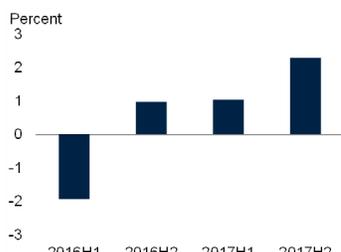
E. International reserves: Oil importers

F. Inflation
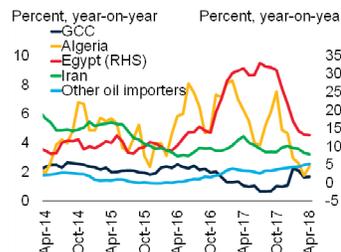
Sources: Bank for International Settlements, International Monetary Fund, Haver Analytics, World Bank.
A. Aggregate growth rates calculated using constant 2010 US dollar GDP weights.
B. Non-GCC includes Algeria, Iraq, and Iran. GCC includes Bahrain, Kuwait, Qatar, Oman, Saudi Arabia, and the United Arab Emirates. Unweighted averages.
C. CPI-based broad indices for Saudi Arabia and the United Arab Emirates. PPI-based index for Kuwait. Last observation is April 2018.
D. Industrial production indexes of Egypt, Jordan, Tunisia, and West Bank and Gaza. Unweighted averages. Figure shows average of year-on-year 3-month moving average growth rates.
E. International reserves. Last observation is April 2018.
F. Unweighted averages. Last observation is April 2018.
Click here to download data and charts.

Inflation is well-contained across most of the MENA region. It is averaging less than 3 percent in the Gulf Cooperation Council (GCC) in 2018, despite edging upwards recently due to VAT introduction in its two largest economies. In Egypt, inflation has subsided substantially in 2018, falling to 13 percent in April from a peak of more than 30 percent in July 2017, allowing the central bank to implement two interest rate cuts this year to support activity (Central Bank of Egypt 2018). In Tunisia, inflation has risen markedly as the dinar has depreciated, leading the central bank to hike rates in March, although rates remain negative in real terms. In the Islamic Republic of Iran, inflation edged downwards to about 8 percent in April from 10 percent at the end of last year, as declining food prices have offset upward pressure from currency depreciation.

Financing conditions in the MENA region are stable, while the financial sector is deepening throughout the region. Partly to finance fiscal deficits, international sovereign bond issuance rose further in 2018, both in the GCC and among major oil importers. The inclusion of Saudi Arabia in the FTSE Emerging Markets Index (effective next year) is expected to attract foreign equity investors. Deeper and more liquid financial sectors have also supported FDI inflows, even in the face of elevated geopolitical uncertainty.

Outlook

GDP growth in the region is projected to strengthen to 3.0 percent in 2018, and rise slightly higher in 2019-2020, with oil exporters continuing their recovery from the collapse of oil prices, and oil importers experiencing a smaller acceleration. The outlook assumes continued policy reforms and oil prices remaining above their 2017 average.

In 2018, growth in oil exporters is expected to rise substantially to 2.7 percent due to additional government spending, enabled by increased domestic revenues and firm oil prices. In the GCC, 2018 growth will be further supported by

higher fixed investment, bolstered by public investment programs and improved demand. Growth will remain stable during 2019-20, propelled by steady growth in private consumption, infrastructure investment programs like those related to the Dubai Expo 2020 or Qatar's World Cup 2022, and the expiration of OPEC+ agreement. Growth in non-GCC exporters is expected to be supported by higher capital expenditures. Fiscal balances in oil exporters are expected to improve as oil prices are forecast to stay firm and revenue-enhancing measures, such as VAT and energy subsidy reforms, are implemented. These measures are expected to improve the non-oil share of government revenue in oil exporters. Higher oil prices are also expected to support remittance inflows (World Bank 2018j).

Growth in oil importers is expected to rise to 4.0 percent in 2018, as business and consumer confidence are spurred by business climate reforms and improving external demand. Policies to relax foreign investment restrictions have supported higher capital flows, and are expected to boost foreign investment and trade flows, in part through relaxing financial constraints in firms (Kiendrebeogo and Minea 2017; Wood and Yang 2016). Tourism growth is also expected to improve upon stable security conditions. However, fiscal consolidation is expected to be an important headwind for activity among oil importers. In smaller oil importers (e.g., Jordan, Lebanon), external and fiscal imbalances remain a constraint to higher growth in the short-term.

Reform programs, such as World Bank-supported initiatives to improve urban investment capacity or electricity performance, are expected to improve growth potential (World Bank 2017e, 2018k). Similarly, public-private partnerships and bilateral agreements within the region are expected to support private sector participation in infrastructure investment, which benefits economic activity (Figure 2.4.2, Arezki et al. 2018; Calderon and Serven 2004). Additional plans in energy subsidy reforms or tax revenue enhancement across oil importers will support further fiscal adjustment.

FIGURE 2.4.2 MENA: Outlook and risks

The short-term outlook in MENA is positive. Public-private partnerships are expected to support private sector participation in infrastructure investment. However, geopolitical tensions may deter the recovery of tourism in oil importers. Upside risks are associated with the possibility of higher-than-expected activity in key trading partners.

A. Public-private partnership investment: MENA

B. Tourism: Oil importers

C. Exports exposure to the Euro Area

D. Euro Area activity expectations: 2018
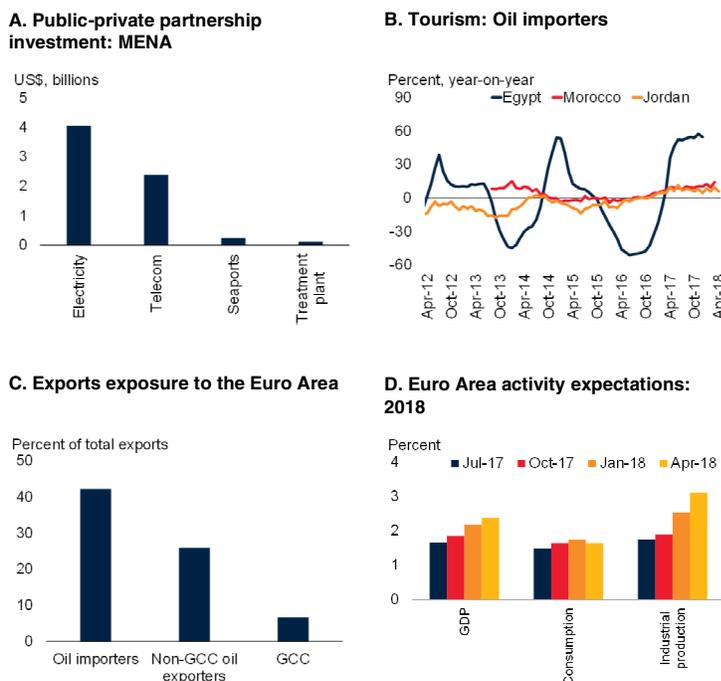
Sources: Consensus Economics, Haver Analytics, International Monetary Fund, World Bank.
A. Denotes public-private partnership physical investment in infrastructure projects. Sum of investments from 2015-16 based on available data.
B. Figure shows 6-month moving averages of growth of tourism arrivals for Egypt, Jordan, and Morocco. Last observation is April 2018.
C. Denotes share of exports to the Euro Area as a ratio to total exports in each country group. Data are for goods exports value as of 2017.
D. Dates in legend denote month and year in which Consensus forecast is generated. Columns denote growth rates in respective indicators.
Click here to download data and charts.

Risks

Risks to the outlook are diverse, but tilt to the downside. Key downside risks include renewed volatility in oil prices, an intensification of geopolitical tensions, and a slower-than-expected pace of reforms. Nonetheless, favorable spillovers from stronger than expected activity in key trading partners and recovery in war-torn areas cannot be ruled out.

On the downside, the recent rise in oil prices may not be sustained in the short term, potentially due to higher-than-expected U.S. shale production

(Chapter 1). This would reduce fiscal space in oil exporters and complicate fiscal management reform across many economies. Tighter fiscal policy in oil exporters may lead to spillovers to oil importers via external linkages (e.g., FDI and remittances). Volatility in oil prices may also affect oil importers through their current account exposure to higher oil prices.

The amplification of security concerns or escalation of geopolitical tensions may cloud oil importers' tourism prospects, which have strengthened considerably in the past year. Intra- and interregional tensions in the region may also affect investor confidence and access to finance, such as through higher sovereign spreads.

Continued progress in reforms could face challenges to implementation. Among oil importers, potential social discontent about higher energy prices may lead to delayed implementation of fiscal adjustments. This issue may be further compounded by the high debt levels (in some cases exceeding 100 percent of GDP) among several economies in the region. The loss of momentum in these reforms could negatively impact longer-term growth in the region.

On the upside, positive growth surprises in key advanced and emerging economy trading partners would provide an important support to growth in MENA. Oil-importing economies in the Maghreb region are dependent on the Euro Area for trade, remittances, or financial flows. Stronger-than-expected external demand could mitigate headwinds to growth associated with domestic policy uncertainty in smaller oil importers, or from potential spillovers associated with reduced FDI and remittance flows from GCC economies to oil importers.

Stronger-than-expected impacts from reconstruction programs and rising infrastructure investment in war-torn countries, such as Iraq, could lead to a sustained economic recovery. Associated spillover effects could unlock the potential for higher growth among other countries in the region. This would also allow the restoration of access to health, water, or food (Devarajan and Mottaghi 2017a; World Bank 2018l) to these economies, and improve the conditions of neighboring host economies (e.g., Djibouti, Jordan, Lebanon) by providing more resources for public services for both host residents and refugees (Devarajan and Mottaghi 2017b).

TABLE 2.4.1 Middle East and North Africa forecast summary

(Real GDP growth at market prices in percent, unless indicated otherwise)

<div align="right">Percentage point differences
from January 2018 projections</div>

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
EMDE MENA, GDP[1]	**2.8**	**5.0**	**1.6**	**3.0**	**3.3**	**3.2**	**0.0**	**0.1**	**0.0**
(Average including economies with full national accounts and balance of payments data only)[2]									
EMDE MENA, GDP[2]	2.6	4.8	1.8	3.0	3.3	3.3	0.1	0.0	0.0
GDP per capita (U.S. dollars)	0.7	2.9	0.1	1.4	1.8	1.9	0.1	0.0	0.0
PPP GDP	2.6	5.1	2.1	3.2	3.4	3.5	0.1	-0.1	0.0
Private consumption	-0.4	1.5	3.2	3.4	3.5	3.5	0.4	0.2	0.2
Public consumption	1.4	-5.1	1.0	1.3	1.4	1.6	-0.3	-0.5	-0.2
Fixed investment	1.6	-2.1	0.8	5.1	3.6	4.8	0.0	-2.5	-1.2
Exports, GNFS[3]	2.5	10.0	3.4	3.7	4.1	4.0	0.0	0.5	0.3
Imports, GNFS[3]	-2.1	-1.2	4.1	3.7	3.1	3.4	0.4	-0.2	0.1
Net exports, contribution to growth	2.0	5.1	0.2	0.5	0.9	0.8	-0.1	0.4	0.2
Memo items: GDP									
Oil exporters[4]	2.7	5.5	1.2	2.7	3.1	2.9	-0.1	0.1	0.0
GCC countries[5]	3.6	2.5	0.2	2.1	2.7	2.7	0.1	0.0	0.0
Saudi Arabia	4.1	1.7	-0.7	1.8	2.1	2.3	0.6	0.0	0.1
Iran	-1.3	13.4	4.3	4.1	4.1	4.2	0.1	-0.2	-0.1
Oil importers[6]	3.6	3.0	3.8	4.0	4.4	4.6	0.1	0.1	0.1
Egypt	4.3	4.2	4.6	5.3	5.7	5.8	0.4	0.1	0.0
Fiscal year basis[7]	4.4	4.3	4.2	5.0	5.5	5.8	0.5	0.2	0.0

Source: World Bank.

Notes: e = estimate; f = forecast. EMDE = emerging market and developing economy. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars. Excludes Libya, Syria, and Yemen due to data limitations.

2. Aggregate includes all countries in notes 4 and 6 except Djibouti, Iraq, Qatar, and West Bank and Gaza, for which data limitations prevent the forecasting of GDP components.

3. Exports and imports of goods and non-factor services (GNFS).

4. Oil exporters include Algeria, Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

5. The Gulf Cooperation Council (GCC) includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

6. Oil importers include Djibouti, Egypt, Jordan, Lebanon, Morocco, Tunisia, and West Bank and Gaza.

7. The fiscal year runs from July 1 to June 30 in Egypt; the column labeled 2017 reflects the fiscal year ended June 30, 2017.

For additional information, please see www.worldbank.org/gep.

TABLE 2.4.2 Middle East and North Africa economy forecasts[1]

(Real GDP growth at market prices in percent, unless indicated otherwise)

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
							|Percentage point differences from January 2018 projections|		
Algeria	3.7	3.3	1.6	3.5	2.0	1.3	-0.1	-0.5	-0.3
Bahrain	2.9	3.2	3.9	1.7	2.1	2.1	-0.3	0.5	0.4
Djibouti	6.5	6.5	7.0	6.5	6.4	6.3	-0.5	-0.6	-0.7
Egypt	4.3	4.2	4.6	5.3	5.7	5.8	0.4	0.1	0.0
Fiscal year basis[2]	4.4	4.3	4.2	5.0	5.5	5.8	0.5	0.2	0.0
Iran	-1.3	13.4	4.3	4.1	4.1	4.2	0.1	-0.2	-0.1
Iraq	4.8	11.0	-0.8	2.5	4.1	1.9	-2.2	2.4	0.0
Jordan	2.4	2.0	2.1	2.2	2.4	2.4	0.0	0.0	-0.1
Kuwait	0.6	3.5	-2.9	1.9	3.5	3.0	0.0	0.0	-0.5
Lebanon	0.8	2.0	2.0	2.0	2.0	2.0	-0.2	0.0	0.0
Morocco	4.5	1.2	4.0	3.0	3.5	3.7	-0.1	0.3	0.5
Oman	4.7	5.4	0.7	2.3	2.5	2.9	0.0	0.0	0.4
Qatar	3.6	2.2	1.6	2.8	3.2	2.8	0.2	0.2	-0.2
Saudi Arabia	4.1	1.7	-0.7	1.8	2.1	2.3	0.6	0.0	0.1
Tunisia	1.0	1.2	1.9	2.4	2.9	3.4	-0.3	-0.4	-0.6
United Arab Emirates	3.8	3.0	2.0	2.5	3.2	3.3	-0.6	-0.1	0.0
West Bank and Gaza	3.4	4.7	3.1	2.5	2.3	2.3	-0.5	-0.6	-0.6

Source: World Bank.

Notes: e = estimate; f = forecast. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of economies' prospects do not significantly differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars. Excludes Libya, Syria, and Yemen due to data limitations.

2. The fiscal year runs from July 1 to June 30 in Egypt; e.g., the column labeled 2017 reflects the fiscal year ended June 30, 2017.

SOUTH ASIA

Growth in South Asia is projected to accelerate to 6.9 percent in 2018 from 6.6 in 2017, mainly reflecting fading disruptions to economic activity in India. Growth in the rest of the region is expected to stabilize at 5.6 percent in 2018. Over the forecast horizon, growth is projected to reach 7.1 percent on average in 2019-20, reflecting broad-based strengthening across the region. Despite the possibility of upside surprises to global activity, risks to the outlook are still tilted to the downside. Downside risks relate to both domestic factors, especially policy slippages amid sizable fiscal adjustment needs, and external factors, including the possibility of a faster-than-expected tightening of global financial conditions and increased global trade tensions.

Recent developments

Growth in South Asia slowed but remained strong at an estimated 6.6 percent in 2017 (Figure 2.5.1). Growth in the region has improved markedly since mid-2017 and continued to firm in early 2018, reflecting improved consumer and investor sentiment, higher investment, and firming exports (e.g., Bangladesh, India, Sri Lanka). Growth in South Asia continues to rely on domestic demand, with firming but modest support from export growth (e.g., Bangladesh, India). Import growth is accelerating amid strengthening domestic demand, while higher energy prices are also contributing to a further deterioration of trade and current account balances (e.g., India, Nepal, Pakistan).

Domestic and external financial market conditions have been generally supportive, but sovereign bond spreads have increased in 2018 amid rising inflation expectations and monetary policy normalization in advanced economies. Monetary policy in the region has remained broadly accommodative and supported fast credit growth (e.g., Bangladesh, Pakistan); however, the

State Bank of Pakistan recently hiked its policy rate to reduce growing external pressures. Inflation has been increasing in the region recently, and is close to or above targets in some countries (e.g., India, Sri Lanka). In many countries, budget deficits continue to be sizable or have widened further in 2018 reflecting both weaker-than-expected revenues and expansionary policies (e.g., Bangladesh, Nepal) with fiscal policies being generally pro-cyclical in the region.

India's GDP growth bottomed out in the middle of 2017 after slowing for five consecutive quarters, and has since improved significantly, with momentum carrying over into 2018 on the back of a recovery in investment. Although investment growth was still moderately lower in 2017 than in 2016, high-frequency indicators suggest that it accelerated into 2018. The temporary disruptions caused by the implementation of the Goods and Services Tax dissipated by mid-2017, and manufacturing output and industrial production have continued to firm since then (World Bank 2018m).[1]

Growth in the region excluding India has been mixed in the first half of 2018. In Bangladesh,

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[1] World Bank (2018m) presents a comprehensive section on the structure of Goods and Services Tax.

FIGURE 2.5.1 SAR: Recent developments

Growth in South Asia moderated in 2017 to an estimated 6.6 percent. Economic activity in 2018 continues to rely mainly on domestic demand, with improved but modest support from export volume growth, despite a strong rebound in global trade. Current account balances have deteriorated due to higher imports and rising oil prices. Strong domestic demand has supported credit growth, and inflation is above or close to central bank targets. China's investment has been rising in the region, especially through the China-Pakistan Economic Corridor.

A. GDP growth
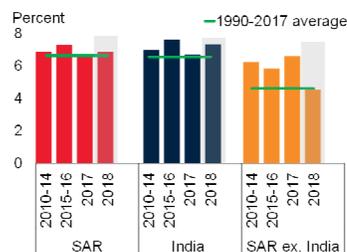
B. Exports
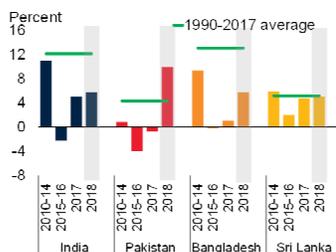
C. Current account balances
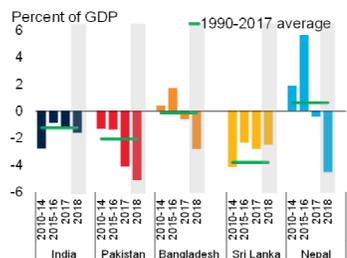
D. Credit growth
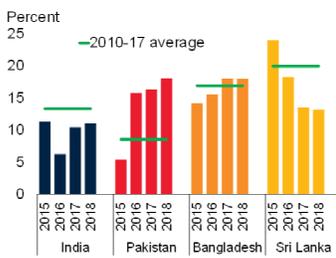
E. Inflation
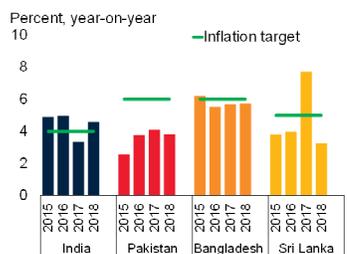
F. FDI, Pakistan
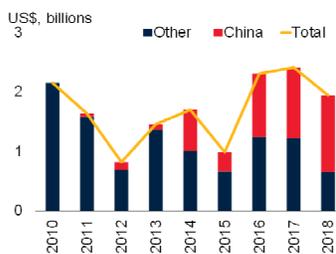
Sources: Haver Analytics, International Monetary Fund, Pakistan Board of Investment, World Bank.
A. SAR stands for South Asia Region. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights. Shaded area indicates forecasts. Data for 2018 are forecasts.
B. Data refers to trade volume of goods and non-factor services. Shaded area indicates forecasts. Data for 2018 are forecasts. Data for Bangladesh, India, and Pakistan are based on fiscal year. Data for Sri Lanka are based on calendar year.
C. Shaded area indicates forecasts. Data for Bangladesh, India, and Pakistan are based on fiscal year. Data for Sri Lanka are based on calendar year.
D. Last observation is March 2018.
E. Last observation is April 2018.
F. 2018 (FY2017/18) figures are from July through February.
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growth has rebounded following the natural disasters of mid-2017 (e.g., severe floods and landslides), and activity has remained strong and broad-based in 2018. In Sri Lanka, activity in

2018 has been supported by a recovery in investment, especially in the construction and agriculture sectors, and related activities, following a slowdown in 2017 driven in part by adverse weather conditions.

Pakistan's GDP growth rose in FY2017/18, supported by infrastructure projects funded by the China-Pakistan Economic Corridor (CPEC), improvements in energy supply, and persistent private consumption growth. In Bhutan, growth has been moderating, partly owing to delays in hydropower projects. However, growth is still strong, at 5.8 percent in FY2017/18. In Afghanistan, the recovery continues to be disrupted by security challenges and political uncertainty.

Outlook

Growth in South Asia is forecast to pick up to 6.9 percent in 2018, mainly reflecting the fading effects of temporary factors that weakened activity in India (Figure 2.5.2). The forecast is broadly unchanged from January 2018. Domestic demand is the key driver of growth in the region, although firming exports should provide additional support in 2018 (World Bank 2018n). The baseline scenario assumes a moderating recovery in global trade, higher commodity prices, and gradually tightening global financing conditions.

Growth in India is projected to accelerate to 7.3 percent in FY2018/19 and 7.5 percent on average in 2019-20, reflecting robust private consumption and firming investment, broadly in line with January projections. In the rest of the region, growth will remain stable at about 5.6 percent in 2018 and throughout the forecast horizon as ongoing recoveries in Bangladesh, Pakistan, and Sri Lanka are offset by slower growth in Afghanistan, Bhutan, and Maldives. In Pakistan, GDP growth is estimated to rise to 5.8 percent in FY2017/18, before moderating to 5.0 percent in FY2018/19, reflecting tighter policies to improve macroeconomic stability. In Bangladesh, growth is expected to recover from the effects of natural disasters in FY2017/18 and reach 6.7 percent in FY2018/19, supported in part by robust export growth and remittances. Sri Lanka's GDP is

projected to grow 4.6 percent on average over the period 2018-20, reflecting a recovery from the effects of last year's natural disasters on agriculture, as well as robust consumption and investment growth. After the strong rebound in FY2016/17 from the effects of the devastating earthquakes in FY2015/16, Nepal's GDP growth is forecast to moderate to 4.6 percent in FY 2017/18 and average 4.3 percent in 2019-20. In Bhutan and Maldives, growth will continue to benefit from construction and services, especially tourism, and average 7.4 and 5 percent respectively over the forecast horizon. In Afghanistan, growth will remain subdued due to continued security challenges and political uncertainty.

Per capita growth rates in the region are strong, and are expected to help bring down poverty in coming years, particularly in India. Nonetheless, addressing underlying structural weaknesses and macroeconomic vulnerabilities remain key challenges in the region (Farole and Pathikonda 2016; World Bank 2018c).

Risks

Risks to South Asia outlook are tilted to the downside, although upside surprises to global growth remain a possibility in the short-term. These include domestic policy slippages, renewed security challenges, and natural disasters. The outlook could also be adversely affected by external shocks such as an abrupt tightening of global financial conditions and escalating trade protectionism, even though the region is relatively less open to trade. Since South Asia is net oil importer, a higher-than-expected rise in oil prices might amplify macroeconomic vulnerabilities and weigh on economic activity.

In a number of countries, a further deterioration in fiscal balances (e.g., India, Maldives, Pakistan, Sri Lanka), a continued buildup of debt, and widening current account deficits (e.g., Pakistan), present significant vulnerabilities to a tightening of domestic or external financing conditions (Basu, Eichengreen, and Gupta 2015). Furthermore, a setback in the implementation of reforms to resolve weakening corporate and financial sector

FIGURE 2.5.2 SAR: Outlook and risks

Growth in the region is predicted to pick up to 6.9 percent in 2018, and stabilize at around 7.1 percent over the medium term. Domestic demand will continue to be the main driver of growth. Natural disasters and persistent droughts remain a downside risk for economic activity. The region continues to face significant fiscal vulnerabilities.

A. Growth

B. Share of countries where droughts starting after 2015 persisted

C. Fiscal balances

D. Debt
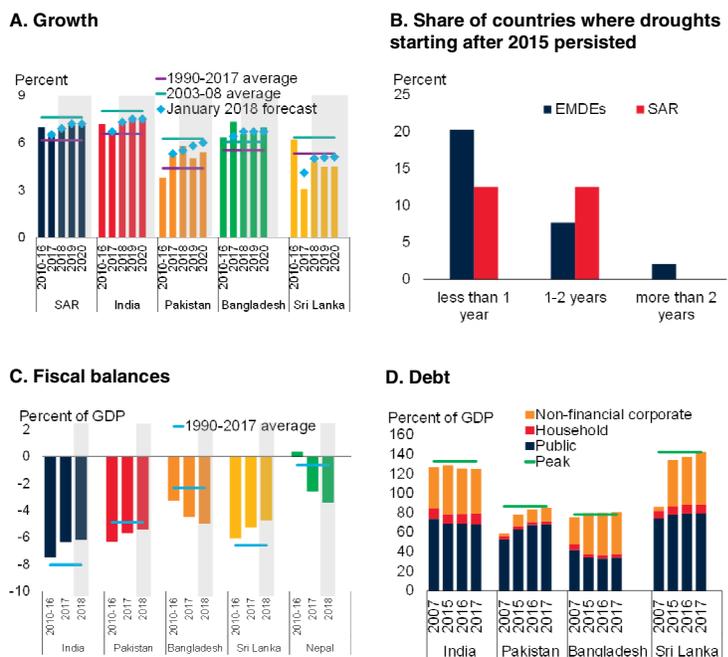
Sources: Bank for International Settlements, Emergency Events Database (www.emdat.be, Brussels, Belgium), Institute of International Finance, International Monetary Fund, World Bank.
A. SAR stands for South Asia Region.
A.C. Shaded areas represent forecast. Data for Bangladesh, India, and Pakistan are based on fiscal year. Data for Sri Lanka is based on calendar year.
D. The peak is defined as the highest debt-to-GDP ratio since 2005Q1. It is identified to have occurred in 2009Q3 in India, 2017Q2 in Pakistan, in 2017Q3 in Bangladesh, and 2017Q3 in Sri Lanka. 2017 data reflects 2017Q3. Total debt comprised of credit to non-financial corporations, households, and general government debt. All data are based on calendar year.
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balance sheets could hold back the investment recovery currently underway and dampen credit growth in the region.

An increase in political uncertainty (e.g., Afghanistan, Bangladesh, Pakistan, Sri Lanka) and further deterioration in the security environment in some countries (e.g., Afghanistan) might dampen confidence and set back growth. In recent years, the number of people and geographical areas affected by natural disasters such as drought, floods, and earthquakes have risen in the region. A rise in the prevalence of natural disasters, including those caused by climate change, could disrupt infrastructure, agricultural output, and economic activity in general (e.g., Bhutan, Nepal, Sri Lanka).

TABLE 2.5.1 South Asia forecast summary

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
EMDE South Asia, GDP[1, 2]	**7.1**	**7.5**	**6.6**	**6.9**	**7.1**	**7.2**	**0.0**	**-0.1**	**0.0**
(Average including countries with full national accounts and balance of payments data only)[3]									
EMDE South Asia, GDP[3]	7.1	7.5	6.7	6.9	7.2	7.2	0.0	0.0	0.0
GDP per capita (U.S. dollars)	5.8	6.2	5.4	5.6	5.9	6.0	-0.1	-0.1	0.0
PPP GDP	7.1	7.5	6.7	6.9	7.1	7.2	0.0	-0.1	0.0
Private consumption	5.5	8.4	7.6	6.6	6.9	7.0	-0.6	-0.2	-0.1
Public consumption	2.6	13.8	6.7	9.7	8.8	8.5	0.0	-0.4	-0.7
Fixed investment	5.5	4.7	10.3	7.6	7.7	7.7	1.5	0.7	0.0
Exports, GNFS[4]	-5.0	0.9	4.5	5.7	6.1	6.1	0.2	-0.4	-0.6
Imports, GNFS[4]	-3.8	0.3	6.2	7.5	6.5	6.1	2.1	0.8	0.2
Net exports, contribution to growth	-0.1	0.1	-0.6	-0.7	-0.4	-0.3	-0.5	-0.3	-0.2

Memo items: GDP[2]	**15/16**	**16/17**	**17/18e**	**18/19f**	**19/20f**	**20/21f**	**18/19f**	**19/20f**	**20/21f**
South Asia excluding India	5.4	5.8	5.6	5.6	5.6	5.7	-0.2	-0.3	-0.3
India	8.2	7.1	6.7	7.3	7.5	7.5	0.0	0.0	0.0
Pakistan (factor cost)	4.6	5.4	5.8	5.0	5.4	5.4	-0.8	-0.6	-0.6
Bangladesh	7.1	7.3	6.5	6.7	7.0	7.0	0.0	0.3	0.3

Source: World Bank.

Notes: e = estimate; f = forecast. EMDE = emerging market and developing economy. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars.

2. National income and product account data refer to fiscal years (FY) for the South Asian countries, while aggregates are presented in calendar year terms. The fiscal year runs from July 1 through June 30 in Bangladesh, Bhutan, and Pakistan, from July 16 through July 15 in Nepal, and April 1 through March 31 in India.

3. Sub-region aggregate excludes Afghanistan, Bhutan, and Maldives, for which data limitations prevent the forecasting of GDP components.

4. Exports and imports of goods and non-factor services (GNFS).

For additional information, please see www.worldbank.org/gep.

TABLE 2.5.2 South Asia country forecasts

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
Calendar year basis [1]									
Afghanistan	1.3	2.4	2.6	2.2	2.5	3.3	-1.2	-0.6	0.2
Maldives	2.2	6.2	6.2	5.5	4.5	4.9	0.6	-0.5	-0.1
Sri Lanka	5.0	4.5	3.1	4.8	4.5	4.5	-0.2	-0.6	-0.6

Fiscal year basis[1]	**15/16**	**16/17**	**17/18e**	**18/19f**	**19/20f**	**20/21f**	**18/19f**	**19/20f**	**20/21f**
Bangladesh	7.1	7.3	6.5	6.7	7.0	7.0	0.0	0.3	0.3
Bhutan	7.3	7.4	5.8	5.4	6.0	8.7	-1.5	-1.6	1.1
India	8.2	7.1	6.7	7.3	7.5	7.5	0.0	0.0	0.0
Nepal	0.6	7.9	6.3	4.5	4.2	4.2	0.0	-0.3	-0.3
Pakistan (factor cost)	4.6	5.4	5.8	5.0	5.4	5.4	-0.8	-0.6	-0.6

Source: World Bank.

Notes: e = estimate; f = forecast. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not significantly differ at any given moment in time.

1. Historical data is reported on a market price basis. National income and product account data refer to fiscal years (FY) for the South Asian countries with the exception of Afghanistan, Maldives, and Sri Lanka, which report in calendar year. The fiscal year runs from July 1 through June 30 in Bangladesh, Bhutan, and Pakistan, from July 16 through July 15 in Nepal, and April 1 through March 31 in India.

For additional information, please see www.worldbank.org/gep.

SUB-SAHARAN AFRICA

Growth in Sub-Saharan Africa is projected to pick up to 3.1 percent in 2018, from 2.6 percent in 2017. This upswing reflects rising oil and metals production, encouraged by higher commodity prices, improving agricultural conditions, and increasing domestic demand. Growth is expected to firm to an average of 3.6 percent in 2019-20, as the recovery strengthens in Angola, Nigeria, and South Africa—the region's largest economies. Nevertheless, growth will remain below its long-term average, with continued weak convergence of per capita income towards average emerging market and developing economies levels. Tighter global financing conditions and weaker-than-expected commodity prices are the main external downside risks to the regional outlook. Domestic risks include heightened conflicts, delayed fiscal adjustment, and weak implementation of structural reforms.

Recent developments

The economic recovery in Sub-Saharan Africa (SSA) has strengthened, following a moderate rebound in 2017 (Figure 2.6.1). Purchasing managers' indexes indicate firming manufacturing activity in several countries (e.g., Ghana, Kenya, Nigeria, Zambia). Renewed government commitment to critical macroeconomic and governance reforms in Angola, South Africa, and Zimbabwe has boosted investor confidence. Mining production has risen in metals exporters, with new mines coming on stream and investment into existing mines increasing, encouraged by higher metals prices (e.g., Democratic Republic of Congo, Zambia), although, in some cases, high government debt levels are weighing on growth (e.g., Mozambique, Sierra Leone). Mining production in South Africa has also been weaker than expected. Among non-resource-intensive countries, the pickup in economic activity is supported by improving agricultural conditions and infrastructure investment in some (e.g., Rwanda, Uganda); in others, it has reflected rising consumer spending, helped by low inflation and a rebound in remittances (e.g., The Gambia, Kenya). However, growth in oil production has

moderated in some oil exporters due to maturing oil fields (e.g., Angola, Nigeria).

Current account deficits are rising, but there are significant differences between countries. Among oil exporters, current account deficits are expected to narrow further this year as the terms-of-trade continue to improve. Nevertheless, Nigeria could see its current account surplus decline, as import growth rebounds. In metals exporters, current account deficits are narrowing moderately, reflecting the effects of a pickup in import-intensive mining investment in some countries. Among non-resource-intensive countries, current account deficits are widening, as import growth remains strong due to high public investment levels and rising fuel imports. Global financial market conditions have been favorable and helped to finance the current account imbalances. While foreign direct investment flows are rebounding moderately, portfolio inflows have continued at a solid pace, helped by several large sovereign-bond issuances (e.g., Angola, Côte d'Ivoire, Kenya, Nigeria, Senegal).

Exchange rates have been broadly stable in real effective terms, reflecting tight domestic policies in some countries, and rising foreign financing. Foreign reserve levels have increased, boosted by portfolio inflows, and supportive policies in some cases, including among the Central African

FIGURE 2.6.1 SSA: Economic activity

Economic activity in Sub-Saharan Africa rebounded in 2017, helped by a turnaround in the region's largest economies, and has continued to strengthen. Recent indicators suggest that metals production and fixed investment growth have picked up in the region, as commodity prices stabilized. However, oil production has risen at a slower pace in some oil producers, partly due to maturing fields. While current account deficits are increasing, due to a pickup in import growth, fiscal deficits are narrowing helped by higher oil prices and an increase in domestic revenue in some cases.

A. GDP growth
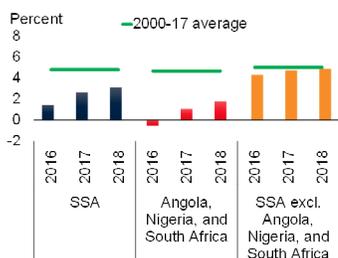
B. Oil production
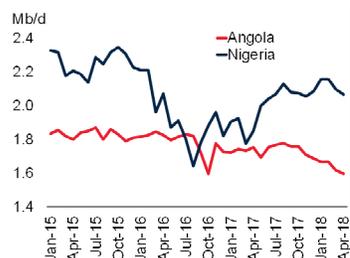
C. Metals production
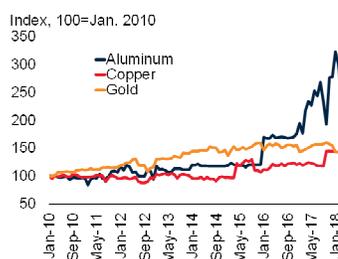
D. Investment growth
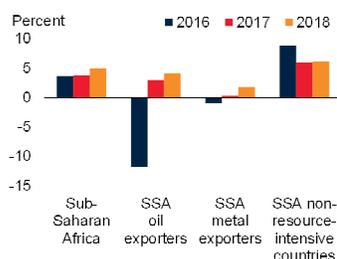
E. Current account balance
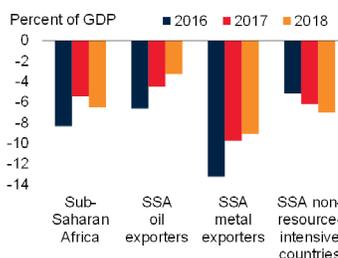
F. Fiscal balance
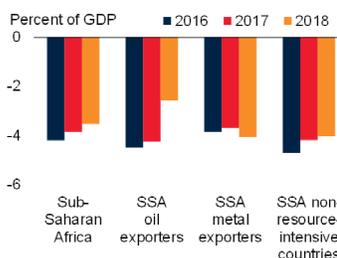
Sources: International Energy Agency, World Bank, World Bureau of Metal Statistics.
Note: SSA = Sub-Saharan Africa.
A. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights.
B. Nigeria oil production includes condensates. Last observation is April 2018.
C. Index rebased on metric ton measurement. Last observation is March 2018.
D.-F. Median of country groups. Non-resource-intensive countries consist of agricultural exporters and commodity importers.
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Economic and Monetary Community (CEMAC) countries where fiscal consolidation has taken place. However, reserve coverage is below the three-months-of-imports benchmark in many countries, especially those that have been hit hard

by the decline in commodity prices. Inflation continues to fall, helped by declining food prices, prompting central banks in some countries to further cut interest rates (e.g., Uganda, Zambia); and, in others, to signal a gradual easing cycle (e.g., Kenya). Nevertheless, inflation has been in double digits in several countries, owing to currency depreciations (e.g., Angola, Ethiopia), and high food inflation due to supply disruptions (e.g., Nigeria, Sudan). In these countries, policy has been tight.

Fiscal deficits have narrowed. Among oil exporters, the improvement reflects the recovery in oil prices and expenditure adjustments in countries in the CEMAC region (e.g., Chad, Republic of Congo). Progress in boosting non-oil revenue remains limited (e.g., Angola, Nigeria). In non-resource-intensive countries, where commodity revenues represent a small share of total revenues, domestic revenue has increased, helping to reduce the fiscal deficit. However, in metals exporters, fiscal deficits are widening, due to weaker domestic revenue mobilization and rising expenditure.

Large fiscal deficits have resulted in high public debt levels in the region (World Bank 2018o). Median debt levels among metals exporters are rising, reflecting previously undisclosed borrowing in some cases (e.g., Mozambique) and high public investment in others (e.g., Zambia). Among oil exporters, fiscal consolidation is contributing to a gradual stabilization of government debt, but the debt burden remains high (e.g., Gabon, Ghana), and some countries are in debt restructuring (e.g., Chad, Republic of Congo). Debt levels are relatively low in Nigeria, but high and rising in Angola, due in part to exchange rate depreciation. Low public saving rates and high public investment are contributing to an increase in debt levels in some non-resource-intensive countries (e.g., Ethiopia); in others, governance issues are an important contributory factor (e.g., The Gambia). Countries in the region are increasingly shifting away from traditional multilateral and bilateral sources of debt toward bond issuances and non-Paris Club bilateral creditors, which are resulting in higher debt service costs in some countries (e.g., Ghana, Zambia). International bonds have started

to mature, and large repayments are expected over the period 2020-25, which is likely to pose a significant refinancing challenge to the region. To contain further increases in government debt in the region, sustained fiscal consolidation, higher domestic revenue mobilization, and stronger growth will be necessary.

Outlook

Growth in Sub-Saharan Africa is projected to pick up to 3.1 percent in 2018, slightly below January forecasts, and to firm to an average of 3.6 percent in 2019-20, as the recovery strengthens in the region's largest economies (Figure 2.6.2). These forecasts are predicated on the expectations that oil and metals prices will remain stable, external financial market conditions will continue to be supportive, and governments in the region will implement reforms to tackle macroeconomic imbalances and boost investment.

- Among the region's largest economies, Nigeria's growth forecasts are lower than in January. While the oil sector is expected to continue to support the recovery, oil production is likely to be less than the government's projections, due to capacity constraints. Growth in the non-oil industrial sectors is also likely to remain subdued as structural constraints slow efforts to attract long-term investments. The growth forecasts for Angola and South Africa were revised slightly upward. In Angola, the revisions reflect the expectation that a more efficient allocation of foreign exchange, rising natural gas production, and improved business sentiment would help support the rebound in economic activity. In South Africa, the pickup in business confidence is expected to help sustain the ongoing recovery in investment.

- Elsewhere, rising mining output as new projects come on line, combined with stable metals prices, are expected to boost activity in some metals exporters (e.g., Democratic Republic of Congo, Zambia); in others, growth is expected to remain subdued as high government debt levels weigh on the private sector (e.g., Mozambique). Among oil

FIGURE 2.6.2 SSA: Outlook and risks

Growth in the region is expected to pick up this year, and firm in 2019-20, reflecting a gradual recovery in the region's largest economies, and continued robust growth in non-resource-intensive countries. However, per capita income growth will remain below its long-term average, and also below the EMDE average, reflecting the slow pace of per capita growth in oil and metals exporters. Excessive reliance on commercially-priced debt could pose a significant refinancing risk to the region. Longer-than-expected droughts would slow the recovery in the region.

A. Growth

B. Growth per capita

C. Composition of public and publicly guaranteed external debt over time

D. Share of countries where droughts starting after 2015 persist
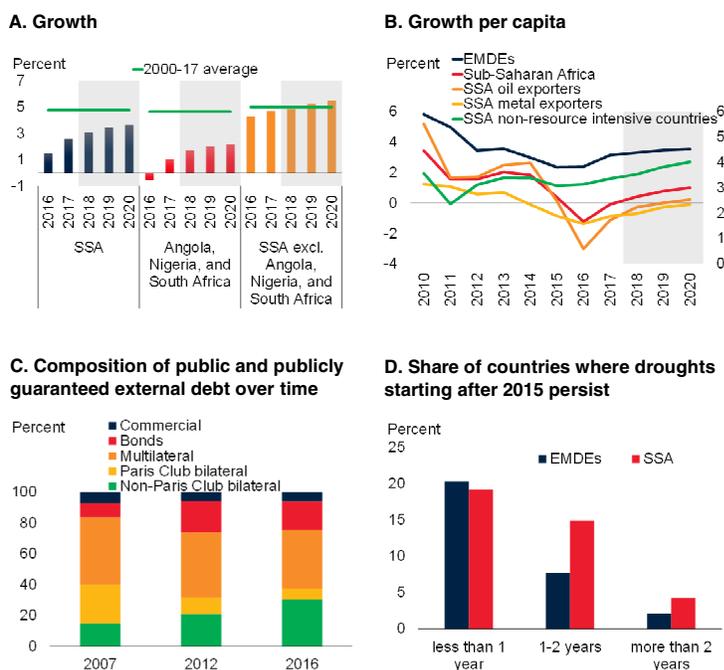
Sources: Emergency Events Database (www.emdat.be; Université Catholique de Louvain, Brussels, Belgium), World Bank.
Note: SSA = Sub-Saharan Africa.
A.B. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights. Shaded areas represent forecasts.
Click here to download data and charts.

exporters, growth is projected to moderate but remain solid in Ghana, as the effects of high oil production gradually dissipate. However, the recovery will be slower than anticipated among oil exporters in the CEMAC region, reflecting the need for continued fiscal consolidation to stabilize debt levels.

- In non-resource-intensive countries, growth is expected to remain robust, supported by improving agricultural conditions, infra-structure investment, and household demand. Low inflation, a rebound in private sector credit growth, and rising remittance flows are expected to boost consumer spending. The larger countries will continue to grow faster (e.g., Côte d'Ivoire, Ethiopia) than the smaller

ones, due to their stronger policies and institutional capacity. In Malawi, for instance, growth is expected to be lower than anticipated, reflecting the adverse impact of a dry spell and the spread of the fall armyworm—a pervasive agricultural pest—on food production.

Although per capita income growth in the region will turn positive, it will remain well below its long-term average, and also below the emerging market and developing economy (EMDE) average (Chapter 1). The weak convergence of per capita income toward EMDE levels reflects the slower pace of per capita growth among oil and metals exporters. The region's poverty headcount, at the international poverty line ($1.90/day in 2011 purchasing power parity exchange rates), is projected to decline only slightly over the 2018-20 period, and decrease more slowly among metals exporters and fragile countries. Renewed progress on poverty reduction will require a sustained acceleration in per capita income growth. Structural reforms that increase productivity and support export diversification would be critical to these efforts. (Chapter 1; Bhorat and Tarp 2016; Fosu 2018).

Risks

Risks to the regional outlook remain tilted to the downside. On the external front, a faster-than-expected tightening of monetary policy among advanced economies could diminish investor appetite for higher risk assets in frontier markets, which would be particularly difficult for countries that rely on foreign debt financing to support large current account deficits. Sudden capital outflows could trigger large currency depreciations in some countries. A sharp decline in commodity prices would have a significant adverse impact on the region, given the heavy dependence of many

economies on commodity exports. A possible trigger could be a slowdown in Chinese growth given the risks posed by interest rate hikes or trade tensions with the United States. A collapse in oil and metals prices would severely undermine efforts at fiscal consolidation, derail progress in reining in the region's debt burden, and undermine investor confidence.

On the domestic front, political transitions have opened opportunities for reforms in several major Sub-Saharan African countries (Angola, South Africa, Zimbabwe) that, if implemented, could bolster the regional outlook. Policy reforms in Nigeria to improve the business environment could advance faster than expected, and significantly boost non-oil sector growth. However, the risk of worsening political instability, and a concurrent weakening of needed reforms, remains high. Indeed, some of the region's largest economies, such as Ethiopia and Nigeria, are particularly vulnerable to an uptick in social unrest. Risks to debt sustainability are also high in the region. Heavy reliance on commercially-priced debt could lead to debt service difficulties in some countries, including Ghana, Nigeria, and Zambia (interest payments on government debt as a share of tax revenue in 2017 was estimated at more than 40 percent in Ghana, and more than 25 percent in Nigeria and Zambia). Meanwhile, the Ebola outbreak in the Democratic Republic of Congo has been assessed as a very high health risk, and could affect economic activity in the country as well as in the sub-region, if it spreads rapidly to major urban centers and into neighboring countries. The recurrence of drought is a further significant downside risk. Droughts that started after 2015 have lasted longer in Sub-Saharan Africa than in other EMDE regions. A sudden return of drought conditions could severely disrupt the ongoing economic recovery in the region.

TABLE 2.6.1 Sub-Saharan Africa forecast summary

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences
from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f		2018f	2019f	2020f
EMDE SSA, GDP[1]	**3.1**	**1.5**	**2.6**	**3.1**	**3.5**	**3.7**		**-0.1**	**0.0**	**0.1**
(Average including countries with full national accounts and balance of payments data only)[2]										
EMDE SSA, GDP[2]	3.1	1.5	2.6	3.1	3.5	3.7		-0.1	0.0	0.2
GDP per capita (U.S. dollars)	0.4	-1.2	-0.1	0.4	0.8	1.0		-0.1	0.0	0.1
PPP GDP	3.3	1.7	2.9	3.4	3.7	3.9		-0.1	0.0	0.1
Private consumption	5.8	0.6	2.0	2.6	2.8	2.9		0.0	0.1	0.1
Public consumption	-2.3	1.4	2.6	2.5	2.9	3.0		0.0	0.2	0.3
Fixed investment	1.5	0.4	6.0	6.8	7.4	7.6		0.0	0.3	0.4
Exports, GNFS[3]	2.7	3.6	3.1	3.2	3.5	3.8		0.0	0.1	0.3
Imports, GNFS[3]	2.0	-0.9	2.5	3.0	3.3	3.4		0.1	0.2	0.2
Net exports, contribution to growth	0.2	1.4	0.2	0.1	0.1	0.2		0.0	0.0	0.1
Memo items: GDP										
SSA excluding Nigeria, South Africa, and Angola	4.6	4.3	4.7	4.9	5.3	5.5		-0.1	0.2	0.3
Oil exporters[4]	2.9	-0.4	1.5	2.3	2.6	2.8		-0.5	-0.2	-0.2
CFA countries[5]	3.9	2.8	3.3	4.1	4.5	4.9		-0.2	-0.1	0.0
CEMAC	1.7	-0.9	-0.2	1.4	2.3	3.0		-0.5	-0.1	0.0
WAEMU	6.2	6.6	6.6	6.4	6.3	6.4		0.0	-0.1	-0.1
SSA3	2.1	-0.5	1.0	1.7	2.0	2.2		-0.1	-0.2	0.0
Nigeria	2.7	-1.6	0.8	2.1	2.2	2.4		-0.4	-0.6	-0.4
South Africa	1.3	0.6	1.3	1.4	1.8	1.9		0.3	0.1	0.2
Angola	3.0	0.0	1.2	1.7	2.2	2.4		0.1	0.7	0.9

Source: World Bank.

Notes: e = estimate; f = forecast. EMDE = emerging market and developing economy. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time.

1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars. Excludes Central African Republic, São Tomé and Príncipe, Somalia, and South Sudan.
2. Sub-region aggregate excludes Central African Republic, São Tomé and Príncipe, Somalia, and South Sudan, for which data limitations prevent the forecasting of GDP components.
3. Exports and imports of goods and non-factor services (GNFS).
4. Includes Angola, Cameroon, Chad, Republic of Congo, Gabon, Ghana, Nigeria, and Sudan.
5. Includes Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Mali, Niger, Senegal, and Togo.
For additional information, please see www.worldbank.org/gep.

TABLE 2.6.2 Sub-Saharan Africa country forecasts[1]

(Real GDP growth at market prices in percent, unless indicated otherwise)

Percentage point differences
from January 2018 projections

	2015	2016	2017e	2018f	2019f	2020f	2018f	2019f	2020f
Angola	3.0	0.0	1.2	1.7	2.2	2.4	0.1	0.7	0.9
Benin	2.1	4.0	5.6	6.0	6.1	6.3	0.0	-0.2	-0.4
Botswana[2]	-1.7	4.3	1.8	3.0	3.3	3.8	-1.7	-1.5	-1.0
Burkina Faso	3.9	5.9	6.4	6.0	6.0	6.0	0.0	0.0	0.0
Burundi	-3.9	-0.6	0.5	1.9	2.3	2.5	0.4	-0.2	0.0
Cabo Verde	1.0	3.8	4.0	4.2	4.0	4.0	0.6	0.2	0.2
Cameroon	5.7	4.5	3.2	3.9	4.1	4.3	-0.2	-0.2	0.0
Chad	2.8	-6.3	-3.0	2.6	2.5	5.8	-1.1	-0.4	-1.0
Comoros	1.0	2.4	2.5	2.9	3.0	3.0	0.2	0.1	0.1
Congo, Dem. Rep.	6.9	2.4	3.4	3.8	4.1	4.4	0.8	0.8	1.1
Congo, Rep.	2.6	-2.8	-4.6	0.7	4.6	-1.2	-1.6	3.1	-2.7
Côte d'Ivoire	8.8	8.3	7.8	7.4	7.2	7.2	0.2	0.0	0.0
Equatorial Guinea	-9.1	-9.0	-2.7	-6.4	-7.0	-0.5	-0.4	-2.8	3.7
Ethiopia[2]	10.4	7.6	10.3	9.6	9.7	9.9	1.4	1.9	2.1
Gabon	3.9	2.1	0.6	2.6	3.7	3.9	0.2	0.0	0.2
Gambia, The	4.3	2.2	3.5	5.4	5.2	4.9	1.9	1.0	0.7
Ghana	3.8	3.7	7.8	6.9	6.7	5.4	-1.4	1.2	-0.1
Guinea	3.8	10.5	8.2	6.0	5.9	6.0	0.2	0.0	0.1
Guinea-Bissau	6.1	5.8	5.7	5.1	5.2	5.4	-0.1	-0.2	0.0
Kenya	5.7	5.9	4.9	5.5	5.9	6.1	0.0	0.0	0.2
Lesotho	5.6	2.3	3.1	1.8	2.6	2.8	-2.2	-1.6	-1.4
Liberia	0.0	-1.6	2.5	3.2	4.7	4.8	-0.7	-0.3	-1.2
Madagascar	3.1	4.2	4.1	5.1	5.6	5.3	0.0	0.0	-0.1
Malawi	2.8	2.5	4.0	3.7	4.1	4.9	-1.3	-1.3	-0.5
Mali	6.0	5.8	5.3	5.0	4.7	4.7	0.0	0.0	0.0
Mauritania	1.4	2.0	3.5	3.6	4.6	5.2	0.6	0.0	0.6
Mauritius	3.5	3.8	3.9	4.0	4.1	3.8	0.2	0.4	0.1
Mozambique	6.6	3.8	3.7	3.3	3.4	3.6	0.1	0.0	0.2
Namibia	6.0	1.1	-1.0	1.5	2.3	3.0	-1.5	-1.2	-0.5
Niger	4.0	5.0	5.2	5.3	5.4	5.8	0.1	0.0	0.2
Nigeria	2.7	-1.6	0.8	2.1	2.2	2.4	-0.4	-0.6	-0.4
Rwanda	8.8	6.0	6.1	6.8	7.1	7.5	0.9	0.3	0.7
Senegal	6.5	6.7	6.8	6.8	6.8	7.0	-0.1	-0.2	0.0
Seychelles	3.5	4.5	4.2	4.0	3.8	3.5	0.2	0.3	0.0
Sierra Leone	-20.5	6.3	4.3	5.1f	5.7	6.5f	-1.2	-1.0	-0.2
South Africa	1.3	0.6	1.3	1.4	1.8	1.9	0.3	0.1	0.2
Sudan	4.9	4.7	4.3	2.6	3.1	3.5	-1.1	-0.6	-0.2
Swaziland	0.4	1.4	1.9	1.1	1.7	1.8	-0.8	-0.1	0.0
Tanzania	7.0	7.0	6.4	6.6	6.8	7.0	-0.2	-0.1	0.1
Togo	5.3	5.0	4.4	4.8	5.0	5.0	-0.5	-0.4	-0.4
Uganda[2]	5.2	4.7	4.0	5.5	6.0	6.5	0.4	0.3	0.5
Zambia	2.9	3.8	3.9	4.1	4.5	4.8	-0.4	-0.5	-0.2
Zimbabwe	1.7	0.6	3.4	2.7	3.8	4.0	1.8	3.6	3.8

Source: World Bank.
Notes: e = estimate; f = forecast. World Bank forecasts are frequently updated based on new information and changing (global) circumstances. Consequently, projections presented here may differ from those contained in other Bank documents, even if basic assessments of countries' prospects do not significantly differ at any given moment in time.
1. GDP at market prices and expenditure components are measured in constant 2010 U.S. dollars. Excludes Central African Republic, São Tomé and Príncipe, Somalia, and South Sudan.
2. Fiscal-year based numbers.
For additional information, please see www.worldbank.org/gep.

References

Arezki, R., L. Mottaghi, A. Barone, Andrea; R. Y. Fan, Y. Kiendrebeogo, and D. Lederman. 2018. "Economic Transformation." *MENA Economic Monitor*. Washington, DC: World Bank.

Aturupane, H., H. Dundar, B. Millot, T. Piyasiri, and Y. Savchenko. 2014. "Building the Skills for Economic Growth and Competitiveness in Sri Lanka." *Directions in Development Series*. Washington, DC: World Bank.

Baker, S. R., N. Bloom, and S. J. Davis. 2016. "Measuring Economic Policy Uncertainty." *Quarterly Journal of Economics* 131 (4): 1593-1636.

Basu, K., B. Eichengreen, and P. Gupta. 2015. "From Tapering to Tightening: The Impact of the Fed's Exit on India." *India Policy Forum* 11 (1): 1-66.

Beegle, K., L. Christiaensen, A. Dabalen, and I. Gaddis. 2016. "Poverty in a Rising Africa." Africa Poverty Report, World Bank, Washington, DC.

Bello, O. 2017. "Disasters, Economic Growth and Fiscal Responses in the Countries of Latin America and the Caribbean, 1972-2010." CEPAL Review 10, Economic Commission for Latin America and the Caribbean, Santiago.

Bhorat, H., and F. Tarp. 2016. "The Pursuit of Long-Run Economic Growth in Africa: An Overview of Key Challenges." In *Africa's Lions: growth Traps and Opportunities for Six African Economies*, edited by H. Bhorat and F. Tarp. Washington, DC: Brookings Institution.

BIS (Bank for International Settlements). 2018. "BIS Statistical Bulletin." March. Bank for International Settlements, Basel.

Calderón, C., and L. Servén. 2004. "The Effects of Infrastructure Development on Growth and Income Distribution." Policy Research Working Paper 3400, World Bank, Washington, D.C.

Central Bank of Egypt. 2018. "Monetary Policy Decision Press Release." March. Cairo.

Devarajan, S., and L. Mottaghi. 2017a. "Refugee Crisis in MENA. Meeting the Development Challenge." *MENA Economic Monitor*. Washington, DC: World Bank.

———. 2017b. "The Economics of Post- Conflict Reconstruction in MENA." *MENA Economic Monitor*. Washington, DC: World Bank.

Farole, T., and V. Pathikonda. 2016. "The Capabilities Driving Participation in Global Value Chains." Policy Research Paper 7804, World Bank, Washington, DC.

Fosu, K. F. 2018. "Economic Structure, Growth, and Evolution of Inequality and Poverty in Africa: An Overview." *Journal of African Economies* 27 (1): 1-9.

Huidrom, R., M. A. Kose, and F. L. Ohnsorge. 2017. "How Important are Spillovers from Major Emerging Markets?" International Macroeconomics and Finance Series Discussion Paper No. 12022, Centre for Economic Policy Research, London, United Kingdom.

Kiendrebeogo, Y., and A. Minea. 2017. "Financial Factors and Manufacturing Exports: Firm-Level Evidence from Egypt." *Journal of Development Studies* 53 (12): 2197-2213.

Kose, M. A., C. Lakatos, F. L. Ohnsorge, and M. Stocker. 2017. "The Global Role of the U.S. Economy: Linkages, Policies and Spillovers." Policy Research Working Paper 7962, World Bank, Washington, DC.

Kutlina-Dimitrova, Z., and C. Lakatos. 2017. "The Global Costs of Protectionism." Policy Research Working Paper No. 8277, World Bank, Washington, DC.

Végh, C. A., G. Vuletin, D. Riera-Crichton, D. Friedheim, L. Morano, and J. A. Camarena. 2018. "Fiscal Adjustment in Latin America and the Caribbean: Short-Run Pain, Long-Run Gain?" *LAC Semiannual Report*. Washington, DC: World Bank.

Wood, C., and J. Yang. 2016. "MENA Export Performance and Specialization: The Role of

Financial Sector Development and Governance." Policy Research Working Paper 7616, World Bank, Washington, DC.

World Bank. 2016. *Global Economic Prospects: Spillovers amid Weak Growth.* January. Washington, DC: World Bank.

———. 2017a. "Growth Resilience and Reform Momentum." *China Economic Update.* December. Washington, DC: World Bank.

———. 2017b. "Decentralization that Delivers." *Indonesia Economic Quarterly.* December. Washington, DC: World Bank.

———. 2017c. "Turmoil to Transformation, 20 Years after the Asian Financial Crisis." *Malaysia Economic Monitor.* December. Washington, DC: World Bank.

———. 2017d. Philippines Economic Update. Washington, DC: World Bank.

———. 2017e. "Morocco-Casablanca Municipal Support Program-for-Results Project." World Bank, Washington, DC.

———. 2018a. "Enhancing Potential." *East Asia and Pacific Economic Update.* Washington, DC: World Bank.

———. 2018b. "Turmoil to Transformation, Beyond the Innovation Paradox." *Thailand Economic Monitor.* April. Washington, DC: World Bank.

———. 2018c. *Global Economic Prospects: Broad-Based Upturn, but for How Long?* January. Washington, DC: World Bank.

———. 2018d. *Turkey Economic Monitor.* May. World Bank, Washington, DC.

———. 2018e. "The Quest for a New Growth Model: The Urgency of Economic Transformation." *Kazakhstan Economic Update.* Washington, DC: World Bank.

———. 2018f. *Russia Economic Report.* Washington, DC: World Bank.

———. 2018g. "Making the Recovery Sustainable." *Georgia Country Economic Update.* February. Washington, DC: World Bank.

———. 2018h. "A Robust Recovery with Underlying Weaknesses." *Kyrgyz Republic Economic Update.* Washington, DC: World Bank.

———. 2018i. *Western Balkans Regular Economic Report: Vulnerabilities Slow Growth.* Washington, DC: World Bank.

———. 2018j. "Migration and Development Brief 29." World Bank, Washington, DC

———. 2018k. "West Bank and Gaza Electricity Sector Performance Improvement Project." World Bank, Washington, DC.

———. 2018l. "Beyond Scarcity: Water Security in the Middle East and North Africa." *Middle East and North Africa Development Report.* Washington, DC: World Bank.

———. 2018m. *India Development Update.* Washington, DC: World Bank.

———. 2018n. "Jobless Growth?" *South Asia Economic Focus.* Spring. Washington, DC: World Bank.

———. 2018o. *Africa's Pulse.* Volume 17, April. World Bank, Washington, DC

STATISTICAL

APPENDIX

Real GDP growth

	Annual estimates and forecasts[1]						Quarterly growth[2]					
	2015	2016	2017e	2018f	2019f	2020f	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1e
World	2.8	2.4	3.1	3.1	3.0	2.9	2.6	2.9	2.8	3.1	3.2	..
Advanced economies	2.3	1.7	2.3	2.2	2.0	1.7	1.8	2.2	2.1	2.4	2.5	..
United States	2.9	1.5	2.3	2.7	2.5	2.0	1.8	2.0	2.2	2.3	2.6	2.9
Euro Area	2.1	1.8	2.4	2.1	1.7	1.5	1.9	2.1	2.4	2.7	2.8	2.5
Japan	1.4	1.0	1.7	1.0	0.8	0.5	1.5	1.4	1.5	1.9	1.8	0.9
United Kingdom	2.3	1.9	1.8	1.4	1.5	1.7	2.0	2.1	1.9	1.8	1.4	1.2
Emerging market and developing economies	3.7	3.7	4.3	4.5	4.7	4.7	4.3	4.6	4.4	4.9	4.9	..
East Asia and Pacific	6.5	6.3	6.6	6.3	6.1	6.0	6.5	6.5	6.6	6.6	6.5	6.6
Cambodia	7.0	7.0	6.8	6.9	6.7	6.6	..	..	..	..	..	..
China	6.9	6.7	6.9	6.5	6.3	6.2	6.8	6.9	6.9	6.8	6.8	6.8
Fiji	3.6	0.4	3.8	3.5	3.4	3.3	..	..	..	..	..	..
Indonesia	4.9	5.0	5.1	5.2	5.3	5.4	4.9	5.0	5.0	5.1	5.2	5.1
Lao PDR	7.3	7.0	6.7	6.6	6.9	6.9	..	..	..	..	..	..
Malaysia	5.0	4.2	5.9	5.4	5.1	4.8	4.5	5.6	5.8	6.2	5.9	5.4
Mongolia	2.4	1.5	5.1	5.3	6.4	6.5	11.0	4.1	6.0	6.5	3.7	6.0
Myanmar	7.0	5.9	6.4	6.7	6.9	7.1	..	..	..	..	..	..
Papua New Guinea	5.3	1.9	2.2	-1.7	4.0	3.0	..	..	..	..	..	..
Philippines	6.1	6.9	6.7	6.7	6.7	6.6	6.7	6.5	6.6	7.2	6.5	6.8
Solomon Islands	3.7	3.5	3.2	3.0	2.9	2.8	..	..	..	..	..	..
Thailand	3.0	3.3	3.9	4.1	3.8	3.8	3.0	3.4	3.9	4.3	4.0	4.8
Timor-Leste	4.0	5.3	-1.8	2.2	4.2	4.0	..	..	..	..	..	..
Vietnam	6.7	6.2	6.8	6.8	6.6	6.5	6.8	5.1	6.2	7.5	7.7	7.4
Europe and Central Asia	1.1	1.7	4.0	3.2	3.1	3.0	2.1	3.0	3.8	5.5	3.7	..
Albania	2.2	3.4	3.8	3.6	3.5	3.5	4.3	4.0	4.4	3.6	3.4	..
Armenia	3.2	0.2	7.5	4.1	4.0	4.0	..	..	..	..	..	..
Azerbaijan	1.1	-3.1	0.1	1.8	3.8	3.2	..	..	..	..	..	..
Belarus	-3.8	-2.5	2.4	2.9	2.7	2.5	-1.7	0.4	1.7	3.0	4.3	..
Bosnia and Herzegovina	3.1	3.1	3.0	3.2	3.4	4.0	3.5	3.4	2.8	3.0	3.0	..
Bulgaria	3.6	3.9	3.6	3.8	3.6	3.6	4.3	3.6	3.9	3.8	3.0	3.4
Croatia	2.3	3.2	2.8	2.6	2.7	2.8	3.5	2.6	3.0	3.3	2.0	..
Georgia	2.9	2.8	5.0	4.5	4.8	5.0	2.8	5.3	4.9	4.4	5.4	..
Hungary	3.1	2.0	4.0	4.1	3.2	3.0	1.9	4.3	3.3	3.9	4.4	4.4
Kazakhstan	1.2	1.1	4.0	3.7	3.3	2.8	..	..	..	..	..	..
Kosovo	4.1	4.1	4.4	4.8	4.8	4.8	..	..	..	..	..	..
Kyrgyz Republic	3.9	4.3	4.6	4.2	4.8	5.0	..	..	..	..	..	..
Macedonia, FYR	3.9	2.9	0.0	2.3	2.7	3.0	3.3	0.0	-1.3	0.2	1.2	..
Moldova	-0.4	4.5	4.5	3.8	3.7	3.5	..	..	..	..	..	..
Montenegro	3.4	2.9	4.4	2.8	2.5	2.1	..	..	..	..	..	..
Poland	3.8	2.9	4.6	4.2	3.7	3.5	3.4	4.7	4.2	5.4	4.4	5.1
Romania	3.9	4.8	7.0	5.1	4.5	4.1	4.8	5.7	6.1	8.8	6.7	4.0
Russia	-2.5	-0.2	1.5	1.5	1.8	1.8	-0.3	0.6	2.5	2.2	0.9	1.3
Serbia	0.8	2.8	1.9	3.0	3.5	4.0	2.5	1.2	1.5	2.2	2.5	4.5
Tajikistan	6.0	6.9	7.1	6.1	6.0	6.0	..	..	..	..	..	..
Turkey	6.1	3.2	7.4	4.5	4.0	4.0	4.2	5.4	5.4	11.3	7.3	..
Turkmenistan	6.5	6.2	6.5	6.3	6.3	6.3	..	..	..	..	..	..
Ukraine	-9.8	2.3	2.5	3.5	4.0	4.0	4.6	2.8	2.6	2.4	2.2	3.1
Uzbekistan	7.9	7.8	5.3	5.0	5.1	5.5	..	..	..	..	..	..

Real GDP growth *(continued)*

	Annual estimates and forecasts[1]						Quarterly growth[2]					
	2015	2016	2017e	2018f	2019f	2020f	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1e
Latin America and the Caribbean	-0.4	-1.5	0.8	1.7	2.3	2.5	1.7	2.6	1.9	2.3	3.6	..
Argentina	2.7	-1.8	2.9	1.7	1.8	2.8	-1.1	0.6	3.0	3.8	3.9	..
Belize	3.8	-0.5	1.2	2.0	1.9	1.7	..	..	..	..	..	..
Bolivia	4.9	4.3	4.2	3.9	3.6	3.4	3.7	3.3	3.8	4.3	5.2	..
Brazil	-3.5	-3.5	1.0	2.4	2.5	2.4	-2.5	0.0	0.4	1.4	2.1	..
Chile	2.3	1.3	1.5	3.3	3.4	3.5	0.3	-0.4	0.5	2.5	3.3	4.2
Colombia	3.0	2.0	1.8	2.7	3.3	3.6	1.3	1.3	1.6	2.5	1.8	2.2
Costa Rica	3.6	4.2	3.2	3.4	3.6	3.6	4.6	3.5	3.4	2.8	3.0	..
Dominican Republic	7.0	6.6	4.6	5.0	4.7	4.6	5.3	5.5	3.1	3.1	6.5	..
Ecuador	0.1	-1.6	3.0	2.2	1.5	0.9	1.0	2.7	3.0	3.3	3.0	..
El Salvador	2.4	2.6	2.3	2.3	2.2	2.2	3.1	3.5	0.3	3.2	2.5	..
Grenada	6.4	3.7	4.5	3.3	2.8	2.8	..	..	..	..	..	..
Guatemala	4.1	3.1	2.8	3.1	3.3	3.3	3.2	3.2	2.2	2.7	2.9	..
Guyana	3.1	3.4	2.1	3.8	3.8	29.0	5.3	2.5	-0.7	4.5	..	..
Haiti[3]	1.2	1.5	1.2	1.8	2.4	2.4	..	..	..	..	..	..
Honduras	3.8	3.8	4.8	3.5	3.6	3.8	4.2	5.5	3.5	5.9	4.3	..
Jamaica	0.9	1.4	0.5	1.7	1.9	2.0	1.4	0.1	-0.1	0.8	1.1	..
Mexico	3.3	2.9	2.0	2.3	2.5	2.7	3.3	3.3	1.8	1.6	1.5	1.3
Nicaragua	4.8	4.7	4.9	4.7	4.5	4.4	4.4	7.5	4.6	3.2	4.3	..
Panama	5.6	5.0	5.4	5.6	5.6	5.6	..	..	..	..	..	..
Paraguay	3.0	4.0	4.3	4.3	4.2	4.2	3.4	7.1	1.1	3.0	..	..
Peru	3.3	4.0	2.5	3.5	3.8	3.8	3.1	2.3	2.6	2.7	2.2	3.2
St. Lucia	2.0	0.9	2.1	2.8	2.3	2.3	..	..	..	..	..	..
St. Vincent and the Grenadines	1.4	1.9	1.0	2.1	2.5	2.7	..	..	..	..	..	..
Suriname	-2.6	-5.1	0.1	1.1	1.7	2.1	..	..	..	..	..	..
Trinidad and Tobago	1.5	-6.0	-2.3	1.6	1.9	1.2	..	..	..	..	..	..
Uruguay	0.4	1.7	2.7	3.3	3.1	2.9	3.5	4.1	2.8	1.9	2.0	..
Venezuela	-6.0	-16.5	-14.5	-14.3	-7.0	-4.0	..	..	..	..	..	..
Middle East and North Africa	2.8	5.0	1.6	3.0	3.3	3.2	5.9	4.5	1.6	2.0	0.6	..
Algeria	3.7	3.3	1.6	3.5	2.0	1.3	..	..	..	..	..	..
Bahrain	2.9	3.2	3.9	1.7	2.1	2.1	1.7	4.1	4.0	4.1	3.4	..
Djibouti	6.5	6.5	7.0	6.5	6.4	6.3	..	..	..	..	..	..
Egypt[3]	4.4	4.3	4.2	5.0	5.5	5.8	4.0	4.5	5.0	5.2	5.3	..
Iran	-1.3	13.4	4.3	4.1	4.1	4.2	17.1	16.0	4.2	4.6	0.5	..
Iraq	4.8	11.0	-0.8	2.5	4.1	1.9	..	..	..	..	..	..
Jordan	2.4	2.0	2.1	2.2	2.4	2.4	2.0	2.2	2.0	1.9	1.8	..
Kuwait	0.6	3.5	-2.9	1.9	3.5	3.0	2.9	-3.8	-2.1	-3.0	-2.5	..
Lebanon	0.8	2.0	2.0	2.0	2.0	2.0	..	..	..	..	..	..
Morocco	4.5	1.2	4.0	3.0	3.5	3.7	..	..	..	..	..	4.2
Oman	4.7	5.4	0.7	2.3	2.5	2.9	..	..	..	..	..	..
Qatar	3.6	2.2	1.6	2.8	3.2	2.8	1.7	2.4	0.3	1.9	1.8	..
Saudi Arabia	4.1	1.7	-0.7	1.8	2.1	2.3	2.1	-0.5	-0.8	-0.4	-1.2	..
Tunisia	1.0	1.2	1.9	2.4	2.9	3.4	..	..	..	..	..	..
United Arab Emirates	3.8	3.0	2.0	2.5	3.2	3.3	..	..	..	..	..	..
West Bank and Gaza	3.4	4.7	3.1	2.5	2.3	2.3	..	..	..	..	..	..

Real GDP growth *(continued)*

	Annual estimates and forecasts[1]						Quarterly growth[2]					
	2015	2016	2017e	2018f	2019f	2020f	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1e
South Asia	7.1	7.5	6.6	6.9	7.1	7.2	6.7	6.0	5.6	6.3	7.0	..
Afghanistan	1.3	2.4	2.6	2.2	2.5	3.3	..	..	..	..	..	..
Bangladesh[3,4]	6.6	7.1	7.3	6.5	6.7	7.0	..	..	..	..	..	..
Bhutan[3,4]	6.2	7.3	7.4	5.8	5.4	6.0	..	..	..	..	..	..
India[3,4]	8.2	7.1	6.7	7.3	7.5	7.5	6.8	6.1	5.7	6.5	7.2	..
Maldives	2.2	6.2	6.2	5.5	4.5	4.9	..	..	..	..	..	..
Nepal[3,4]	3.3	0.6	7.9	6.3	4.5	4.2	..	..	..	..	..	..
Pakistan[3,4]	4.1	4.6	5.4	5.8	5.0	5.4	..	..	..	..	..	..
Sri Lanka	5.0	4.5	3.1	4.8	4.5	4.5	5.4	3.4	3.0	2.9	3.2	..
Sub-Saharan Africa	3.1	1.5	2.6	3.1	3.5	3.7	0.6	1.0	2.1	2.3	2.7	..
Angola	3.0	0.0	1.2	1.7	2.2	2.4	..	..	..	..	..	..
Benin	2.1	4.0	5.6	6.0	6.1	6.3	..	..	..	..	..	..
Botswana[3]	-1.7	4.3	1.8	3.0	3.3	3.8	4.3	0.9	1.0	1.1	6.5	..
Burkina Faso	3.9	5.9	6.4	6.0	6.0	6.0	..	..	..	..	..	..
Burundi	-3.9	-0.6	0.5	1.9	2.3	2.5	..	..	..	..	..	..
Cabo Verde	1.0	3.8	4.0	4.2	4.0	4.0	..	..	..	..	..	..
Cameroon	5.7	4.5	3.2	3.9	4.1	4.3	..	..	..	..	..	..
Chad	2.8	-6.3	-3.0	2.6	2.5	5.8	..	..	..	..	..	..
Comoros	1.0	2.4	2.5	2.9	3.0	3.0	..	..	..	..	..	..
Congo, Dem. Rep.	6.9	2.4	3.4	3.8	4.1	4.4	..	..	..	..	..	..
Congo, Rep.	2.6	-2.8	-4.6	0.7	4.6	-1.2	..	..	..	..	..	..
Côte d'Ivoire	8.8	8.3	7.8	7.4	7.2	7.2	..	..	..	..	..	..
Equatorial Guinea	-9.1	-9.0	-2.7	-6.4	-7.0	-0.5	..	..	..	..	..	..
Ethiopia[3]	10.4	7.6	10.3	9.6	9.7	9.9	..	..	..	..	..	..
Gabon	3.9	2.1	0.6	2.6	3.7	3.9	..	..	..	..	..	..
Gambia, The	4.3	2.2	3.5	5.4	5.2	4.9	..	..	..	..	..	..
Ghana	3.8	3.7	7.8	6.9	6.7	5.4	4.5	6.7	9.4	9.7	8.1	..
Guinea	3.8	10.5	8.2	6.0	5.9	6.0	..	..	..	..	..	..
Guinea-Bissau	6.1	5.8	5.7	5.1	5.2	5.4	..	..	..	..	..	..
Kenya	5.7	5.9	4.9	5.5	5.9	6.1	6.1	4.9	4.9	4.7	5.0	..
Lesotho	5.6	2.3	3.1	1.8	2.6	2.8	..	..	..	..	..	..
Liberia	0.0	-1.6	2.5	3.2	4.7	4.8	..	..	..	..	..	..
Madagascar	3.1	4.2	4.1	5.1	5.6	5.3	..	..	..	..	..	..
Malawi	2.8	2.5	4.0	3.7	4.1	4.9	..	..	..	..	..	..
Mali	6.0	5.8	5.3	5.0	4.7	4.7	..	..	..	..	..	..
Mauritania	1.4	2.0	3.5	3.6	4.6	5.2	..	..	..	..	..	..
Mauritius	3.5	3.8	3.9	4.0	4.1	3.8	..	..	..	..	..	..
Mozambique	6.6	3.8	3.7	3.3	3.4	3.6	..	..	..	..	..	..
Namibia	6.0	1.1	-1.0	1.5	2.3	3.0	..	..	..	..	..	..
Niger	4.0	5.0	5.2	5.3	5.4	5.8	..	..	..	..	..	..
Nigeria	2.7	-1.6	0.8	2.1	2.2	2.4	-1.7	-0.9	0.7	1.2	2.1	2.0
Rwanda	8.8	6.0	6.1	6.8	7.1	7.5	..	..	..	..	..	..
Senegal	6.5	6.7	6.8	6.8	6.8	7.0	..	..	..	..	..	..
Seychelles	3.5	4.5	4.2	4.0	3.8	3.5	..	..	..	..	..	..
Sierra Leone	-20.5	6.3	4.3	5.1	5.7	6.5	..	..	..	..	..	..

Real GDP growth *(continued)*

	Annual estimates and forecasts[1]						Quarterly growth[2]					
	2015	2016	2017e	2018f	2019f	2020f	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1e
Sub-Saharan Africa (continued)												
South Africa	1.3	0.6	1.3	1.4	1.8	1.9	1.0	1.1	1.4	1.3	1.5	..
Sudan	4.9	4.7	4.3	2.6	3.1	3.5	..	..	..	..	..	..
Swaziland	0.4	1.4	1.9	1.1	1.7	1.8	..	..	..	..	..	..
Tanzania	7.0	7.0	6.4	6.6	6.8	7.0	5.5	5.7	7.8	6.8	..	..
Togo	5.3	5.0	4.4	4.8	5.0	5.0	..	..	..	..	..	..
Uganda[3]	5.2	4.7	4.0	5.5	6.0	6.5	2.8	4.6	6.5	7.5	6.6	..
Zambia	2.9	3.8	3.9	4.1	4.5	4.8	3.9	3.1	3.6	4.5	5.0	..
Zimbabwe	1.7	0.6	3.4	2.7	3.8	4.0	..	..	..	..	..	..

Sources: World Bank and Haver Analytics.

Notes: e = estimate; f = forecast.

1. Aggregate growth rates calculated using constant 2010 U.S. dollars GDP weights.

2. Year-over-year quarterly growth of not-seasonally-adjusted real GDP, except for Ecuador, the Euro Area and the United Kingdom. Data for Bosnia and Herzegovina are from the production approach.

Regional averages are calculated based on data from following countries.

East Asia and Pacific: China, Indonesia, Malaysia, Mongolia, Philippines, Thailand, and Vietnam.

Europe and Central Asia: Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Hungary, Kazakhstan, FYR Macedonia, Poland, Romania, Russia, Serbia, Turkey, and Ukraine.

Latin America and the Caribbean: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru, and Uruguay.

Middle East and North Africa: Bahrain, Egypt, Iran, Jordan, Kuwait, Qatar, and Saudi Arabia.

South Asia: India and Sri Lanka. Sub-Saharan Africa: Botswana, Ghana, Kenya, Nigeria, South Africa, Tanzania, Uganda, and Zambia.

3. Annual GDP is on fiscal year basis, as per reporting practice in the country.

4. GDP data for Pakistan are based on factor cost. For Bangladesh, Bhutan, Nepal, and Pakistan, the column labeled 2017 refers to FY2016/17. For India, the column labeled 2016 refers to FY2016/17.

For additional information, please see www.worldbank.org/gep.

Data and Forecast Conventions

The macroeconomic forecasts presented in this report are prepared by staff of the Prospects Group of the Development Economics Vice-Presidency, in coordination with staff from the Macroeconomics, Trade, and Investment Global Practice and from regional and country offices, and with input from regional Chief Economist offices. They are the result of an iterative process that incorporates data, macroeconometric models, and judgment.

Data. Data used to prepare country forecasts come from a variety of sources. National Income Accounts (NIA), Balance of Payments (BOP), and fiscal data are from Haver Analytics; the World Development Indicators by the World Bank; the World Economic Outlook, Balance of Payments Statistics, and International Financial Statistics by the International Monetary Fund. Population data and forecasts are from the United Nations World Population Prospects. Country- and lending-group classifications are from the World Bank. DECPG databases include commodity prices, data on previous forecast vintages, and in-house country classifications. Other internal databases include high-frequency indicators such as industrial production, consumer price indexes, house prices, exchange rates, exports, imports, and stock market indexes, based on data from Bloomberg, Haver Analytics, OECD Analytical House Prices Indicators, IMF Balance of Payments Statistics, and IMF International Financial Statistics.

Aggregations. Aggregate growth for the world and all sub-groups of countries (such as regions and income groups) is calculated as GDP-weighted average (at 2010 prices) of country-specific growth rates. Income groups are defined as in the World Bank's classification of country groups.

Forecast Process. The process starts with initial assumptions about advanced-economy growth and commodity price forecasts. These are used as conditioning assumptions for the first set of growth forecasts for EMDEs, which are produced using macroeconometric models, accounting frameworks to ensure national account identities and global consistency, estimates of spillovers from major economies, and high-frequency indicators. These forecasts are then evaluated to ensure consistency of treatment across similar EMDEs. This is followed by extensive discussions with World Bank country teams, who conduct continuous macroeconomic monitoring and dialogue with country authorities. Throughout the forecasting process, staff use macro-econometric models that allow the combination of judgement and consistency with model-based insights.

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Growth and Business Cycles		
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Regional perspectives		
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	Recent developments and outlook	June 2017, Box 1.2
	Recent developments and outlook	January 2017, Box 1.2
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Recent investment slowdown		
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	South Asia	January 2017, Box 2.5.1
	Sub-Saharan Africa	January 2017, Box 2.6.1
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	Europe and Central Asia	January 2016, Box 2.2.1
	Latin America and the Caribbean	January 2016, Box 2.3.1
	Middle East and North Africa	January 2016, Box 2.4.1
	South Asia	January 2016, Box 2.5.1
	Sub-Saharan Africa	January 2016, Box 2.6.1

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Other topics	
Long-term growth prospects: Downgraded no more?	June 2018, Box 1.1
Education demographics and global inequality	January 2018, SF 2
Weak investment in uncertain times: Causes, implications and policy responses	January 2017, Chapter 3
Implications of rising uncertainty for investment in EMDEs	January 2017, Box 3.2
Implications of the investment slowdown in China	January 2017, Box 3.3
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Who catches a cold when emerging markets sneeze?	January 2016, Chapter 3
Sources of the growth slowdown in BRICS	January 2016, Box 3.1
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How resilient is Sub-Saharan Africa?	January 2015, Box 2.4

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Commodity consumption: Implications of government policies	June 2018, SF1, Box SF1.2
With the benefit of hindsight: The impact of the 2014–16 oil price collapse	January 2018, SF1
From commodity discovery to production: Vulnerabilities and policies in LICs	January 2016, Chapter 1
After the commodities boom: What next for low-income countries?	June 2015, Chapter 1, SF
Low oil prices in perspective	June 2015, Box 1.2
Understanding the plunge in oil prices: Sources and implications	January 2015, Chapter 4
What do we know about the impact of oil prices on output and inflation? A brief survey	January 2015, Box 4.1

Globalization of Trade and Financial Flows	
Arm's-Length trade: A source of post-crisis trade weakness	June 2017, SF
The U.S. economy and the world	January 2017, SF
Regulatory convergence in mega-regional trade agreements	January 2016, Box 4.1.1
Can remittances help promote consumption stability?	January 2016, Chapter 4
Potential macroeconomic implications of the Trans-Pacific Partnership Agreement	January 2016, Chapter 4
Regulatory convergence in mega-regional trade agreements	January 2016, Box 4.1.1
China's integration in global supply chains: Review and implications	January 2015, Box 2.1
What lies behind the global trade slowdown?	January 2015, Chapter 4

Global Economic Prospects: Selected Topics, 2015-18

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Investment-less credit booms	January 2017, Box 3.1
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Peg and control? The links between exchange rate regimes and capital account policies	January 2016, Chapter 4
Negative interest rates in Europe: A glance at their causes and implications	June 2015, Box 1.1
Hoping for the best, preparing for the worst: Risks around U.S. rate liftoff and policy options	June 2015, SF1.1
Countercyclical monetary policy in emerging markets: Review and evidence	January 2015, Box 1.2

Fiscal Policies	
Debt dynamics in emerging market and developing economies: Time to act?	June 2017, SF
Having fiscal space and using it: Fiscal challenges in developing economies	January 2015, Chapter 3
Revenue mobilization in South Asia: Policy challenges and recommendations	January 2015, Box 2.3
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What affects the size of fiscal multipliers?	January 2015, Box 3.2
Chile's fiscal rule—An example of success	January 2015, Box 3.3
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Development Economics Prospects Group (DECPG): Selected Other Publications on the Global Economy, 2015-18

Commodity Markets Outlook	
Oil Exporters: Policies and Challenges	April, 2018, SF
Investment weakness in commodity exporters	January 2017, SF
OPEC in historical context: Commodity agreements and market fundamentals	October 2016, SF
Energy and food prices: Moving in tandem?	July 2016, SF
Resource development in an era of cheap commodities	April 2016, SF
Weak growth in emerging market economies: What does it imply for commodity markets?	January 2016, SF
Understanding El Niño: What does it mean for commodity markets?	October 2015, SF
How important are China and India in global commodity consumption	July 2015, SF
Anatomy of the last four oil price crashes	April 2015, SF
Putting the recent plunge in oil prices in perspective	January 2015, SF

High-Frequency Monitoring	
Global Monthly newsletter	
Global Weekly newsletter	

Global growth remains robust in 2018 but is expected to ease over the next two years and, over the longer-term, further as potential growth softens. Emerging market and developing countries face considerable risks, such as increased protectionism and disorderly financial market movements, as well as major structural challenges, including those related to competitiveness, adaptability to new technologies, and global integration to boost long-term prospects.

In addition to discussing global and regional economic developments and prospects, this edition of Global Economic Prospects includes two Special Focus essays of critical importance for emerging and developing economies: an analysis of their increasing role in global commodity markets, and an assessment of their corporate debt burdens.

Global Economic Prospects is a World Bank Group Flagship Report that examines global economic developments and prospects, with a special focus on emerging market and developing countries, on a semiannual basis (in January and June). The January edition includes in-depth analyses of topical policy challenges faced by these economies, while the June edition contains shorter analytical pieces.

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