

# WORLD ECONOMIC OUTLOOK



RESEARCH

## **Trading Places: Real Spillovers from G20 Emerging Markets**

APRIL 2024 SPILLOVER WEO CHAPTER

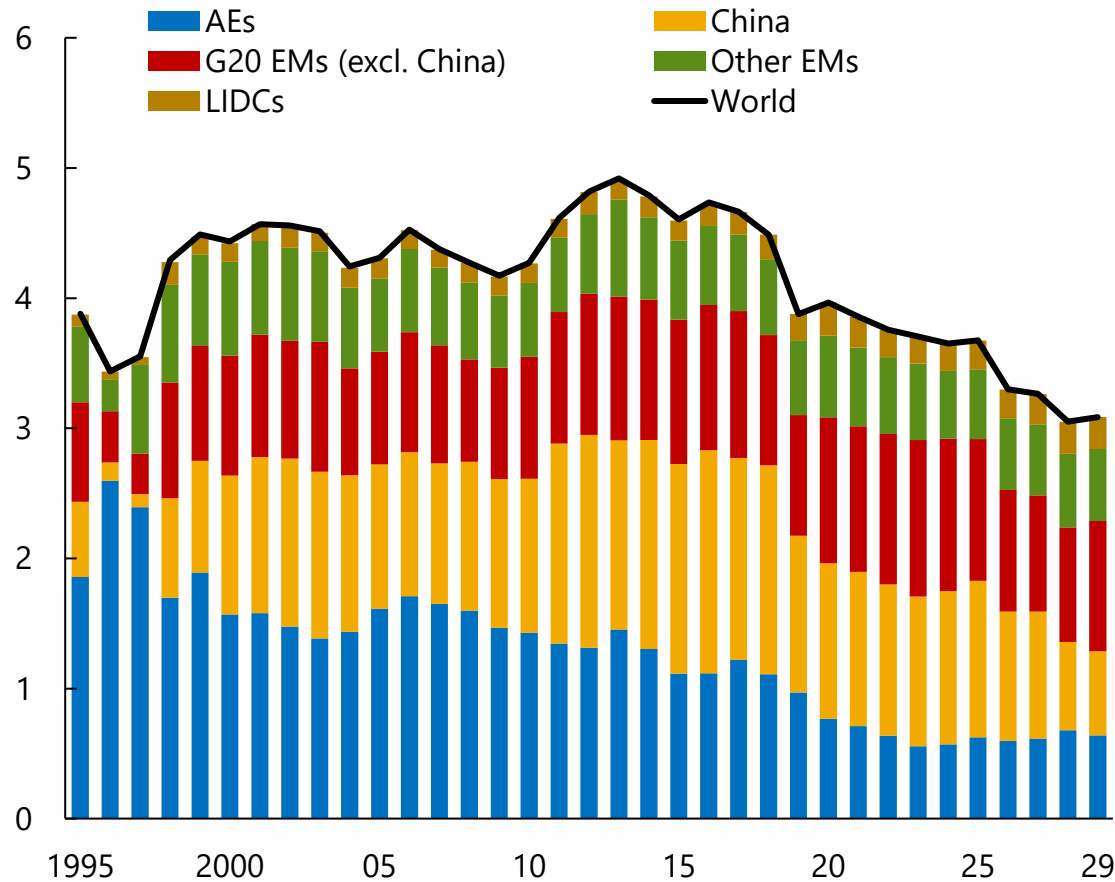
**OUTREACH APRIL 2024**

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# Weakening growth prospects in an interconnected global economy

## Five-year-ahead GDP growth 1/

(percent)



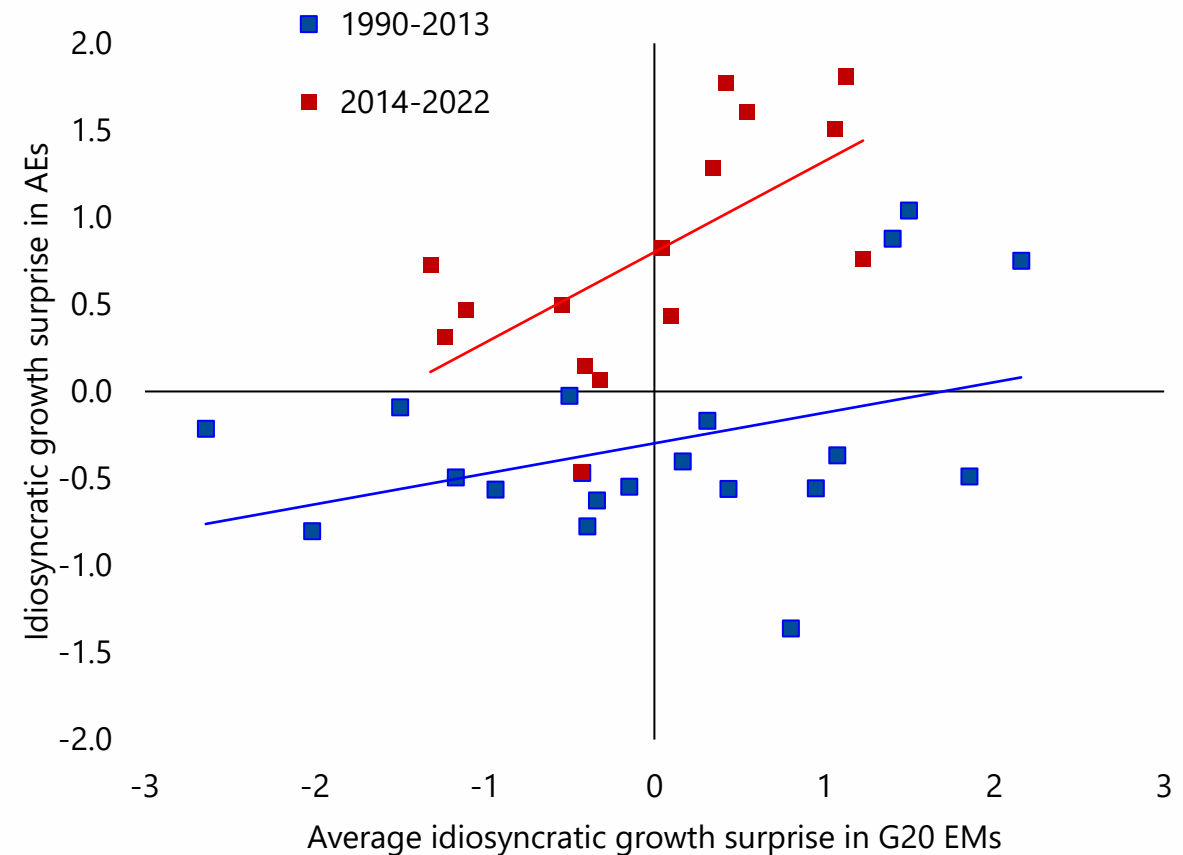
Source: IMF staff calculations.

1/ The predicted variable is real GDP growth. The years on the horizontal axis refer to the year for which a forecast is made, using the April *World Economic Outlook* five years prior, such that, for example, the 2029 forecast is based on the April 2024 *World Economic Outlook*, and so on.

2/ Growth surprises are defined as  $GS_{it} = Growth_{it}^{Act} - Growth_{it-1}^{Proj}$  (using the April WEO projections) while "idiosyncratic" growth surprises ( $\hat{\gamma}_{it}$ ) defined as the residual of this regression:  $GS_{it} = \tau_t + \vartheta_i + \gamma_{it}$ , where  $\tau_t$  and  $\gamma_{it}$  are year and country fixed effects, respectively.

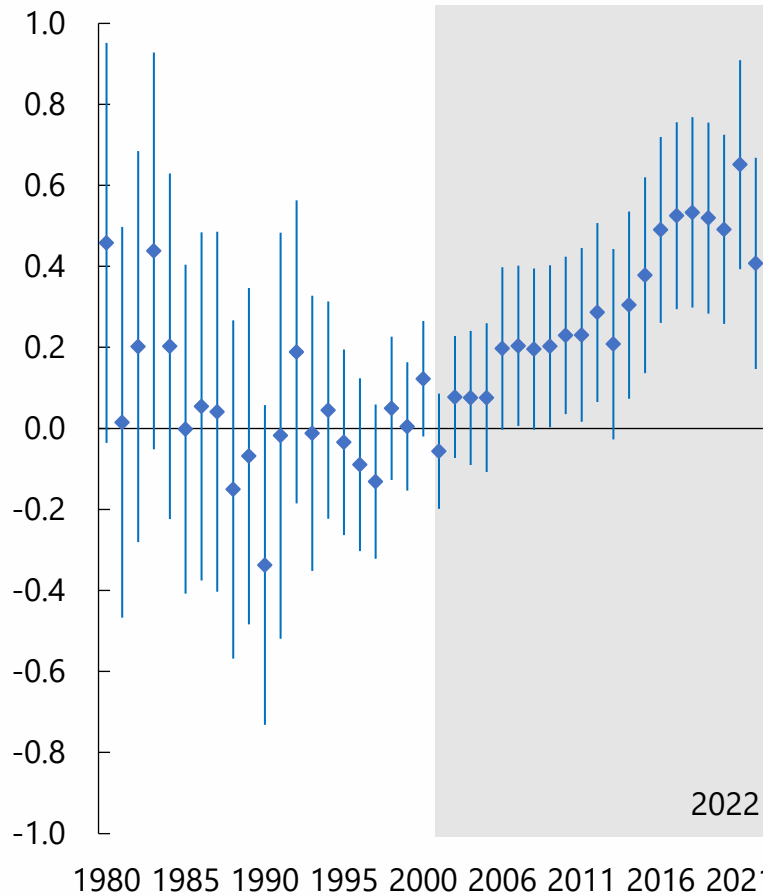
## Correlation of idiosyncratic growth surprises between advanced economies and G20 emerging markets 2/

(percent)

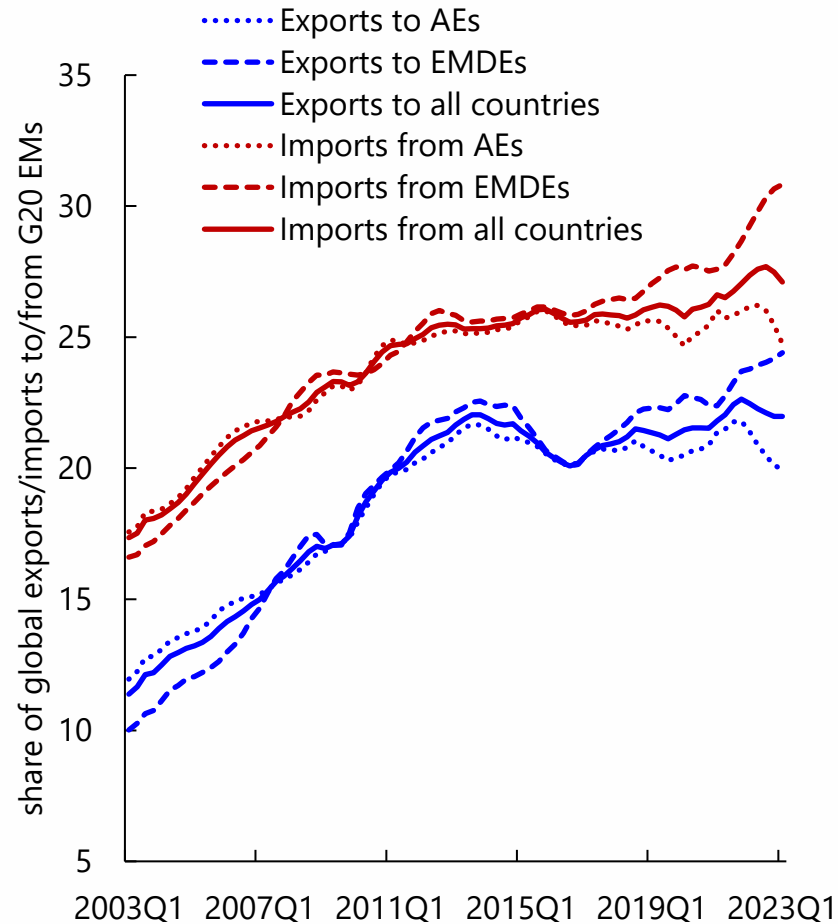


# Rising footprint of G20 EMs in global trade and FDI

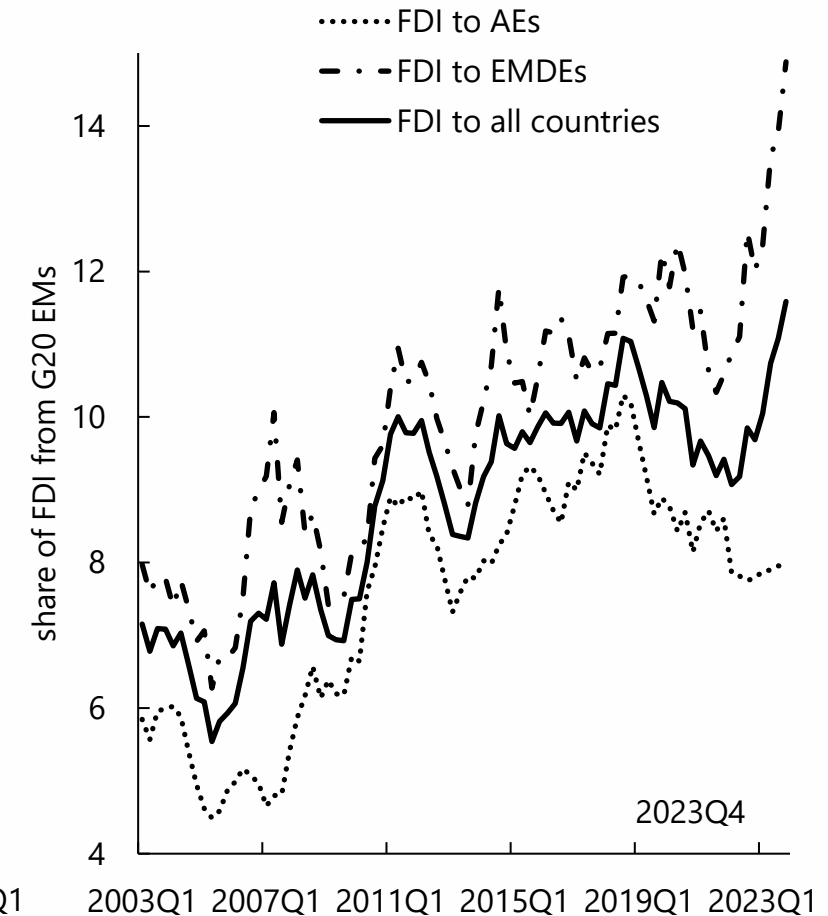
**Increase in G20 EM global trade 1/**  
(log points)



**G20 EM goods trade**  
(percent of global exports/imports to/from G20 EMs)



**Foreign direct investment from G20 EMs 2/**  
(percent of total FDI from G20 EMs)



Sources: fDi Markets; IMF, *Direction of Trade Statistics*; and IMF staff calculations.

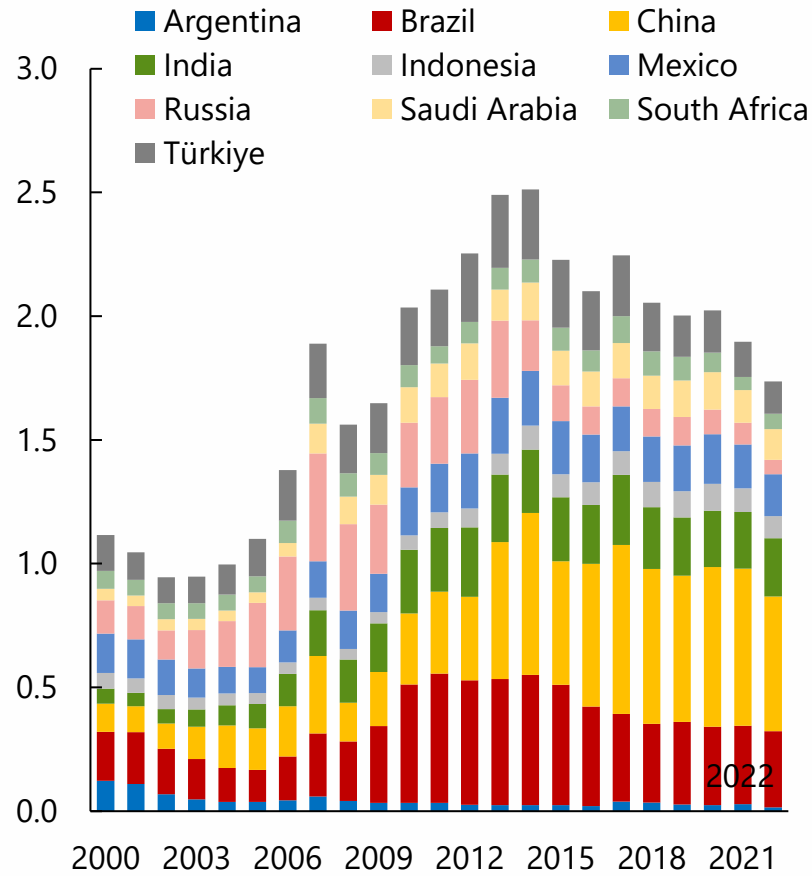
1/ This chart is based on a standard gravity trade model in which the dependent variable is the log of bilateral goods trade. The model includes country pair, source  $\times$  year, and destination  $\times$  year fixed effects. The chart plots the yearly coefficient of a dummy for the bilateral pairs involving G20 EMs (the reference year is 2001).

2/ This chart uses the count of FDI projects.

# Growing financial footprint in bank lending and portfolio investment

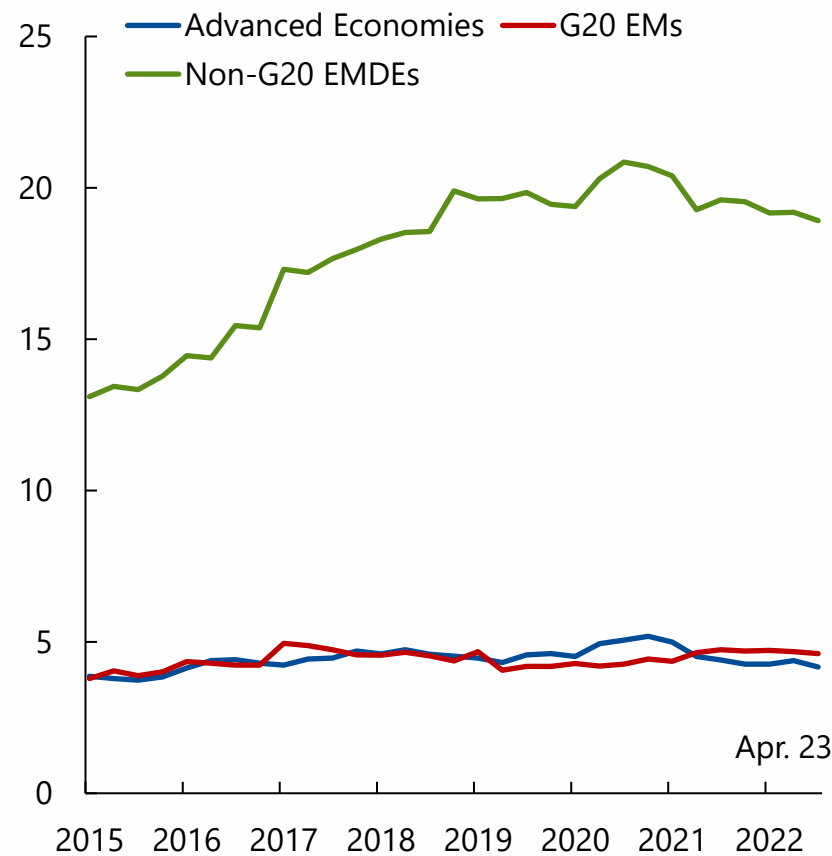
## Cross-border bank lending to G20 EMs from G5 economies

(percent of G5 GDP)

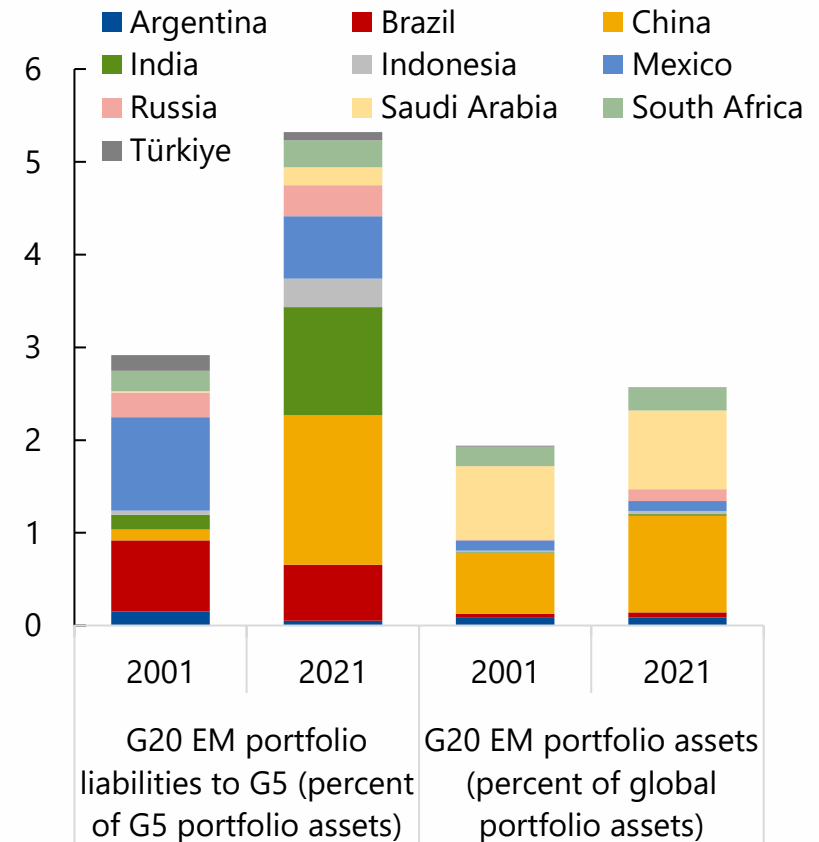


## Cross-border bank lending from G20 EM banks

(percent of all reported bank claims on the region)



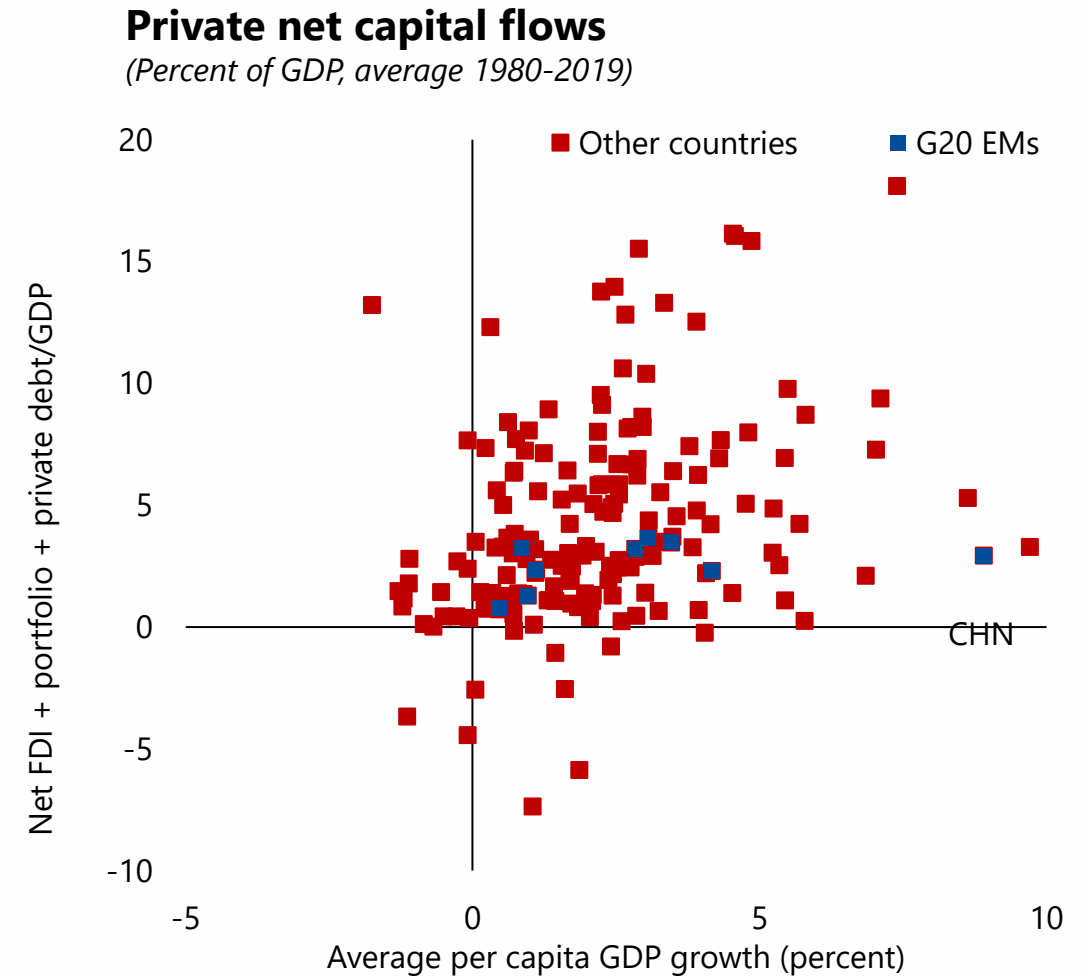
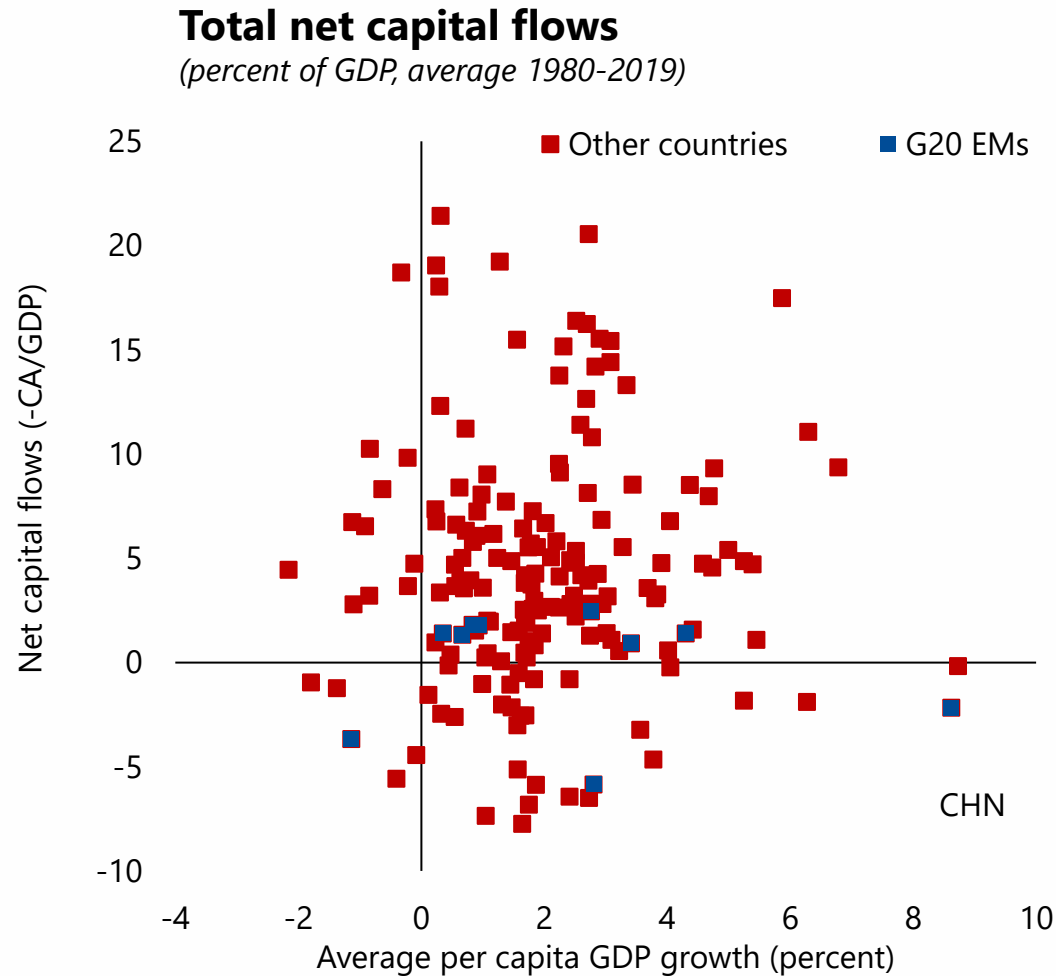
## G20 EM portfolio assets and liabilities 1/



Sources: Bank for International Settlements, locational banking statistics by nationality; Bank for International Settlements, locational banking statistics by residence; IMF, Coordinated Portfolio Investment Survey; Lane and Milesi-Ferretti (2018); and IMF staff calculations.

1/ G5 = France, Germany, Japan, the United Kingdom, and the United States; EMs = emerging markets; EMDEs = emerging market and developing economies.

# Box 2: Capital Flows to EMs: Revisiting the Allocation Puzzle

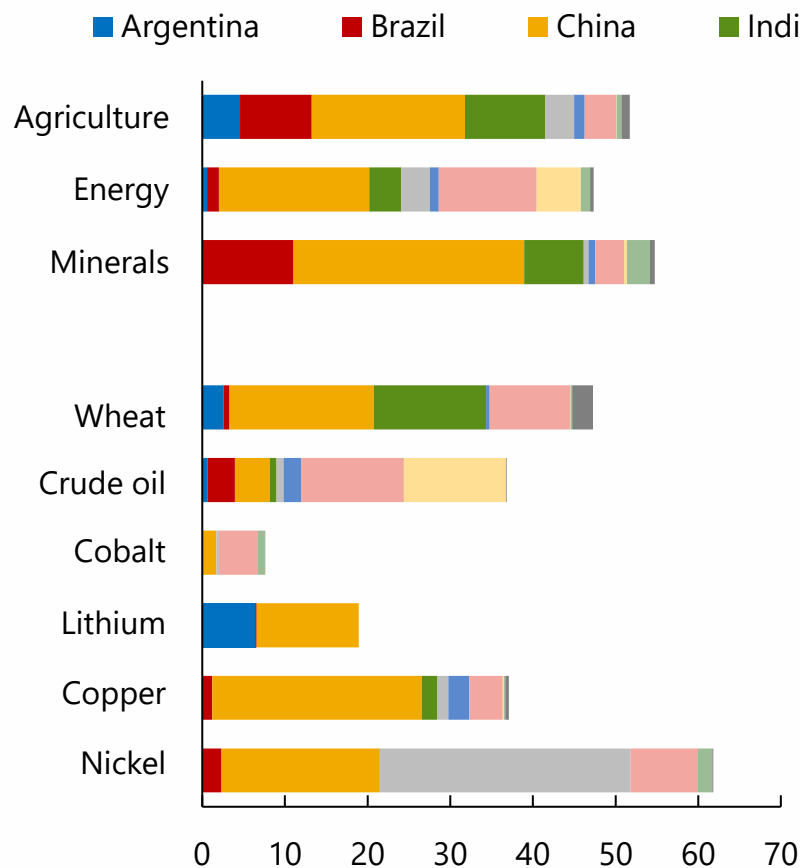


Sources: Alfaro, Kalemli-Özcan, and Volosovych (2014); and IMF staff calculations.

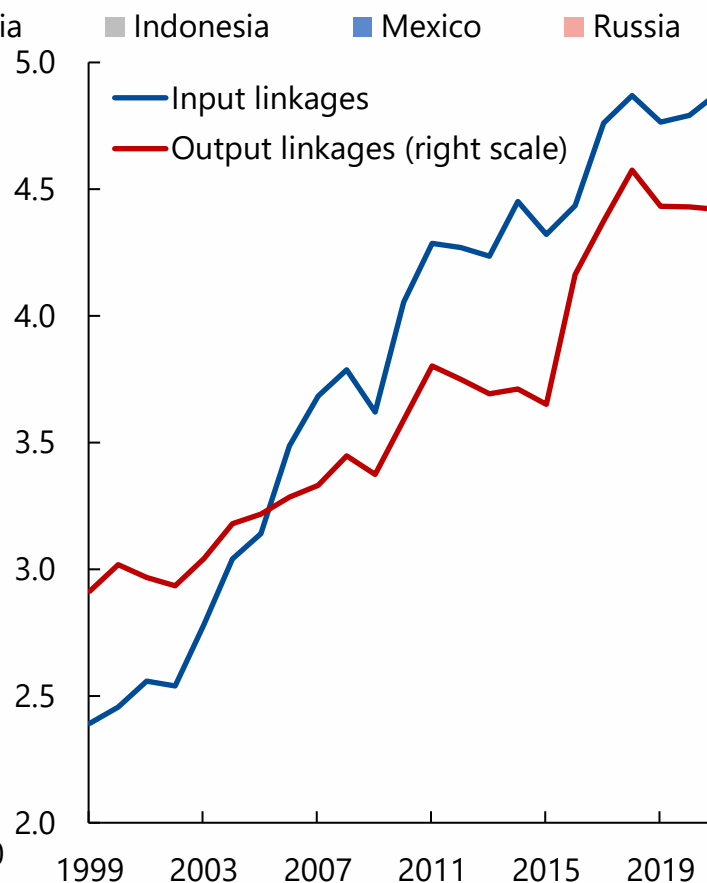
Note: Net flows are scaled by GDP. Lines report the estimated slope via ordinary least squares; solid (dashed) lines are (not) statistically significant at 10 percent or less. Average per capita GDP growth rates correspond to the period with available capital flow data. The sample comprises 178 countries in the left chart and 135 in the right chart. CA = current account; CHN = China; EMs = emerging markets; FDI = foreign direct investment.

# G20 EM presence in GVCs and commodities can amplify spillovers

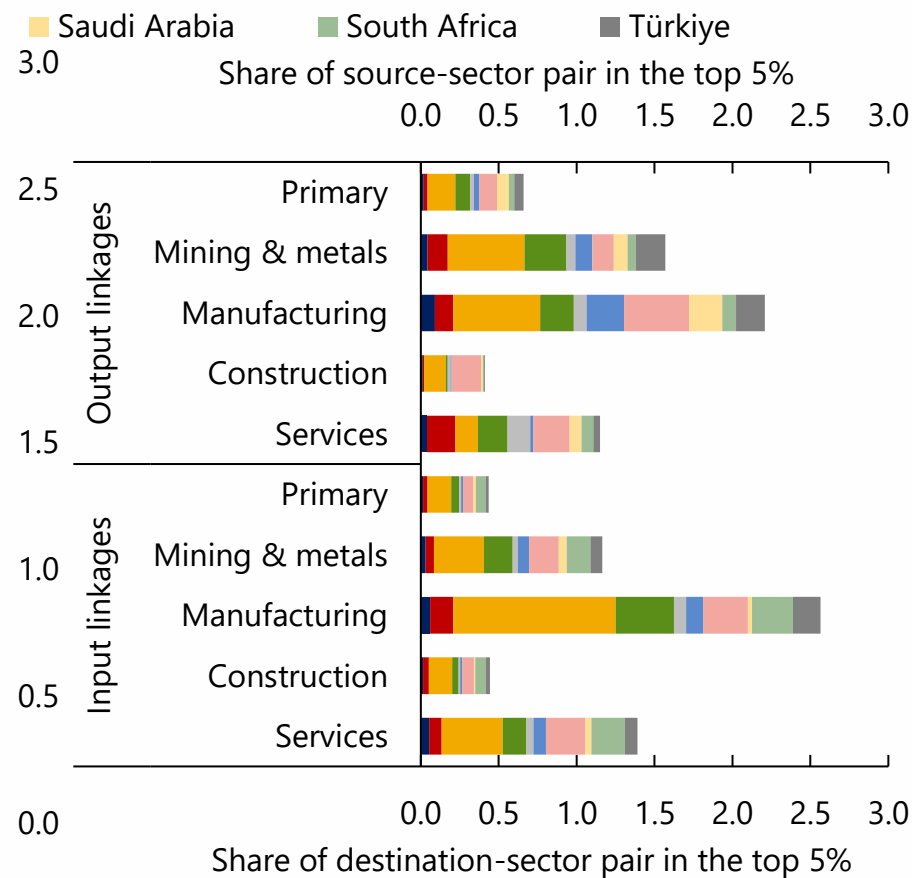
**Share of G20 EMs in world production across commodities**  
(percent of global production)



**GVC linkages with G20 EMs 1/**  
(percent, median across countries)



**G20 EM major GVC linkages 2/**  
(percent)



Sources: British Geological Survey; Eora Global Supply Chain Database; Food and Agriculture Organization; International Energy Agency; US Geological Survey; and IMF staff calculations.

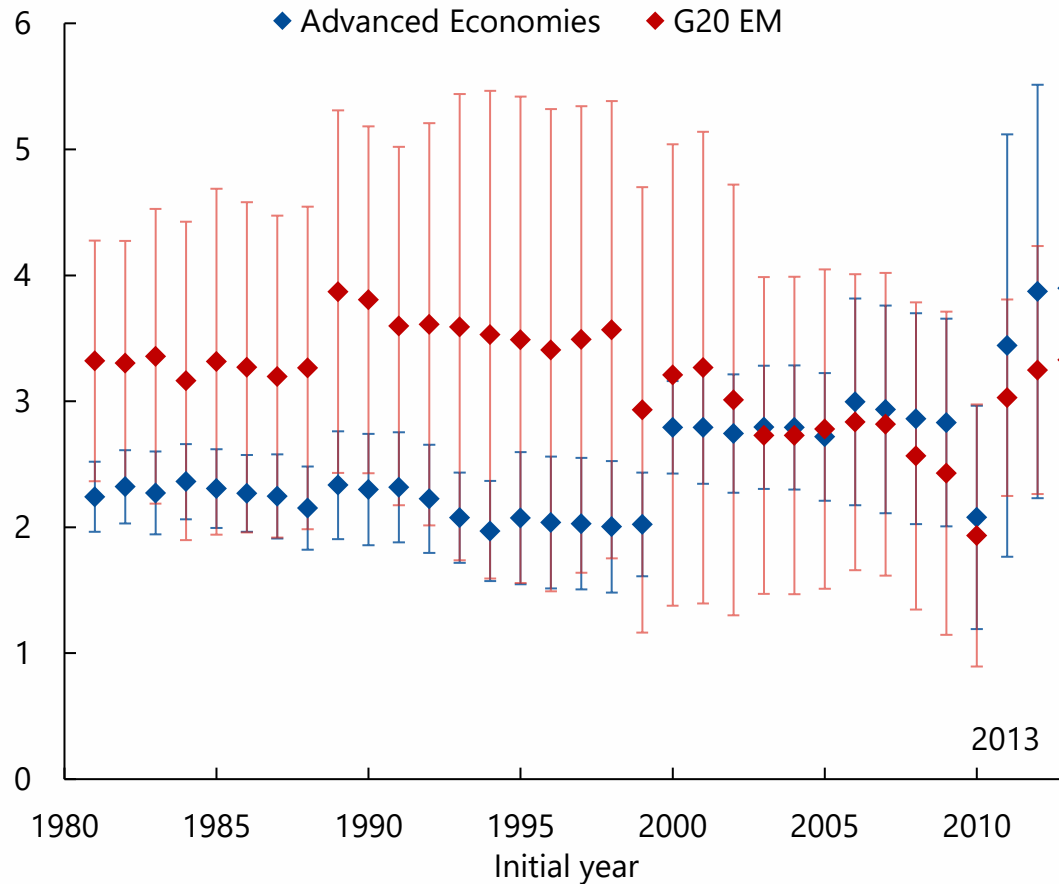
1/ Output linkages are defined as the share of global demand from G20 EM consumers and firms, while input linkages are defined as the share of total inputs supplied by G20 EM industries. Output and input linkages are computed at the country-year level.

2/ Output and input linkages are computed at the source country-sector and destination country-sector pairs, respectively, over the period 1999-2021. The chart plots the distribution of the top 5 percent of these linkages across sectors and countries.

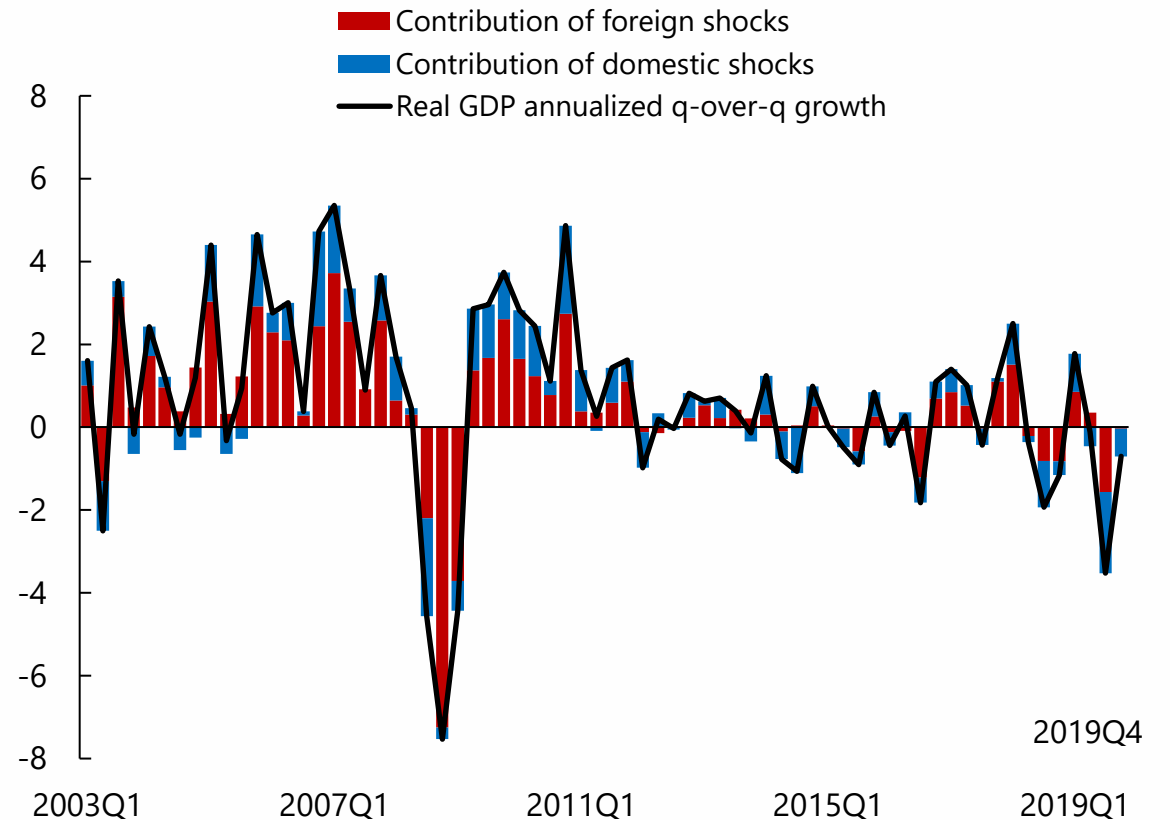


# G20 EMs output fluctuations more similar to AEs

**Lower volatility in G20 EMs 1/**  
(percent)



**Historical decomposition of real GDP growth of G20 EMs 2/**  
(percent)



Sources: Penn World Tables (version 10.1); and IMF staff calculations.

1/ Real GDP growth volatility is computed as the within-country standard deviation of real GDP growth over a rolling 10-year window, starting in the year indicated on the x-axis. For instance, the value for 2000 refers to the volatility computed over the period 2000–09. The chart plots the averages of the real GDP growth volatility for advanced economies and G20 EMs.

2/ The contributions of domestic shocks are derived as weighted averages of the sum of contributions of domestic aggregate demand and supply shocks estimated for each G20 EM country in country-specific structural vector autoregressions. The contributions of foreign shocks are derived as residuals.

# Roadmap

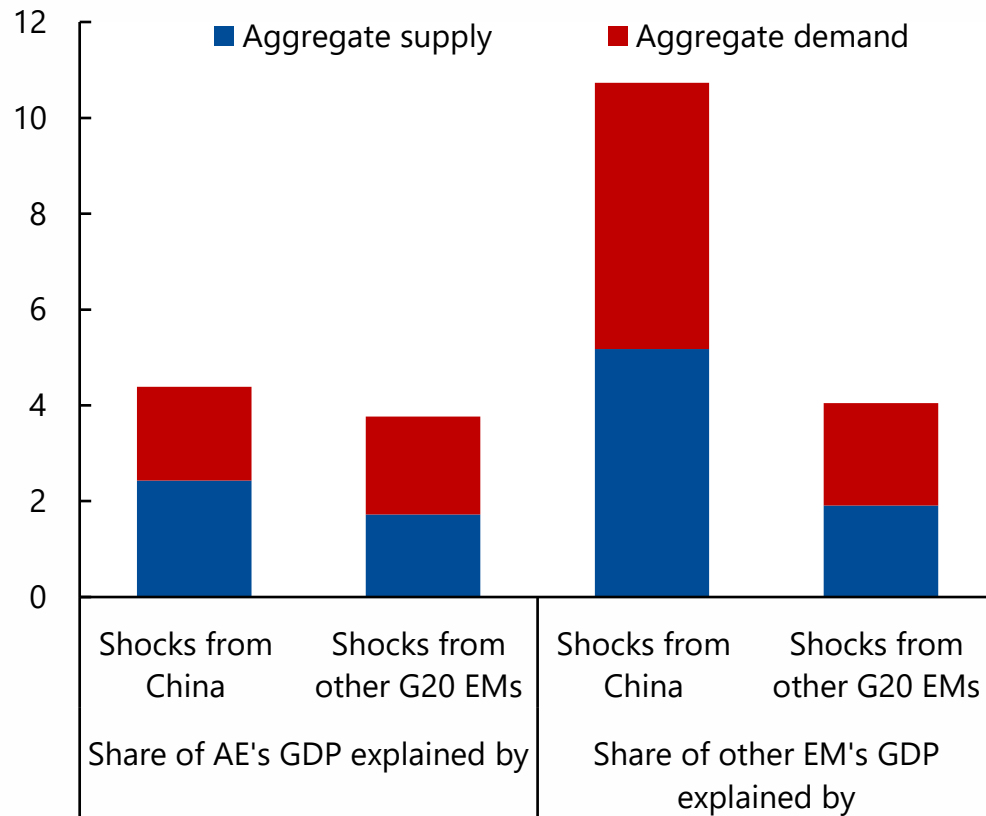
1. **Short-term aggregate spillovers**, based on a set of structural and global vector autoregression (VAR) models
2. **Medium-term firm-level spillovers**, based on local projections of idiosyncratic growth surprises on firm revenue growth, depending on sectoral exposures
3. Scenario analysis to analyze **medium- to long-term sectoral reallocation** due to spillovers from domestic TFP shocks, based on a quantitative trade model with input-output data
4. **Forward-looking** analysis of **aggregate spillovers**, based on a DSGE model



# Aggregate spillovers large: China globally, other G20 EMs regionally

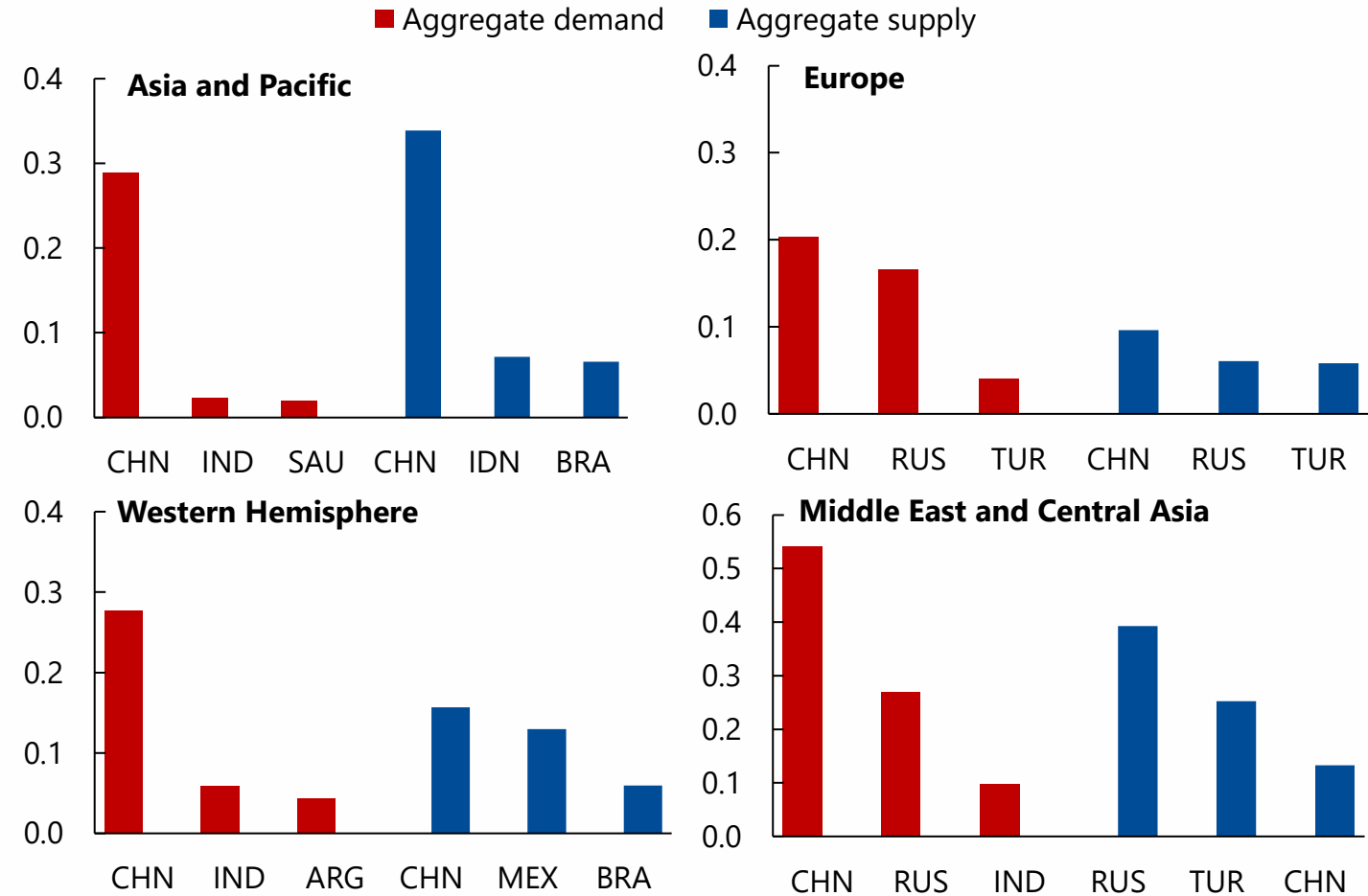
## Fraction of GDP variance explained by shocks from G20 EMs 1/

(percent, three years ahead)



## Growth spillovers from G20 EMs by region 2/

(percent; three years ahead)



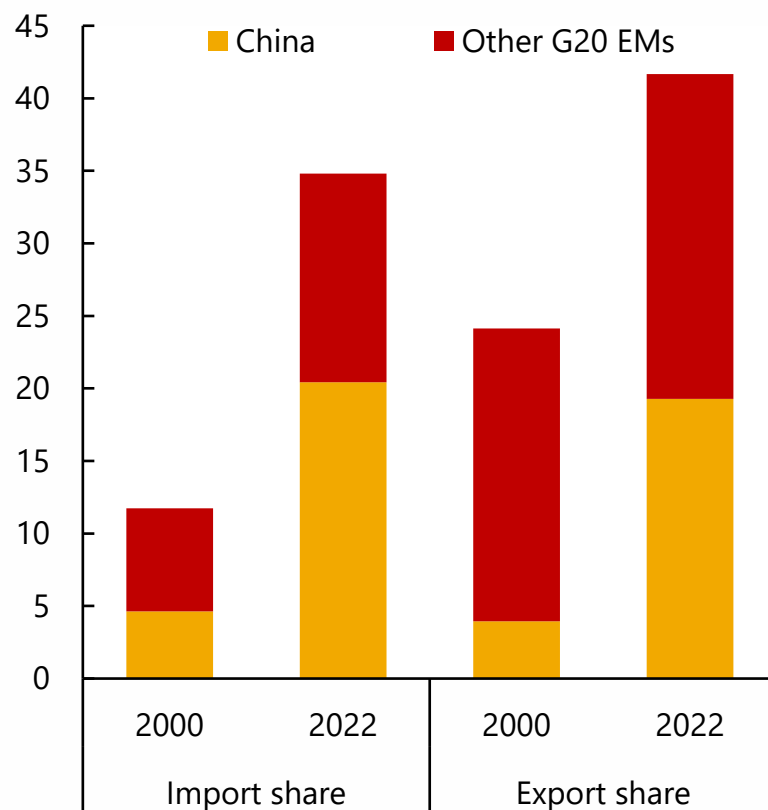
Source: IMF staff calculations.

1/ Weighted averages of median estimates. Fraction of 3-year-ahead variance of GDP explained by domestic AD and AS shocks in each G20 on recipient economies' output.

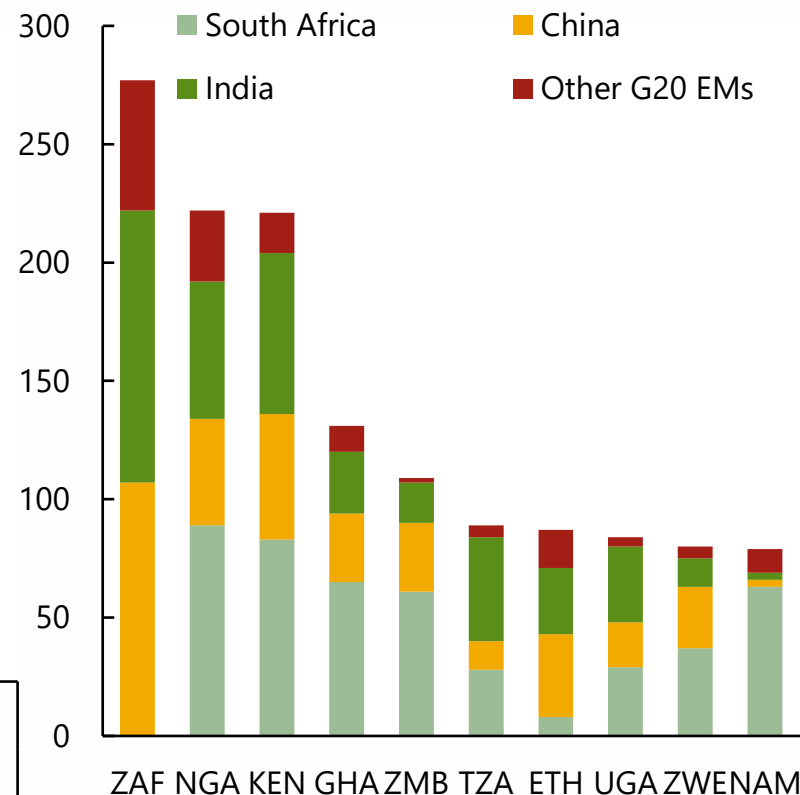
2/ The charts show three-year-ahead cumulative impulse responses to 1 percentage point positive domestic aggregate demand and supply shocks in each G20 EM on recipient economies' output. Each panel reports the top three countries in terms of the size of their spillovers to the region. Reported results are cross-country aggregates using purchasing-power-parity GDP weights of impulse responses that are significant on the basis of 68 percent credible intervals. Data labels in the figure use International Organization for Standardization (ISO) country codes. EMs = emerging markets.

# Box 3: Role of G20 Emerging Markets in Sub-Saharan Africa

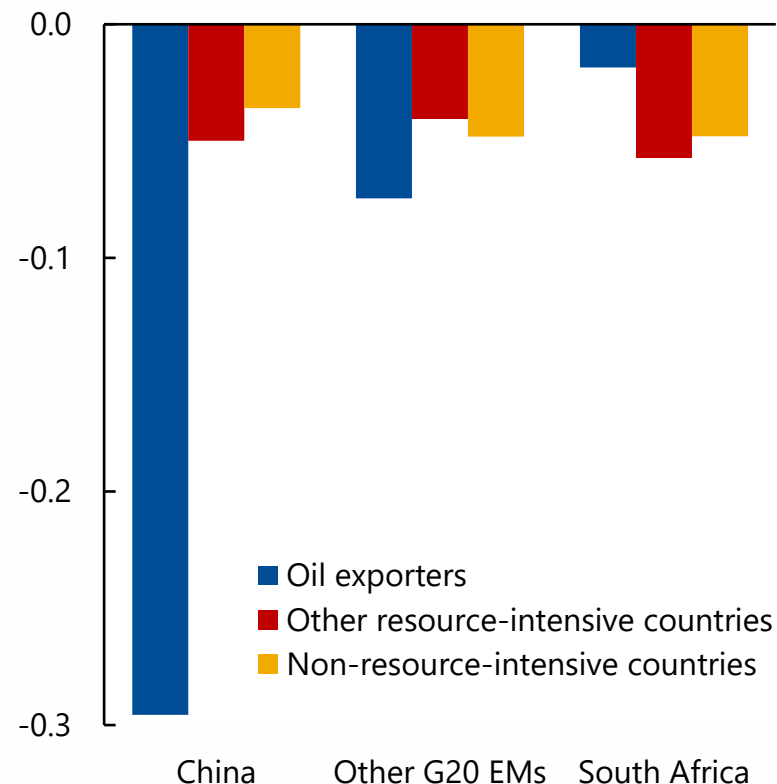
**Goods imports and exports to sub-Saharan Africa 1/**  
(percent)



**Top recipients of G20 EM FDI projects in sub-Saharan Africa**  
(number of FDI projects)



**Growth slowdown in G20 EMs and sub-Saharan Africa 2/**  
(percent, one-year average)



Sources: fDi Markets; IMF, *Direction of Trade Statistics*; and IMF staff calculations.

1/ This chart shows the share of imports (exports) of goods for China and other G20 EMs to sub-Saharan African countries.

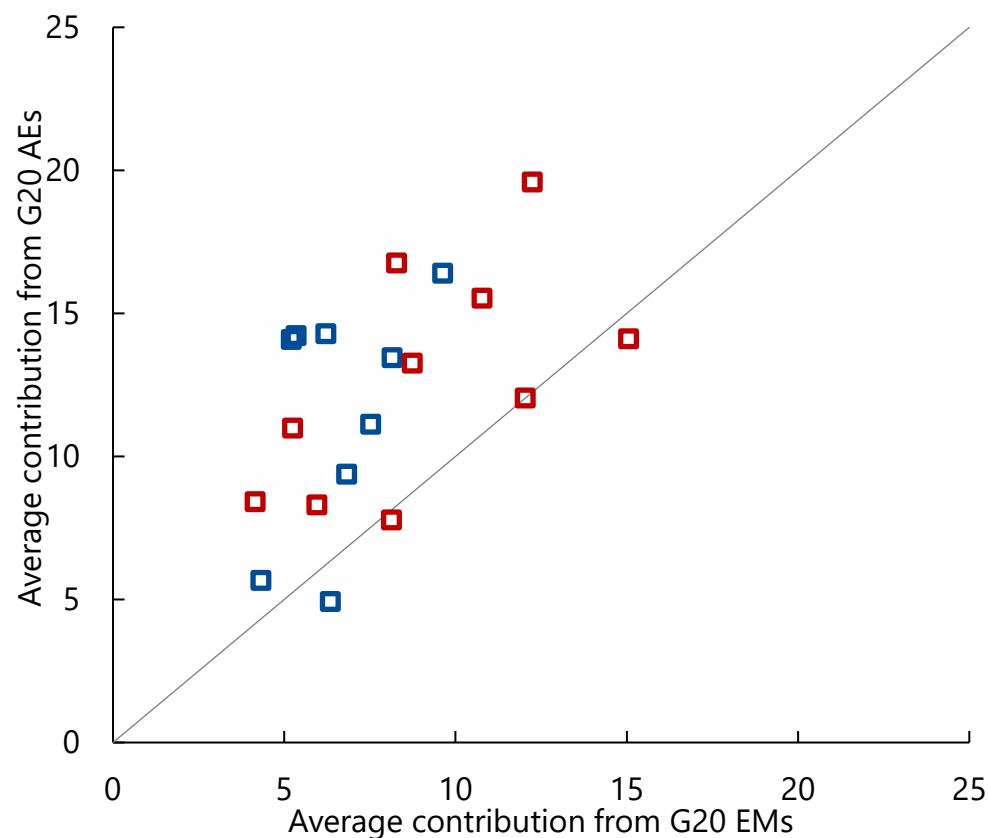
2/ This chart shows first-year average responses to a 1 percentage point negative shock in China, other G20 EMs, and South Africa for sub-Saharan African countries (excluding South Africa). Country groupings are detailed in the October 2023 *Regional Economic Outlook: Sub-Saharan Africa*.

# Aggregate spillovers from G20 EMs increased

## Fraction of GDP variance explained by shocks from G20 countries, by country

(percent, three years ahead)

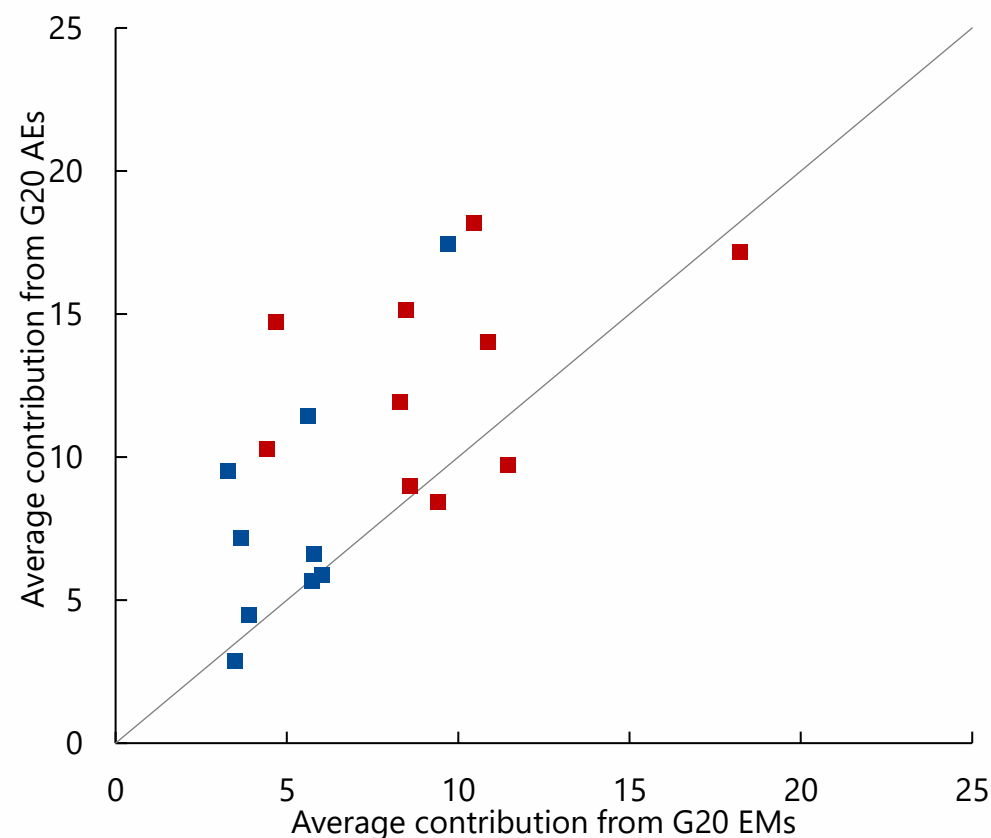
■ G20 AEs: 2001-10 ■ G20 EMs: 2001-10



## Fraction of GDP variance explained by shocks from G20 countries, by country

(percent, three years ahead)

■ G20 AEs: 2010-19 ■ G20 EMs: 2010-19

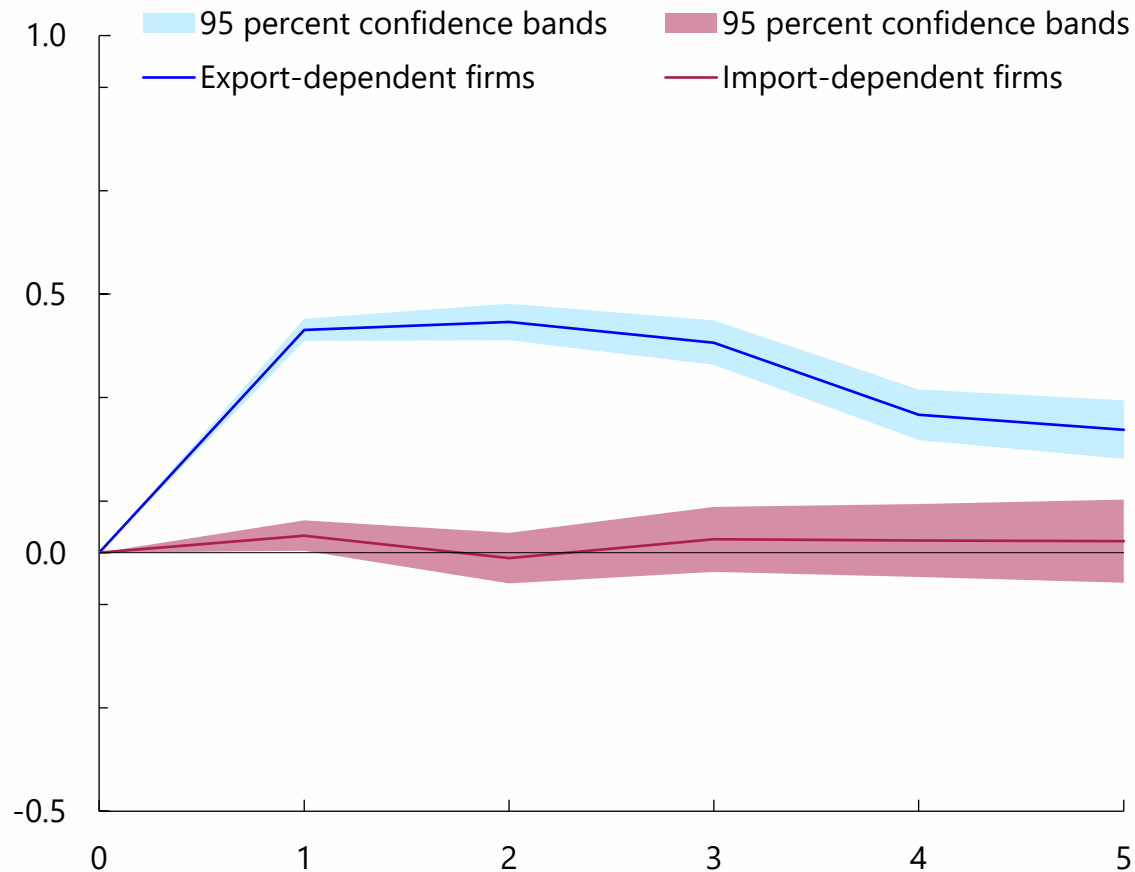


Source: IMF staff calculations.

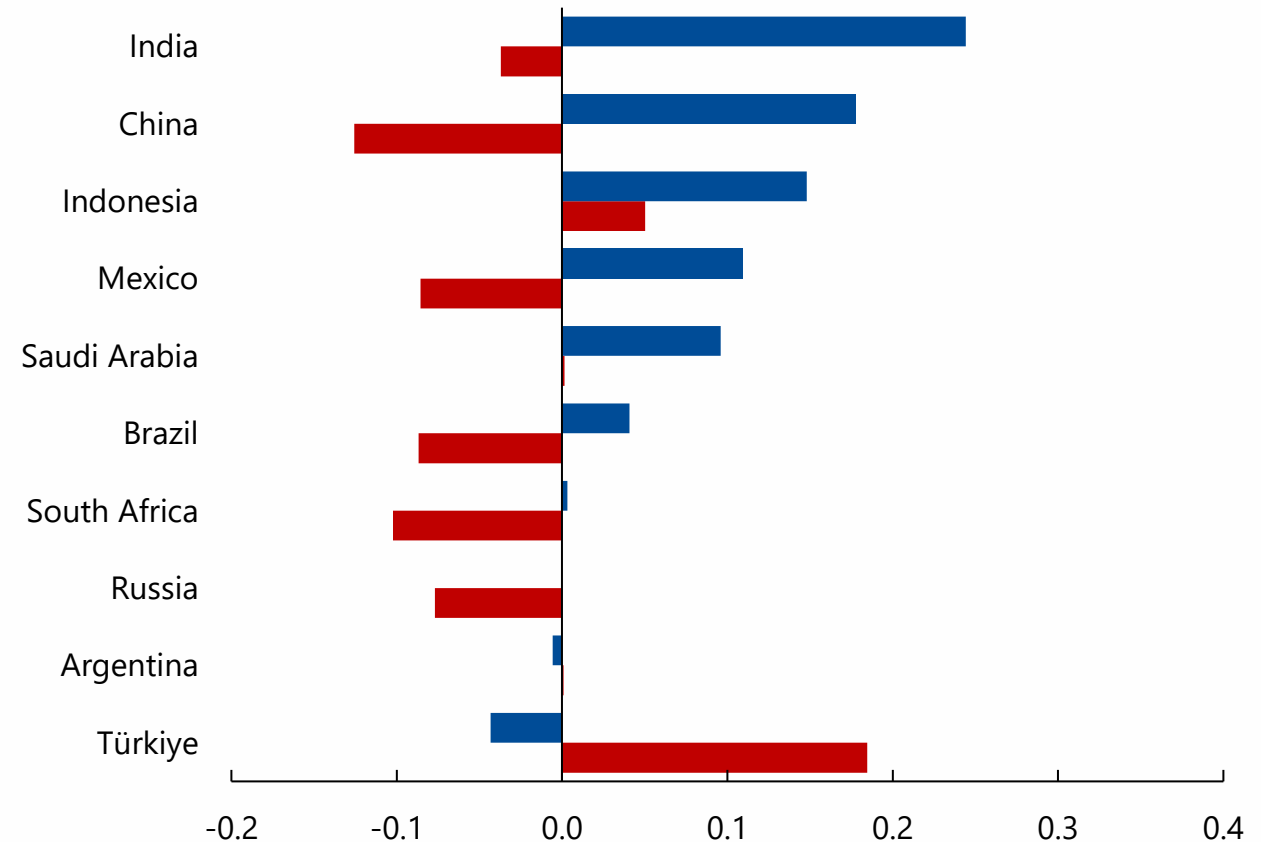
Note: Blue (red) squares are averages of fractions of three-year-ahead variance in GDP of G20 AEs (G20 EMs) explained by shocks (sum of aggregate demand and supply shocks) originating in G20 countries (excluding shocks from the US and China) (median estimates). AEs = advanced economies; EMs = emerging markets.

# G20 EMs spillovers to foreign firms exposed through GVCs

**Spillovers from G20 EMs to firm revenue growth 1/**  
(percentage points)



**G20 EMs effect on revenue growth of foreign firms exposed through GVCs 2/**  
(percentage points)



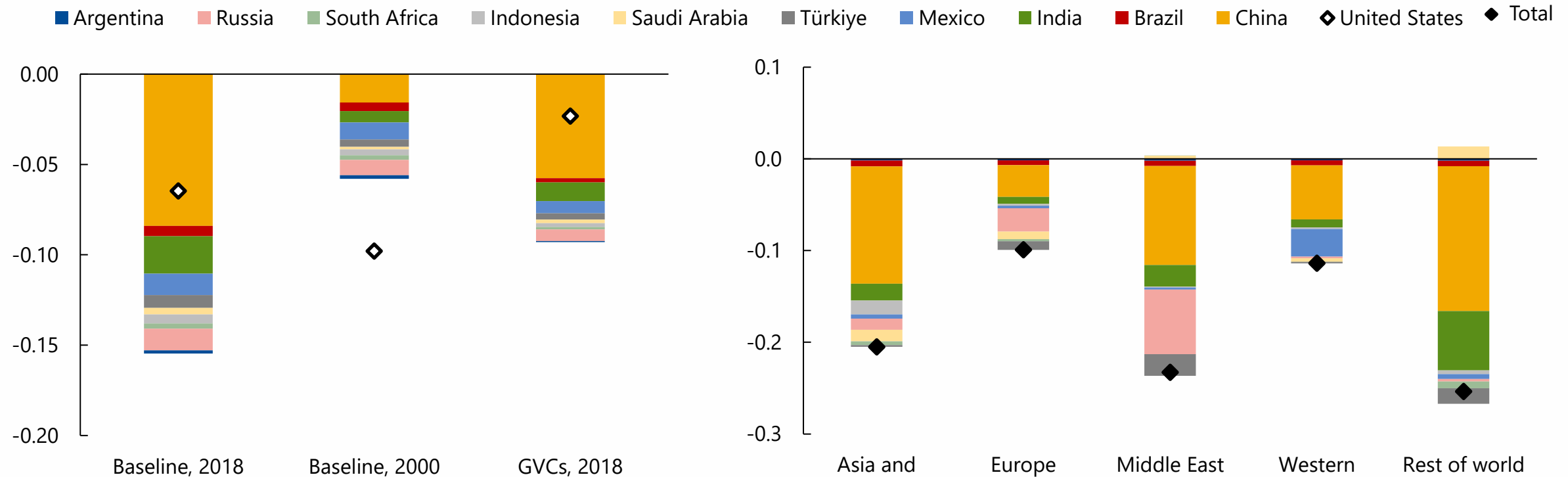
Sources: Eora Global Supply Chain Database; Orbis; and IMF staff calculations.

1/ This chart plots the impulse responses of firm revenue growth to a domestic growth surprise in G20 EMs for firms more exposed to output (in blue) or input (in red) linkages, compared with similar, less-exposed firms. EMs = emerging markets.

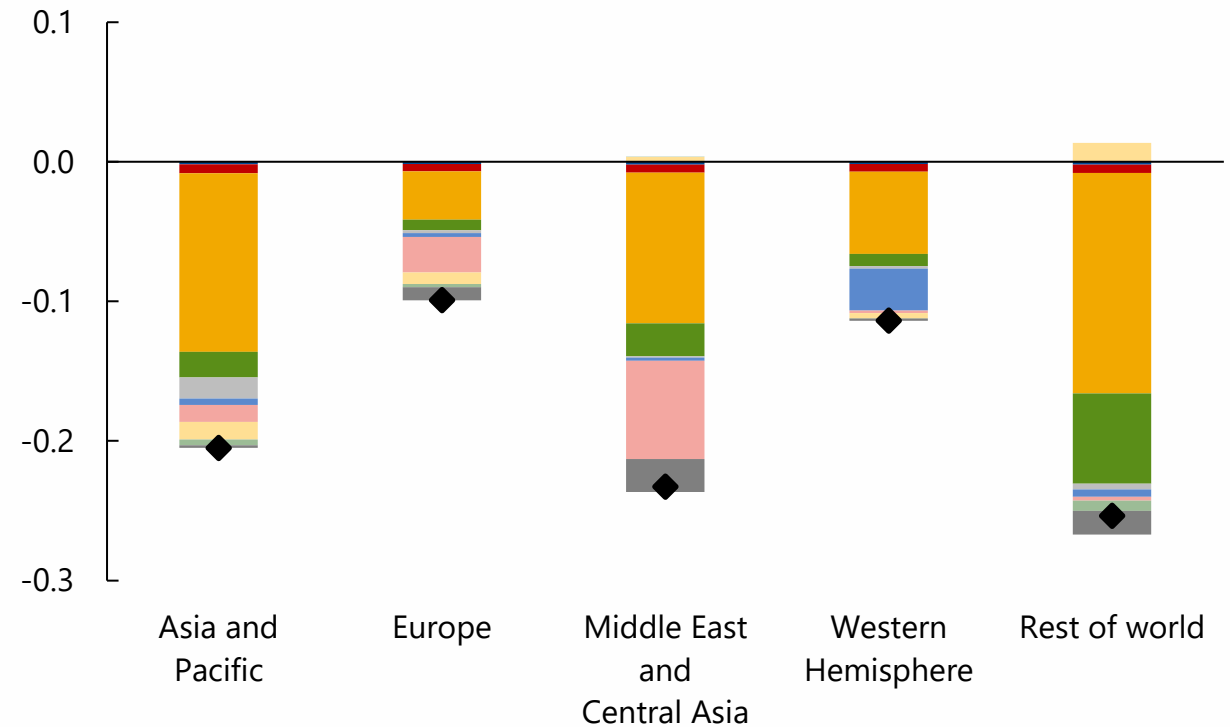
2/ The bars correspond to the responses of firm revenue growth 3 years after a domestic growth surprise in G20 EMs. The bars capture the response of firms more exposed to output (in blue) and input (in red) linkages, relative to firms which are less-exposed. EMs = emerging markets.

# Longer term spillovers from productivity slowdown in G20 EMs

**Spillover impact on global GDP excluding G20 emerging markets by source**  
(percent)



**Spillover impact on regional GDP by source**  
(percent; baseline scenario, 2018)



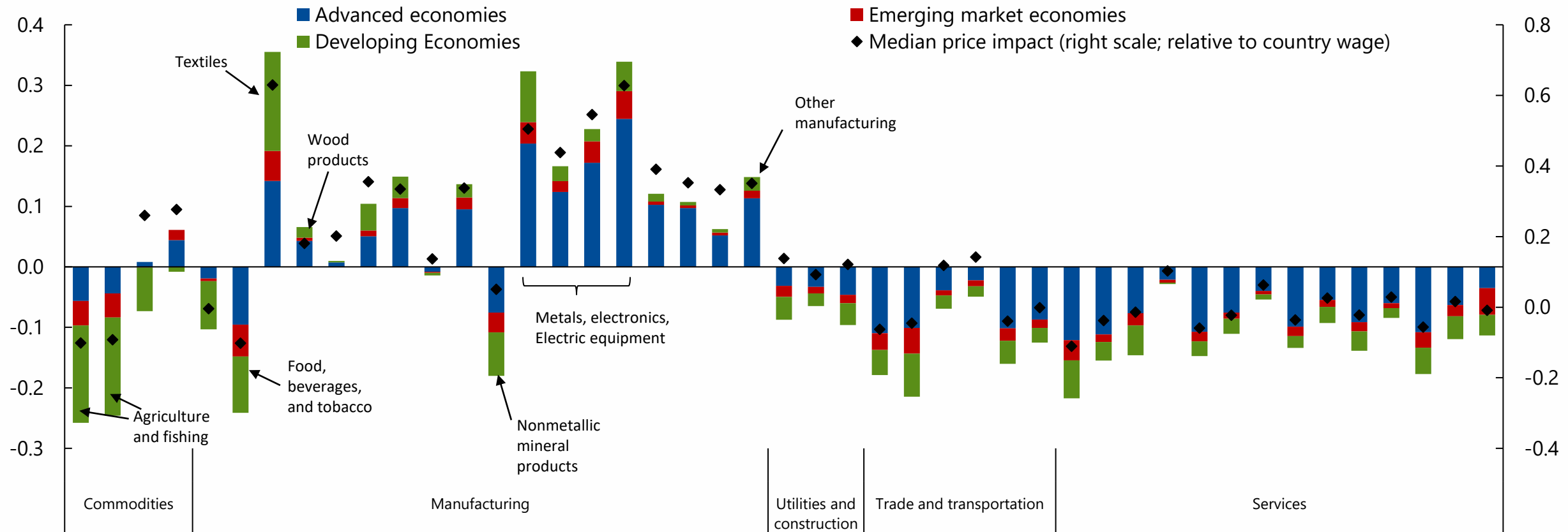
Sources: Bonadio and others (2021, 2023); Huo, Levchenko, and Pandalai-Nayar (forthcoming); OECD Inter-Country Input-Output Tables; and IMF staff calculations.

Note: Sample contains 36 advanced economies, 26 emerging market economies, 4 low-income developing countries, and a rest of the world region. The impact on GDP excludes countries shocked in each scenario. GVC = global value chain.

# Sectoral reallocation: productivity slowdown in GVC-integrated sectors

## Changes in sectoral value added

(shock to G20 emerging markets, GVC sectors, percent)



Sources: Bonadio and others (2021,2023); Huo, Levchenko, and Pandalai-Nayar (forthcoming); OECD Inter-Country Input-Output Tables; and IMF staff calculations.

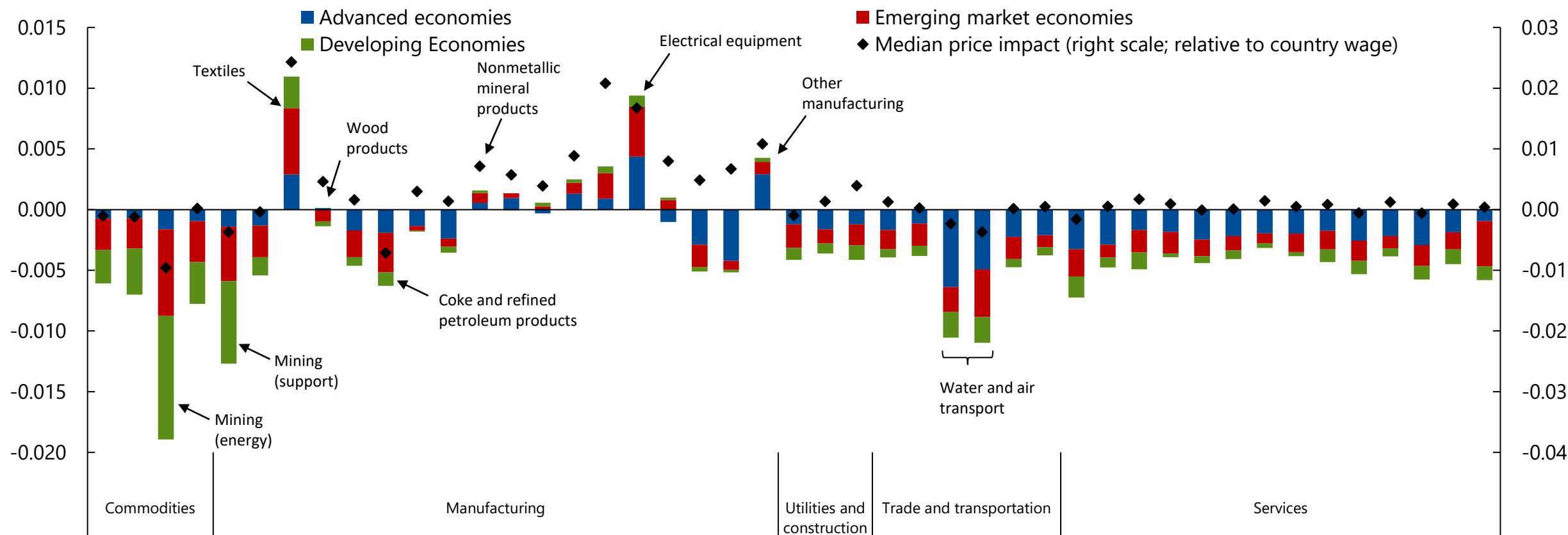
Note: Sample contains 36 advanced economies, 26 emerging market economies, 4 low-income developing countries, and a rest of the world region. Developing economies include the rest of the world region. Bars indicate the change in global sectoral value added excluding countries shocked in each scenario.



# Sectoral reallocation: productivity slowdown in Chinese construction

## Changes in sectoral value added

(shock to Chinese construction sector, percent)



Sources: Bonadio and others (2021,2023); Huo, Levchenko, and Pandalai-Nayar (forthcoming); OECD Inter-Country Input-Output Tables; and IMF staff calculations.

Note: Sample contains 36 advanced economies, 26 emerging market economies, 4 low-income developing countries, and a rest of the world region. Developing economies include the rest of the world region. Bars indicate the change in global sectoral value added excluding countries shocked in each scenario.

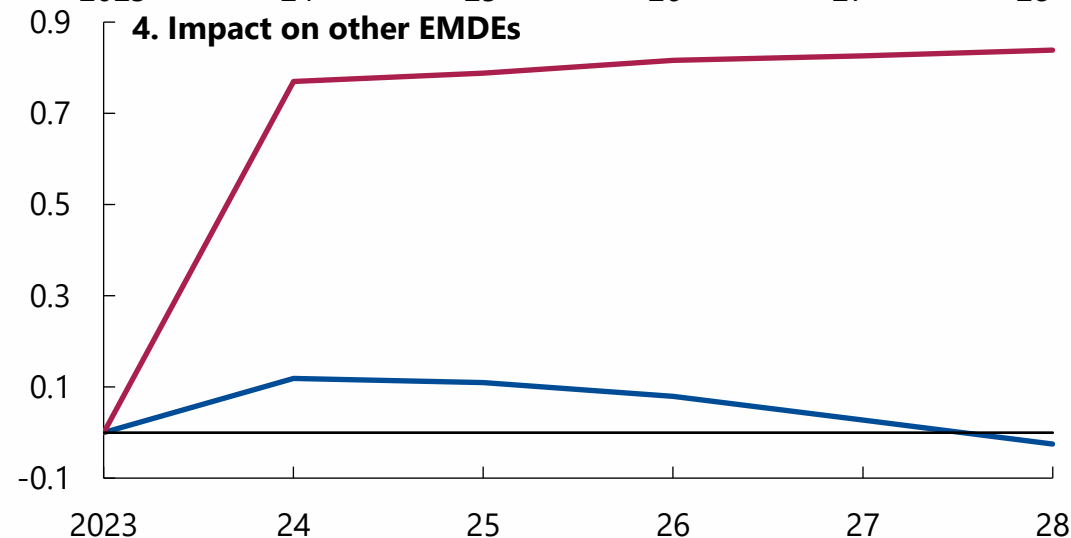
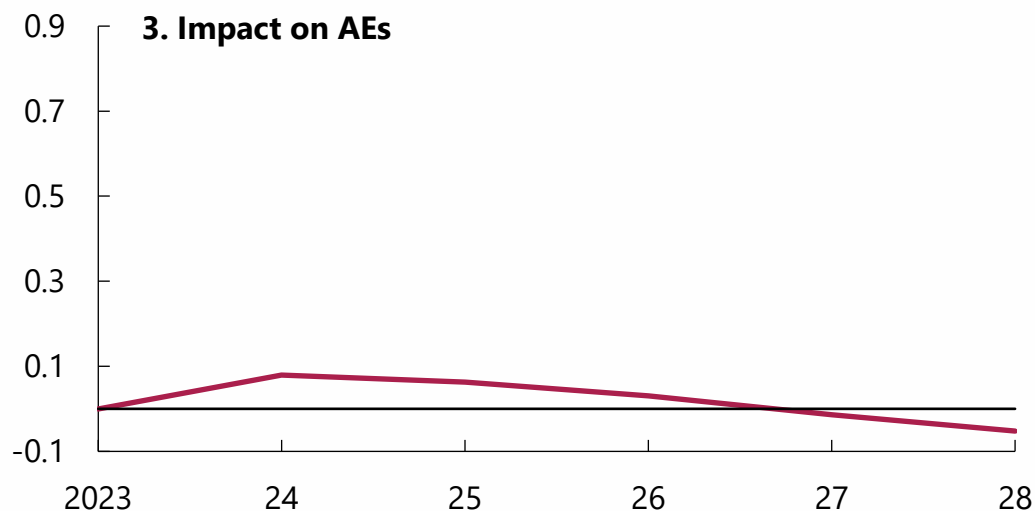
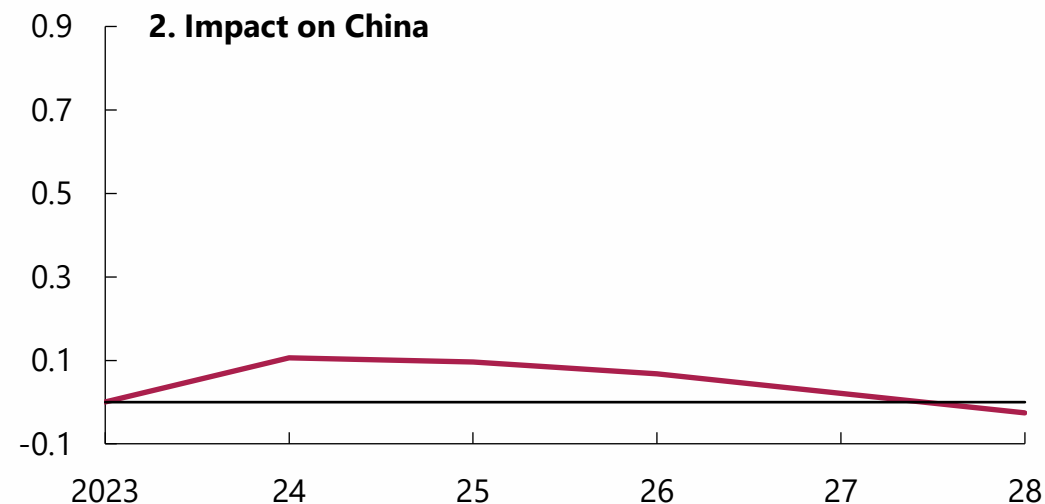
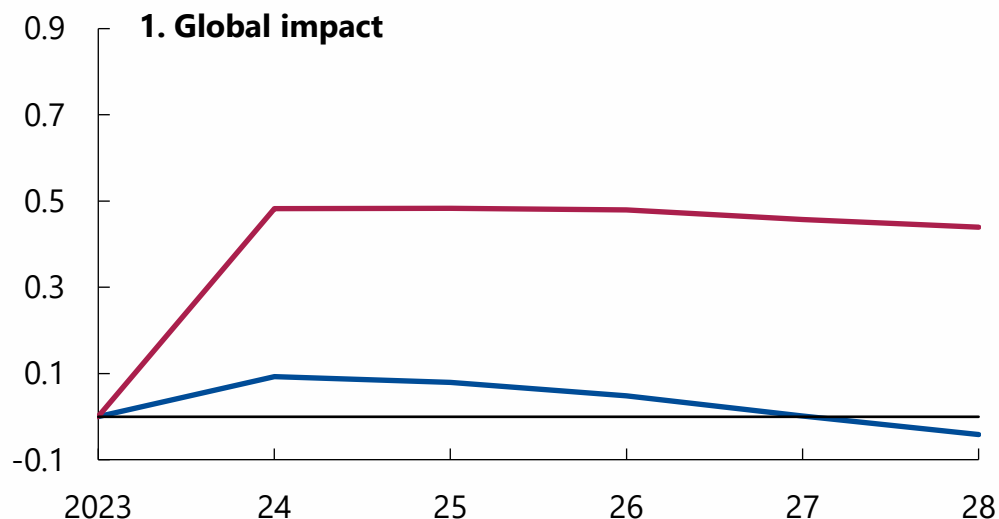
# G20 EMs other than China can support global growth

## What is the global impact from a G20 emerging market upside scenario on real GDP?

(percent; deviations from baseline)

— Other G20 EM spillovers only

— Upside scenario



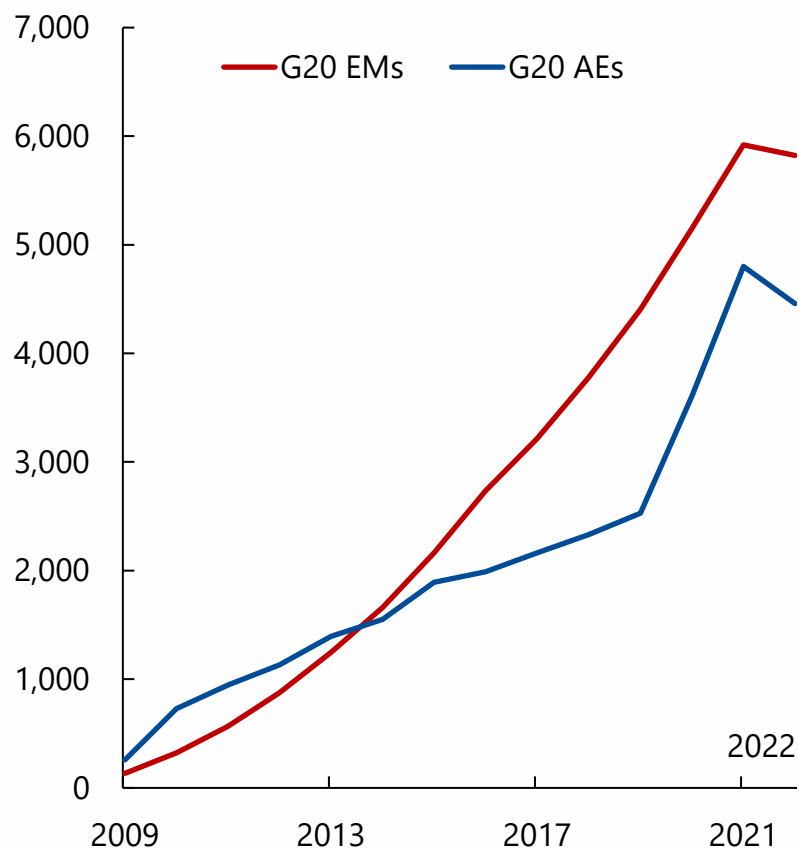
Source: IMF staff calculations.

Note: AEs = advanced economies; EMs = emerging markets; EMDEs = emerging market and developing economies.

# Box 1: The Rise of Domestic Subsidies and Their Impact on Exports

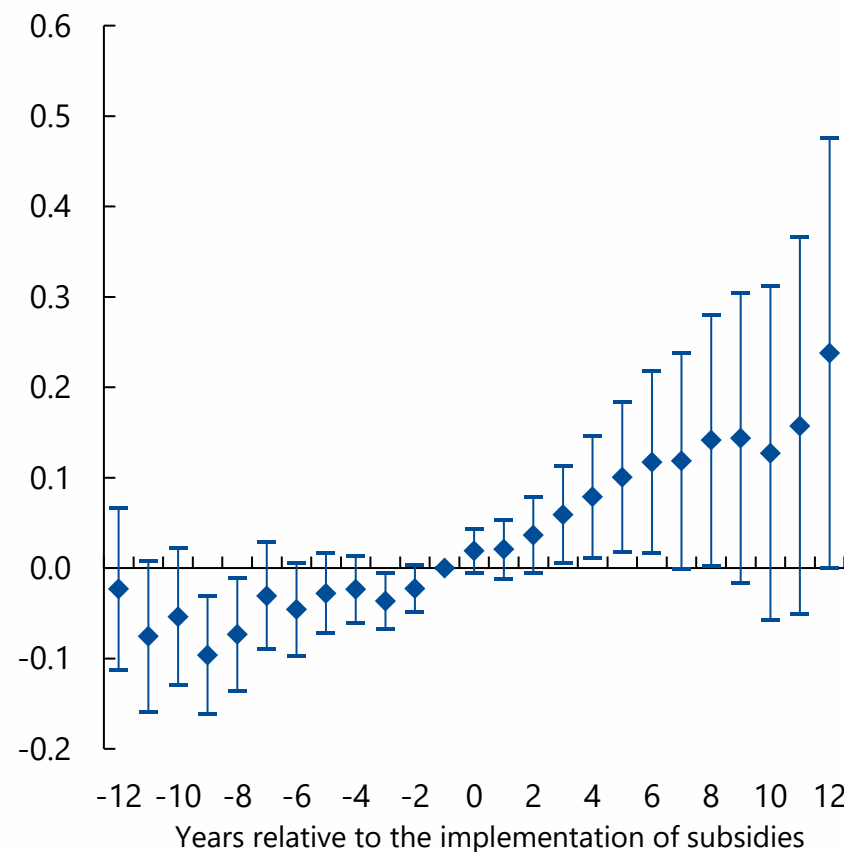
**Domestic subsidies in force in G20 countries 1/**

(number of subsidies)



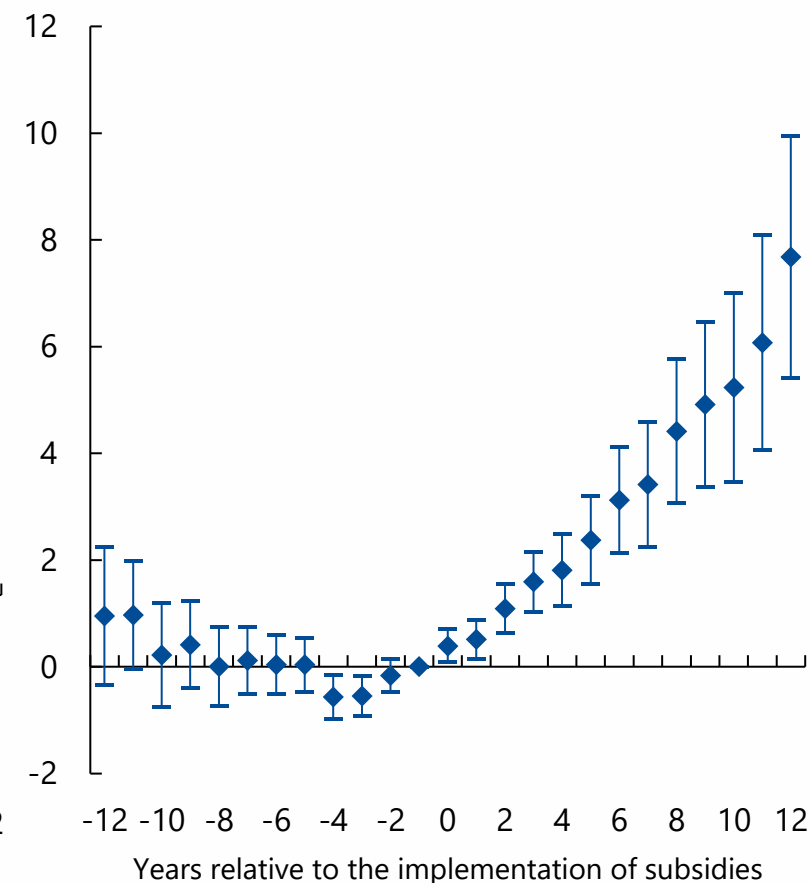
**Effect of domestic subsidies on exports 2/**

(log points)



**Effect of domestic subsidies on probability of exports 2/**

(Percentage points)



Sources: Global Trade Alert database; Rotunno and Ruta (2024); and IMF staff calculations.

1/ Subsidies are defined as government measures that involve a financial transfer and create an advantage for the beneficiaries. Data exclude measures classified as export subsidies and include only measures that are classified as "distortive" (discriminating against foreign interests).

2/ The sample includes G20 EMs. The charts plot the estimates and 90 percent confidence intervals on the subsidy dummy interacted with periods before and after the treatment. The specification includes dummies for other policies, country-product fixed effects, country-product linear time trends, product-year and country-ISIC 2-digit-year fixed effects.

# Main takeaways

- Growth **spillovers** from domestic shocks in **G20 EMs** have **increased** over the past two decades and are now becoming comparable to those from advanced economies
- Spillovers generate **winners and losers** and a sizable **reallocation** of economic activity and jobs across sectors
- A slowdown in China could be particularly costly. Yet, a plausible growth acceleration in other G20 EMs could generate **positive global spillovers** and boost world growth

# Policy prescriptions

- **Structural reforms**, especially in labor markets and business regulation, can help sectors that stand to benefit most from reallocation
- Inclusive policies, including **targeted fiscal support**, can mitigate any harmful distributional impact of the spillovers
- Effective multilateral cooperation and **international policy coordination** can manage spillovers and minimize fragmentation risks

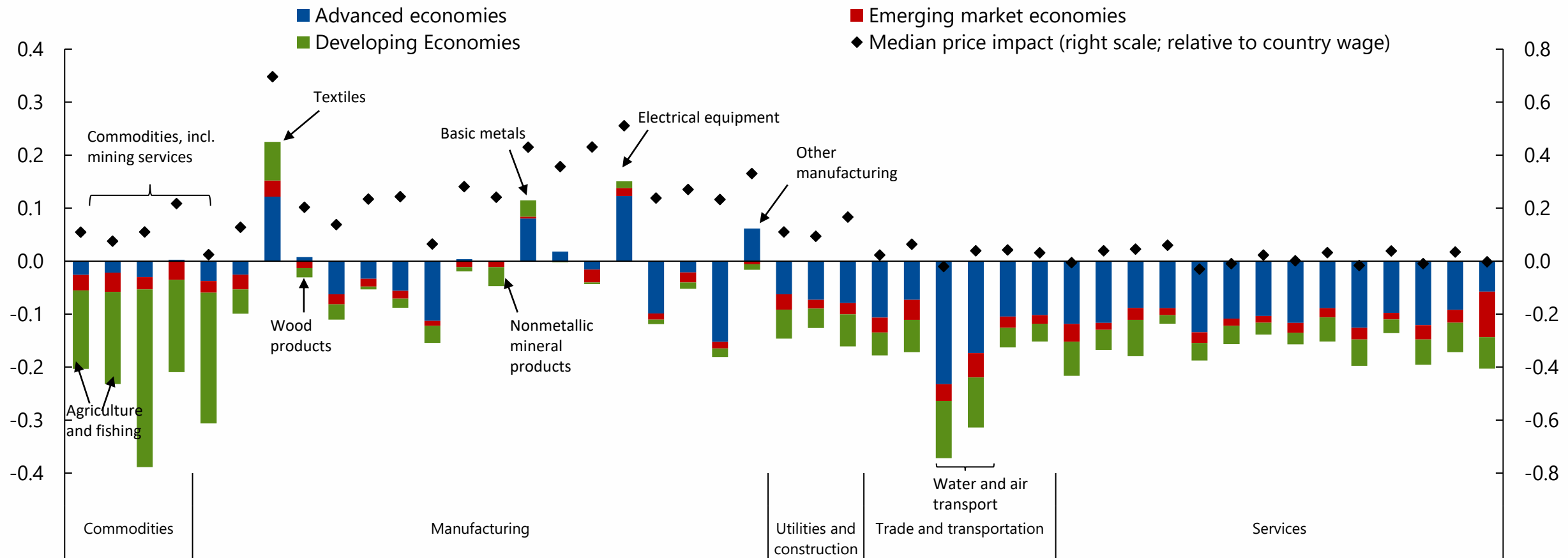
# Background slides



# Sectoral reallocation from broad-based G20 EMs productivity slowdown

## Changes in sectoral value added

(shock to G20 emerging markets, all sectors, percent)



Sources: Bonadio and others (2021,2023); Huo, Levchenko, and Pandalai-Nayar (forthcoming); OECD Inter-Country Input-Output Tables; and IMF staff calculations.

Note: Sample contains 36 advanced economies, 26 emerging market economies, 4 low-income developing countries, and a rest of the world region. Developing economies include the rest of the world region. Bars indicate the change in global sectoral value added excluding countries shocked in each scenario.