REGIONAL ECONOMIC OUTLOOK

ASIA AND PACIFIC

ASIA AND PACIFIC DEPARTMENT

Reigniting Asia's Growth Engine: The Role of Trade Liberalization and GVCs

IMF REGIONAL OFFICE FOR ASIA AND THE PACIFIC
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Outline

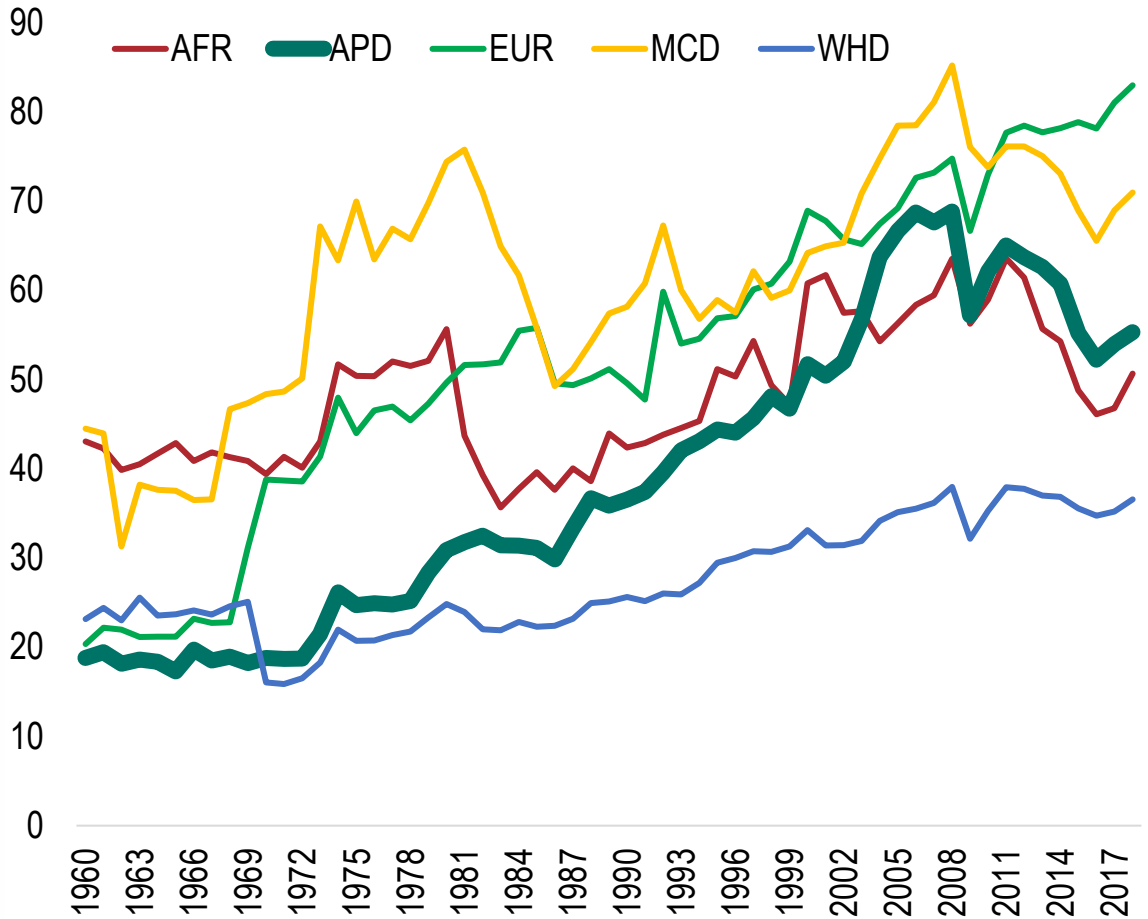
- The pre-pandemic landscape
  - Declining trade, including GVCs
  - Stagnating reforms—insights from new non-tariff barriers (NTBs) dataset
- The uneven impact of the pandemic on trade
- Reigniting Asia's growth engine through trade liberalization
  - Empirical analysis
  - Model simulations

The Pre-pandemic Landscape

After decades of increase, trade has fallen recently

Trade as a Share of GDP

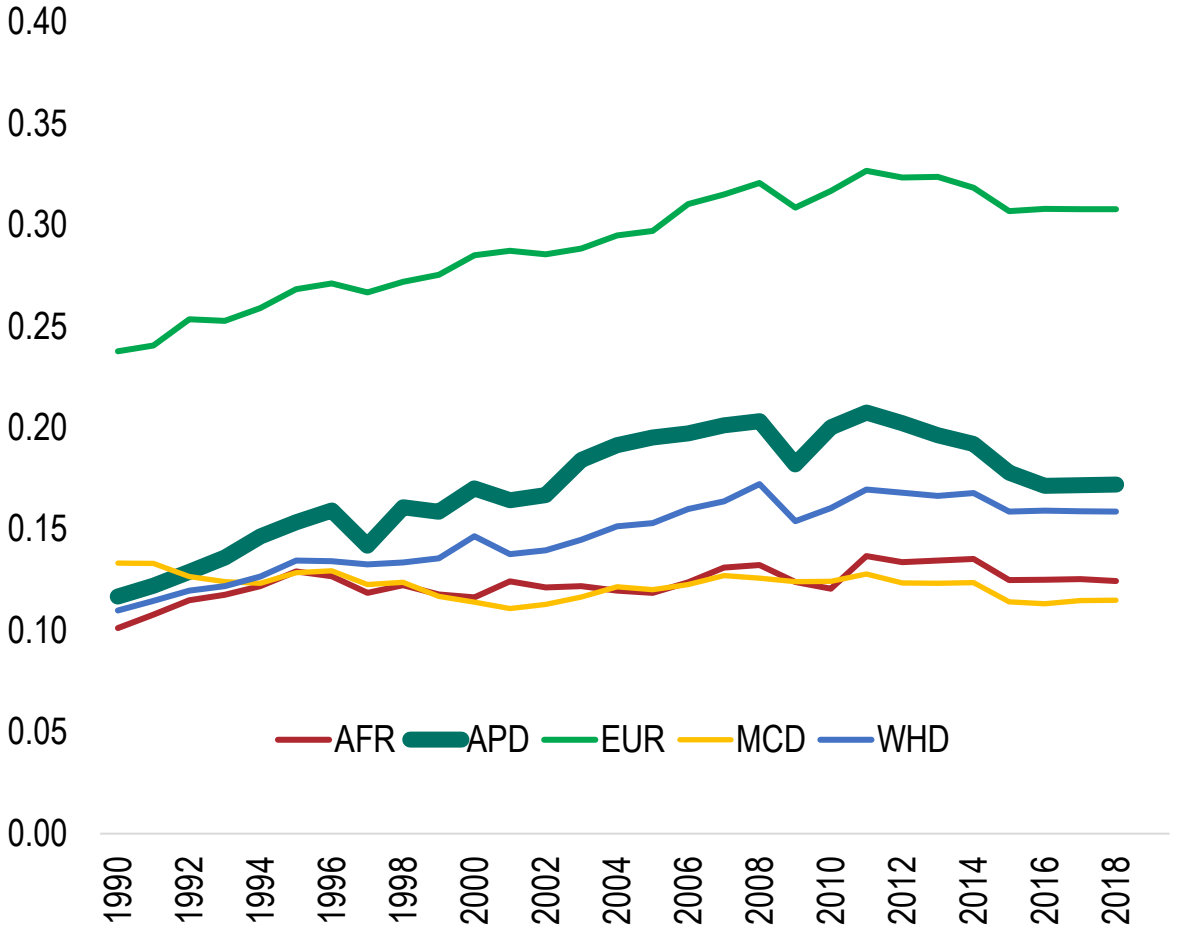
(Weighted average, 2019 GDP)



Source: World Development Indicators and IMF Staff Calculations.

Backward Linkages as Share of Exports

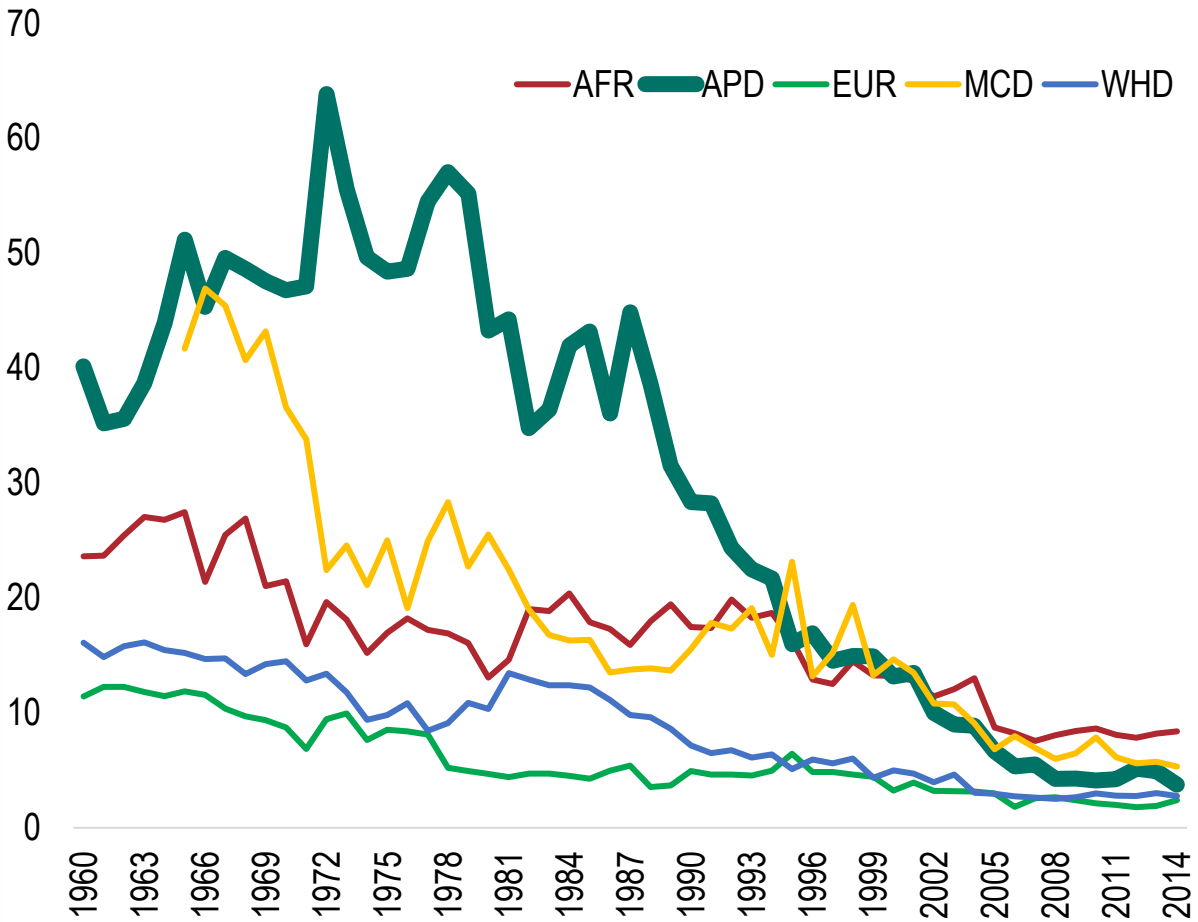
(Weighted average, 2019 GDP)



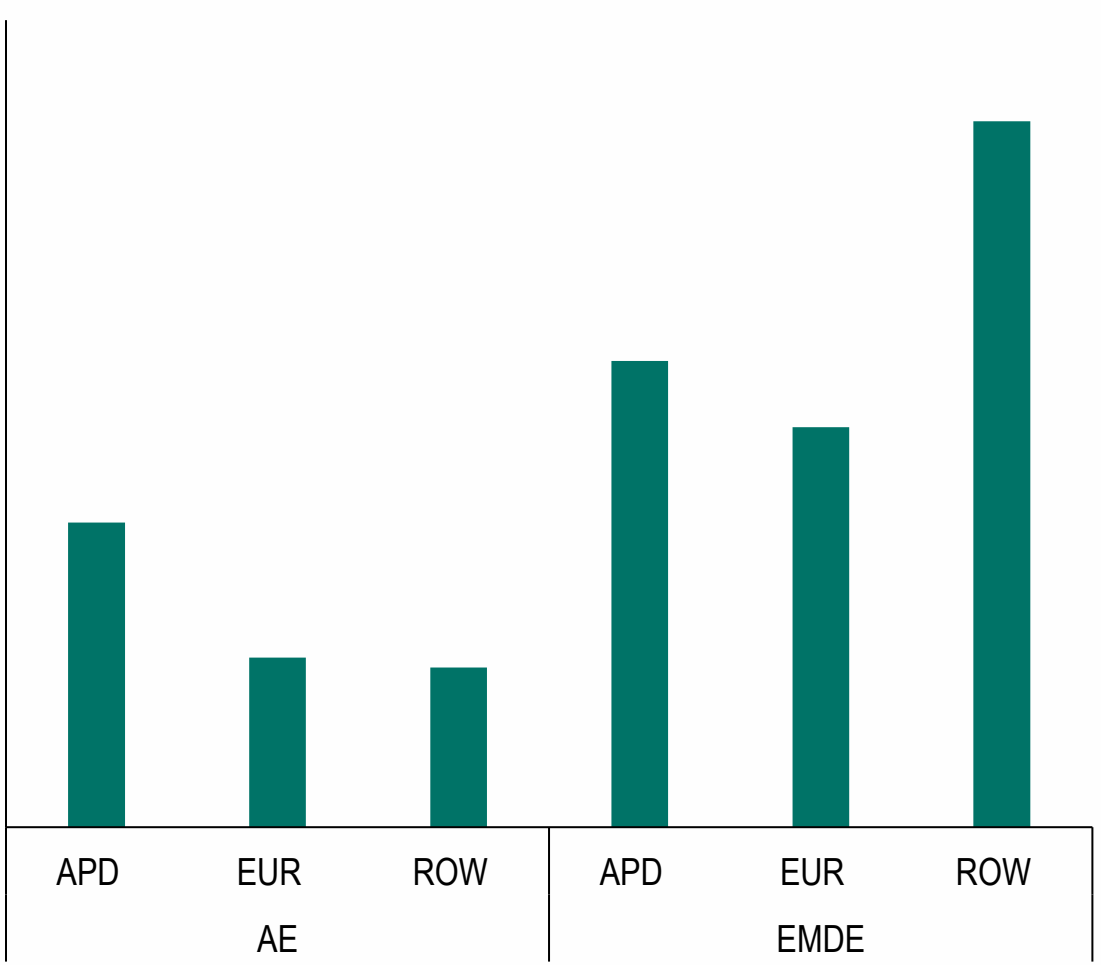
Source: UNCTAD EORA GVC Database and IMF Staff calculations.

Limited scope for further reduction in tariffs…

Tariff Barriers Index
(Weighted average, 2019 GDP)



Tariff Barriers by Income and Region
(2014, weighted average, 2019 GDP)

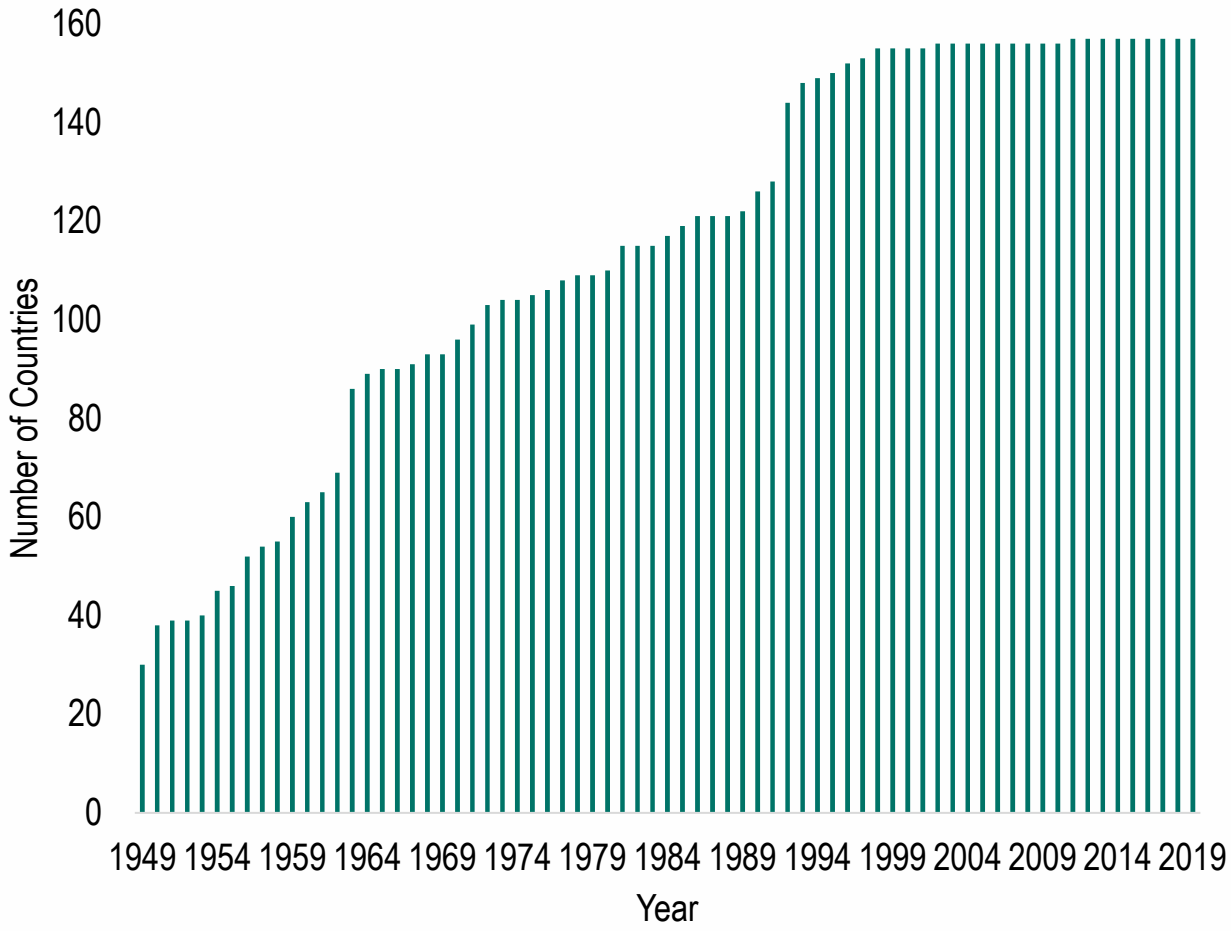


Source: Estefania Flores, Furceri, Hannan, Ostry and Rose (2020) and IMF Staff Calculations. PICs are excluded from APD-EMDE aggregate.

...but what about non-tariff barriers?

- Non-tariff barriers (NTBs) have received less attention due to data constraints
- Chapter uses novel NTB Index
  - Narrative approach used to construct index—Estefania Flores and others (2021)
  - Exploits detailed information on trade restrictions reported in IMF's AREAER
  - Includes information on export and import restrictions (payment restrictions, licensing requirements, etc.), multiple currency practices, payments on invisibles
  - Index ranges from 0 to 20—lower levels indicate fewer barriers
  - Up to 159 countries, starting as early as 1949

Availability of NTB data

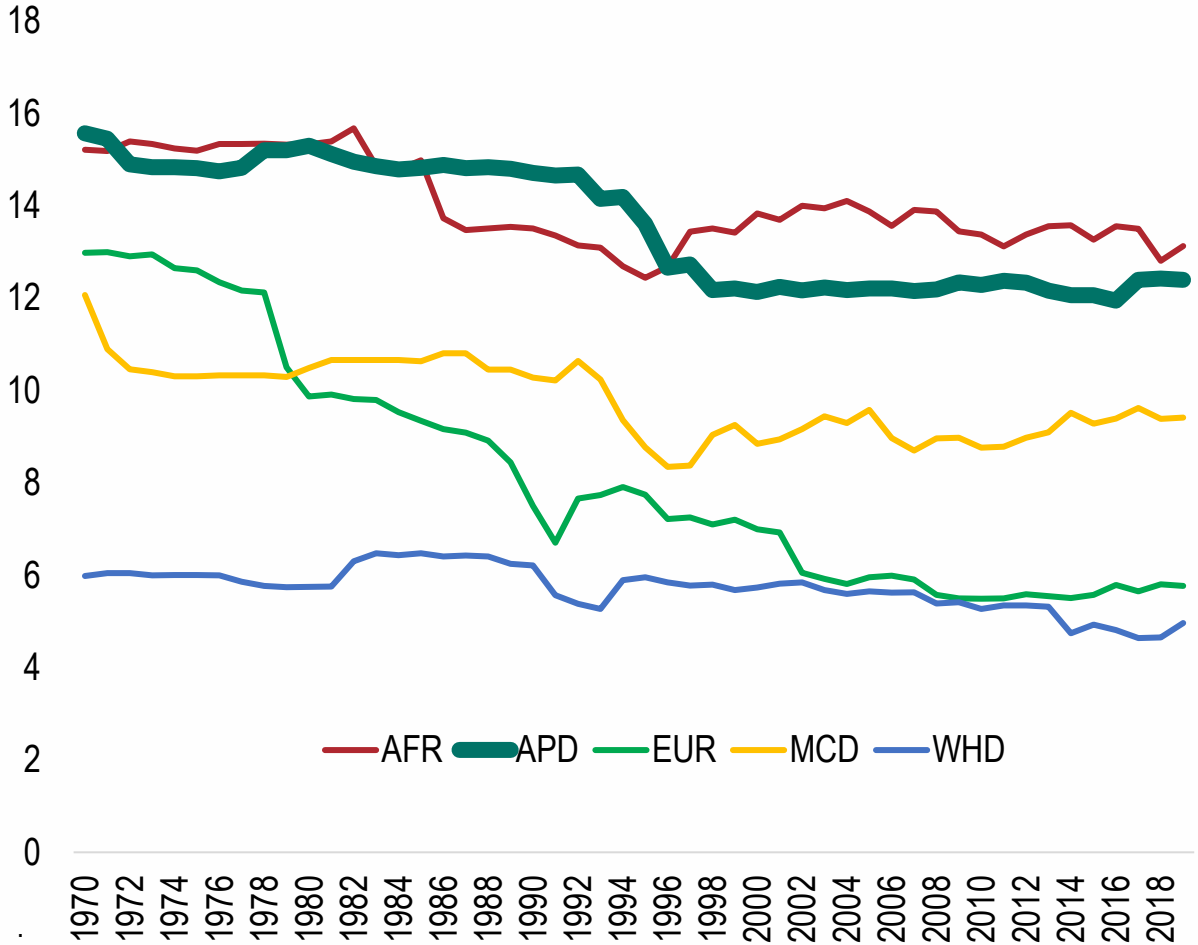


Source: Estefania Flores, Furceri, Hannan, Ostry and Rose (2021).

NTBs remain high in Asia, especially in EMDEs

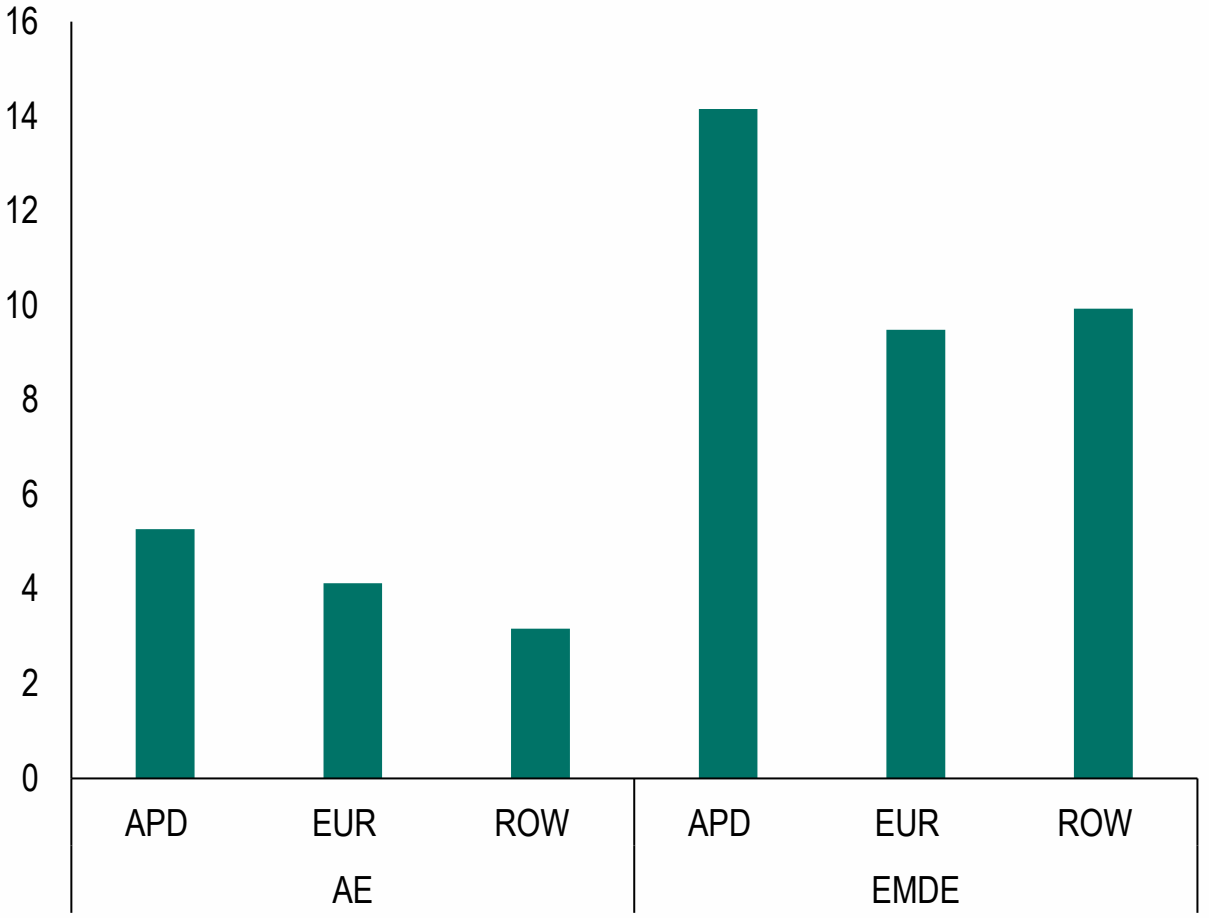
Non-tariff Barriers Index

(Weighted average, 2019 GDP)



Non-tariff Barriers Index by Income and Region

(2019, weighted average, 2019 GDP)



Source: Estefania Flores, Furceri, Hannan, Ostry and Rose (2021) and IMF Staff Calculations. NTBs Index ranges from 0 to 20, higher score means higher restrictions. PICs are excluded from APD-EMDE aggregate in RHS chart.

The Uneven Impact of the Pandemic on Trade

Asian goods exports hit, but less than during the GFC…

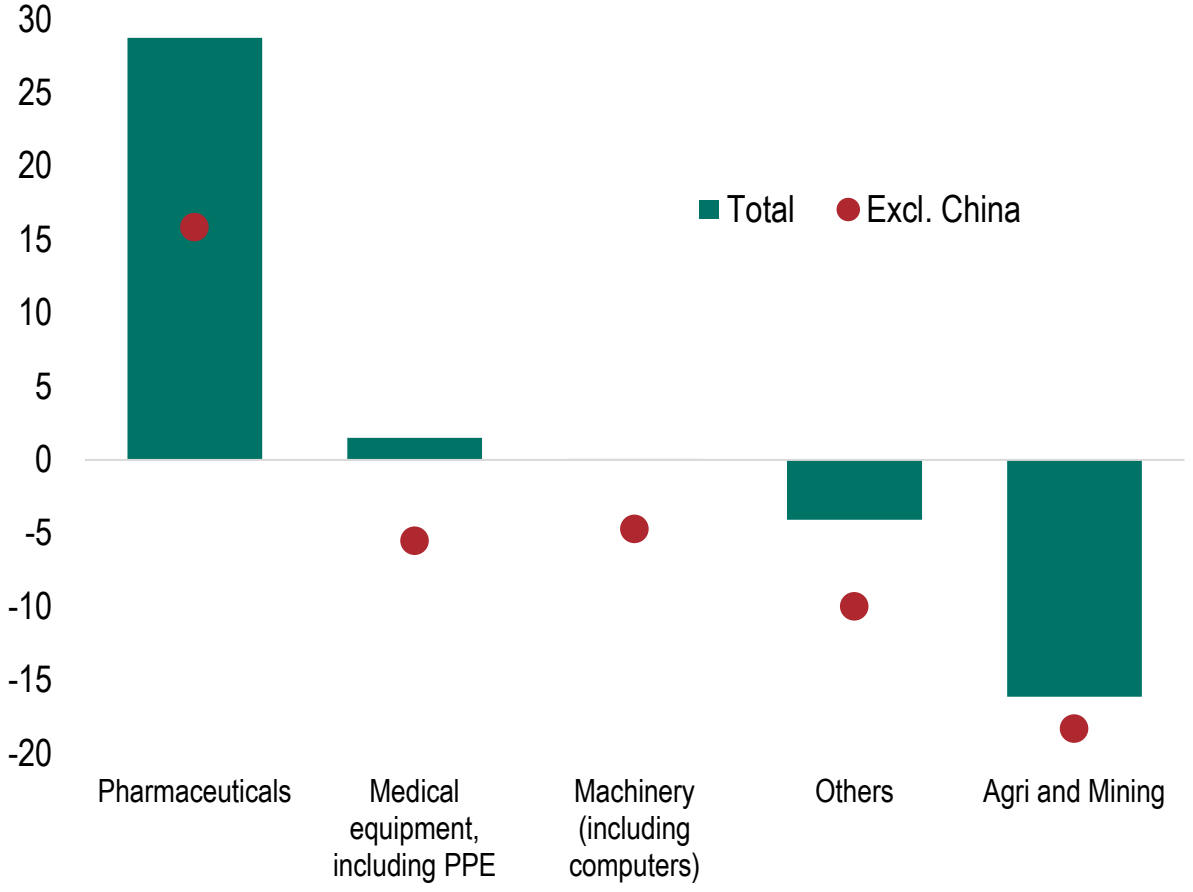
Export growth, goods & services: GFC vs. Covid-19

(Constant Prices. Percent)

Source: WEO and IMF Staff Calculations.

Export growth in REO14 by Sectors, 2020

(weighted average, percent)



Source: COMTRADE, HAVER Analytics and IMF Staff Calculations.

How will the crisis impact GVCs in the medium term?

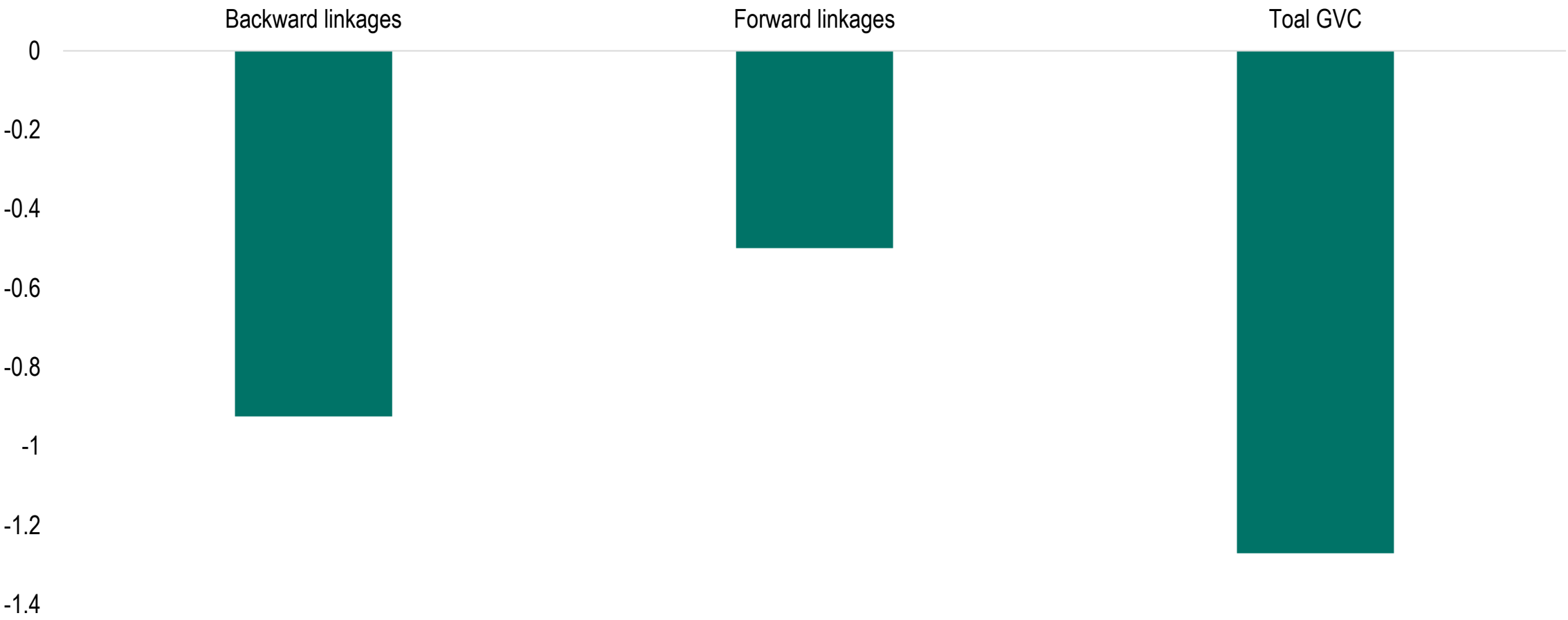
- What can past recessions tell us about the impact of current crisis on trade?
- Long literature on impact of slowdown in global growth or trading partner growth on gross exports and imports (for example, IMF, 2016)
- Less known about possible medium-term impact on GVCs
- Methodology
  - Local projection method

$$Y_{t+\mathrm{h},i} - Y_{t-1,i} = \alpha_i + \beta_{\mathrm{k}}^{h} \sum_{k=0}^{2} Z_{t-\mathrm{k},i} + \gamma_{\mathrm{k}}^{h} \sum_{k=1}^{2} \Delta Y_{t-\mathrm{k},i} + \varepsilon_{t,i} \quad \forall\, h = 0,1,2 \ldots 5$$

where $Y_{t,i}$ is various GVC measures as share of export, $Z_{t,i}$ is trade weighted partner country growth, and β_0^h is the parameter of interest

Global growth slowdowns tend to reduce GVC participation

Potential Impact of Pandemic on Global Value Chains
(percentage points)



Source: IMF Staff calculations.
Note: Figure above corresponds to the IRF to a 6 percentage points decline in partner country growth (equivalent to the decline in global growth in 2020) at the five-year horizon. All variables measured as a percent of total exports. Standard errors are clustered at the country level.

Reigniting Asia's Growth Engine through Trade Liberalization

Empirical Analysis

Methodology: Evaluating the Impact of NTBs

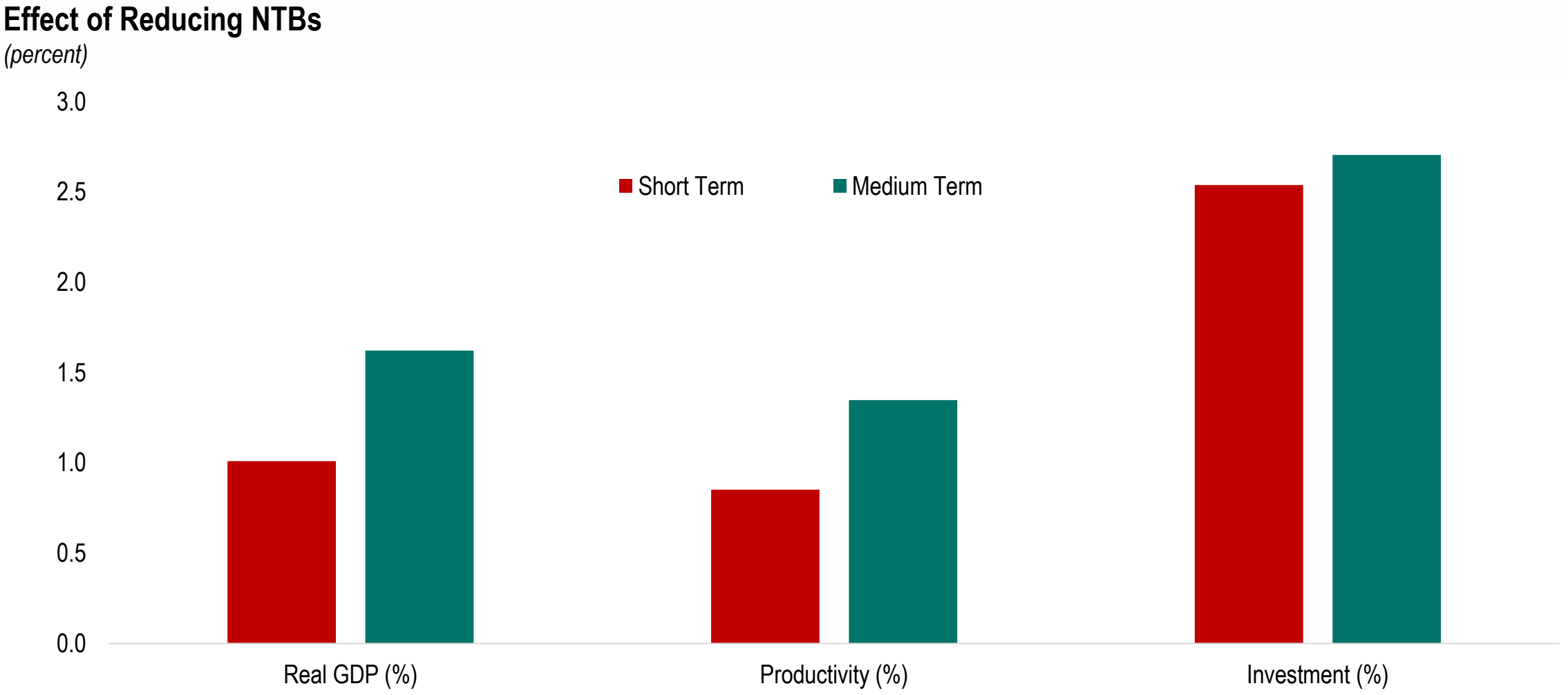
- Methodology for macroeconomic impact of NTBs (long time-series)
  - Local projection method

$$\mathrm{Y}_{t+h,i} = \alpha_i + \alpha_t + \beta_{\mathrm{k}}^{h} \sum_{k=0}^{2} Z_{t-\mathrm{k},i} + \gamma_{\mathrm{k}}^{h} \sum_{k=1}^{2} Y_{t-\mathrm{k},i} + \mathrm{E}_{t,i} \quad \forall\, h = 0,1,2 \ldots 5$$

    where $Y_{t,i}$ is various macro variables (log of GDP, investment, productivity; gini coefficient etc.) and $Z_{t,i}$ is the change in the NTB index

- Methodology for role of GVCs (shorter time-series)
  - Impact of NTBs on GVCs—dynamic panel regression with backward linkages to export as dependent variable and lagged changes in NTBs as independent variable
  - Impact of GVC on productivity—dynamic panel regressions using country-industry-year data. Labor productivity growth as the dependent variable and lagged change in GVCs as independent variable

Reducing NTBs associated with significant economic gains…



Source: Estefania, Furceri, Hannan, Ostry and Rose (2021)
Note: Figure above corresponds to the IRF to a two standard deviation decrease in NTB Index after the first (short term) and fifth (medium term) year. Light shaded bars indicate that results are not significant at 90% CI. Standard errors are calculated using Driscoll-Kraay.

...with GVCs being a key channel

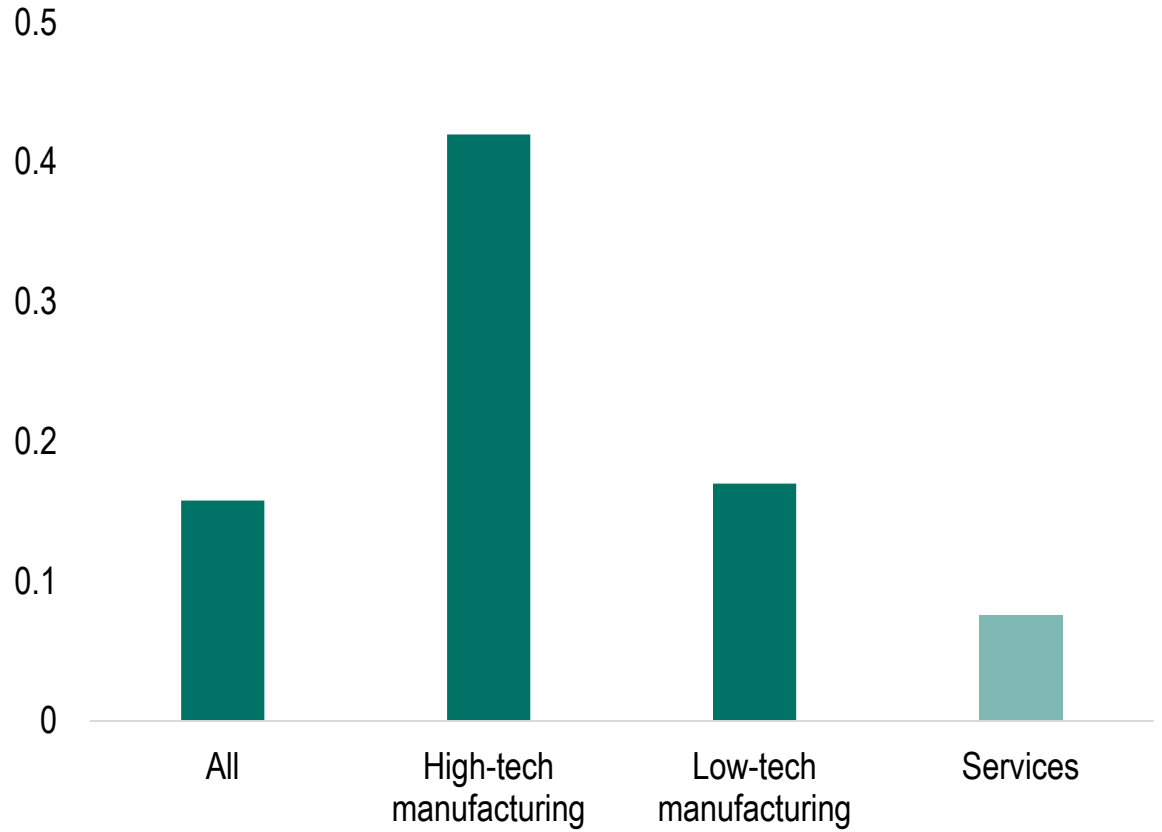
Effect of Reduction in NTB on GVCs

(percentage points)

Source: IMF Staff Calculations.
Note: Figure above corresponds to the IRF to one standard deviation increase in NTBs after the first (short term) and fifth (medium term) year. Light shaded bars indicate that results are not significant at 90% CI. Standard errors are clustered at the country level.

Impact of Backward Linkages on Sectoral Labor Productivity

(percent)

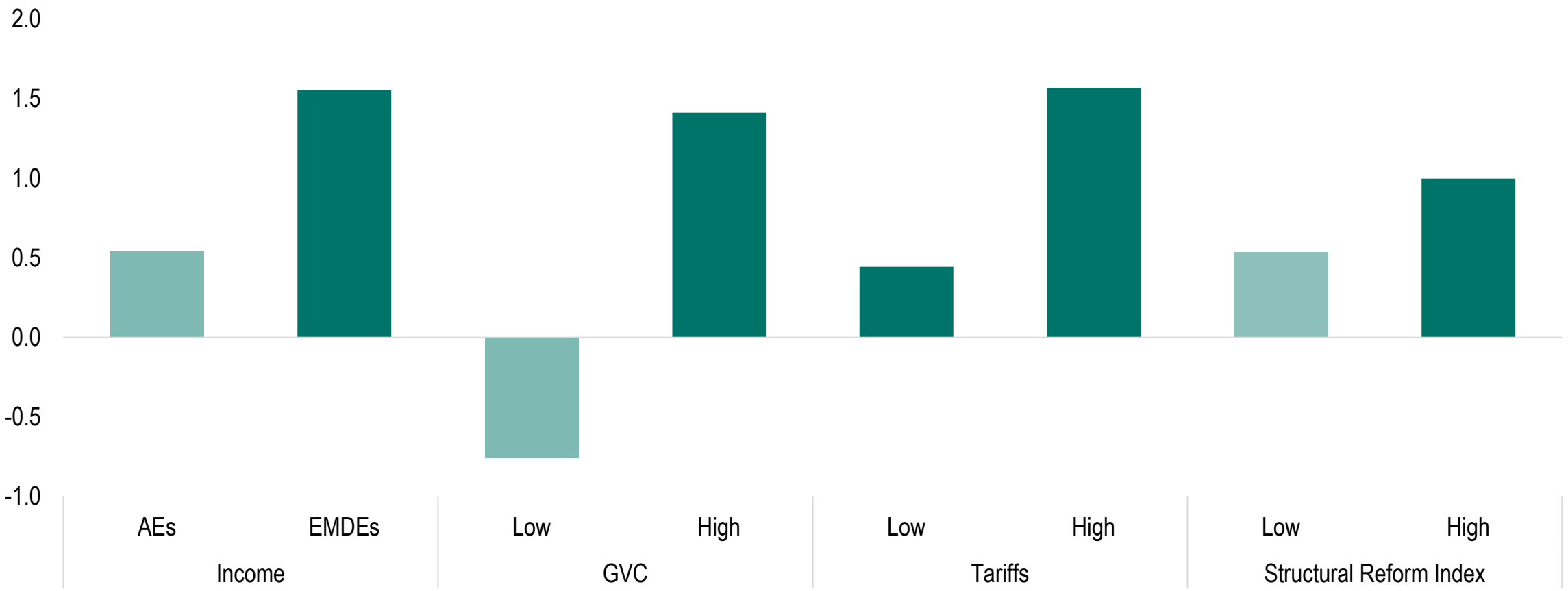


Source: IMF Staff calculations.
Note: The figure above corresponds to the impact of a one percent increase in backward linkage, from a panel regression at the sectoral level, controlling for country-industry effects. Standard errors are clustered at the country level.

Economic gains from liberalization can differ significantly across countries

Effect of Reducing NTBs on GDP

(percent)



Source: Estefania, Furceri, Hannan, Ostry and Rose (2021), World Bank, UNCTAD Eora and IMF Staff calculations.
Note: Figure corresponds to the IRF to a two standard deviation increase in MATR after the fifth (medium term) year. Structural Reform Index is an average between labor, financial and product market reforms index. Heterogenous effects for Income and Tariffs are calculated using the interaction of the Income/Tariffs dummy above and below median with the NTB index. For GVC and Structural Reforms Index, smooth transition function are used. Light shaded bars indicate that results are not significant at 90% CI. Standard errors are calculated using Driscoll-Kraay.

Reigniting Asia's Growth Engine through Trade Liberalization

Model Simulation

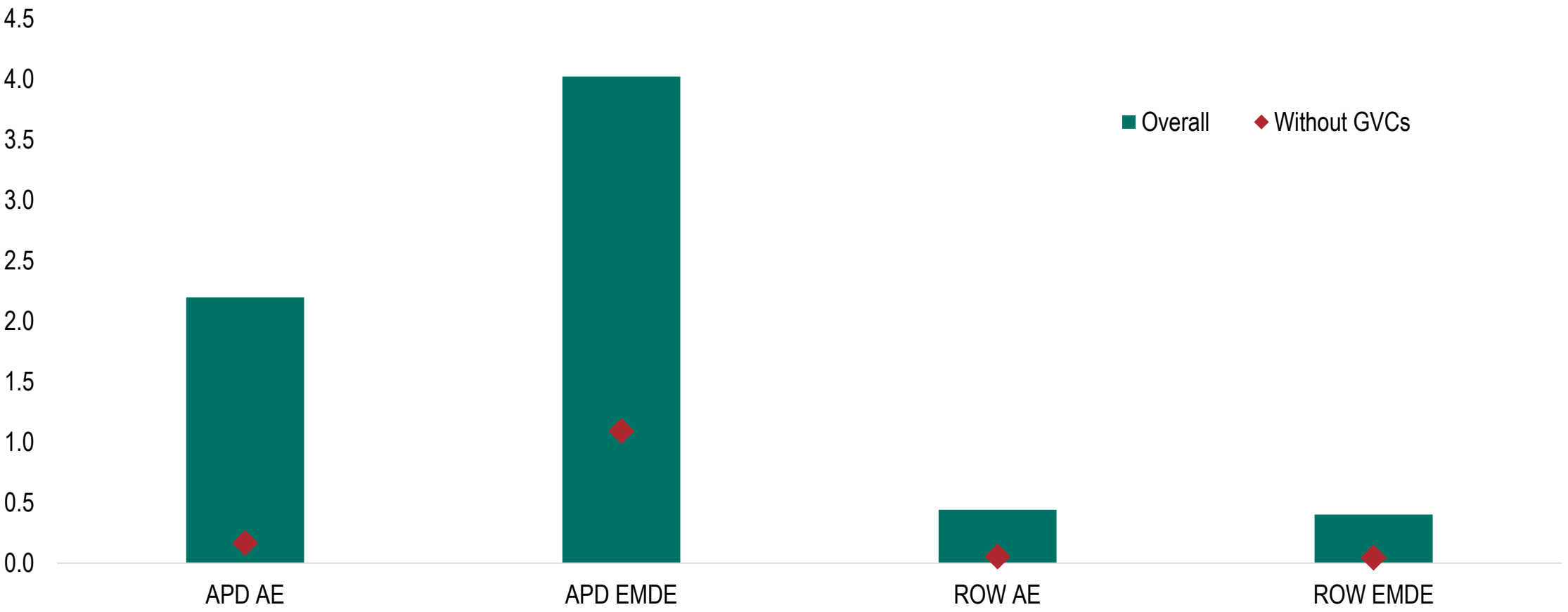
Methodology: Model Simulations

- Model simulations to complement empirical analysis
  - Allows for quantifying the long-term gains from liberalization, once the effects of reforms on the economy have fully played out
  - Provides estimates for potential gains for the Asian region, accounting for Asia's current position in global trade and value chains
- Key model features
  - Sectoral, computable, general equilibrium model
  - Heterogenous firms within sectors—trade liberalization potentially leading to reallocation of resources to more productive firms
  - Input-output linkages across sectors and borders—amplification mechanism, as shocks reverberate across domestic and foreign production value chains
- Scenario
  - Assume that NTBs in Asian EMDEs are lowered to the level of European EMDEs.
  - Large reform—equivalent to a decrease in NTBs of about 4 standard deviations

Simulation also suggest large gains from reducing NTBs

Effect of Reducing NTBs in Asian EMDEs on GDP

(percent, weighted average)



Note: Based on simulations from a general equilibrium model with input-output linkages (Caliendo, Feenstra, Romalis and Taylor, 2017). Effect corresponds to a scenario where NTBs in APD EMDEs are reduced to the level of EUR EMDEs (if APD EMDE restrictions are above EU EMDE average).

Thank you