The Macroeconomic Effects of Global Migration

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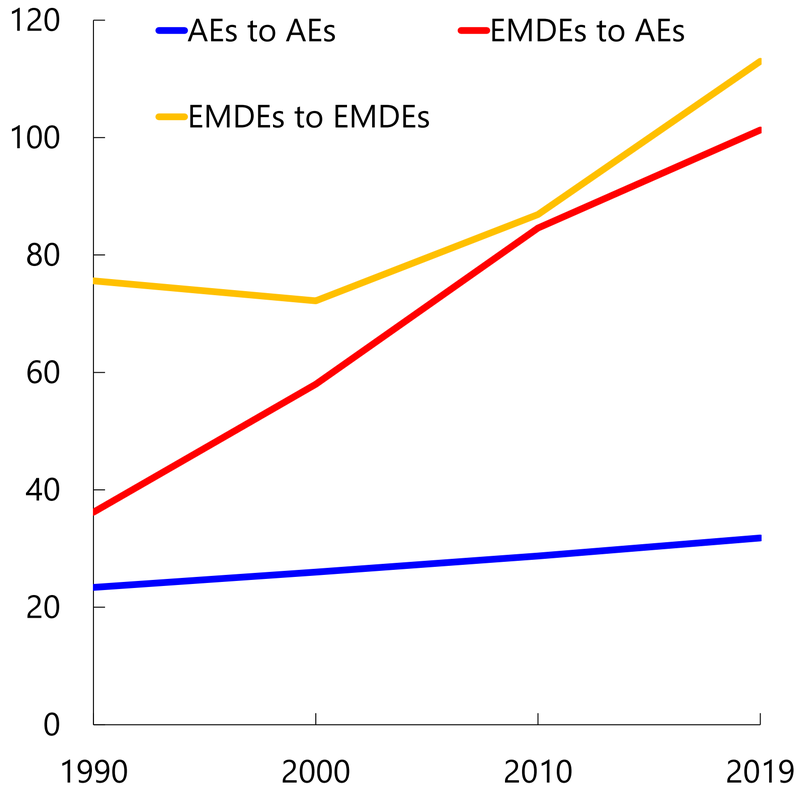
Motivation: Sharp in the number of migrants

- **Migration** has been **rising steadily.**
- Majority of the public has a **positive view** of immigration but…
- …also many **misconceptions.**

Stock of migrants by corridors
(millions)



Sources: United Nations; United Nations High Commissioner for Refugees; and IMF staff calculations.

Questions

- What **drives migration** and how will international **migration** evolve in the **future**?

- What are the **macroeconomic effects** of international immigration?
  - *Timing*: are effects different in short vs long-run?
  - *Type*: does effect of "economic" migration into AEs differ from (immigrants/natives complementarities) migration in EMDEs?

An integrated approach

How will migration evolve going forward?

Drivers of migration: estimation of gravity model

Migration scenarios for 2020-2050

How does migration affect the host economy?

Long term (2050)

Model simulations of migration scenario

Short- & Medium-term

Econometric estimates of macroeconomic impact of migration

The role of policies

Preview of findings

- Under a baseline scenario, global migration pressure remains roughly stable as share of world population, but migration pressures from EMDEs to AEs continue rising.

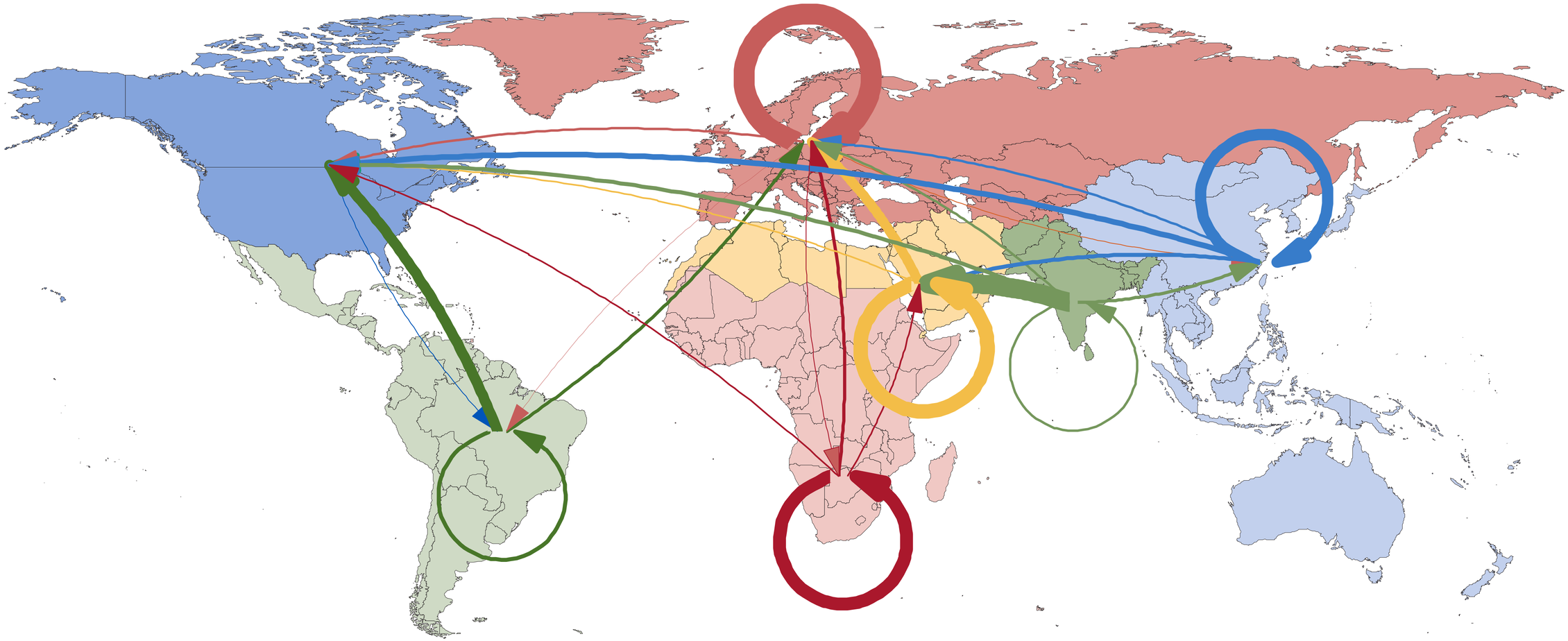
- Large immigration waves into AEs raise output and productivity, even in the short- & medium-term.

- Training and integration policies enhance benefits from immigration.

Stylized Facts

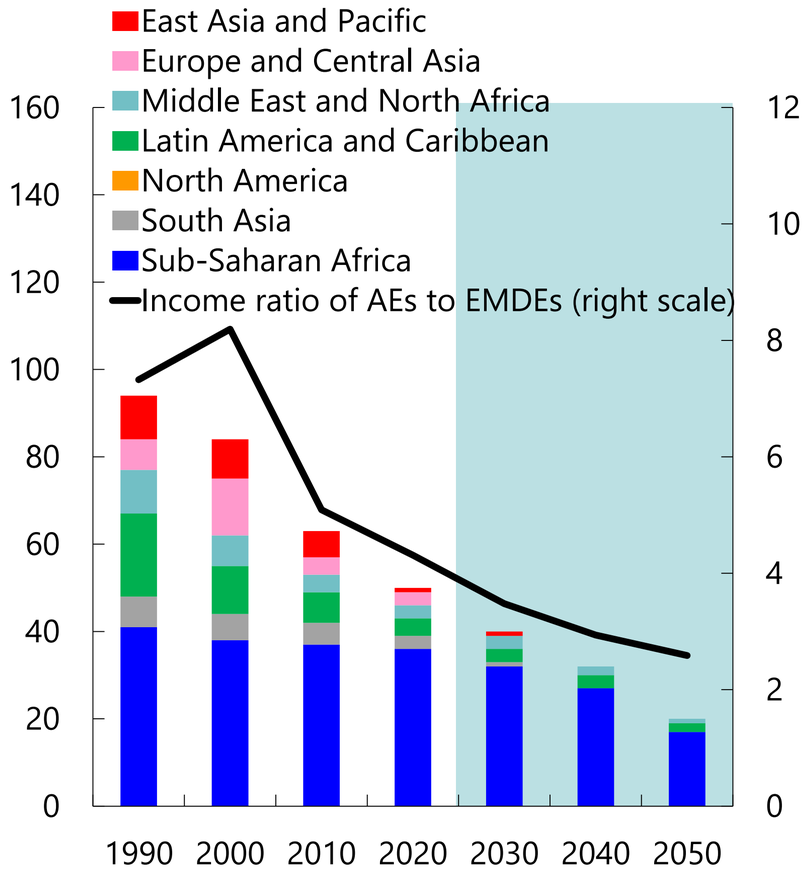
Migration largely regional, but cross-regional migration equally important

Migration flows between 2010 and 2020

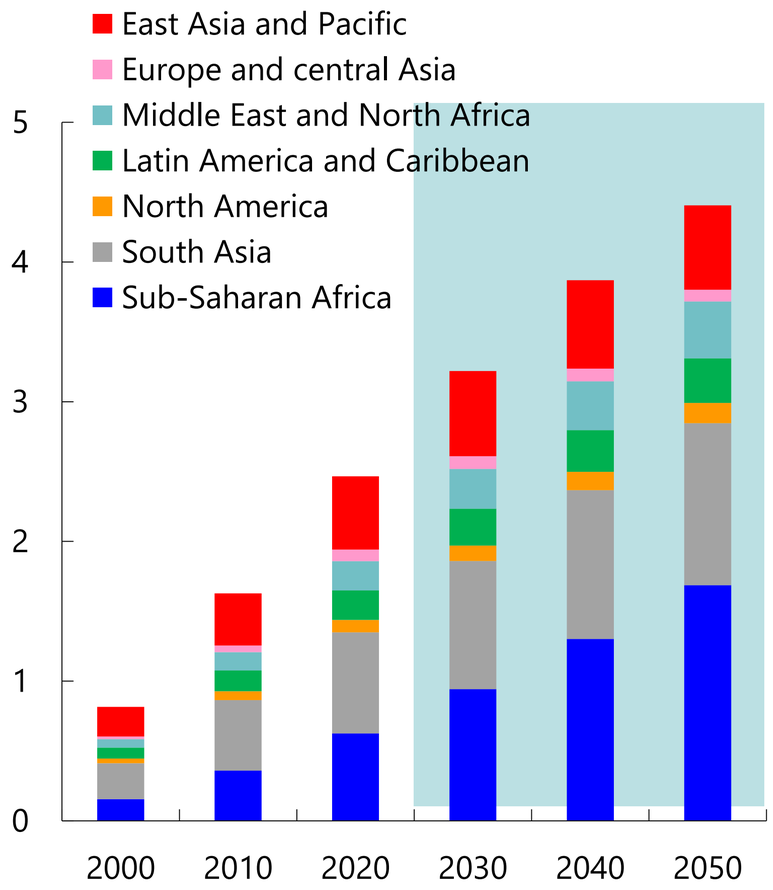


Falling income gaps and poverty in EMDEs & demographic divergences AEs vs EMDEs

Real GDP per capita below $7,000 and income gaps
(number of countries)



Cumulative population change, by region relative to 1990
(billions)



- **Income gaps** between EMDEs and AEs declining, though still large.
- Fewer **low-income** countries.
- **Young** and **growing** populations in **EMDEs**, vs. stable or declining populations in AEs

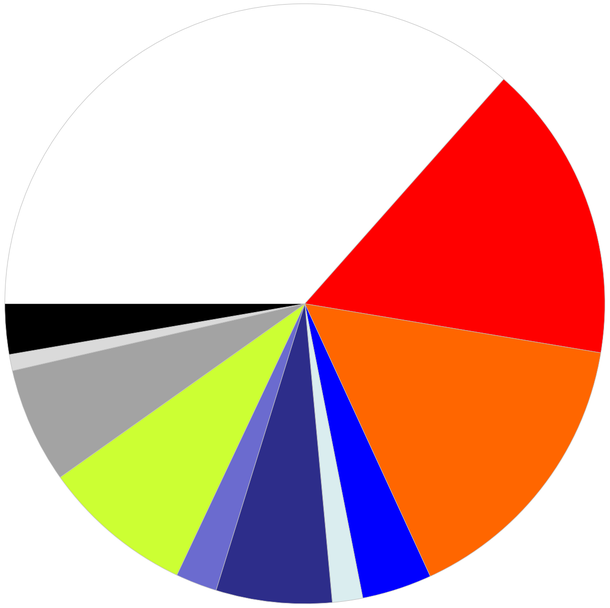
Migration: drivers and future pressures

Gravity model: push and pull factors and large migration costs

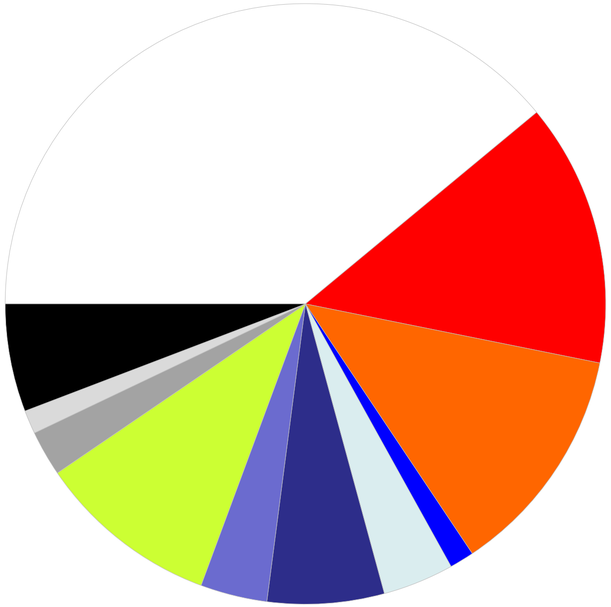
Explained and unexplained determinants migration

Unexplained
Contiguous
Distance
Common language
Colonial link
Income destination
Income origin
Income gap x young
Population origin
Young population origin
War

From EMDEs to AEs



From EMDEs to EMDEs

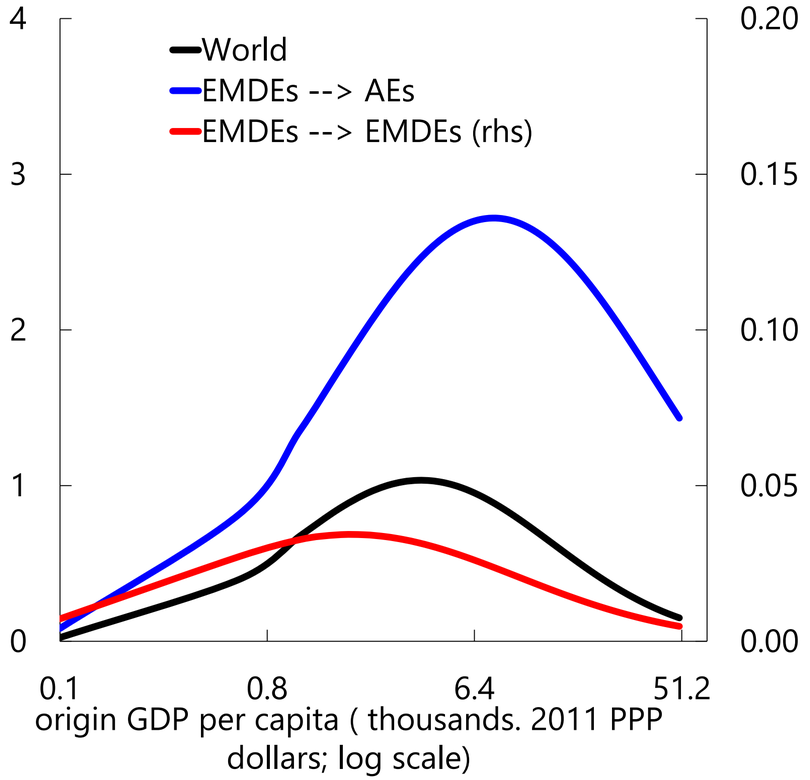


Gravity model: positive "pull" of income at destination and ambiguous "push" of income at the origin

If migration costs were the same for all country-pairs then:

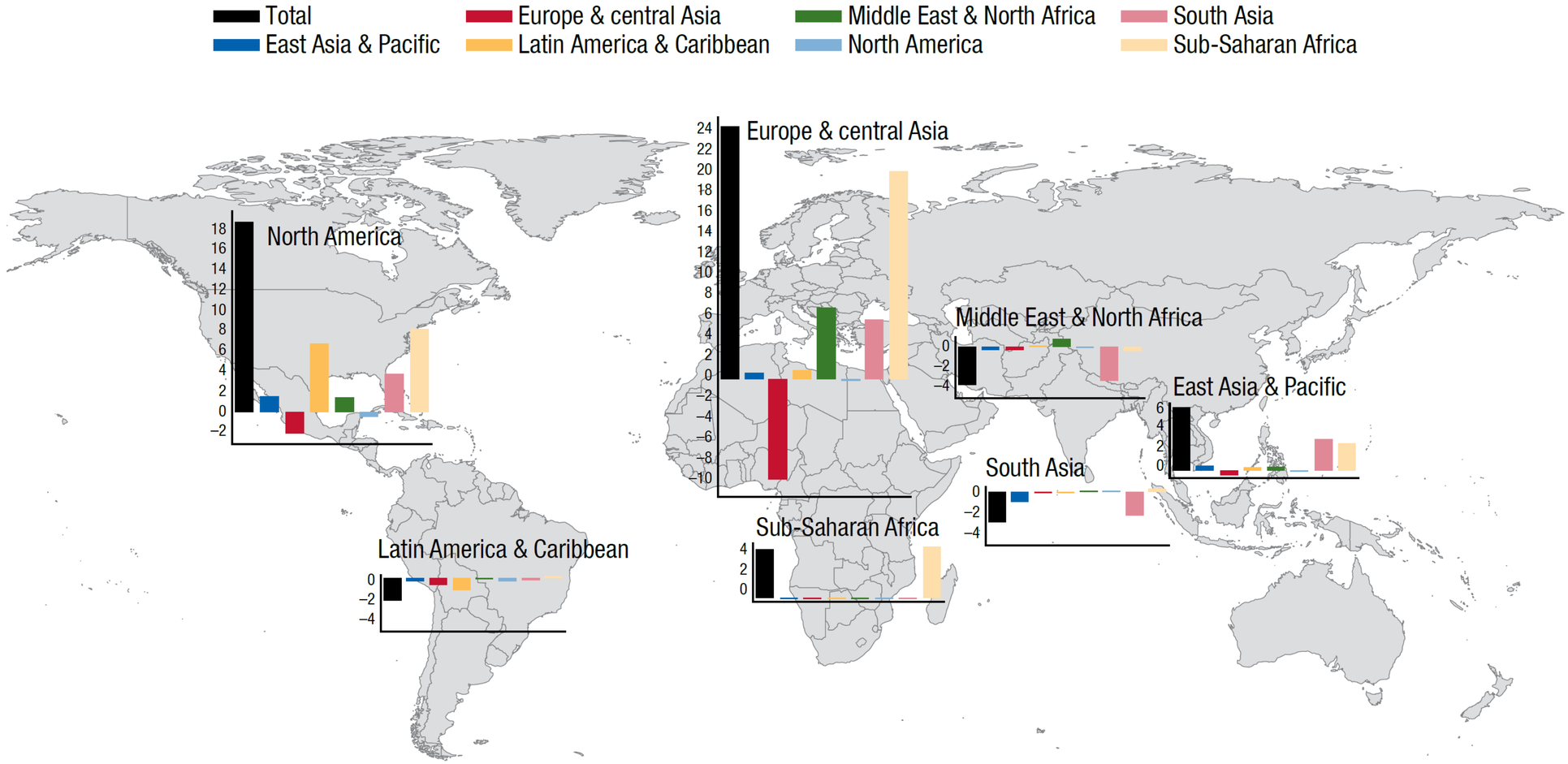
- **High income** countries (AEs) would **attract** virtually all **world migration**
- Higher income at origin associated with lower emigration but only if income is not too low ("**poverty trap**")

Income at origin and destination and probability of emigrating
(five-year emigration rate; percent))



Future migration pressures: baseline scenario

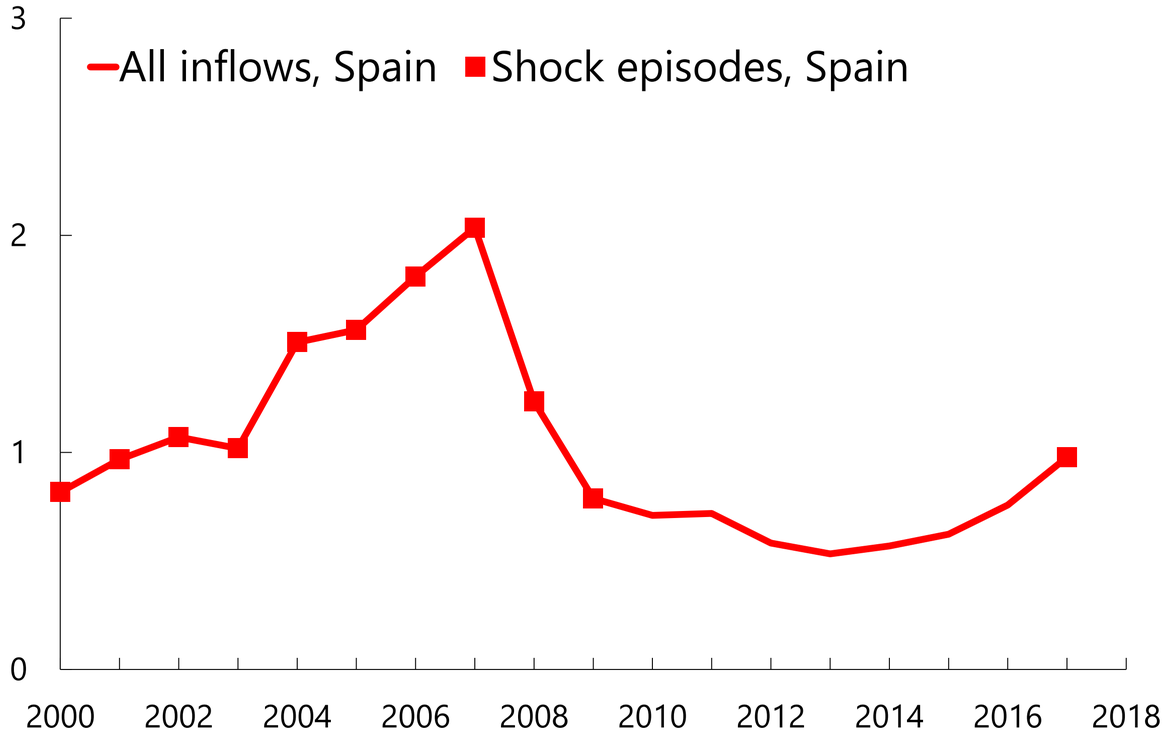
Change in Migrant Pressures Between 2020 and 2050
(millions of individuals)



Macroeconomic effects of immigration on recipient countries: empirical model

Large immigration waves

Episodes of Large Immigration Inflows
(percent of recipient countries' population)

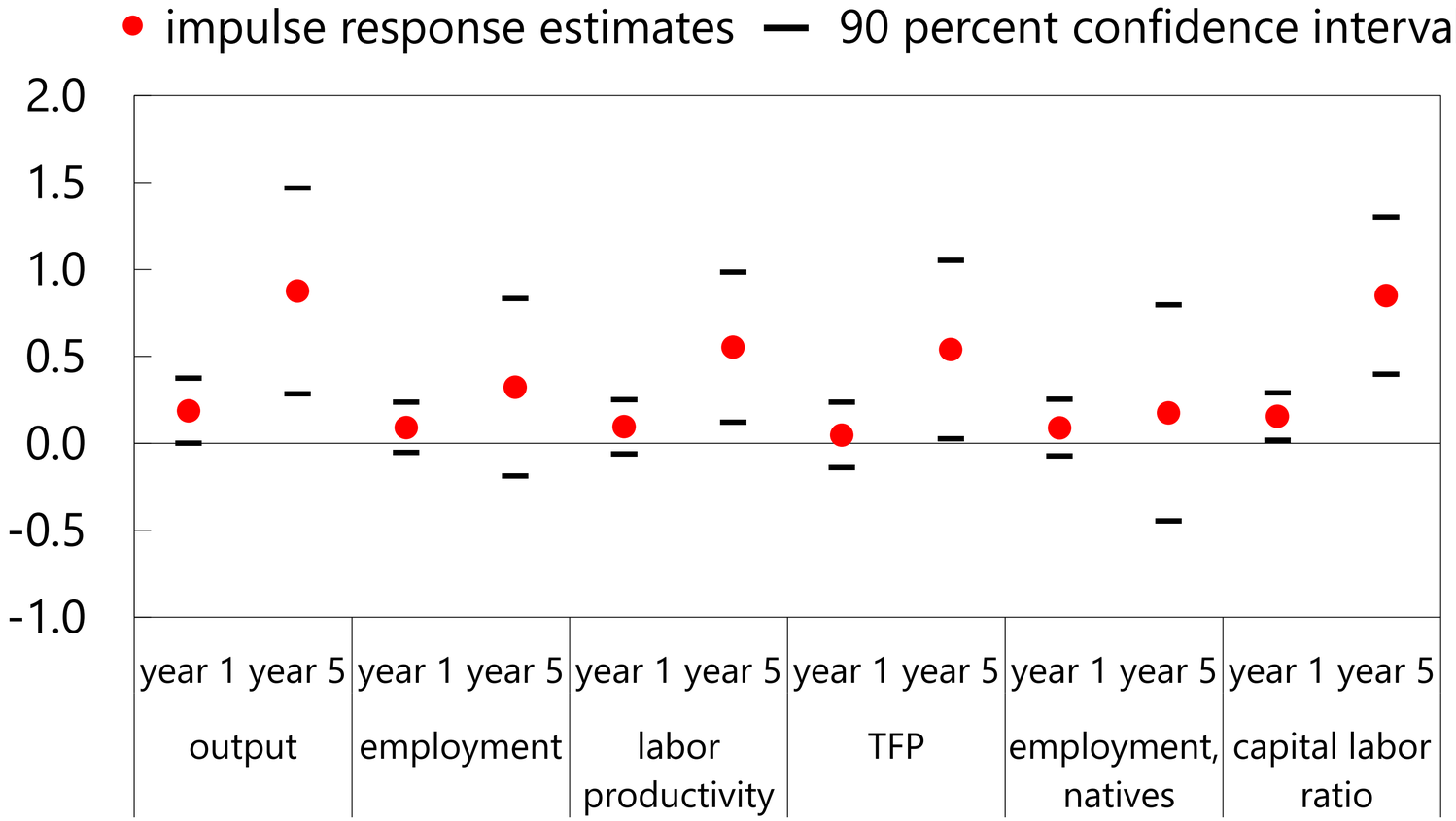


Impact of all immigrants into AEs

- **Waves large** relative to the recipient country's experience and to typical world episodes – but we don't focus on *extreme events* (treated as outliers)
- **Instrumental variable** based on networks of past migrants (1.) or distance from origin (2.).

Immigration in AEs raises output & productivity even in short- & medium-term

Macroeconomic effects of migrant inflows in AEs
(percent)

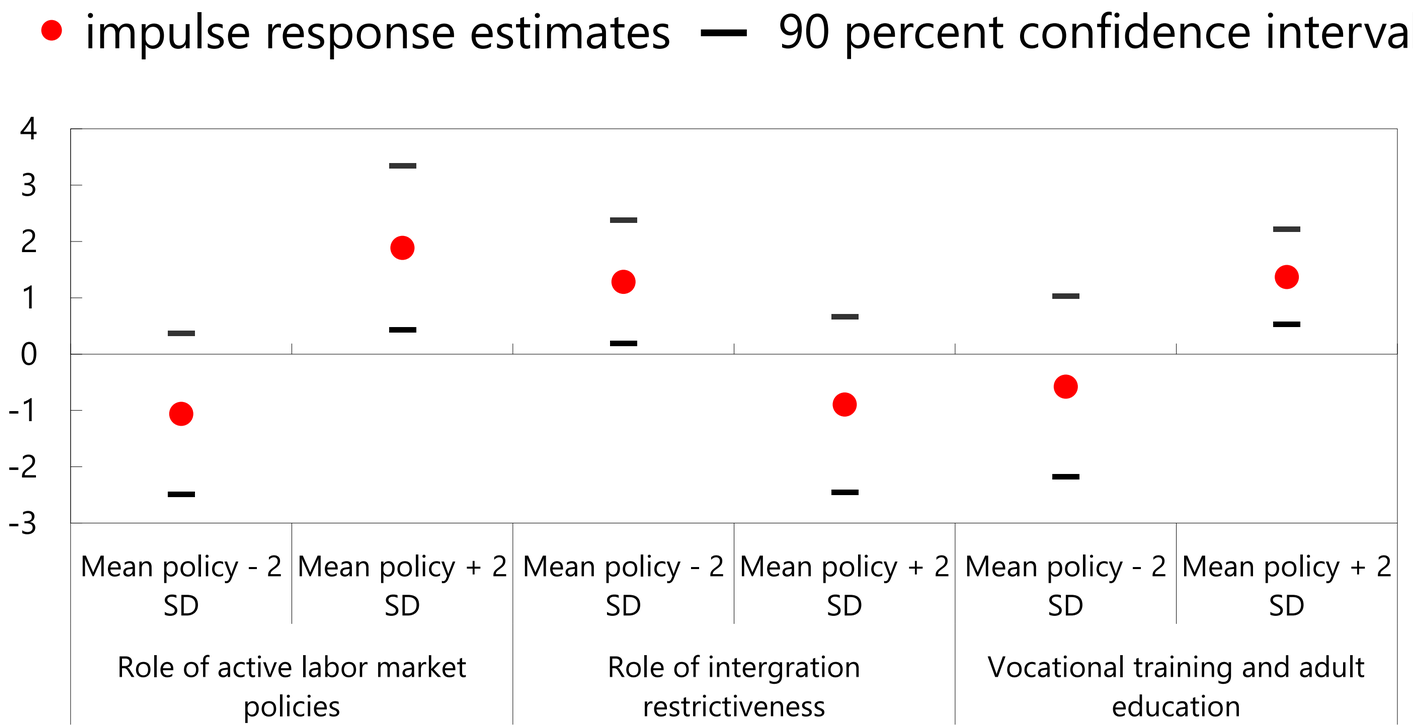


1 percentage point **increase in immigration** inflow relative to total employment:

- **Increases output** by almost 1 percent by fifth year.
- Effect driven by **rising productivity** (immigrants/natives complementarities) and investment.
- No effect on aggregate **native** employment

Immigration in AEs: policies

Policies and the effects of immigration on employment growth
(percent)



- Higher spending on adult vocational training and on active labor market policies associated with greater employment growth after immigration shock.

Conclusions

- Under baseline, migration pressures remain stable over the next decades, but migration pressures from EMDEs to AEs continue
- Immigration into AEs brings significant aggregate benefits, even in the short- and medium-term.
- Active labor market and retraining policies, better integration of immigrants can enhance positive effects of immigration.
- Fiscal policies should strive to equitably redistribute the aggregate gains from immigration.

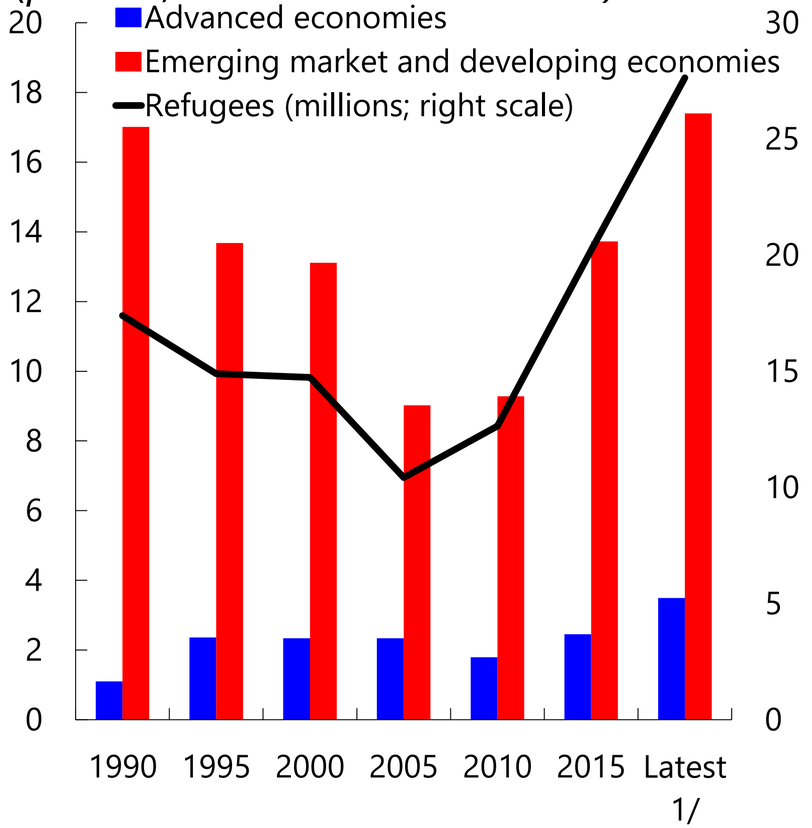
Appendix

Motivation: refugees

- Following rising conflicts, **refugee migration** has increased sharply.
- **Refugee** migration displays **distinct features** relative to purely "economic based" migration…
- …notably that **emerging and developing economies** (EMDEs) are main recipients.

Total and share of refugees among all immigrants

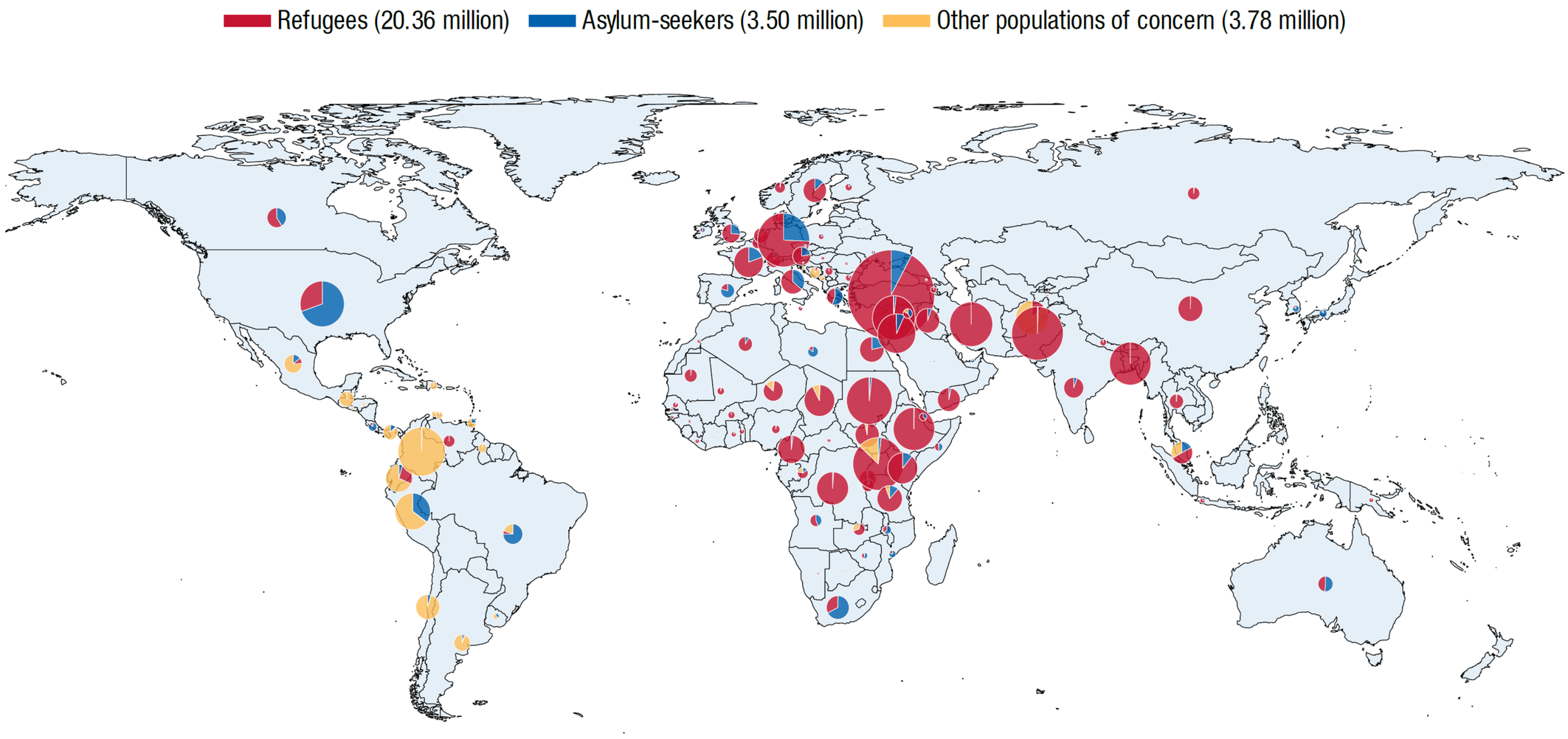
(percent, unless noted otherwise)



1/ Refers to the number of refugees in 2018.

EMDEs are both source and destination of refugee migration

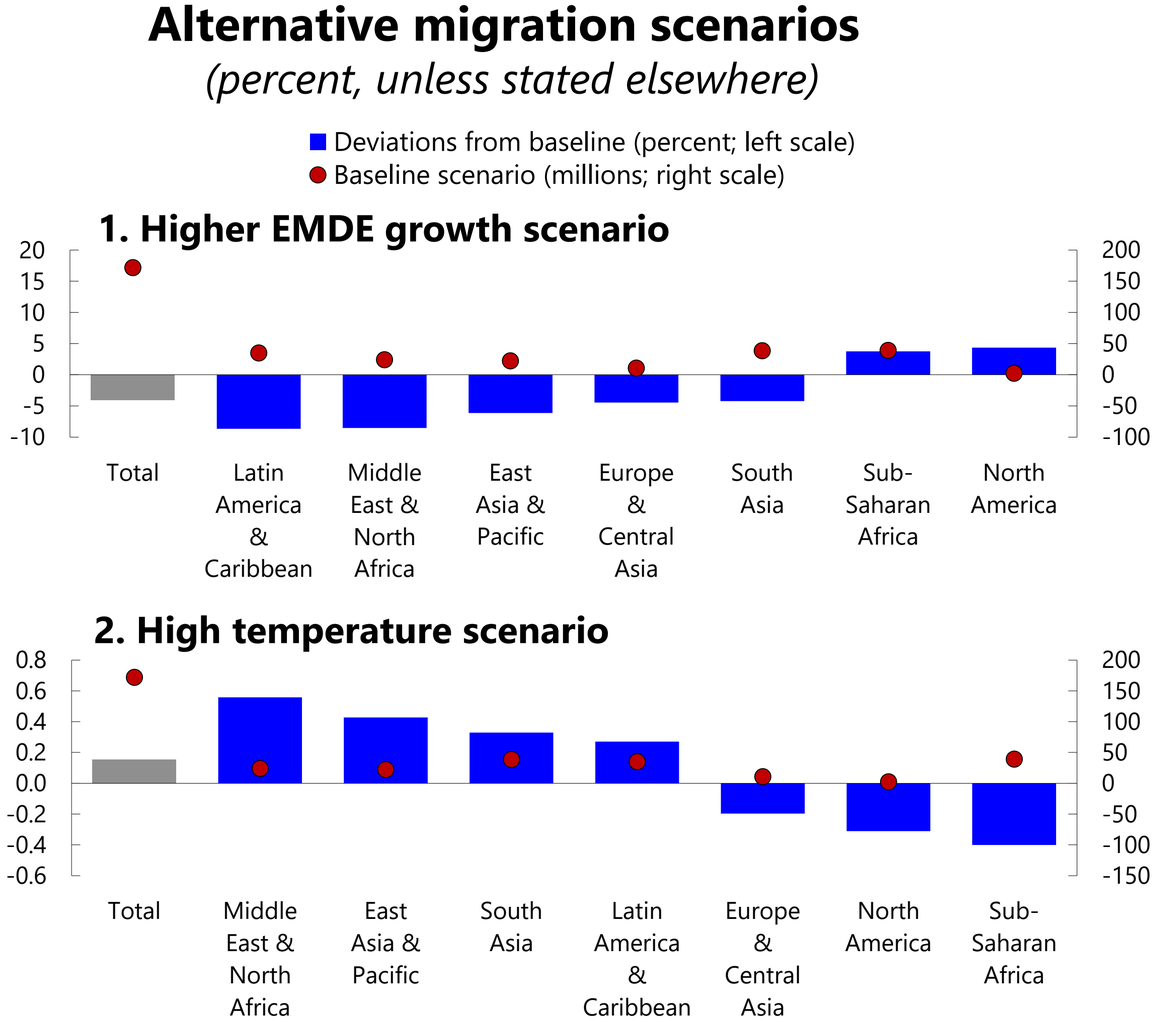
Refugee stocks at the end of 2018



Additional results on migration patterns

- Migrant **networks** reduce the costs of immigration.
- **Natural disasters** including extreme temperatures and storms have further small effects on emigration.
- In OECD countries, stricter entry requirements and fewer integration measures are **associated with reduced immigration**
- **Skilled migrants** follow the skill premium. A common border, diaspora networks and shorter distances tilt migration toward the lower skilled; a common language increases high-skill immigration.

Alternative scenarios for migration: 2020-50



Note: Bars represent percentage deviations in 2050 relative to the baseline scenario and dots represent out-regional migration pressures (stocks) in 2050 under the baseline.

- A 1 ppt **higher growth in EMDEs** reduces emigration from North Africa and the Middle East, but increases it slightly out of Sub-Saharan Africa (poverty trap).
- Under the **IPCC's high-emission scenario**, emigration increases from all EMDEs except Sub-Saharan Africa (poverty traps):
  - Climate change expected to increase within-region migration, but impact on long-distance migration unclear.

Refugee immigration in EMDEs: no detectable effects on output

Possible Reasons:

- Refugees flee conflict, do not select their destination country according to their skills, and face **legal/physical barriers** to work.

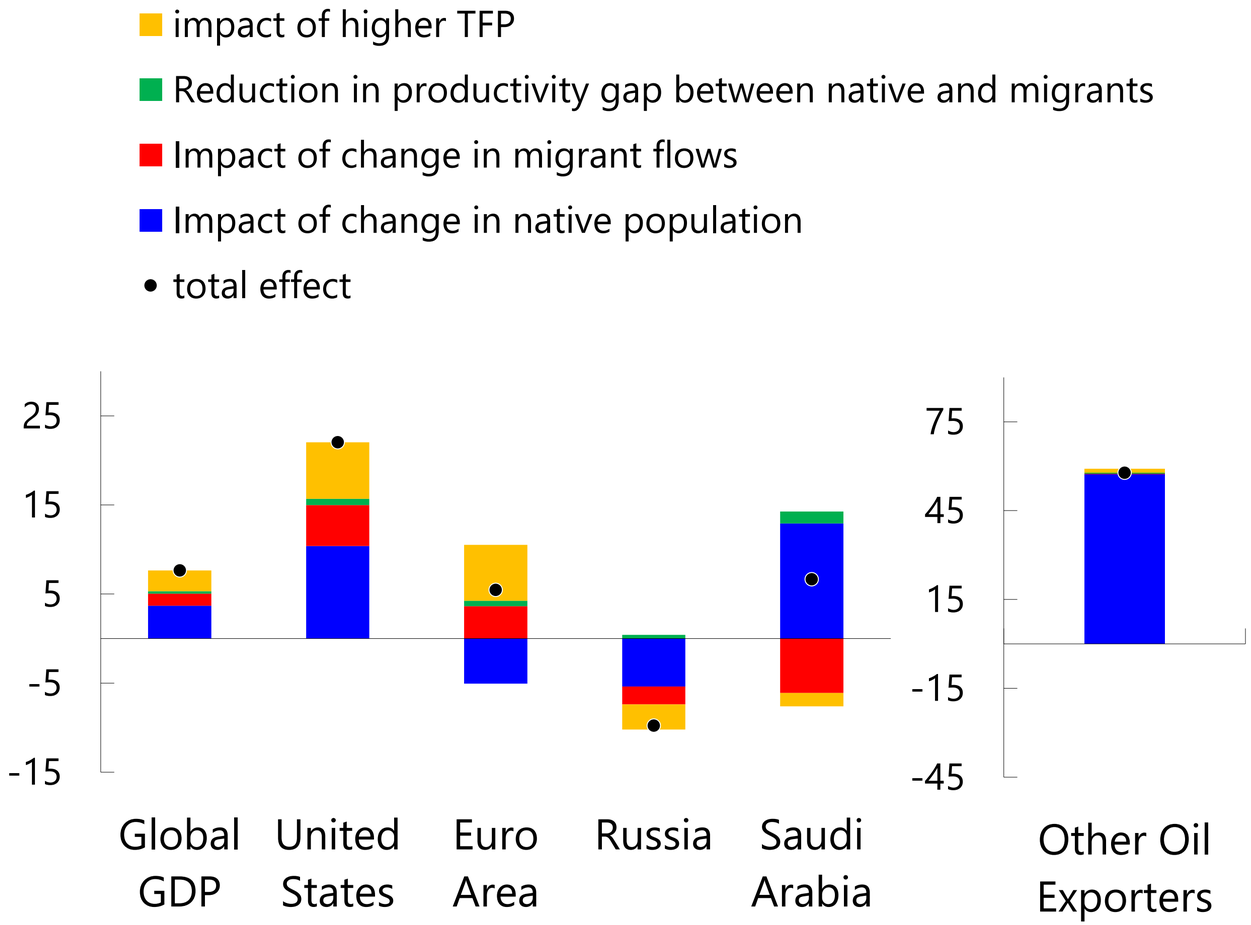
Policies identified in the literature as **improving** labor market outcomes**:**

- Work permits
- Language training
- Physical and mental health support
- Shorter refugee recognition processes
- Shorter stays in asylum accommodations.

Global effect of migration: model simulations

Simulated effect of future migration: GDP

Impact of demography and migration on real GDP
(percentage points)



Calibration:

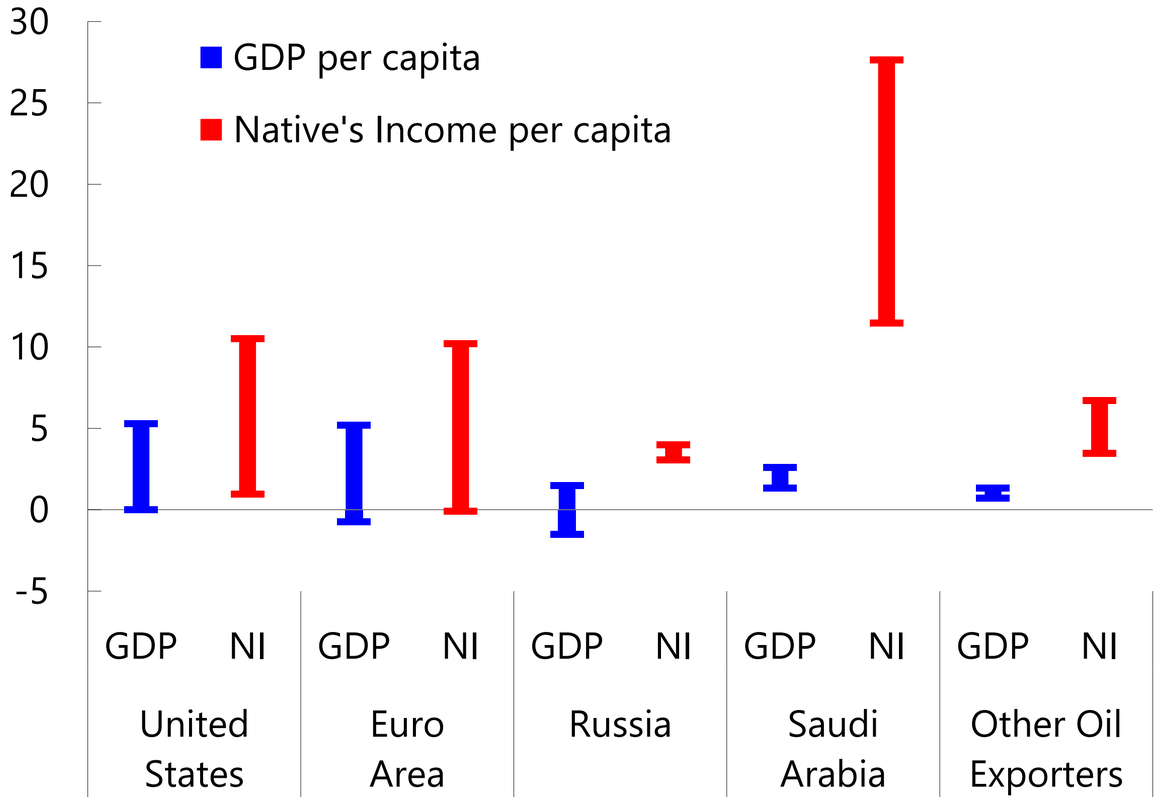
- Migration (baseline scenario); native population (using UN projections)
- Immigration raises TFP; immigrants' productivity increases over time

Results:

- Migration adds **2pp to global GDP** by 2050.
- **Counterbalance** to population aging in AEs

Simulated effect of future migration: Natives

Effect of migration on real incomes
(percentage points)

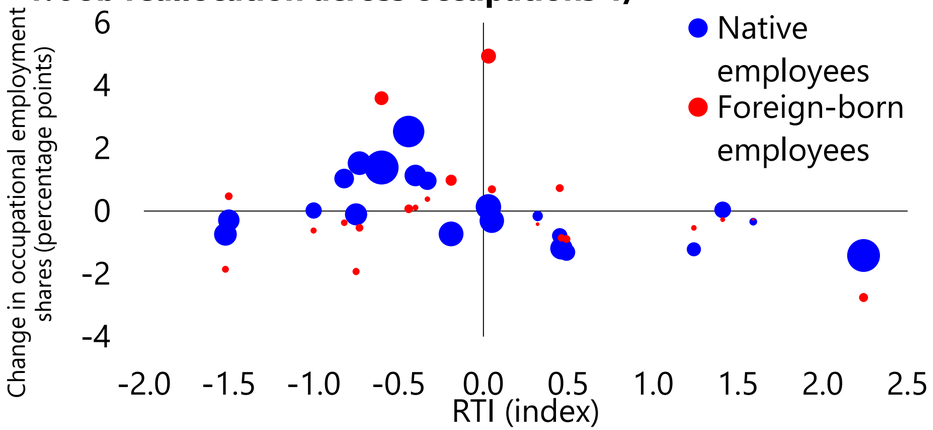


- The **positive TFP effect** adds significantly (difference between top & bottom of interval) to GDP per capita in recipient countries
- And **even modest positive TFP** effects yield **increases** in per capita income of **natives**
- **Note:** these are aggregate effects and don't consider **distributional impact** on natives

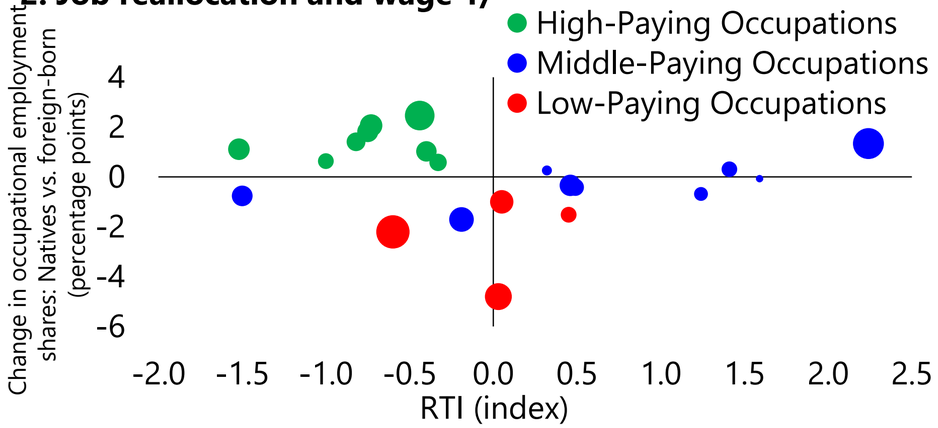
How does immigration interact with automation in the labor market?

Automation and labor Market adjustment

1. Job reallocation across occupations 1/



2. Job reallocation and wage 1/



Sources: European Labor Force Survey, Goos and others 2014; and IMF staff estimates

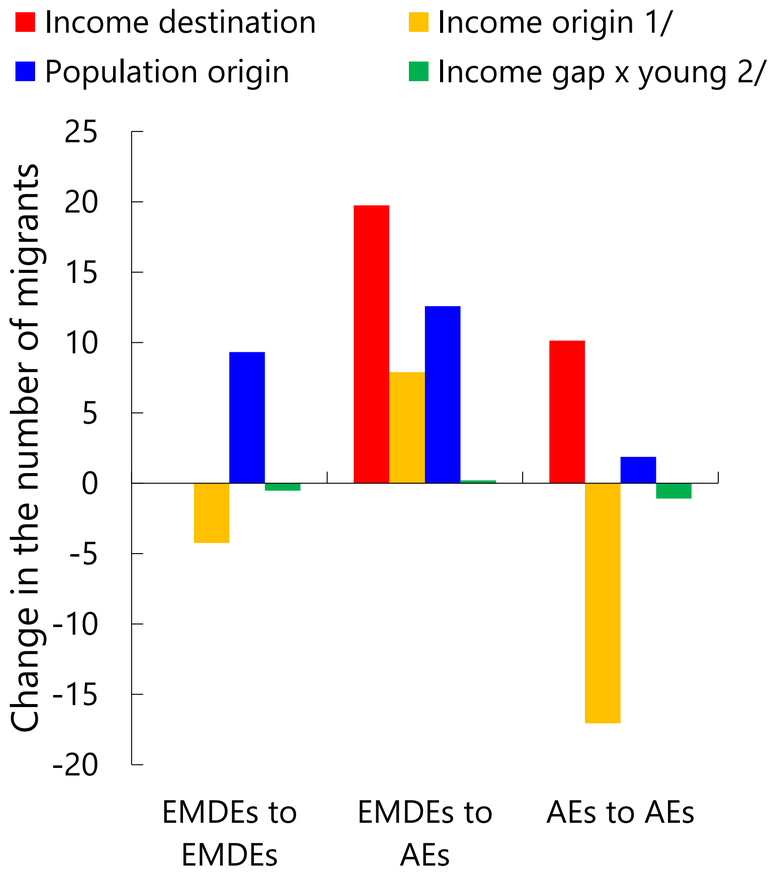
Note: 1/ Data are for 15 European countries, 1998-2010. Bubble size represents the employment share in 2010.

RTI = routine task intensity

- Natives' employment shifted away from routine occupations.
- Immigrants took low-paying jobs with medium exposure to automation (red bubbles).
- Natives upgraded their skills, moving into higher-paying occupations with lower exposure to automation.

A decomposition of past migration flows points to income and population growth

Decomposition of past migration Flows, 1990–2015
(millions)



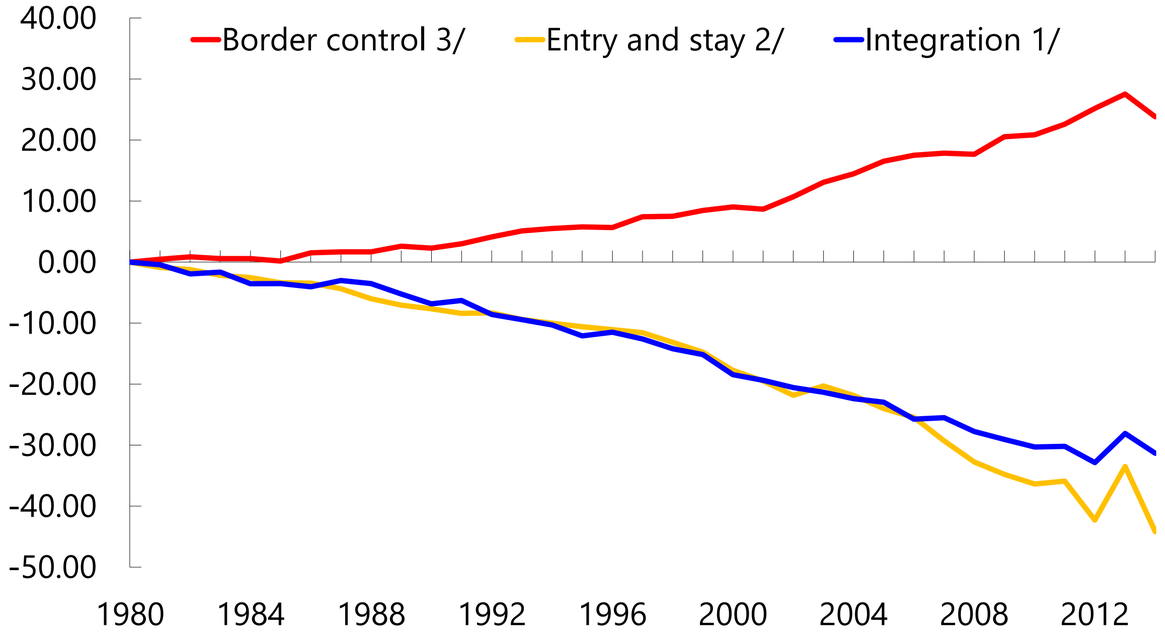
Source: IMF staff calculations.
1/ Includes the poverty trap effect of origin income.
2/ Denotes the product between the income gap and the share of young population.

- Both population and economic growth in EMDEs drove the rise of migration from EMDEs to advanced economies between 1990 and 2015

- Economic development in origin countries gave people the means to migrate to advanced economies, while reducing the incentive to emigrate within EMDEs.

Restrictiveness of migration policies

Restrictiveness of migration policies, 1980-2014

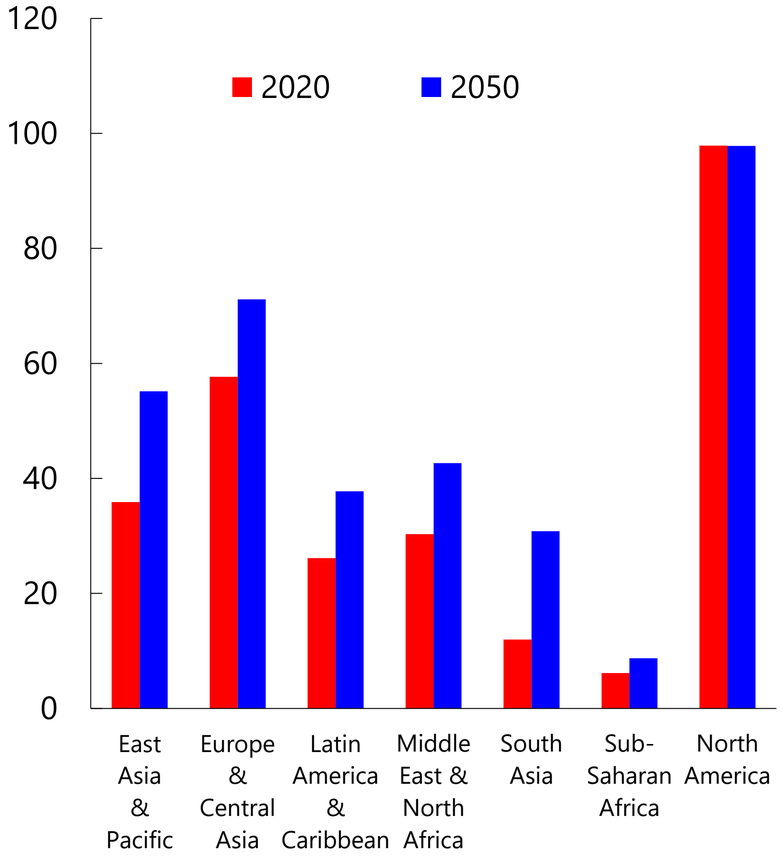


Sources: Determinants of International Migration (DEMIG) dataset; and IMF staff calculations.
Note: The index is normalized to zero in 1980. Positive (tighening) and negative (tightening) policy changes are cumulated over time and summed across countries. Depending on their intensity, individual policy changes range between -4 and +4. Missing values are treated as no change (zero).
1/ The index measures postentry rights and other aspects of integration of a target group.
2/ The index covers issues related to entry and stay permits and regularizations.
3/ The index measures the external and internal border controls that aim to secure national territories through surveillance, detention, and sanctions of fraudulent acts.

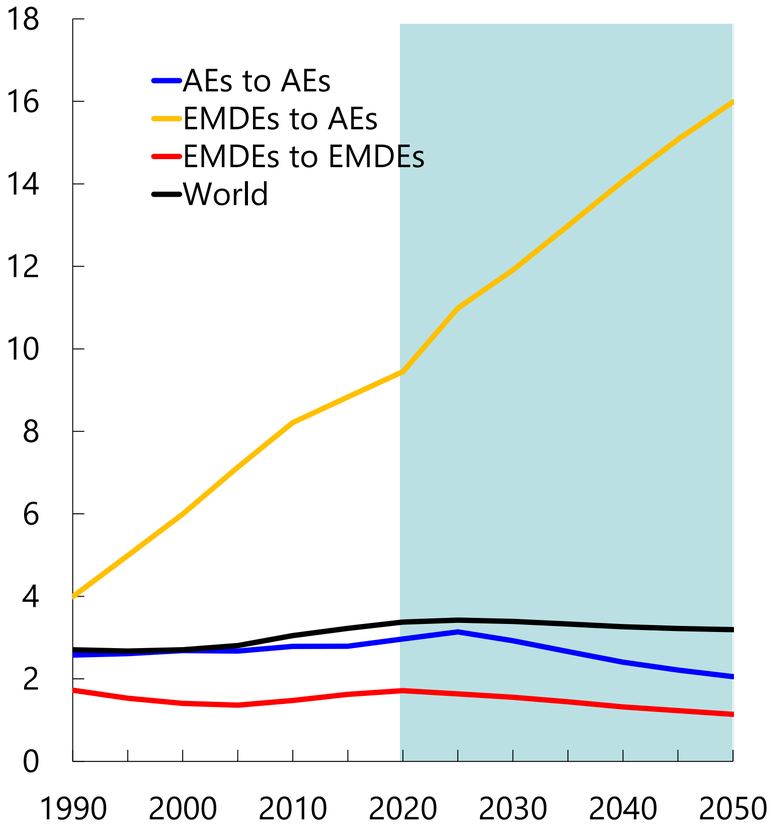
- Liberalization trends are clearly visible in the evolution of policies that regulate the entry and integration of immigrants, while policies concerning internal and border controls have tightened over time.
- The last two decades has seen a rise of migration policies to select high-skill immigrants.

Baseline scenario for migration, 2020-50

Real GDP per capita
(share of US GDP per capita)



Migration corridors, 1990-2050
(percent of total population in destination group)



Sources: Penn World Tables (PWT 9.1); United Nation; and IMF staff estimates.
Note: Migrants are defined as foreign-born population. The shaded area shows United Nations projections.

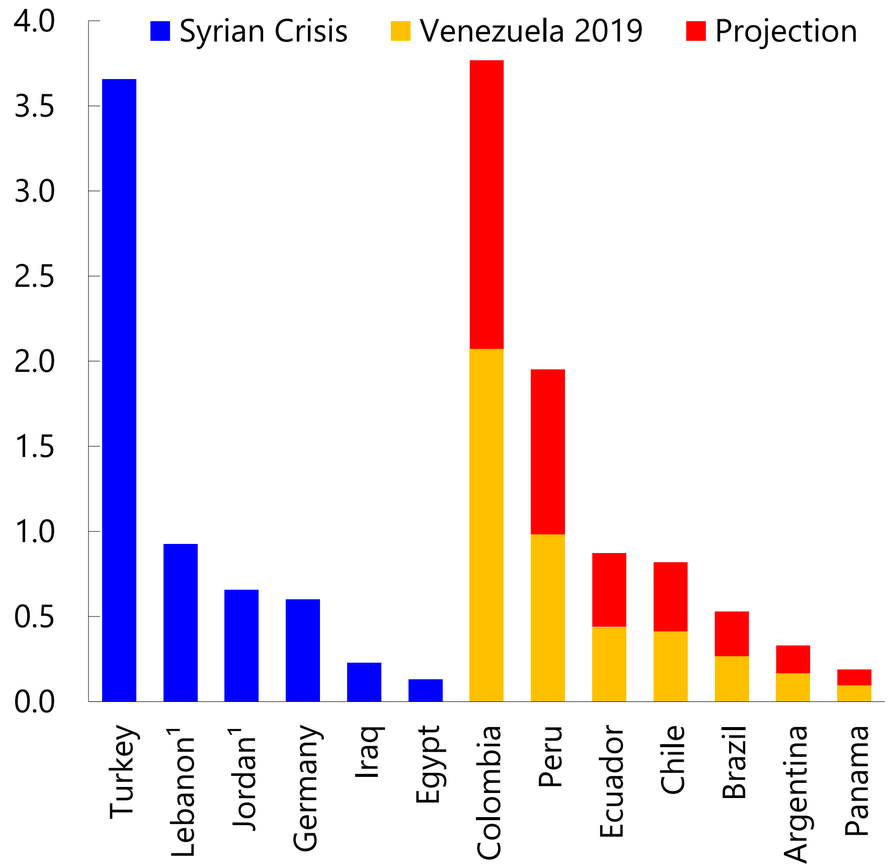
- The left chart shows the assumed income convergence towards the United States that is assumed in the baseline migration scenario.
- The right chart shows the migration trends under the baseline scenario, with rising share of immigrants from EMDEs in AEs.

Immigration does not seem to have reduced wages in Germany

- Immigration has more than offset the negative demographic trends in Germany.
- A Phillips curve analysis suggests that wages in Germany are explained by inflation expectations, productivity, and labor market slack unrelated to immigration.
- This finding is confirmed by a microeconomic analysis of a large administrative panel dataset.
- Competition effects, which tend to depress the wages of workers who are highly substitutable by immigrants, were present but more than offset by complementarity effects between native and immigrant workers.

The Impact of Migration from Venezuela on Latin America and the Caribbean

Recent crises main recipients1/
(millions of people)



Source: United Nations High Commissioner for Refugees (UNHCR).
1/ Unofficial estimates used by authorities are greater than UNHCR's.

- Migration from Venezuela leads to short-term public spending pressures, e.g. 0.5 percent of GDP in Colombia by 2024, 0.4 percent in Ecuador, 0.3 percent in Peru, and 0.1 percent in Chile.

- Equilibrium models suggest that Venezuela's migration is estimated to raise GDP by 3 to 5 percentage points between 2017 and 2027, driven by an expansion of the labor force and investment.