

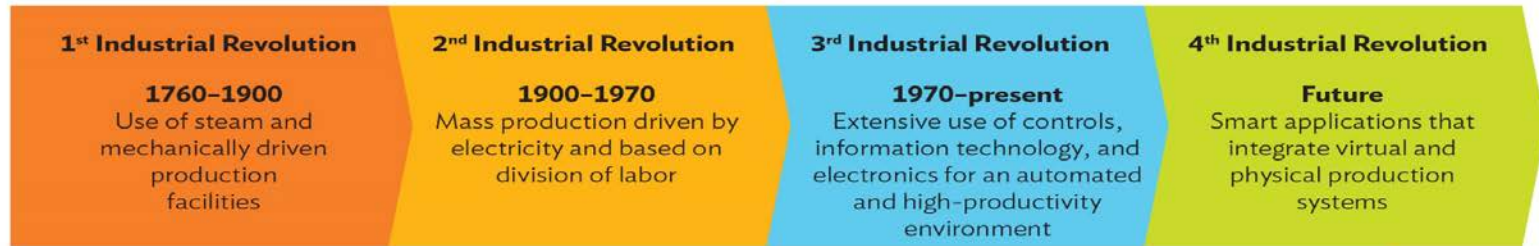
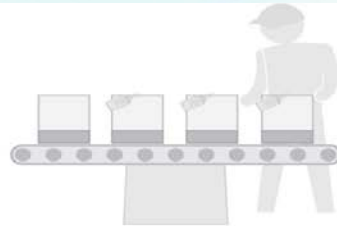
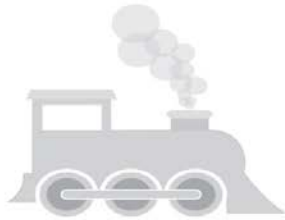
Technology, Jobs and Inclusive Development: ADB's Recent Research and Operations

Yasuyuki Sawada

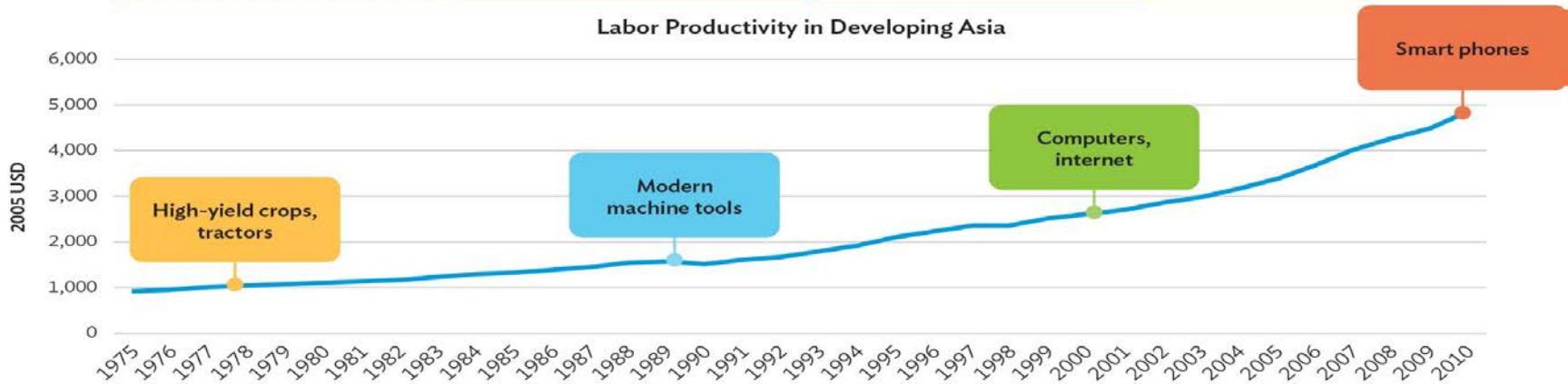
**Chief Economist
Asian Development Bank**

G20 Seminar on Innovation for Inclusive Development
Session 1: Technological Innovation and Development
January 16, 2019

4th IR heightened automation anxiety but technological advancement drives higher productivity, better-paid jobs and economic growth

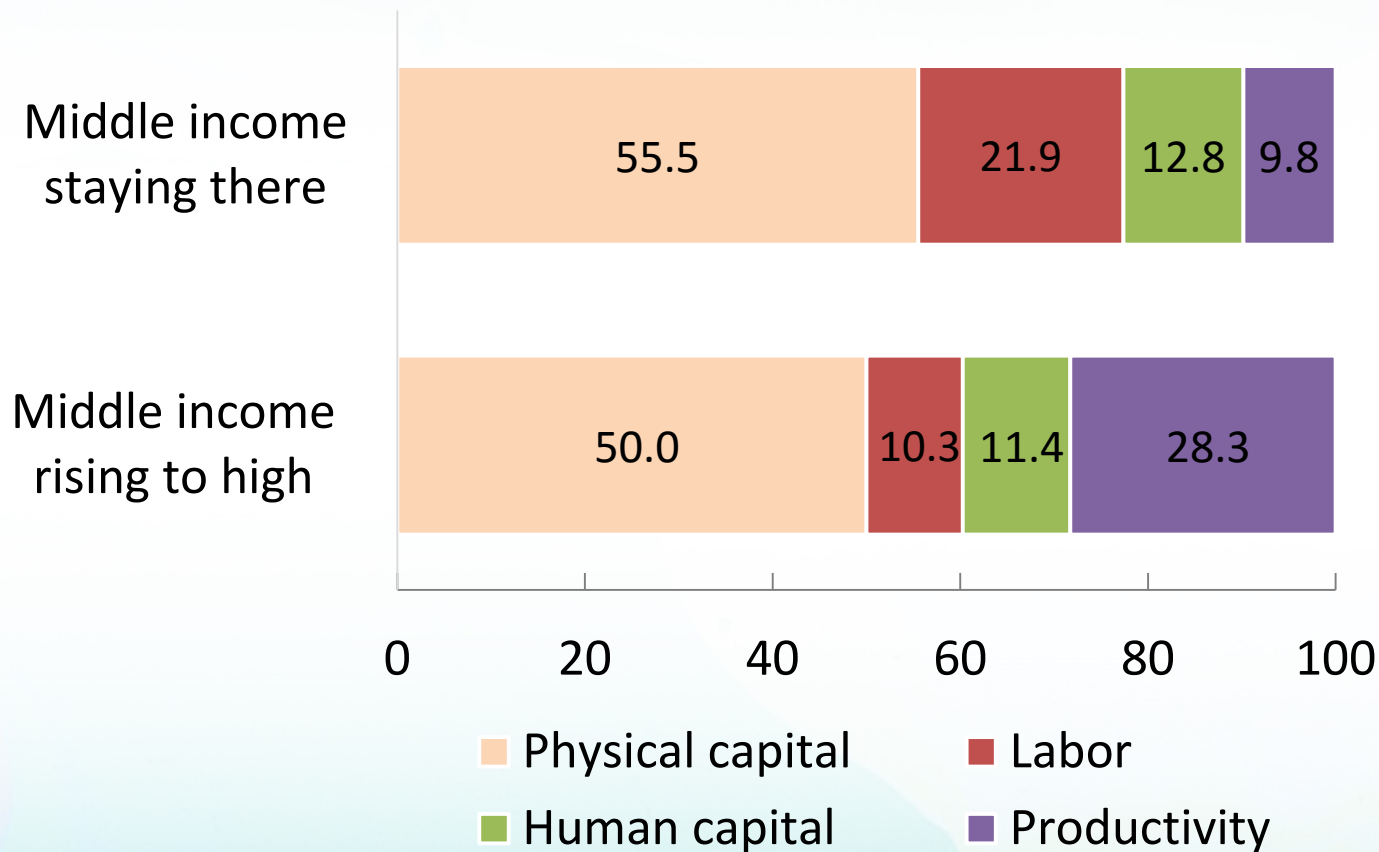


Labor Productivity in Developing Asia



Indeed, innovation is the key to transcend middle income challenge

Contributions to Growth, 1960–2014 (%)



There are compelling reasons to remain optimistic about developing Asia's job prospects and inclusive growth

- 1. New technologies often automate only some tasks of a job.**
- 2. Technical feasibility does not guarantee economic feasibility.**
- 3. Rising income and demand.**
- 4. New occupations and industries.**

Technology and employment in global value chains

The GVC for garments

2 Spinning, Knitting, or Weaving, Dyeing

Spinners use cotton from a variety of origins to produce yarn; fabric mills produce cloth

1 Growing, Ginning, Trading

Ginners receive cotton from multiple growers and sell to the global market through traders.

3 Sewing, Printing, Embroidering, Washing, Packing

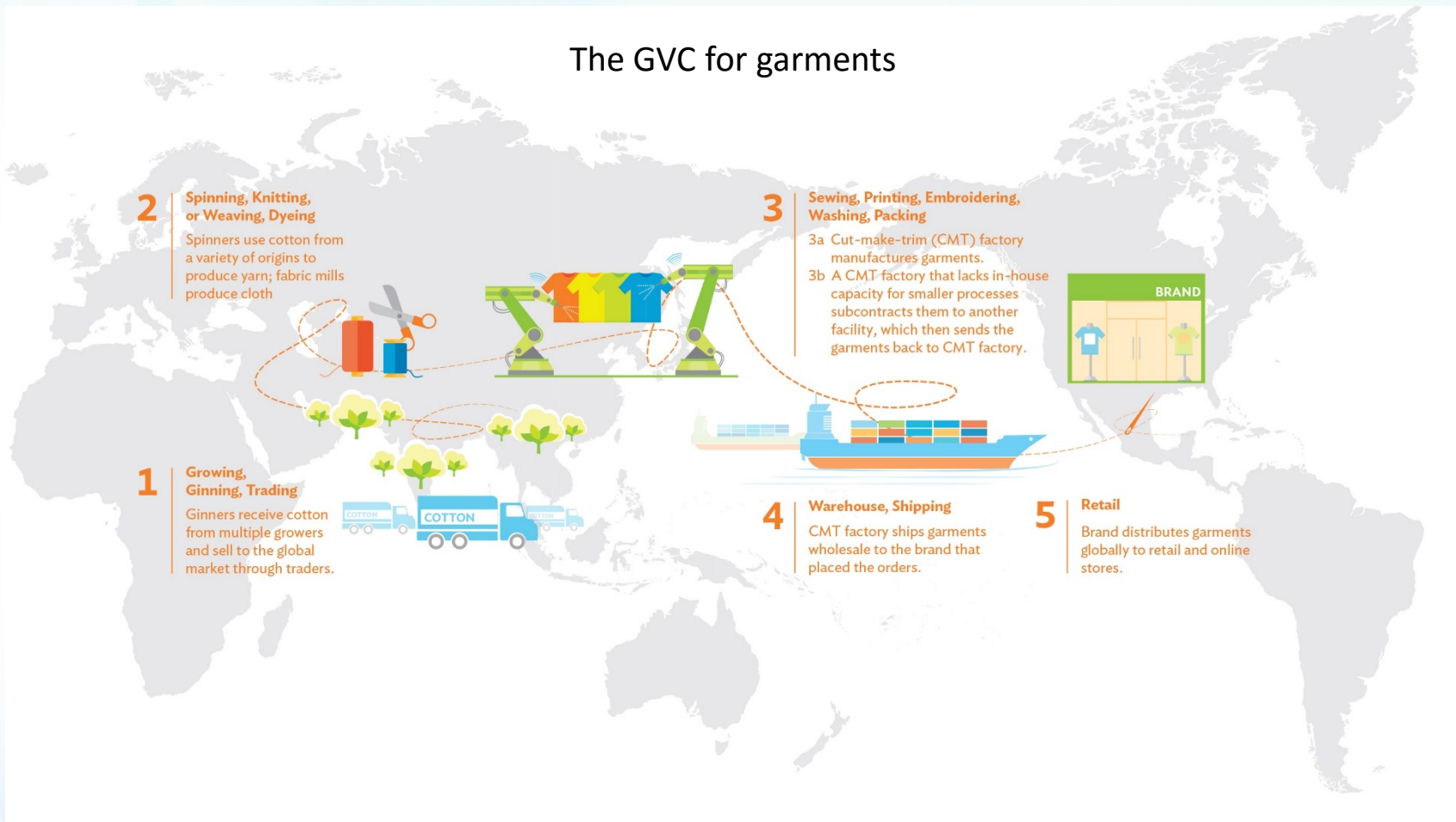
3a Cut-make-trim (CMT) factory manufactures garments.
3b A CMT factory that lacks in-house capacity for smaller processes subcontracts them to another facility, which then sends the garments back to CMT factory.

4 Warehouse, Shipping

CMT factory ships garments wholesale to the brand that placed the orders.

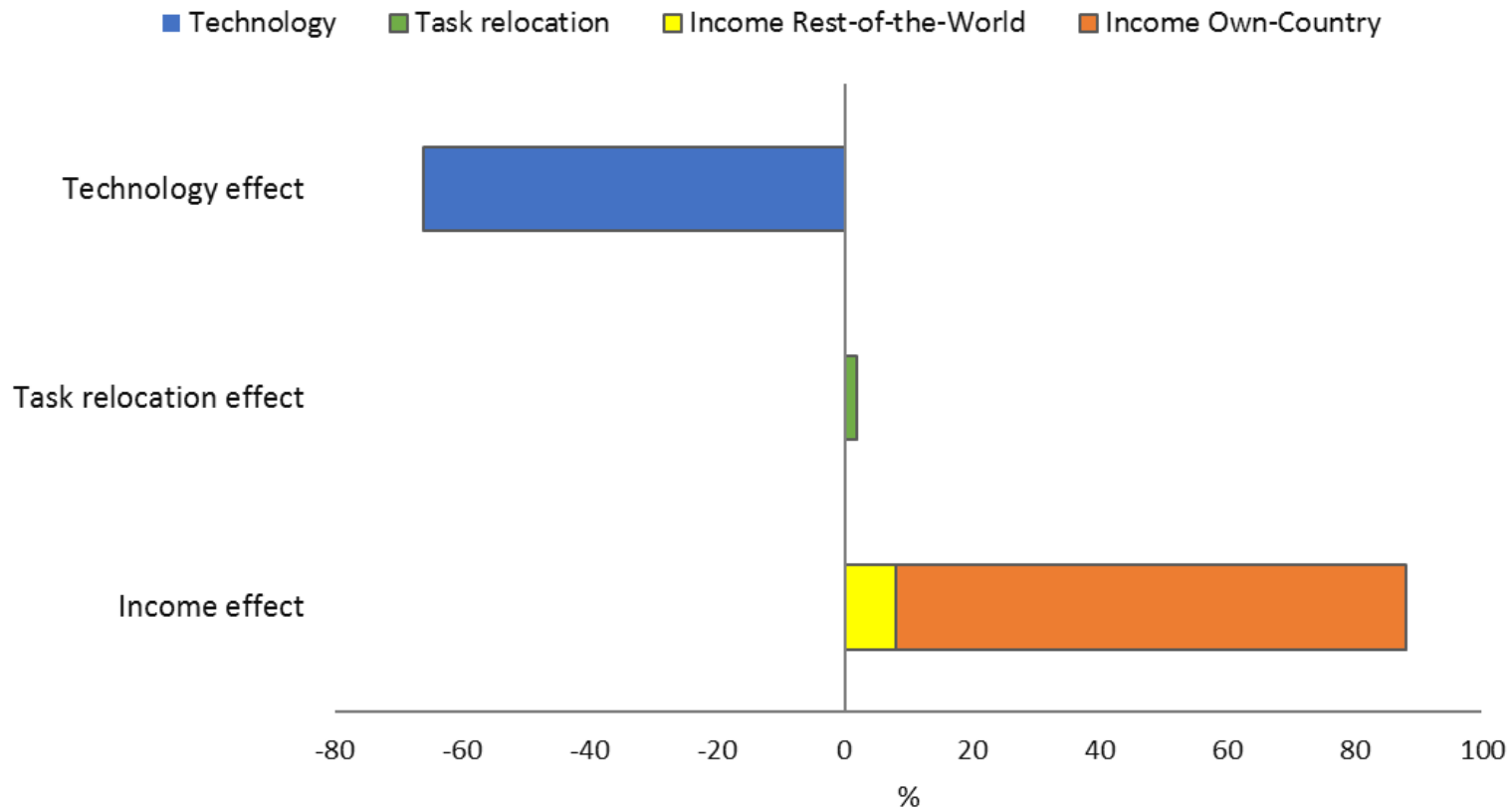
5 Retail

Brand distributes garments globally to retail and online stores.



Rising demand offsets displacement driven by automation in Asia

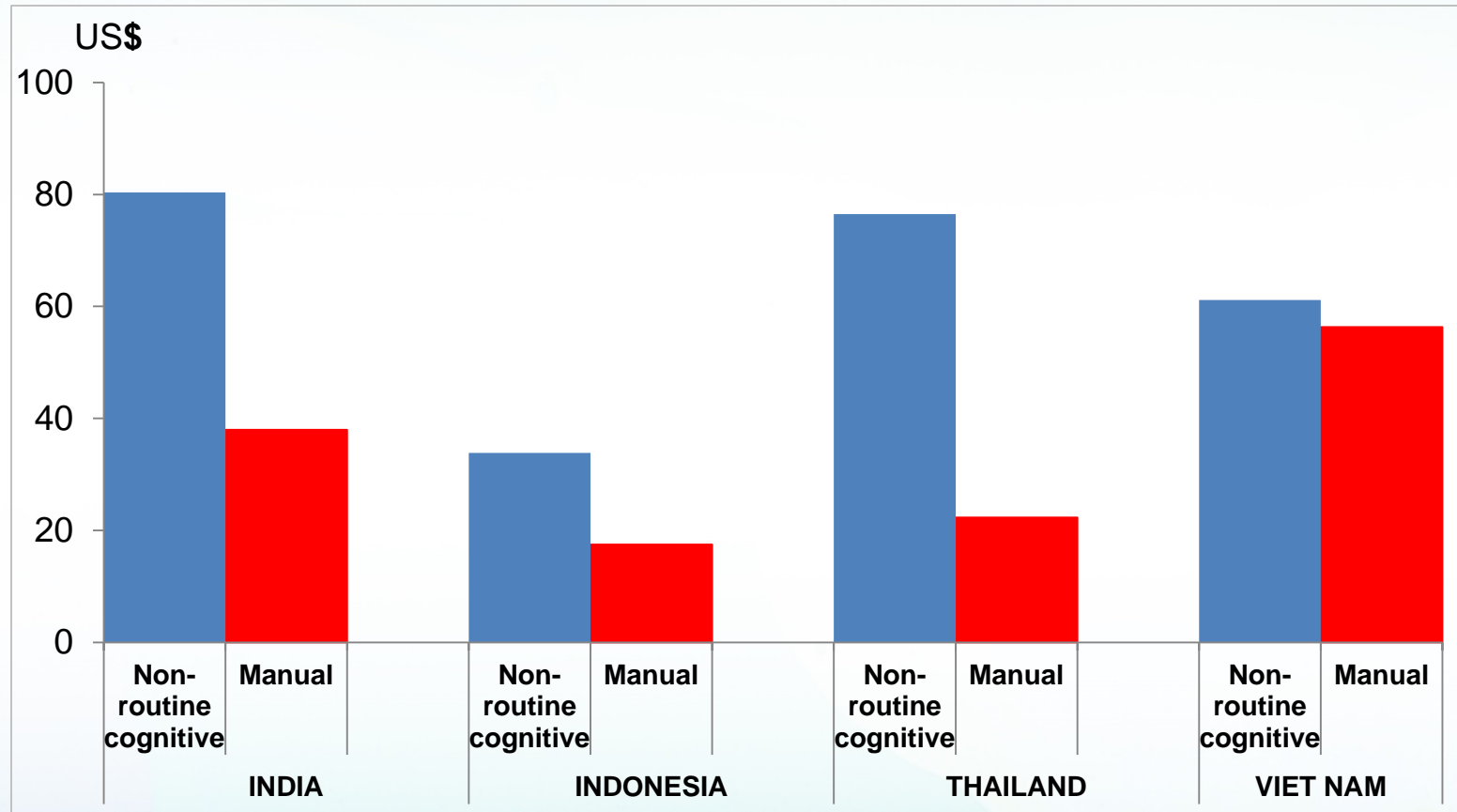
Decomposing the percentage change in employment, 2005-2015



Note: Developing Asia in the decomposition analysis includes Bangladesh, India, Indonesia, Malaysia, Mongolia, the People's Republic of China, the Philippines, the Republic of Korea, Sri Lanka, Taipei, China, Thailand, and Viet Nam. Sources: Decomposition result using ADB Multiregional Input–Output Database (accessed 20 November 2017); Labor force surveys, various countries; World Input–Output Database—Socioeconomic Accounts (Timmer et al. 2015).

Yet, wages have grown more for skilled workers, leaving low-skill workers behind

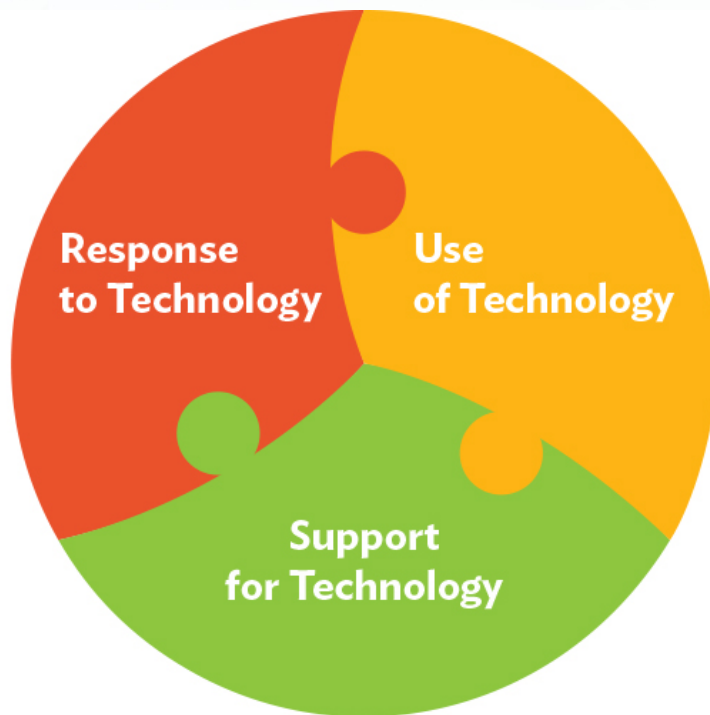
Change in average monthly wages, constant prices (in US\$)



Note: The time frames vary across countries, with Viet Nam the shortest (2007–2015), followed by Thailand (2000–2010), India (2000–2012), and Indonesia (2000–2014). Developing Asia refers to the five countries included in this analysis. Source: *Asian Development Outlook 2018: How Technology Affects Jobs*

Government has an important role to play in leveraging technological advances for inclusive growth

The new industrial revolution and the role of government



- Education and training
- Favorable labor regulation
- Social protection
- Tax policies

- Facilitate skills development and job-matching
- Provision of public goods and services

- Investments in ICT infrastructure
- Antitrust and consumer protection
- Innovation and technology adoption

Response to Technology: Examples from ADB Interventions

Strengthening Higher Education Project and its follow-up project in Lao PDR

ADB helps improve teaching and learning around ICT including a particular focus on access to higher education for disadvantaged groups

Kerala's Additional Skills Acquisition Program (ASAP)

ADB-funded ASAP in Kerala is supporting foundational skills in communication and computer skills in addition to occupational skills to enhance employability of graduates

Digital hub (IT Park) in Karachi, Pakistan

ADB's first ICT sector loan in Pakistan: a project for developing a digital hub (IT park) in Karachi and developing capacity in AI and IoT technologies in higher education streams.

Use of Technology:

Examples from ADB Interventions

National ID Program in Cambodia

ADB has provided TA to the Government for developing a master plan and implementation plan for a national ID program, leading to introduction of the biometric national ID system through PPP..

Smart City Schemes for Better Service Delivery

ADB is supporting Smart City schemes that use digital technologies to improve service delivery and address specific urban challenges in areas such as Bandung, Indonesia and Suva, Fiji.

Gansu Internet Plus Socialized Agriculture Project

ADB is preparing a project in Gansu, China, that will implement a modern suite of technologies using a common platform to enhance agriculture productivity and marketing.

Support for Technology: Examples from ADB Interventions

ICT Infrastructure in the Pacific, Afghanistan, and Myanmar

ADB financing basic ICT infrastructure investments. For example, submarine cables in the Pacific and telecom operators in Afghanistan and Myanmar

Cloud-Based Banking in the Philippines

ADB, Cantilan Bank, and Oradian (an IT service company) launched a cloud-based banking application in Southern Philippines.

SME Financing: Technology- Enabled Credit Scoring in GMS

Mekong Business Initiative launched Kiu, a new e-commerce platform to help SMEs in the sub-region to gain access to developed markets.