

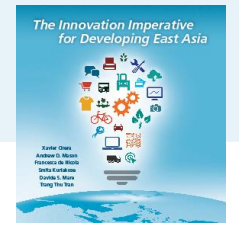
# *The Innovation Imperative for Developing East Asia*

*A World Bank Regional Report*

March 18, 2021, Washington, D.C.

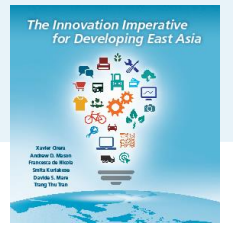
March 19, 2021, Tokyo



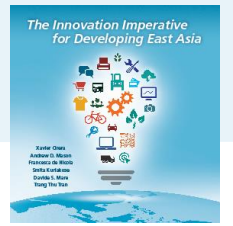


## Key messages

- Countries in developing East Asia face unprecedented challenges
- To sustain their economic performance, countries need to become more innovative
- Countries' innovation policies are not aligned with firms' capabilities and needs
- To spur innovation-led growth, policy makers need to
  - Reorient innovation policies
  - Strengthen complementary factors, and
  - Improve institutional capacity and governance

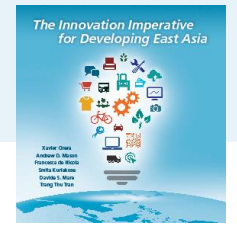


# The Innovation Imperative



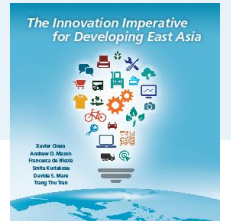
## Unprecedented challenges threaten the region's growth model and require swift action

- Declining productivity growth
- Uncertainty in global trade
- Rapid technological change
- Climate change
- The COVID-19 pandemic



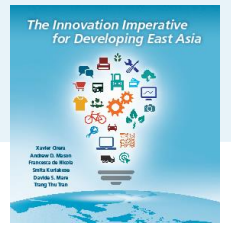
## Addressing these challenges requires more innovation

- Declining productivity growth → Higher productivity
- Uncertainty in global trade → Greater competitiveness
- Rapid technological change → Faster convergence to the technological frontier
- Climate change → Cleaner, environmentally sustainable modes of production
- The COVID-19 pandemic → More flexible and digitally integrated production



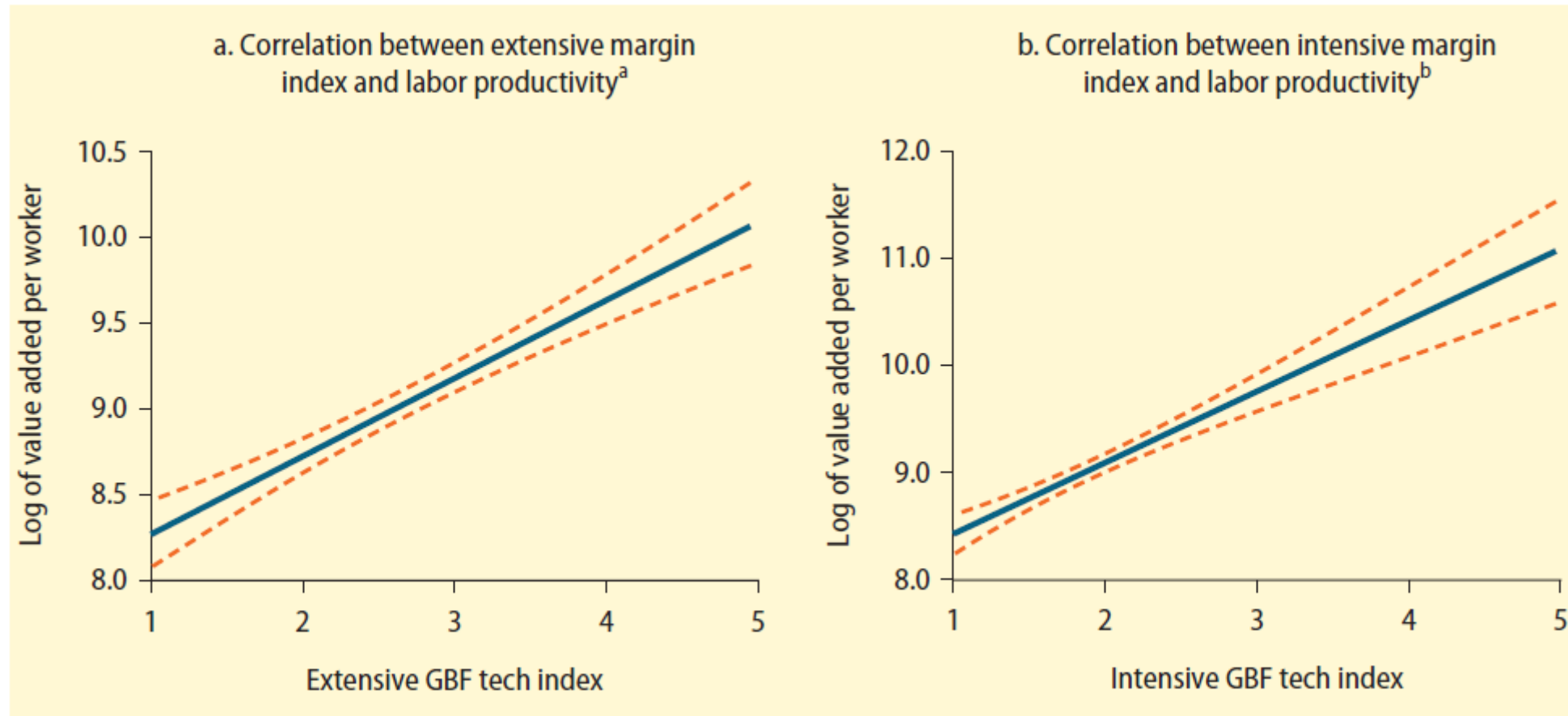
## The report defines innovation broadly

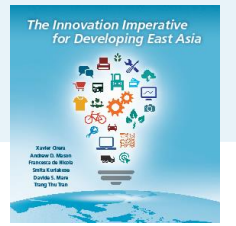
- ***Invention***
  - developments that push the technological frontier
- ***Diffusion*** and ***adoption*** of existing technologies and practices
  - that lead firms to novel ways of producing and acting



## Diffusion and adoption of existing technologies pays off

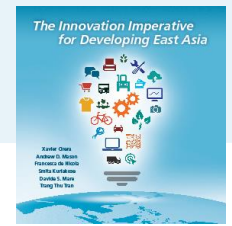
Technology adoption brings labor productivity gains to Vietnamese firms



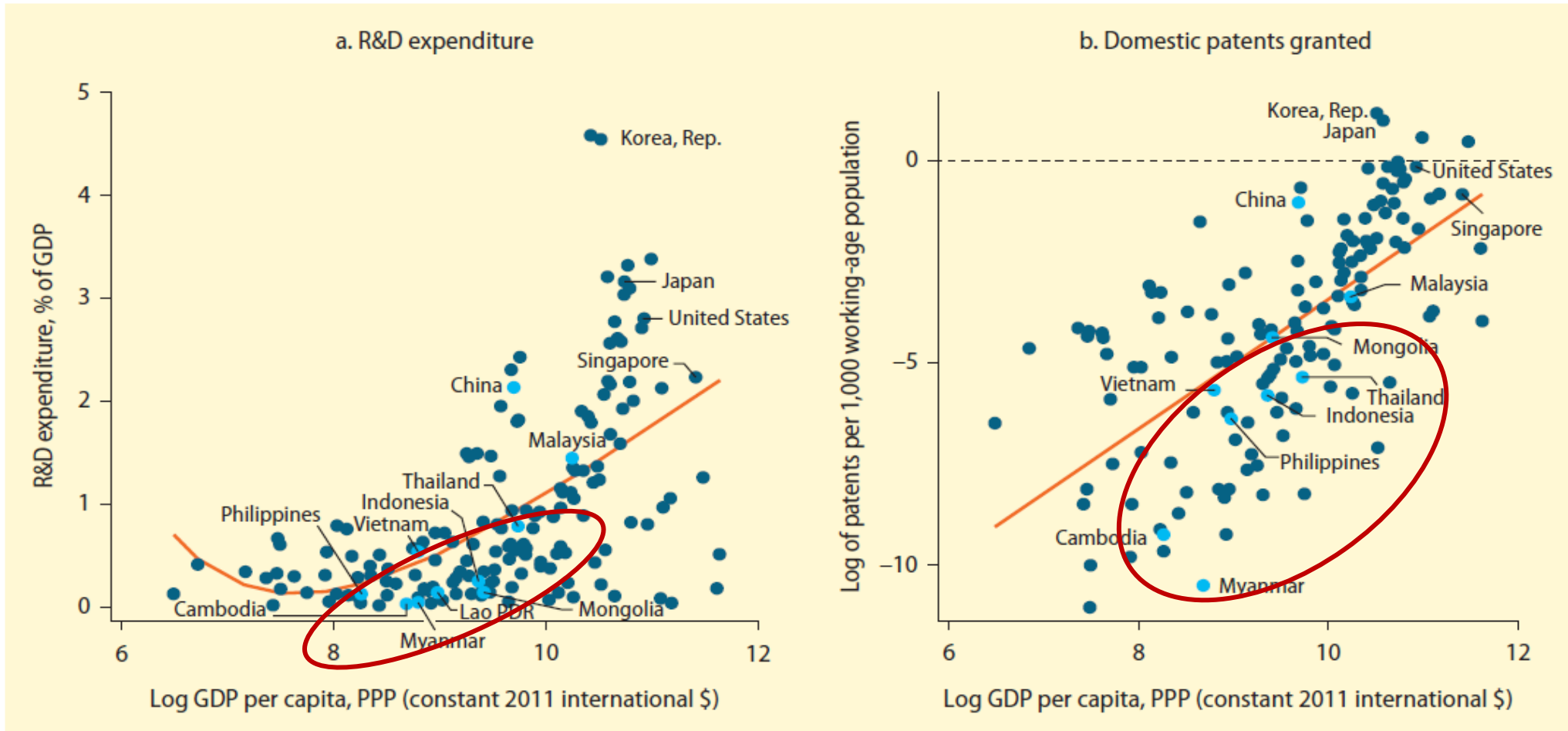


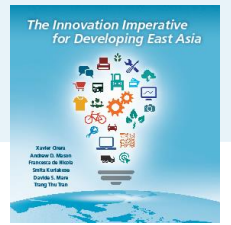
# The State of Innovation in the Region



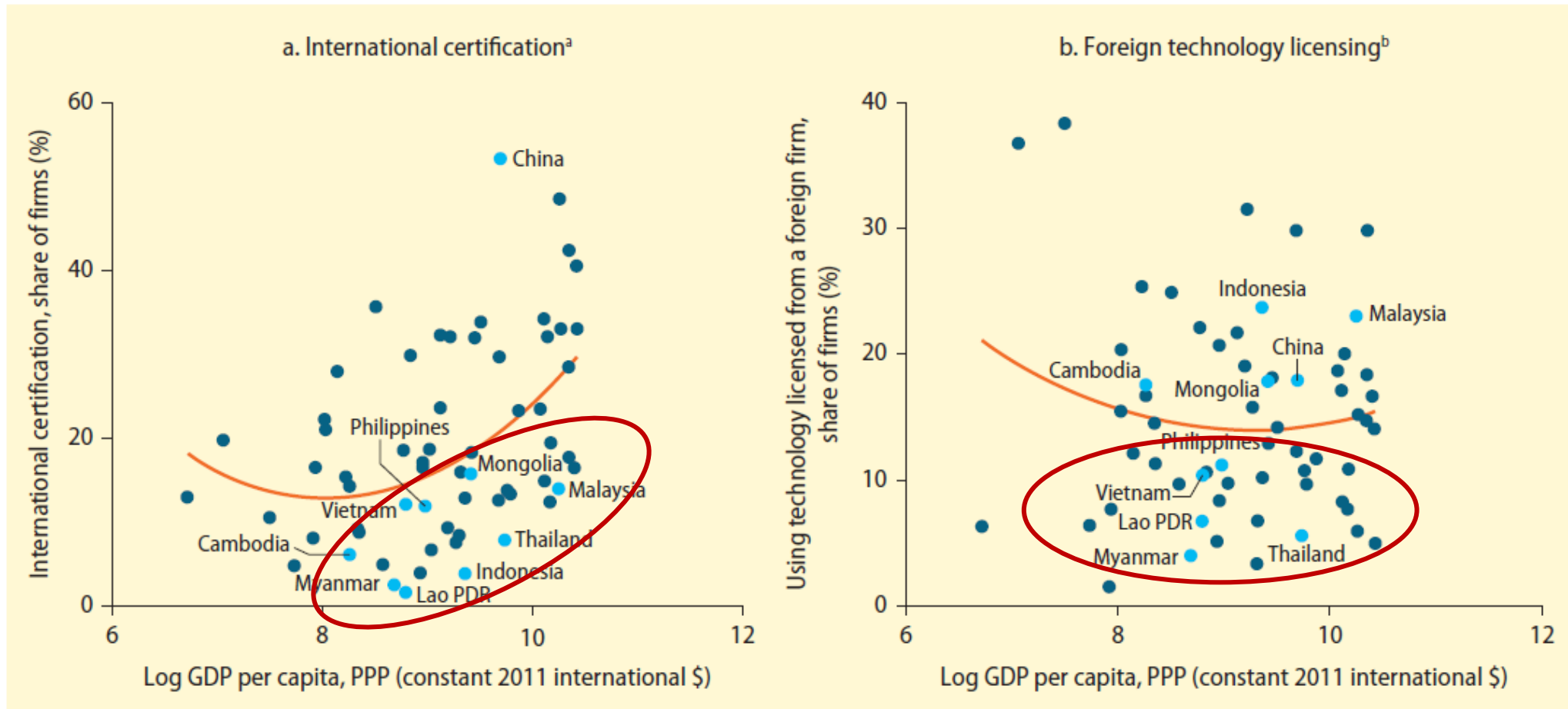


Most countries perform below predicted levels on key indicators of *invention*, e.g., R&D spending, patents

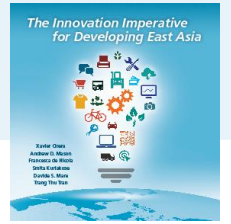




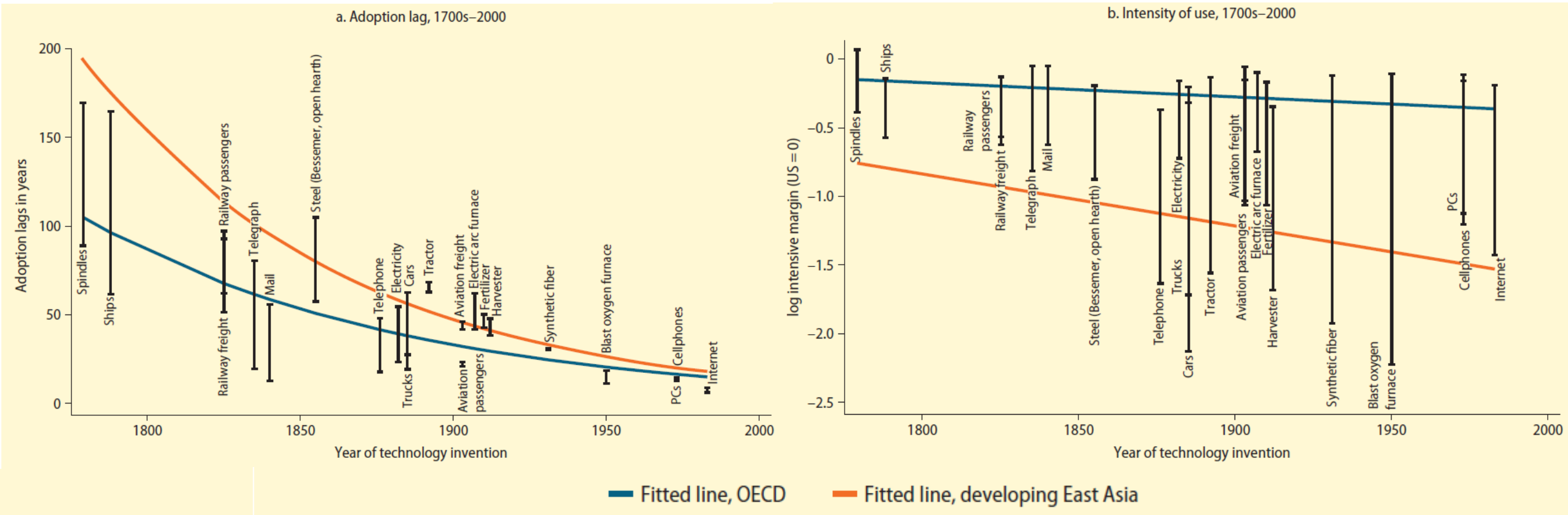
## Many countries also perform poorly on key indicators of *diffusion*

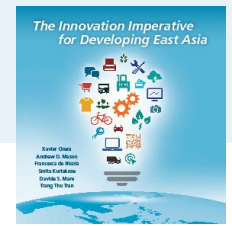


# The Innovation Imperative for Developing East Asia



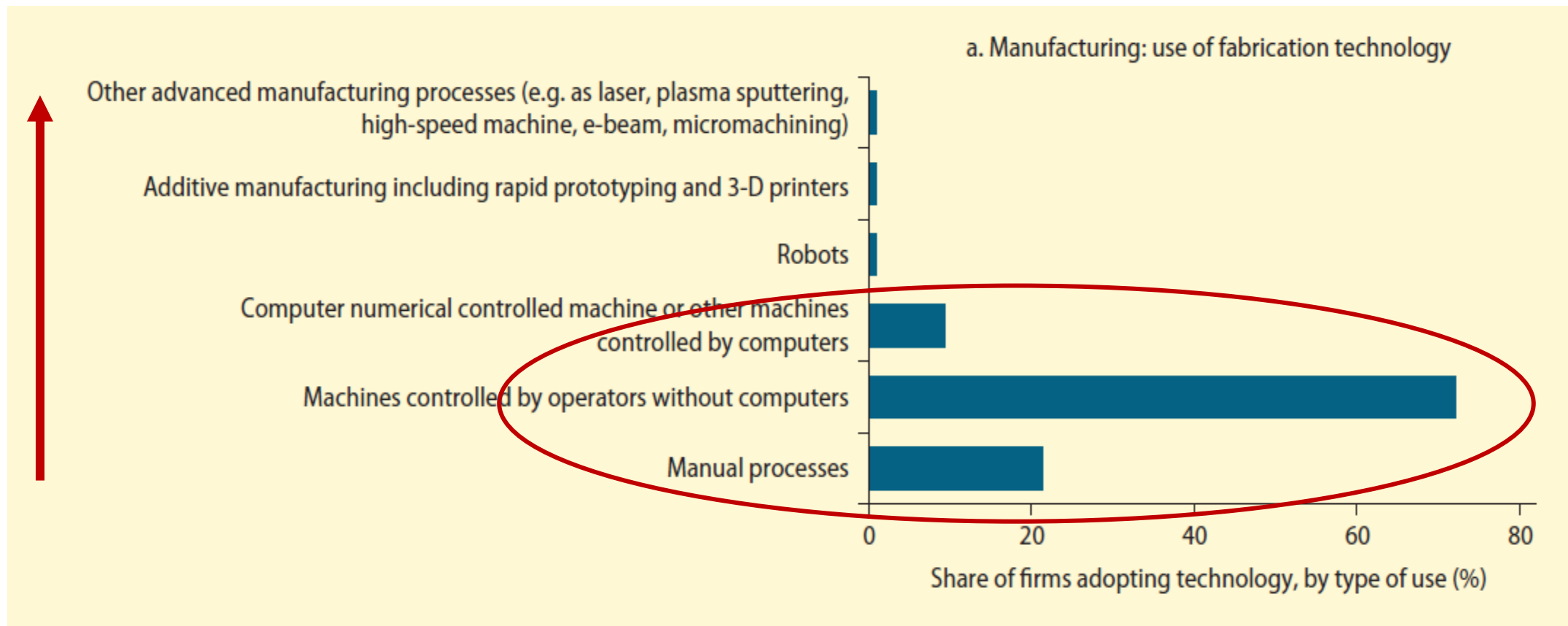
While lags in initial adoption of new technologies are closing, gaps in the intensity of technology use are growing

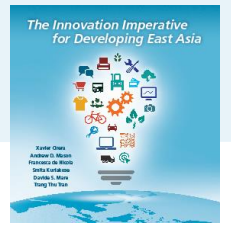




## Most firms in the region are far from the technological frontier

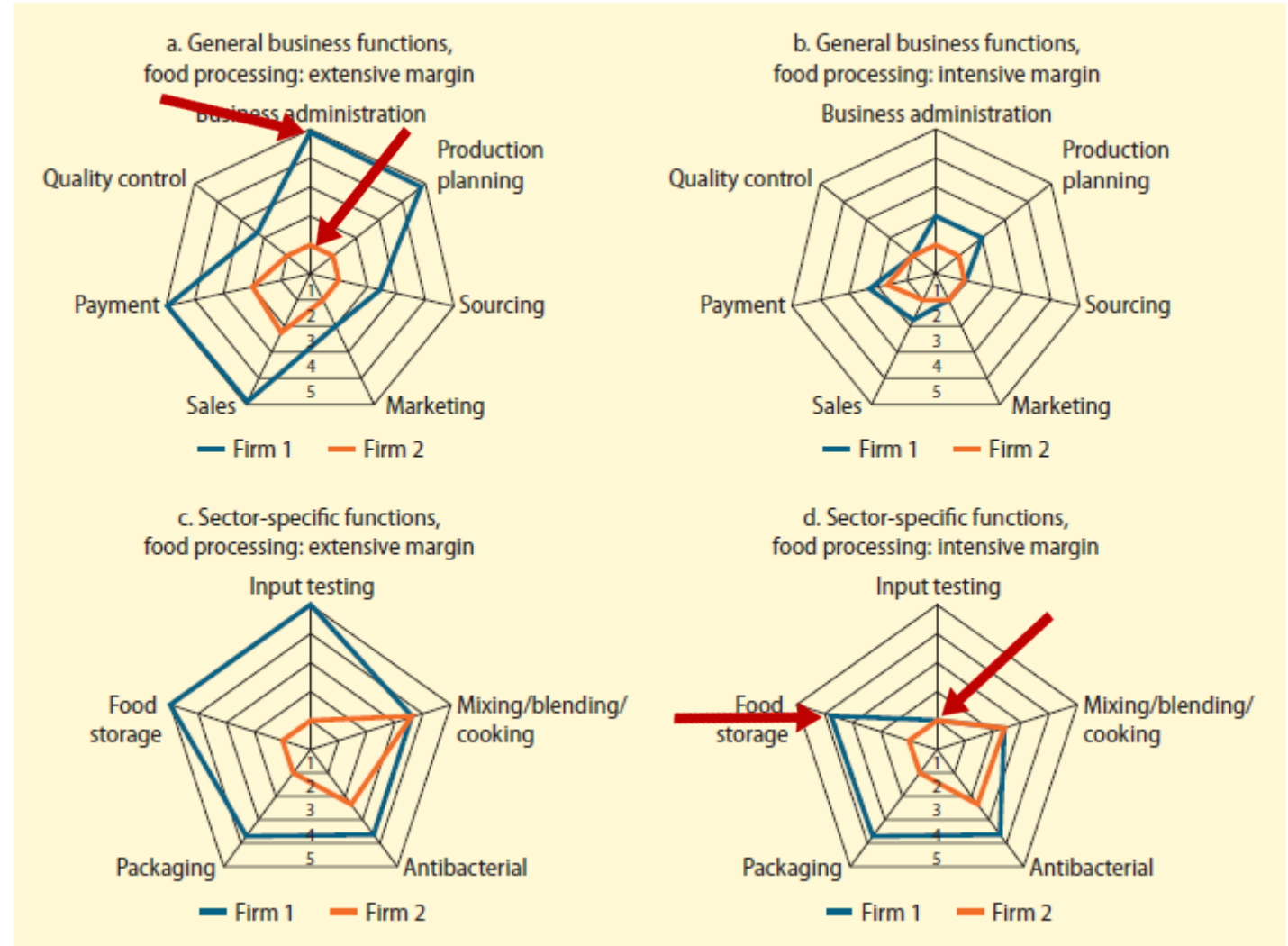
In Vietnam, firm use of cutting-edge technology in manufacturing (below), retail, and agriculture remains limited

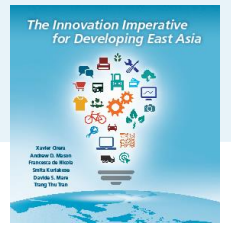




## There is also substantial heterogeneity in technological sophistication *across* and *within* firms

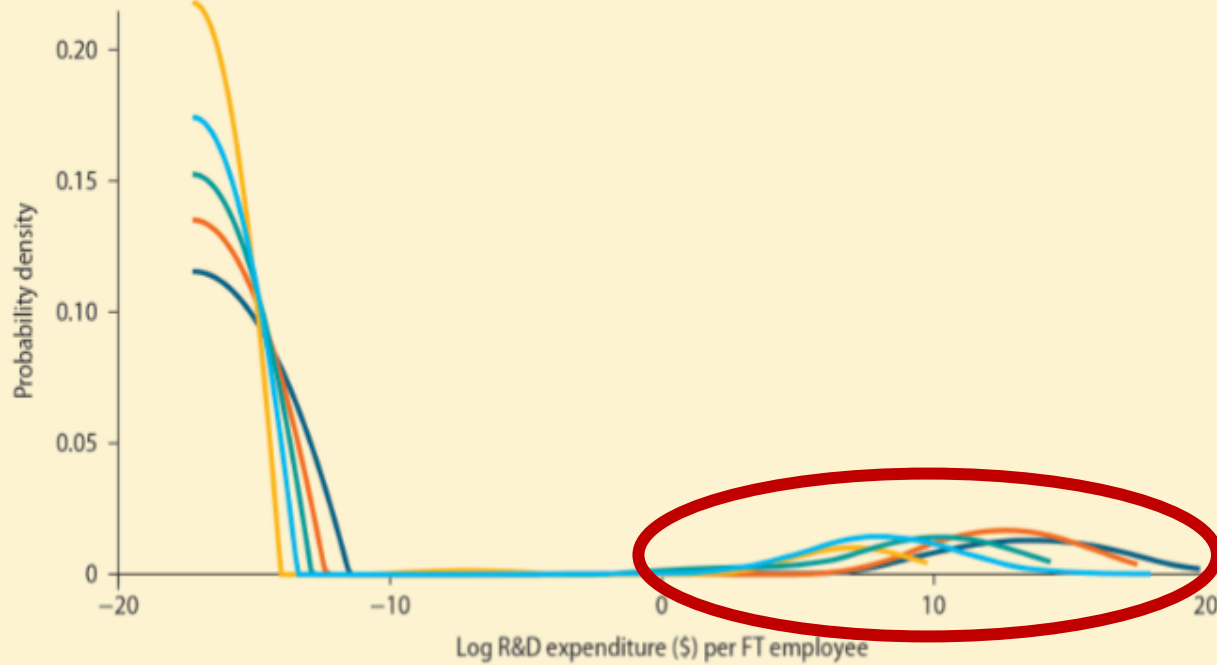
- Two firms within the same sector in Vietnam can use very different technologies for the same business function
- The same firm can be near the technological frontier for one business function but far from the frontier for another



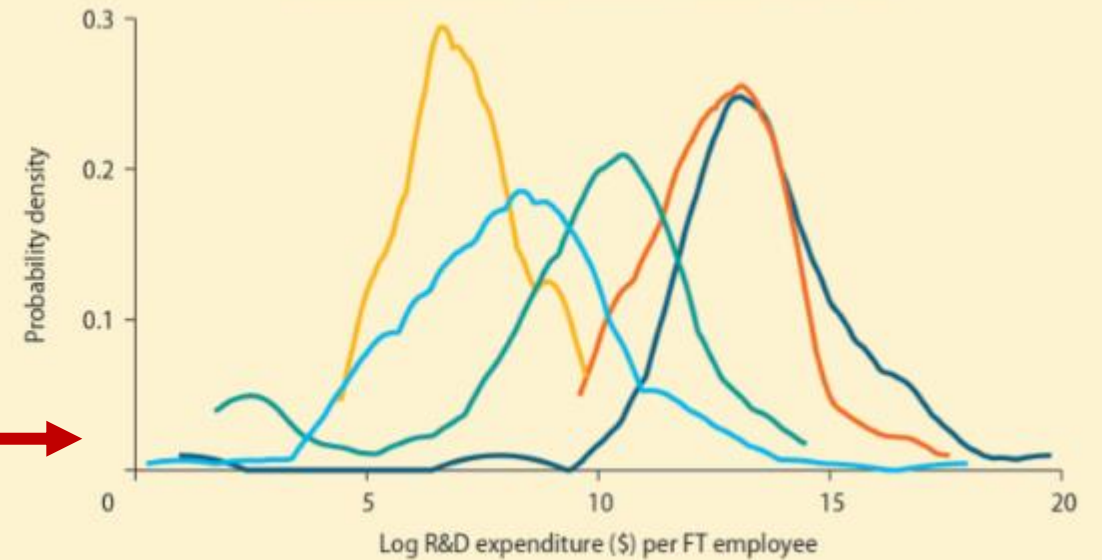


## Only a small share of firms invests in research and development

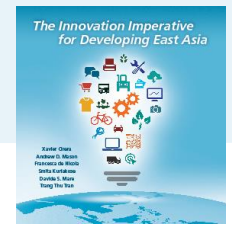
a. Distribution of firm-level R&D investment, selected countries<sup>a</sup>



b. Concentration of high R&D activities, selected countries<sup>b</sup>

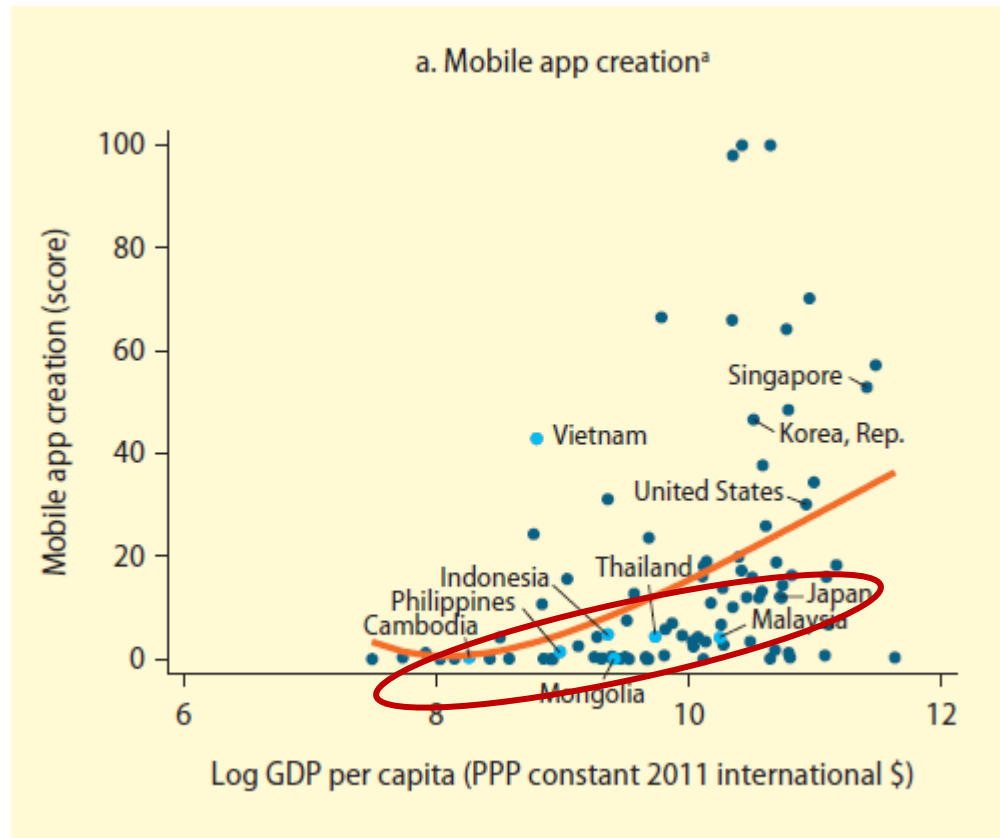


— Israel — China — Cambodia — Malaysia — Philippines

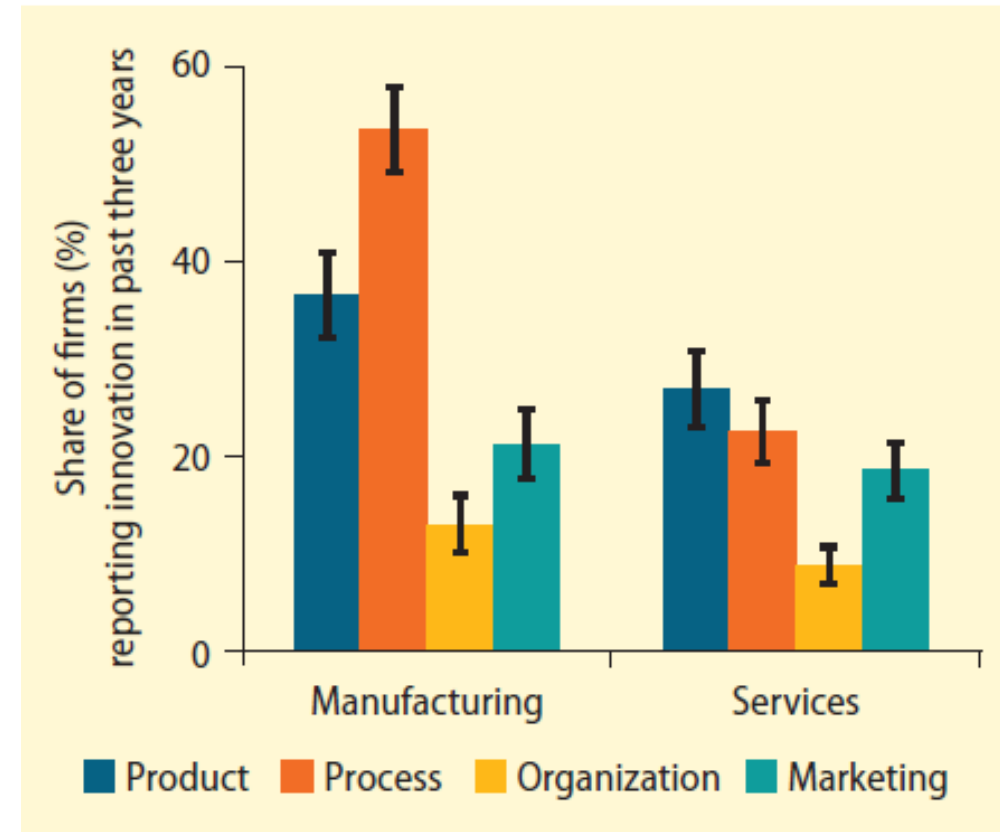


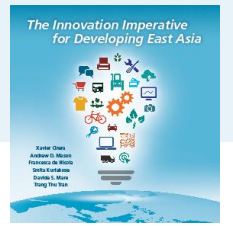
## Countries face ongoing challenges with services innovation

Most countries fall below predicted levels on several indicators of service sector innovation



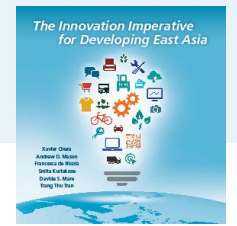
Firms report lower levels of innovation in services than in manufacturing





# What Inhibits Innovation?

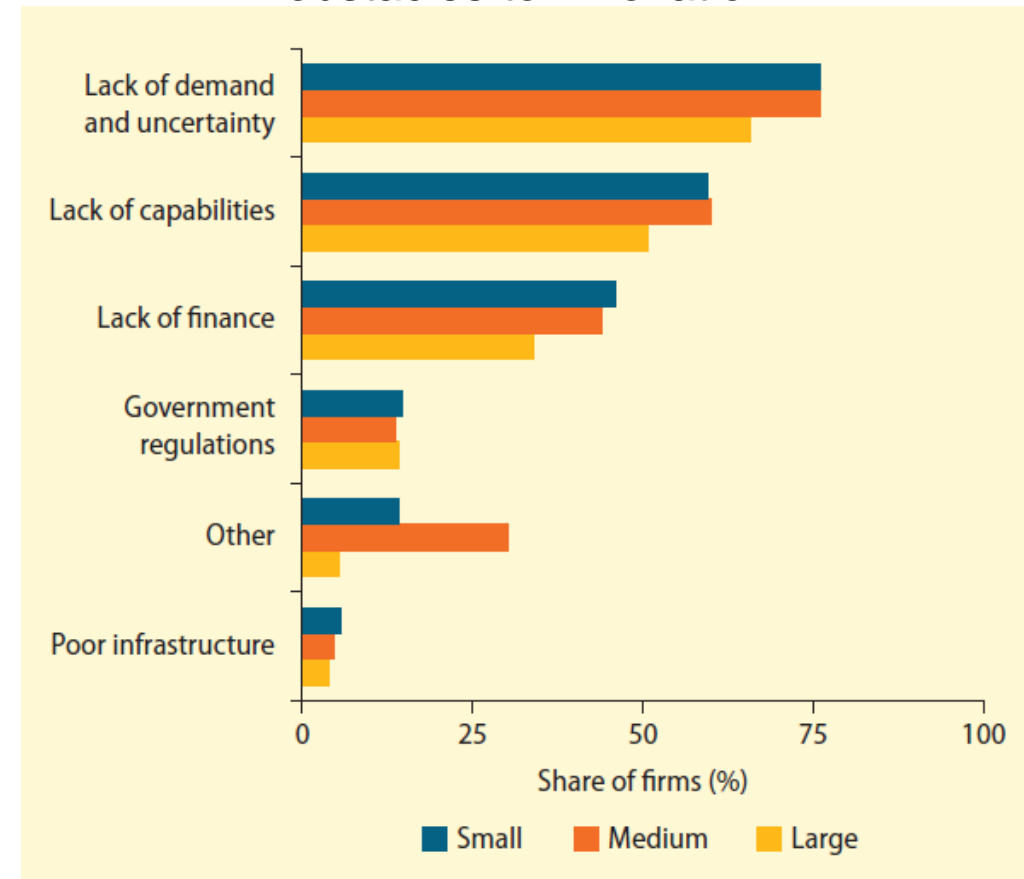


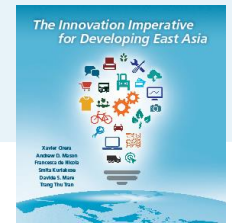


## Several factors inhibit innovation activity, including ...

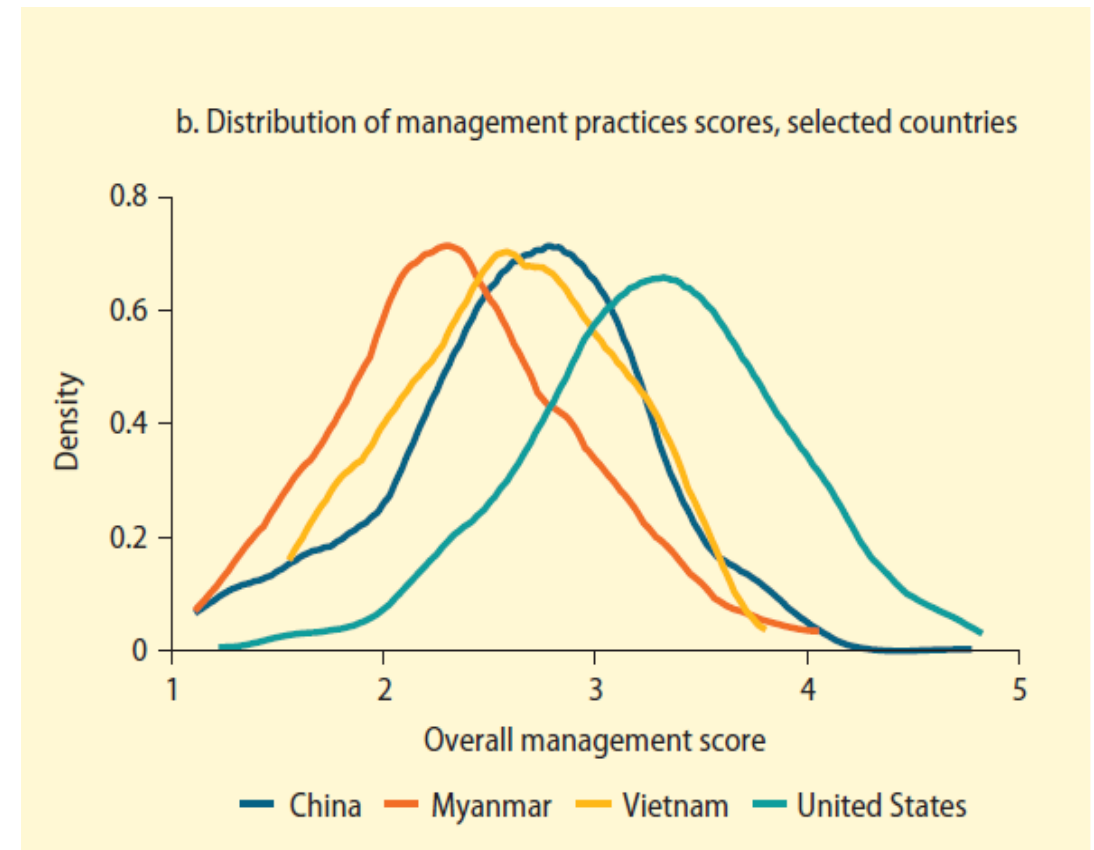
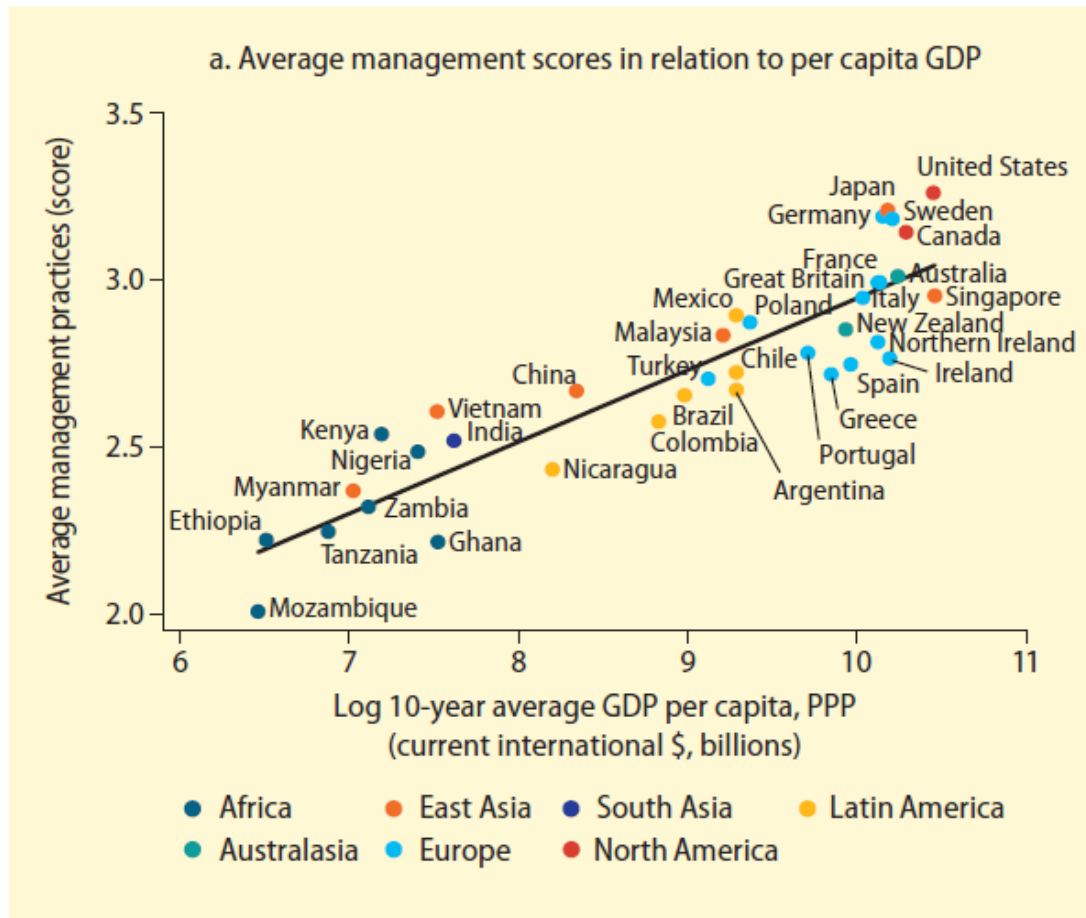
- lack of information, uncertainty about new technologies
- weak innovation capabilities
- limited options for financing innovation projects

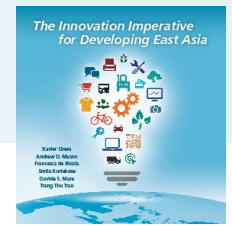
Vietnamese firms of all sizes report similar obstacles to innovation





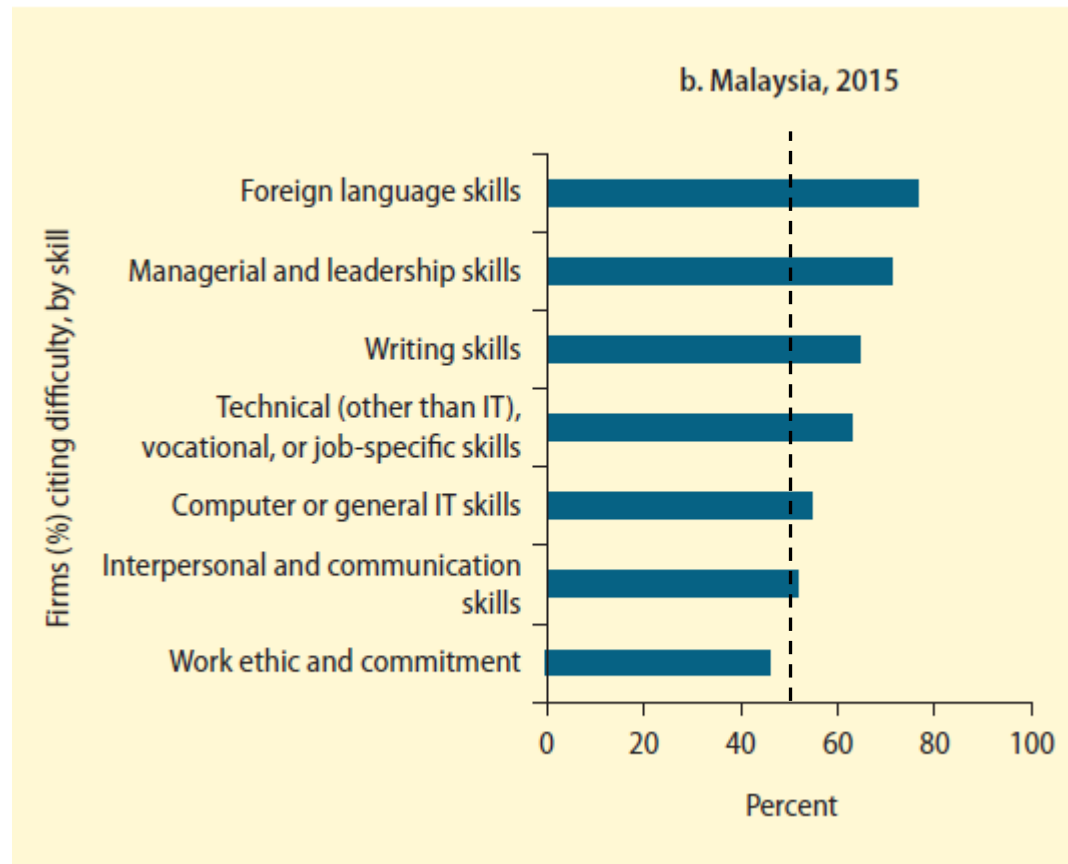
## ... insufficient management quality ...

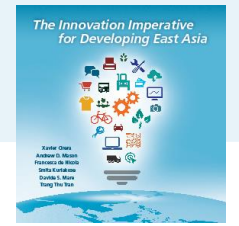




## ... and inadequate workforce skills

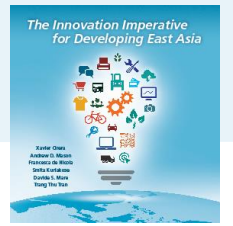
Difficulty hiring adequately skilled workers – across a range of skills



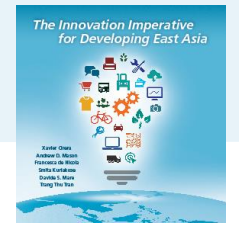


## Country innovation policies and institutions are also often not fit for purpose

- Policies are not aligned with firm capabilities and needs
- The capacity to design and implement policies is often weak
- Needed coordination across agencies remains limited
- Links between national research institutions and industry – and incentives to collaborate – are inadequate

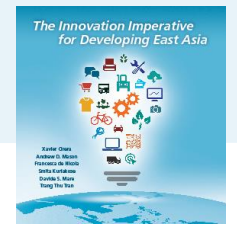


# Directions for Policy

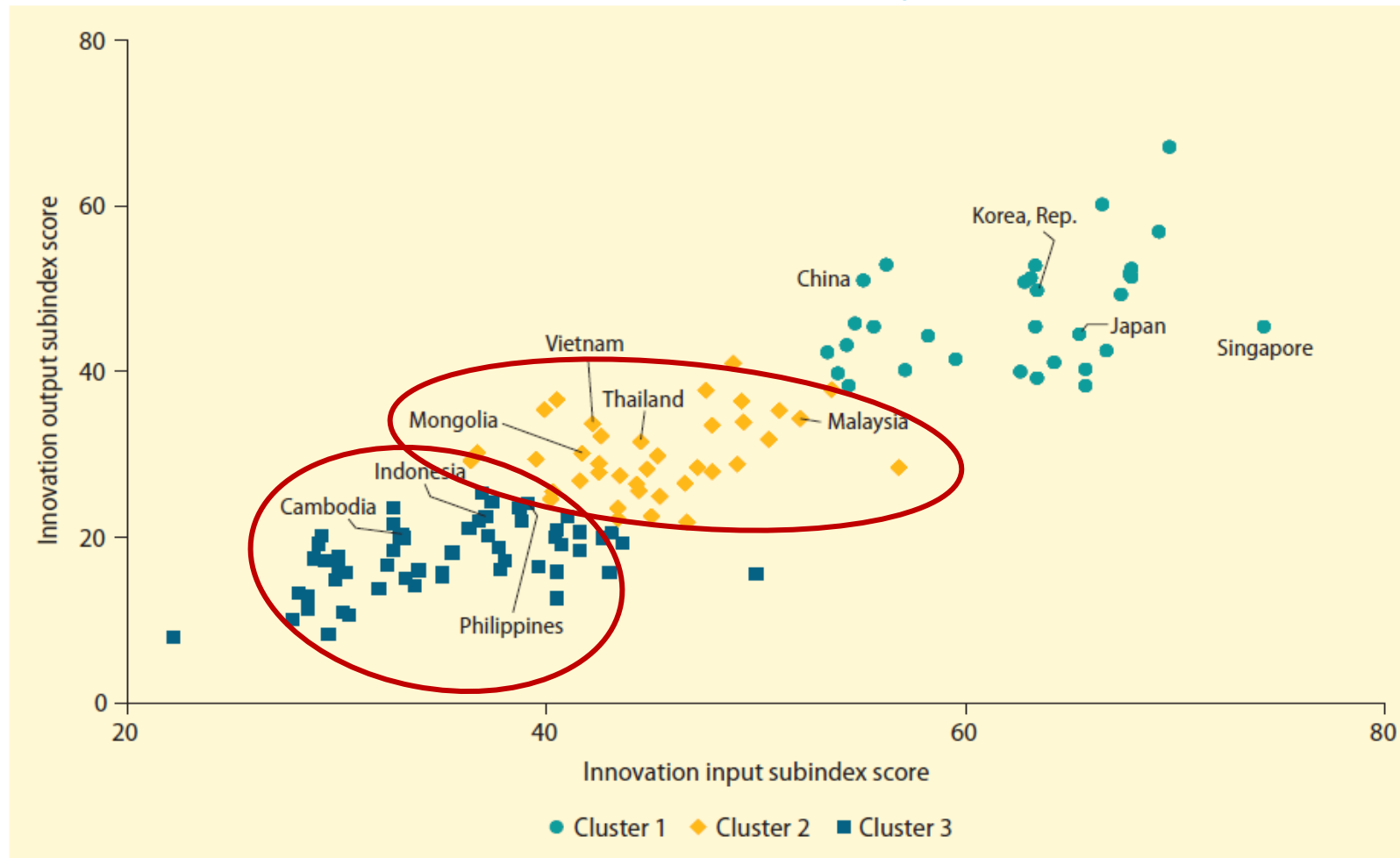


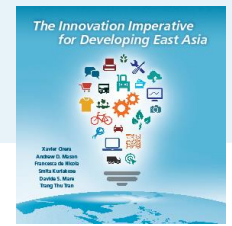
## Spurring innovation-led growth in developing East Asia requires policy action

- *Reorient policy objectives* in a graduated manner to
  - Address constraints to innovation, recognizing heterogeneity in firms' capabilities
  - Remove biases against diffusion
  - Remove policy biases against services sector innovation
- *Strengthen complementary factors*
  - Management quality
  - Workers' Skills
  - Finance for innovation
- *Reform innovation institutions*, strengthening their capacity, incentives, and governance

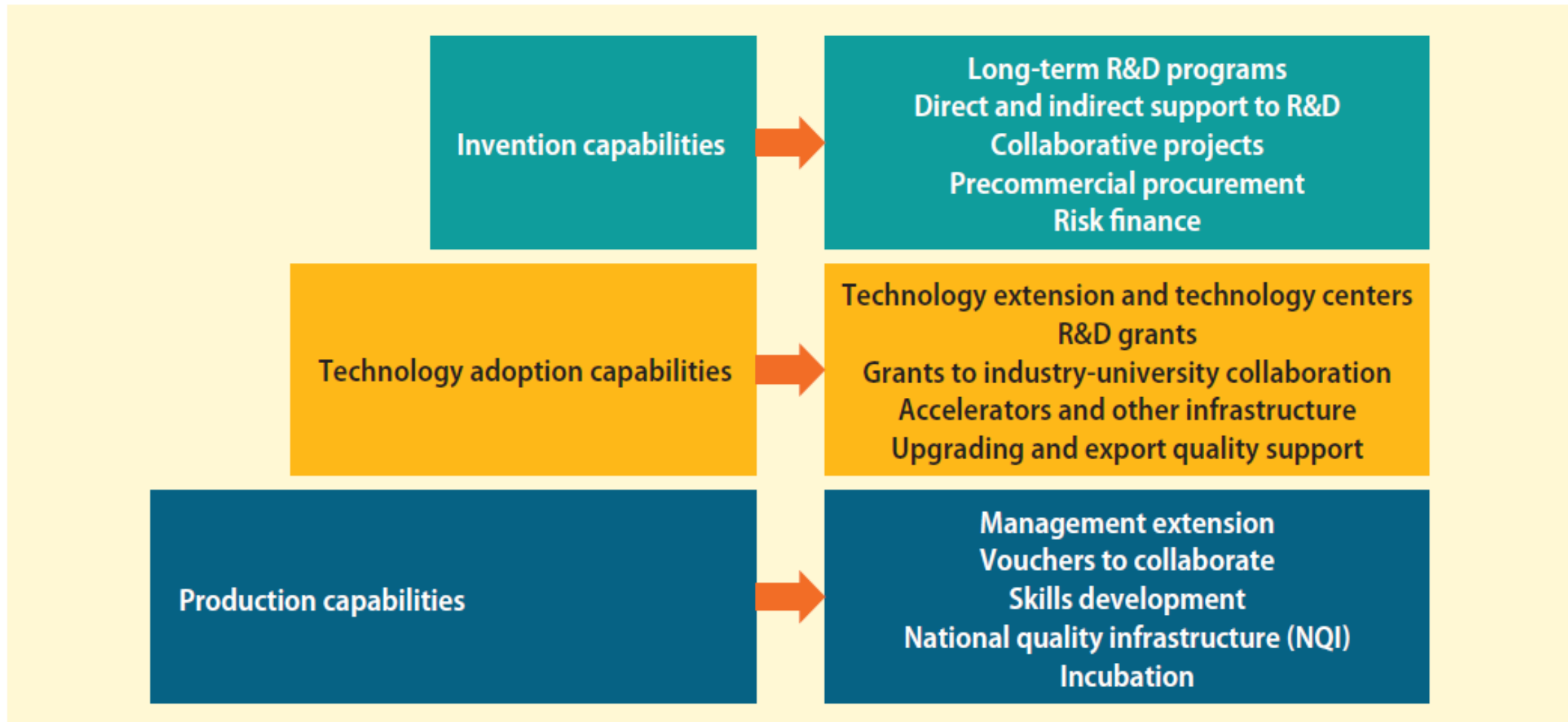


## Appropriate policy instruments differ depending on countries' innovation capabilities

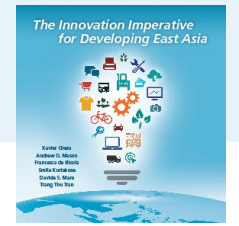




## Policy priorities evolve over time as capabilities increase







## Summing up

- Greater innovation is critical to developing East Asian countries surmounting the array of challenges they face
- Moving toward an innovation-led growth model will require a strengthening of policies and institutions, including greater focus on
  - diffusion and adoption of existing technologies, and
  - strengthening domestic innovation capabilities
- Immediate challenges, such as the COVID-19 pandemic, and longer-term challenges like climate change, increase the urgency of reform. The time for action is now

# Thank you!

## *The Innovation Imperative for Developing East Asia*



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