

# **Industrial Upgrading Adaptiveness in Vietnam:**

## *An Ecosystem for Further Industrialization*

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**Second Year Policy Analysis**  
**Policy Brief**

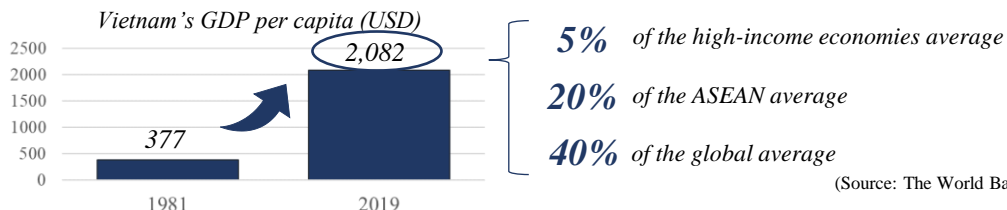
### **Executive Summary**

- ❖ **Improvement of manufacturing labor productivity is important to prevent Vietnam from falling into a middle-income trap.**
  - ✓ Despite a strong historical economic growth, Vietnam is still in the midst of its development journey. The low labor productivity in the manufacturing sector is a critical challenge for Vietnam to maintain its growth momentum.
  
- ❖ **The overall industrial upgrading situation is low in Vietnam.**
  - ✓ While installing new machinery was the most adapted type of industrial upgrading activity among manufacturing firms, quality control was the least observed industrial upgrading activity. In addition, the overall industrial upgrading situation was low in Vietnam's manufacturing sector.
  
- ❖ **Three channels play a critical role in triggering industrial upgrading activities.**
  - ✓ There are three channels within the industrial upgrading ecosystem that influence industrial upgrading: (1) output side, (2) input side, and (3) firm capabilities.
  
- ❖ **Fostering the interaction among key stakeholders in the industrial upgrading ecosystem is the key to promote industrial upgrading.**
  - ✓ The paper proposes six policies that could improve the structure and functioning of the industrial upgrading ecosystem in Vietnam.

# 1. Why Industrial Upgrading?

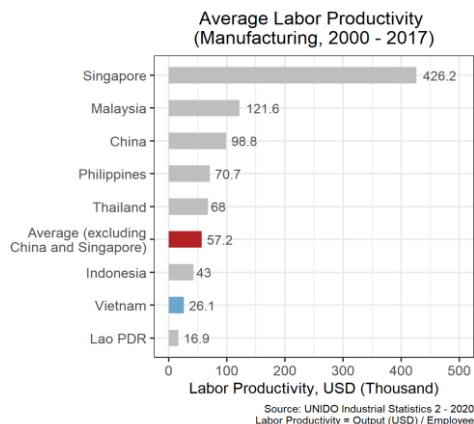
## ❖ Vietnam is still in the midst of its development journey.

- ✓ Although Vietnam’s GDP and GDP per capita quadrupled in the last four decades, those levels are still low.

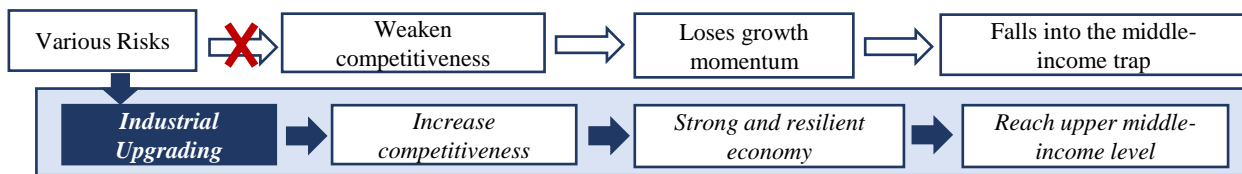


## ❖ Low manufacturing labor productivity is one of the critical challenges that could prevent Vietnam from sustaining its economic growth.

- ✓ Vietnam successfully developed its economy by adapting a series of economic and political reform called “Doi Moi” in the late 1980s.
- ✓ However, there remains several policy areas that potentially place Vietnam in a risk of losing its growth momentum and falling into the middle-income trap.
- ✓ Low labor productivity in the manufacturing sector is a crucial challenge.



## ❖ Vietnam needs to promote industrial upgrading to improve labor productivity in the manufacturing sector to sustain its economic growth.



# 2. Industrial Upgrading Activities

## ❖ Industrial upgrading activities are classified into four types.

## ❖ Technology adoption was the most adapted type while quality control was the least observed industrial upgrading activity in Vietnam (based on 2015 Survey).

- ✓ 1 in 2 surveyed firms implemented the technology adoption.
- ✓ 1 in 5 surveyed firms improved quality control.
- ✓ 1 in 3 surveyed firms did not adapt any industrial upgrading activity.

**1. Product Innovation**

Adding new values to the existing products

33.7%

**2. Technology Adoption**

Introducing new technologies

49.7%

**3. Quality Control**

Improving the quality of products

21.2%

**4. Process Innovation**

Introducing new or improved methods to the manufacturing processes

34.8%

Number of Adapted Activities	Rate among surveyed firms
0	30.9%
1	27.3%
2	18.9%
3	18.7%
4	4.3%

(Source: The Vietnam Enterprise Survey 2015, The World Bank Group)

### 3. Industrial Upgrading Adaptiveness (IUA)

❖ The industrial upgrading adaptiveness (IUA) measure revealed that the industrial upgrading situation is limited in Vietnam.

- ✓ The paper developed the concept of the IUA which is a snapshot\* that comprehensively reveals the industrial upgrading situation.
- ✓ The IUA is derived based on the proportion of firms that adapted each industrial upgrading activity.

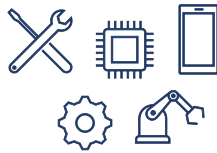
$$IUA = \frac{\text{Area of the Diagram of Observed Adaptiveness}}{\text{Area of the Diagram of Maximum Adaptiveness}}$$

❖ The IUA differs by region, industry, and firm ownership.

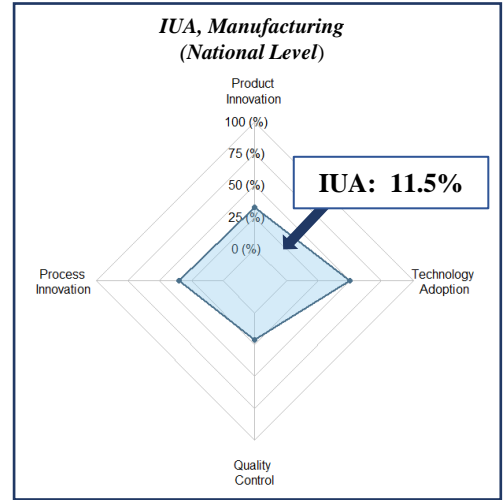
More than twice the difference across the regions



More than 7 times the difference across 16 industries



Foreign firms have higher IUA than domestic firms



\*The IUA does not consider the maturity of the industrial upgrading situation. Thus, it is possible that a country with low IUA had its firms already upgraded their activities in the past and did not upgrade when the data were collected.

(Source: The Vietnam Enterprise Survey 2015, The World Bank Group)

### 4. The Industrial Upgrading Ecosystem

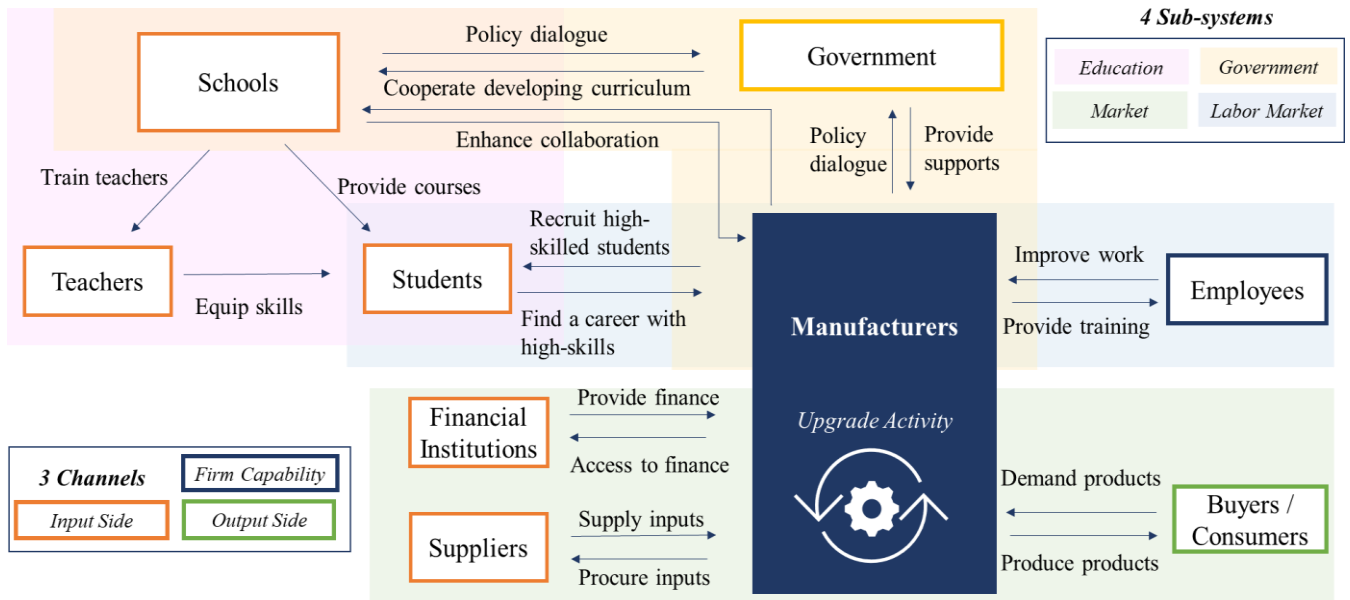
❖ There are four key sub-systems in an ecosystem where industrial upgrading happens.

- ✓ Four sub-systems: (1) market sub-system, (2) government sub-system, (3) education sub-system, and (4) labor market sub-system.

❖ There are three channels that potentially trigger industrial upgrading activities.

- ✓ Three channels: (1) output side such as consumer preference, (2) input side such as foreign origin inputs, and (3) firm capabilities such as learning culture of the firm.

❖ Four sub-systems and three channels appropriately function in an ecosystem where industrial upgrading is active.



## 5. Determinants of Industrial Upgrading

❖ Empirical analysis suggests the importance of all three channels for industrial upgrading.

- ✓ Regression analysis revealed the positive correlation between all three channels and the industrial upgrading.

Channels / Representing Variable		Product Innovation	Technology Adoption	Quality Control	Process Innovation	TUA Score: 0-4 scale (Number of Adapting Activities)
Output	Targets International Market	_*	+*	+*	-	-
Input	Have Partnership with Foreign Firms	+*	-	+*	+	+*
	Use Foreign Origin Inputs	+*	+*	+*	+*	+*
Firm Capability	Offer Training	+*	+*	+*	+*	+*

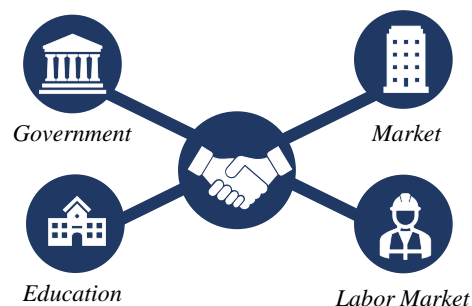
\*Statistically significant results.

## 6. Policy Recommendations

❖ Policy should foster interaction among key stakeholders in four sub-systems and facilitate the three channels triggering industrial upgrading.

- ✓ Current policies aims to uplift the industries towards the Fourth Industrial Revolution (Industry 4.0) with a focus on legal reforms, infrastructure development, and human resource development.
- ✓ The paper proposes six policy options that might complement the already identified policy areas.

❖ Partnering with foreign international development agencies or multinational companies could be an option to support the implementation.



Policy Recommendation	Targeted channels	Targeted sub-system	Technical Correctness	Administrative Feasibility	Political Supportability	Priority
Semi-annual business networking fair	Input	Market	High	High	High	★★★★
Annual tripartite (Firms, Government, Academic Institutions) policy dialogue	Output, Input, Firm Capabilities	Market, Government, Education, Labor	High	Medium	High	★★★★
Tax incentives on foreign firms purchasing supplies from domestic firms	Output, Input	Market	High	Low	Medium	★★★☆☆
Certify firms offering training program	Firm Capabilities	Education, Labor	High	Medium	High	★★★★
Certify skilled labors and provide tax incentives to firms hiring a certain ratio of those workers	Input	Labor	Medium	Low	Medium	★★★☆☆
Tax reduction to firms with a certain ratio of workers with foreign education	Input, Firm Capabilities	Labor	Medium	Low	Medium	★★★☆☆

## 7. Further Research

❖ There are several limitations in this paper that potentially calls for future research.

- ✓ The paper uses data from 2015 which is the most recent available data for Vietnam, but more recent data is needed to understand the current industrial upgrading situation and adaptiveness.
- ✓ Due to the pandemic, firm interview was not conducted though it could have deepened the findings.
- ✓ Further analysis at regional and industrial level may provide more insights.
- ✓ Industrial upgrading may have negative consequences on unskilled labor, but the externalities caused by the industrial upgrading is left for other occasions.