INTERNATIONAL TRADE AND INVESTMENT TOWARDS GREEN AND DIGITAL TRANSFORMATION

PARALLEL SESSIONS

SESSION 1: GREEN ECONOMY
SESSION 2: DIGITAL ECONOMY
SESSION 3: SUSTAINABLE DEVELOPMENT

Hanoi, November 2021

Session 1
GREEN ECONOMY

Presentations:

1. Managing the Circular Economy Development Model: International Experiences and Lessons Learned
   Dr. Ha Huy Ngoc and Dr. Bui Nhat Huy, *Vietnam Institute of Economics*

2. Integration, Economic Growth and Environmental Issues - Evidence from ASEAN Countries
   Dr. Pham Vu Thang and Bui Tu Anh, *University of Economics and Business, Vietnam National University – Hanoi and Development Policies Research Center*

3. New generation of FTAs and the attraction of green, sustainable FDI into Vietnam
   M.Sc. Tong Thi Minh Phuong, *University of Economics and Business, Vietnam National University – Hanoi*

4. Industrial Subsidies and Their Impacts on Exports of Trading Partners: The China Case
   Dr. Dessie Tarko Ambaw and Prof. Shandre Mugan Thangavelu, *Institute for International Trade, University of Adelaide, South Australia, Australia*

5. Does Servicification Enhance Firm Productivity? Evidences from Indonesia's Firm-level Analysis Using Semi-Parametric Approach
   M.Sc. Vutha Hing and Prof. Shandre Mugan Thangavelu, *Institute of International Trade, the University of Adelaide, Australia*

Presentation 1
MANAGING THE CIRCULAR ECONOMY DEVELOPMENT MODEL: INTERNATIONAL EXPERIENCES AND LESSONS LEARNED

Dr. Ha Huy Ngoc and Dr. Bui Nhat Huy

Vietnam Institute of Economics, Vietnam

MANAGING THE CIRCULAR ECONOMY DEVELOPMENT MODEL:

INTERNATIONAL EXPERIENCES AND LESSONS LEARNED

Dr. Ha Huy Ngoc
Mr. Bui Nhat Huy
Vietnam institute of economics

#1

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Introduction

#2

SECOND SECTION

Theoretical framework

#3

THIRD SECTION

Methodology

#4

FOURTH SECTION

Management circular economy development models in the world

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FIFTH SECTION

Proposing circular economy development management model in Vietnam

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SIXTH SECTION

Conclusion

INTRODUCTION

1. The transition into a circular economy is vital and inevitable, especially in developing countries where industrialization is creating highly destructive impacts on the environment.
2. Developed countries in the world including Japan and China have operated circular economy development models in early stages to fix this problem and have earned significant achievements.
3. This article will analyze the model which has been used by developed countries and how those countries managed them.
4. After summary the experiences of those countries, this article will propose a management circular economy development model and solution to apply this model in Vietnam.

#02

THEORETICAL FRAMEWORK

CIRCULAR ECONOMY DEFINITION

Ellen MacArthur Foundation (2012)

- Considers the circular economy as an industrial system that is restorative or regenerative by intention and design.

- It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems, and business models.

Tran Hong Ha (2019)

- Explained the principle of a circular economy by using principles of dynamics and the law of conservation of matter and energy.

- The core of circular economy is the point connecting the end and the beginning of the economic processes including manufacturing and consuming, which allows materials to be recycled into the secondary resources for economic processes.

CIRCULAR ECONOMY DEFINITION

Nguyen Hoang Nam, Nguyen Trong Hanh (2019)

The circular economy is more concerned with emissions in general by providing a specific and clear approach to solve it, which is the material cycle, emphasizing the role of the circular product design and waste treatment along with natural system regeneration

The National Assembly of Vietnam *(into article 142, Law on Environmental Protection No. 17/2020/QH14)*

Circular economy is an economic model in which designing, production, consumption and service activities in order to reduce the exploitation of raw materials, prolong the product life cycle, limit waste generation and minimize adverse impacts on the environment.

DEVELOPMENT MANAGEMENT DEFINITION

Development management is the process of turning ideas and goals of development into specific actions and organizing the implementation of those actions to achieve them.

DEVELOPMENT CIRCULAR ECONOMY MANAGEMENT MODEL

PARTICIPANTS

PUBLIC SECTOR

PRIVATE SECTOR
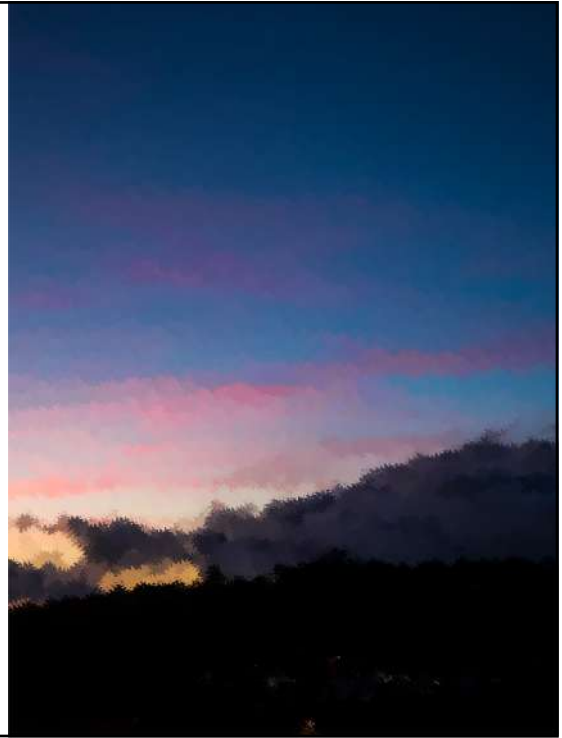
Through the experience of the previous countries, it can be seen that the circular economy will not develop naturally without the initial participation of the Government. Since businesses investing in recycling and waste treatment systems will incur additional costs that negatively affect profits, businesses will not voluntarily do this without early intervention from the Government. Therefore, the participants in the circular economic development model will be two main factors: the Government and the Private.

DEVELOPMENT CIRCULAR ECONOMY MANAGEMENT MODEL

Forms of participation in the model of circular economy development management

The Government directly participates in the circular economy supply chain:

In this form, the Government plays the role of direct investment, operation and management providing services for the circular economy such as material recycling, waste treatment, etc. participating in the supply chain or the Government can provide the infrastructure for the circular economy

The Government indirectly participates in the circular economy supply chain:

In this form, the Government will act as the initiator of the circular economy by facilitating private participation and indirect management through tools such as policies on tax reduction, higher environmental protection fees, policies to encourage product design changes to improve recycling, etc

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MODEL REQUIREMENTS

LEGAL BASIS
LEGAL FRAMEWORK & POLICIES

RESOURCES
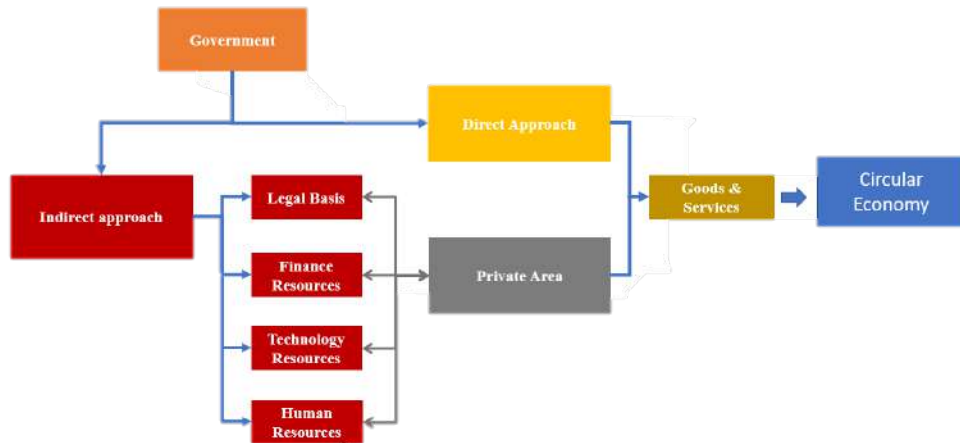- FINANCE RESOURCES
- TECHNOLOGY RESOURCES
- HUMAN RESOURCES

OPERATION
ROLES OF PARTICIPANTS

DEVELOPMENT CIRCULAR ECONOMY MANAGEMENT MODEL

#4

Management circular economy development models in Japan

Japan's circular economy development process

01

1970s – 1980s

Japan proposed a circular economy as a solution to deal with the oil crisis in order to limit dependence on imports from producing countries that export this material

02

1994

When non-renewable materials were exploited to the limit, Japan advocated advancing scientific and knowledge-based technologies in order to find alternative materials

03

2000-present

Japan advocated the development of a circular economy based on two main pillars: *the economic system* and *the people*

Japan's model requirements

1. LEGAL SYSTEM

Laws for circular economy development in Japan

Classification of law	Names	Year
Fundamental law	Environmental Law	1993
	Promoting the formation of a recycling society Law	2000
Comprehensive law	Waste disposal law	1970
	Resource efficient law	1991
Special Law	The law of separate collection and recycling of container and packaging	1995
	Special household machine cycle law	1998
	Building construct recycling Law	2000
	Polychlorinated biphenyl wastes properly handle special measures law	2001
	Vehicle recycling law	2002

Source: Authors

Japan's model requirements

2. HIGH-QUALITY HUMAN RESOURCES

From the very beginning, Japan has mastered the adjustment of the education system at schools, businesses, and organizations to raise and change people's awareness of environmental issues. market and circular economy.

3. SUPPORTING TECHNOLOGY SYSTEM

Japan has developed a "zero-emissions" recycling system consisting of 5 parts: "product life cycle assessment system; waste reduction system; resource recycling system; recycling industry chain, waste recycling and waste trading system".

4. ORGANIZATIONAL SYSTEM

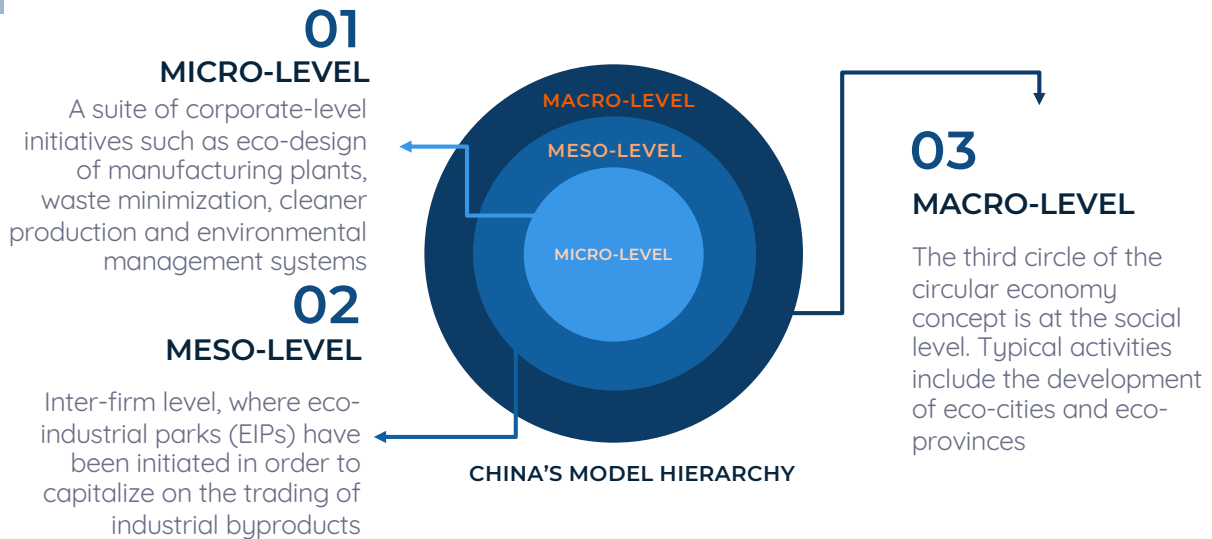The organizational system is decentralized with 3 main areas: the Government; Enterprise & Social

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#5

Management circular economy development models in China

CHINA'S MANAGEMENT MODEL

01
MICRO-LEVEL

A suite of corporate-level initiatives such as eco-design of manufacturing plants, waste minimization, cleaner production and environmental management systems

02
MESO-LEVEL

Inter-firm level, where eco-industrial parks (EIPs) have been initiated in order to capitalize on the trading of industrial byproducts

03
MACRO-LEVEL

The third circle of the circular economy concept is at the social level. Typical activities include the development of eco-cities and eco-provinces

MACRO-LEVEL

MESO-LEVEL

MICRO-LEVEL

**CHINA'S MODEL HIERARCHY**

THE FAILURES OF CHINA'S MODEL

- The legal system serving the circular economy in China often has some barriers to innovation and application of the circular economy.
- In China businesses have to pay part of the value-added tax which in some cases, the recycled materials are cheaper than the primary materials, the production cost is lower but the value-added tax higher.
- Environmental science and technology areas are areas with low demand, technical and financial capabilities are inadequate, so the development of this field will not happen naturally and requires the support of the Government. Government
- The lack of human and institutional resources to encourage community participation in the circular economy
- Some government agencies lack a complex understanding of environmental principles

#6

PROPOSING CIRCULAR ECONOMY DEVELOPMENT MANAGEMENT MODEL FOR VIETNAM

PROPOSING CIRCULAR ECONOMY DEVELOPMENT MANAGEMENT MODEL FOR VIETNAM
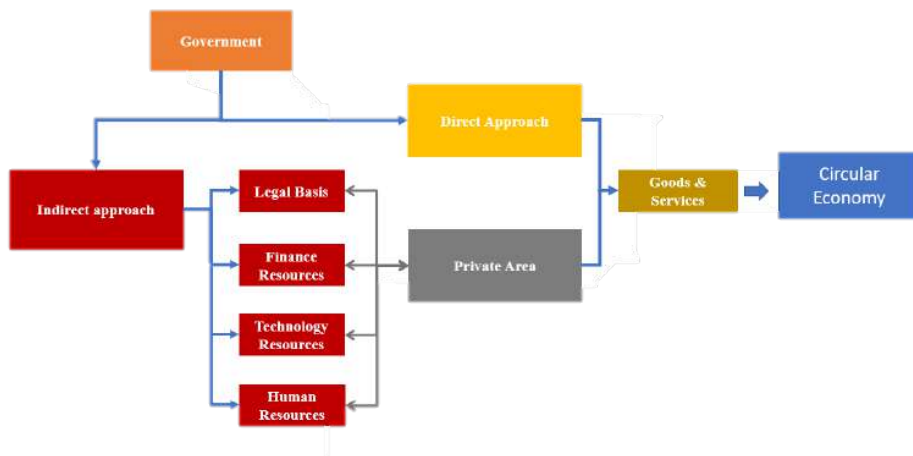
This article proposes the Vietnam management circular economy development **Hierarchy systems** in 3 levels: Micro-level; Meso-level; Macro-level

THANKS

Does anyone have any questions?

Presentation 2
INTEGRATION, ECONOMIC GROWTH AND ENVIRONMENTAL ISSUES - EVIDENCE FROM ASEAN COUNTRIES

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CONFERENCE ON INTERNATIONAL ECONOMIC COOPERATION AND INTEGRATION 2021 (CIECI 2021)

"INTERNATIONAL TRADE AND INVESTMENT TOWARDS GREEN AND DIGITAL TRANSFORMATION"

Integration, Economic Growth and Environmental Issues – Evidence in ASEAN countries

Hanoi, 26th November 2021

Pham Vu Thang – VNU University of Economics and Business
Bui Tu Anh - Development Policies Research Center (DEPOCEN)
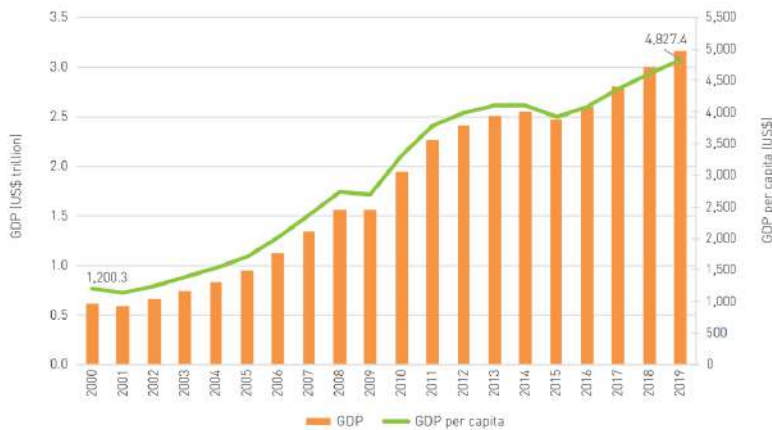

Research questions:

➢ *Could the economic growth cause the environmental pollution in ASEAN?*

➢ *Could FDI damage the environment in recipient countries in ASEAN?*

1. Introduction

ASEAN (Association of Southeast Asian Nations)

- Established in 1967
- Members: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam (Since 1999).

ASEAN's GDP has steadily increased and became the fifth largest economy in the world in 2019.

Figure 1. ASEAN GDP (US$ trillion) and GDP per capita (US$), 2000-2019

Source: ASEAN Secretariat (2020)

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1. Introduction

- ASEAN has increasingly strengthened regional economic integration through a number of agreements in trade in goods, services and investment.
- Investment in ASEAN:
  - ASEAN Comprehensive Investment Agreement (ACIA) to further liberalize investment among members;
  - An important factor contributing to economic growth.
- Environmental issues in ASEAN:
  - Seriously affected by climate change in exchange for economic growth;
  - Environmental quality tended to deteriorate and is under great pressure from economic development activities.

Figure 1: Four pillars of ASEAN Economic Community (AEC)

Sources: Invest in ASEAN

2. Literature Review

The Environmental Kuznets Curve (EKC)

Panayotou (1993) shows the economic growth causes the increase in environmental pollution at first, till the economy reaches a certain growth rate (that being called turning – point) the environmental quality will be improved with the economic growth rate.
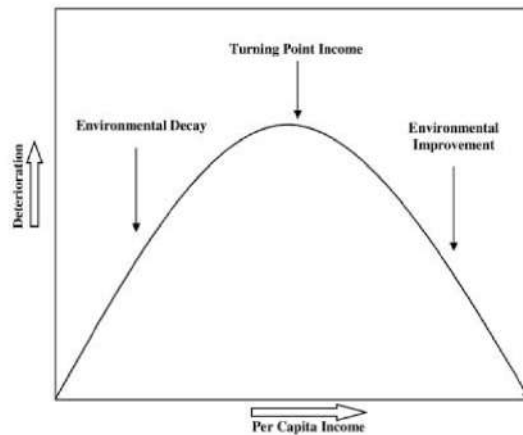

Figure 2. The typical EKC

Source: Yandle et al. (2004)

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2. Literature Review

Pollution haven hypothesis (PHH)

Xing & Kolstad (2002): Developing countries use lax environmental regulation as a strategy to attract investment in polluting industries from developed countries

Hassaballa (2013):
PHH exists by the correlation between foreign capital and local environmental standards. In developing countries, attracting capital still seems to be a priority, so environmental standards are not high. FDI capital will increase environmental problems. In contrast, in developed countries having the advantages of the level of science, technology and labor, high cost of environmental control and strict environmental standards require the foreign investors pay more attention to environmental protection.

2. Literature Review

Empirical studies on EKC in ASEAN countries

Author(s)	Scope of study	Results
Lean and Smyth (2010)	ASEAN-5	Economic growth affected environmental pollution under the EKC hypothesis
Saboori and Sulaiman (2013)	ASEAN-5	Economic growth and income reduced the pollution in Singapore and Thailand, the opposite result was founded in Indonesia and Philippines.
Zhu et al. (2016)	ASEAN-5: groups of high, moderate and low emissions	No impact of economic growth on environmental pollution. In low-emission countries, the increase in FDI raised the environmental pollution, while the increase in FDI reduced the pollution in the countries with high and moderate emissions.
Thanh et al. (2018)	ASEAN-8	EKC correlation between the economic growth and pollution
Chng (2019)	ASEAN-6	EKC happened in Singapore, Thailand and Vietnam; no EKC relationship in Malaysia, Philippines and Indonesia

ASEAN-4: Malaysia, Philippines, Singapore, Thailand
ASEAN-5: Malaysia, Indonesia, Philippines, Singapore, and Thailand
ASEAN-6: Malaysia, Indonesia, Philippines, Singapore, Thailand and Vietnam
ASEAN-8: Brunei, Campuchia, Malaysia, Indonesia, Philippines, Singapore, Thailand and Vietnam

2. Literature Review

Empirical studies on PHH in ASEAN countries

Author(s)	Scope of study	Results
Guzel & Okumu (2020)	ASEAN-5	Confirm the PHH
Kisswania & Zaitouni (2021)	ASEAN-4	Confirm the PHH only in Philippines in long term
Baek (2016)	ASEAN-6	Confirm the PHH. In low-income countries, more FDI could increase the amount of CO_2, while in high-income countries the increase in FDI could reduce CO_2.

3. Could the economic growth cause the environmental pollution in ASEAN?

Thang and Tu Anh (2021) analyses the effects of economic growth on environmental pollution of ASEAN-10 in the period of 1990-2017.

→ Findings:

$$lnCO2_{it} = -11,23 + 1,7 lnGDP_{it} - 0,1(\ln GDP_{it})^2 - 0,09 \ln FDI_{it} + 0,64 \ln ENC_{it} + 0,99 \ln POP_{it} + 0,03 URB_{it}$$

- ➢ ASEAN's economic growth could cause the pollution of environment.

- ➢ The increase in FDI would reduce the environmental pollution in ASEAN-10.

- ➢ Positioning in the EKC curve:

    - ➢ Brunei, Indonesia, Malaysia, Singapore, and Thailand located in the right-hand side of the curve.

    - ➢ Cambodia, Laos, Myanmar, Philippines and Vietnam located in the left-hand side of the curve.

4. Could FDI damage the environment in recipient countries in ASEAN?

Fixed Effect Model (FEM) and Random Effect Model (REM) with equation:

$$\ln CO2_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \mu_i + \gamma_t + \varepsilon_{it}$$

- ASEAN countries are divided into 2 groups according to the result of Thang & Tu Anh (2021).

- Data from 1990-2017

- 140 observations in each group

Table 1. Data description

Variable	Symbol	Unit	Data Source
CO2 emissions	CO2	Million tons	Gilfillan et al. (2019), UNFCCC (2019), BP (2019)
FDI inward stock	FDI	Million USD	IMF

4. Could FDI damage the environment in recipient countries in ASEAN?

Table 2. Empirical results

In the right-side group, the p-value is above 0.1
→ *the effect of FDI on CO2 is insignificant.*

In contrast, in the left-side group, the p-value is significant
→*FDI has significantly positive impact on CO2 emissions*
→ *An 1% increase of FDI leads to 0.42% increase of CO2.*

VARIABLES	(1) Right-side group	(2) Left-side group
lnFDI	0.149	0.418***
	(0.0718)	(0.0454)
Constant	2.772**	-1.007
	(0.746)	(0.654)
Observations	140	140
R-squared	0.299	0.784
Number of countries	5	5

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4. Could FDI damage the environment in recipient countries in ASEAN?

Conclusion

FDI into the less developed group mainly cause the environmental issues of ASEAN,
while FDI into relatively richer nations has no significant effect on the environment degradation

The hypothesis of pollution haven
- This study confirms the hypothesis of pollution haven in ASEAN countries: the flow of FDI to less developed countries in ASEAN caused the serious environnmental pollution.

- ASEAN integration agreement may create more opportunities for the movement of FDI from countries with tied environmental regulations to countries having ease environmental conditions.
  - ➤ FDI Intra ASEAN
  - ➤ FDI from ASEAN partners

5. Policy Recommendations

➢ Stringent environment policies on FDI attraction are essential for all ASEAN members especially in less developed countries. While no serious pollution cases have been recorded in intra-regional FDI projects, more stringent measures and general regulations in the region are still needed.

➢ In terms of single country's policies, it is necessary to improve the level of labor, domestic facilities to be able to receive green FDI projects and acquire advanced technical technologies, which are less harmful to the environment.

➢ Countries should focus on reducing the structure of heavy industries that cause environmental pollution as well as addressing environmental issues related to the economy.

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Thank you for your attention!

Q&A

Presentation 4
INDUSTRIAL SUBSIDIES AND THEIR IMPACTS ON EXPORTS OF TRADING PARTNERS: THE CHINA CASE

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Prof. Shandre Mugan Thangavelu

Institute for International Trade, University of Adelaide, South Australia, Australia

Industrial Subsidies and Impact on Exports of Trading Partners: Case of China

Dessie Ambaw

Shandre Thangavelu

Outline

o Motivation

o Methodology

o Data

o Results

o Concluding remarks

Motivation

- Subsidies are defined as financial contributions by a government or any public body within the territory of a member country (WTO).
- Mainly, subsidies are provided for three purposes:
1. Protect infant industries whose economies of scale and learning-by-doing effects are important.
2. Support gateway industries that attract knowledge and technologies which increase more complex and skill intensive manufacturing.
3. Protect domestic industries from import competition.

    Domestic firms are believed to provide better and more specialized inputs to the downstream industries.

Motivation

- While subsidies tackle market failure, they also create unfair trading practices by distorting trade, completion and investment decisions.

- In recent years, government subsidies that discriminate foreign commercial interest are dramatically increasing in the global economy.

- In particular, the use of subsidies interventions by governments expanded markedly after the 2008 financial crisis.

- According to the GTA report, while the news headlines are flooded with multi-billion tariff hikes, subsidies create the biggest sources of distortions for global trade (Evenett and Fritz, 2019).

Motivation
## Percentage of Key policy interventions used (*source GTA*)
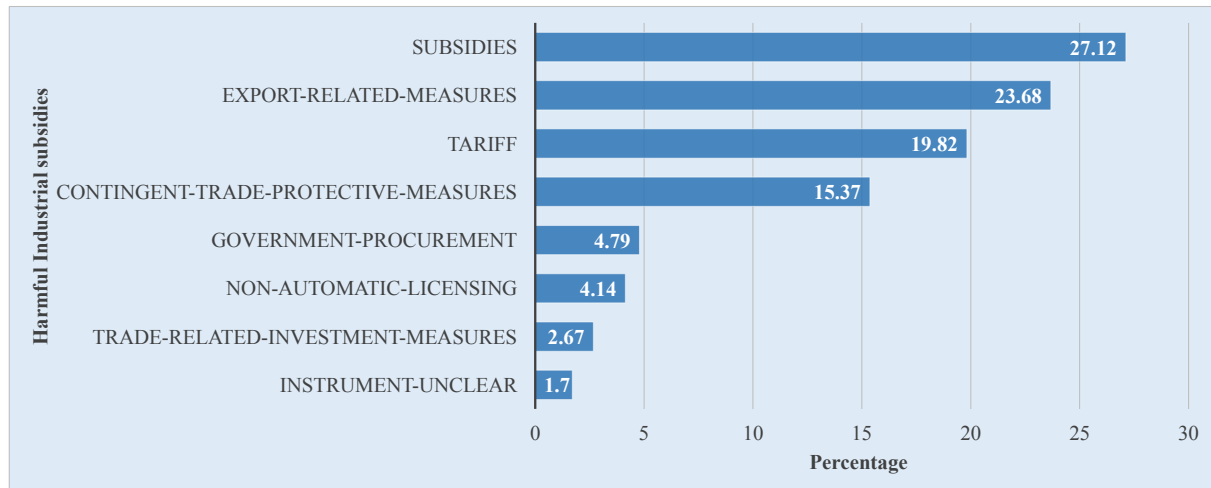
Motivation
Chinese government subsidies

- Although government subsidies interventions are prevalent in many countries, the US argues that Chinese government subsidies become a significant concern creating unfair trading practices.

- For example, Chinese firms have become extremely dominant in many capital-intensive industries (such as steel, aluminium, glass, auto parts, solar panels and shipbuilding) where it had no labor cost advantage.

- Subsidies to State-Owned-Enterprises (SOEs) are often evoked as a potential contributing factor to China's trade prowess.

- As a result, Chinese industrial subsidies are causing more trade conflicts than any other country in the world (Kalouptsidi, 2017).

- In addition, compared to liberalizing subsidies, the proportion of harmful Chinese government subsidies are considerably larger.

Motivation

- Chinese harmful subsidies interventions are significantly increasing.
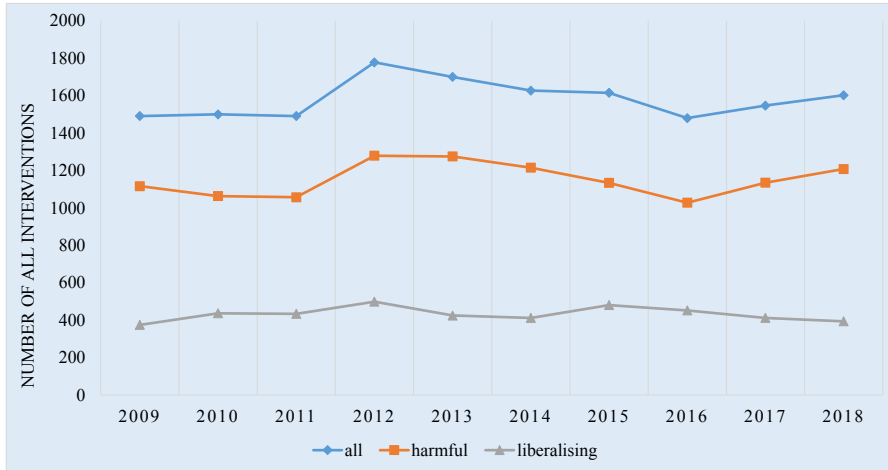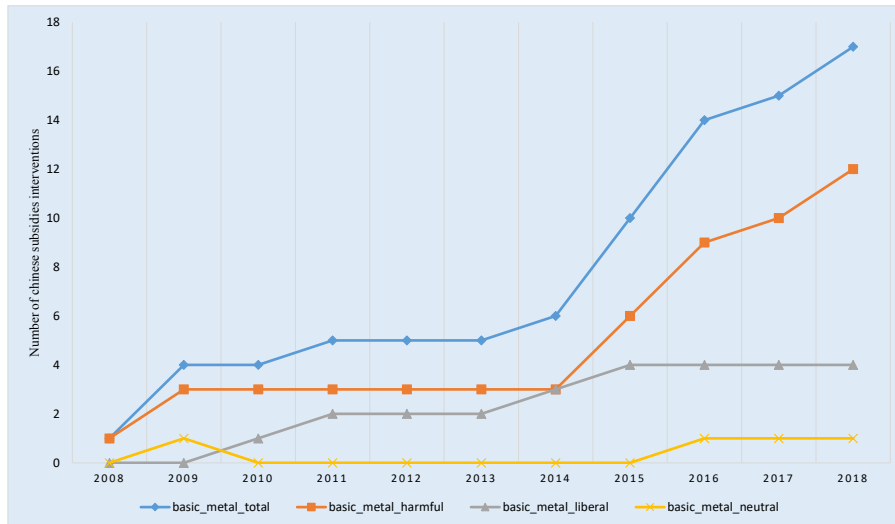

Motivation

The basic metal sector

- The basic metal sector includes basic iron & Steel, products of iron & steel, aluminium, copper, nickel, lead, zinc, tin, basic precious metals, and other non-ferrous metals.

- This sector is a major target of subsidies as it play a major role in the productivity and growth of an economy (Blonigen, 2015).

  - ✓ The basic metal sector is a key input to the manufacturing and construction sectors
  - ✓ It is also vital to the production of investment goods and infrastructure.

- As such, the Chinese government significantly scale up its subsidies to the basic metal sector in recent years.

Motivation

Basic metal subsidy interventions by China

Motivation

Previous Studies:

- Many papers have analysed the impact of "industrial policy" (IP) on competitiveness.
    - ✓ Kalouptsidi (2018): Chinese subsidies in the shipping industry and production reallocation across countries.
    - ✓ Criscuolo et al (2019): European investment subsidy and manufacturing employment.
    - ✓ Aghion et al (2015): Industrial policy and competition.
    - ✓ Rotemberg (2019): Firm subsidies and productivity in India.
- However, the literature that analyse the effect of subsidies interventions on export competitiveness is scarce.
- The only exception is Blonigen (2015) that examine the effect of steel-sector IP on competitiveness in major steel producing countries.
- Blonigen (2015) finds the presence of steel IP significantly reduces export competitiveness in the down stream manufacturing industries.

Motivation

This paper:

- While Boligen (2015) investigates the impact of subsidies interventions in many steel producing countries:
    I. The study is restricted to the 1975-2000 sample period.
    II. The paper do not examine the effect of one country's industrial policy on the downstream sector of other countries.
    III. China is not included in the sample.
    IV. The paper is restricted only to steel sector industrial policies.
- Hence, this paper examines the impact of Chinese *basic metal* subsidies interventions on the export competitiveness of the down-stream sectors of other countries.

Methodology

- Following Blonigen (2015), our model is specified as:

- $E_{ict} = \beta_1 + \beta_2(NSI_t \times Metal\_Input\_Share_{ict}) + \theta_{ct} + \gamma_{it} + \rho_{ci} + \varepsilon_{ict} \ldots \ldots \ldots \ldots (1)$

- Where, E_{ict} is sector i export in country c and year t.
- NSI_t is the number of Chinese basic metal subsidy interventions at time t.
- $Metal\_Input\_Share_{ict}$ is the input share of basic metals (such as steel, iron, precious metals, aluminium, copper, nickel, lead, Zinc and tin)

Methodology

A Set of Fixed Effects Employed:

- θ_{ct} denotes the exporter-year fixed effect.

  It captures any year specific fixed effect such as changes in economic growth in country c.

- γ_{it} denotes the product-year fixed effects.

  This captures any shock that affects the specific sector at time t.

- ρ_{ci} exporter-product fixed effects.

- Due to dummy variable trap problem we only include θ_{ct} and γ_{it}. Hence, ρ_{ci} is the omitted category.

Methodology

Heterogeneous Effects

- Chinese subsidy interventions are liberalizing, with neutral effect and some are harmful.
- We rewrite Eq. (1) to analyse the heterogeneous effect of subsidies interventions.
- For example, to investigate the effect of harmful interventions, we re-specify as Eq. (1) as follows:

$$E_{ict} = \beta_1 + \beta_2(NHSI_t \times Metal\_Input\_Share_{ict}) + \theta_{ct} + \gamma_{it} + \rho_{ci} + \varepsilon_{ict} \ldots\ldots\ldots\ldots (2)$$

- Where $NHSI_t$ is the number of harmful interventions at time t.

Data

- Our paper uses a combination of 3 data sources:

a. UN Comtrade: Export value data at 3-digit Common Product Classification (CPC) for 137 sectors from 40 major economies (excluding China) in the 2008-2018 period.

b. Global Trade Alert (GTA): the number of Chinese basic metal subsidies interventions. GTA database uses CPC system to identify affected sectors!

c. Global Input Output Database (GIOD): For the input output linkage between Chinese basic metal subsidies and the other sectors.
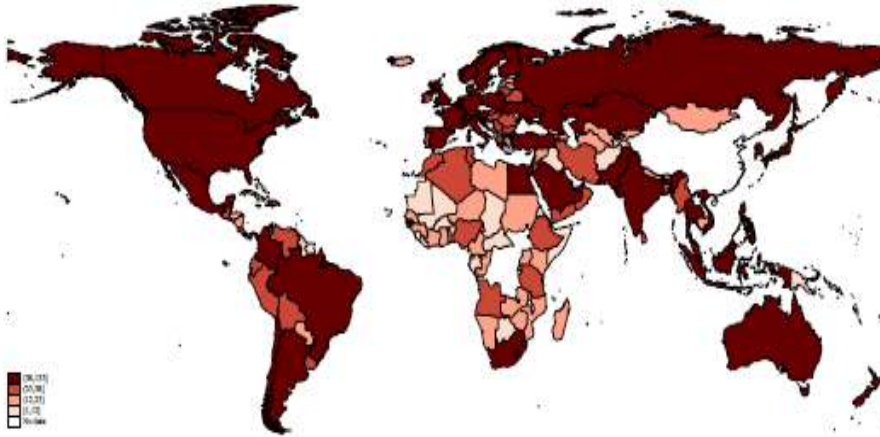
Data

Chinese liberal subsidies affected countries
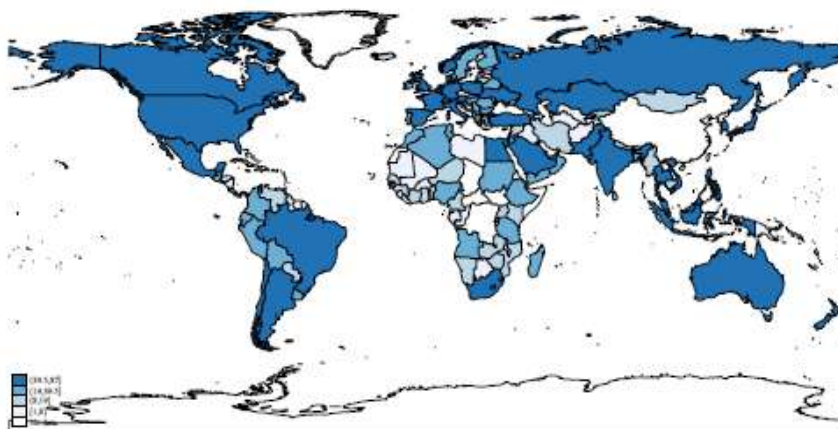
Data

Chinese harmful subsidies affected countries

Baseline Result

	(1)	(2)	(3)
	Dependent Variable: log of export value		
$NSI \times Metal\_Input\_Share$	-0.018	-0.117**	-0.166**
	(0.056)	(0.050)	(0.066)
Exporter-year FE	No	Yes	Yes
Sector-year FE	Yes	No	Yes
Observations	59413	59413	59413
R2	0.306	0.385	0.714

Note: **NSI** is the number of total subsidies interventions by the Chinese government in each year; **Metal_Input_Share** is the share of Chinese metal input in the production of exportable goods in a particular sector at a given year and country. The 2014 input share of metal to the downstream sectors is used as a proxy for the 2015-2018 metal input share. Robust standard errors clustered at the exporter-product level are reported in the parentheses. *, **, *** represent the level of statistical significance at 10%, 5%, and 1%, respectively.

- A one unit Chinese subsidies intervention in the basic metal sector reduces the export of other countries by about 16.6%.

- This means:

An increase in one standard deviation of Chinese subsides in the basic metal sector reduces export in the other major economies by 0.17 percentage point.

- This is reasonably large negative effect in the downstream sectors.

Placebo test: Forestry, Fishing and Textile

	(1)	(2)	(3)
	Dependent Variable: the log of export value		
NSI × Forestry_Input_Share	1.105 (1.112)		
NSI × Fishing_Input_Share		-0.313 (0.235)	
NSI × Textile_Input_Share			-0.238 (0.187)
Exporter-Year FE	Yes	Yes	Yes
Sector-Year FE	Yes	Yes	Yes
Number of Observations	59413	59413	59413
R^2	0.7146	0.7146	0.7146

Note: **NSI** is the number of total subsidies interventions by the Chinese government in each year. **Forestry_Input_Share**, **Fishing_Input_Share**, and **Textile_Input_Share** are the shares of Chinese 'Forestry and logging', 'Fishing and aquaculture' and 'manufacture textile, wearing apparel and leather products' inputs in the production of exportable goods in a particular sector at a given year and country. The 2014 input share of metal to the downstream sectors is used to create the placebo input-output linkage. Robust standard errors clustered at the exporter-product level are reported in the parentheses. *, **, *** represent the level of statistical significance at 10%, 5%, and 1%, respectively.

Considering lag effects

	(1)	(2)	(3)	(4)
	Dependent Variable: log of export value			
$NSI \times Metal\_Input\_Share, t$	-0.166**			
	(0.066)			
$NSI \times Metal\_Input\_Share, t-1$		-0.223***		
		(0.082)		
$NSI \times Metal\_Input\_Share, t-2$			-0.176**	
			(0.083)	
$NSI \times Metal\_Input\_Share, t-3$				-0.058
				(0.093)
Constant	11.624***	14.796***	14.787***	14.766***
	(0.323)	(0.254)	(0.255)	(0.257)
Exporter-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Observations	59413	54259	48981	43542

Note: NSI is the number of total subsidies interventions by the Chinese government in each year; $Metal\_Input\_Share$ is the share of Chinese metal input in the production of exportable goods in a particular sector at a given year and country. The 2014 input share of metal to the downstream sectors is used as a proxy for the 2015-2018 metal input share. Robust standard errors clustered at the exporter-product level are reported in the parentheses. *, **, *** represent the level of statistical significance at 10%, 5%, and 1%, respectively.

Heterogeneous Effect (1): Harmful, Liberalizing and Neutral

	(1)	(2)	(3)
	Dependent Variable: log of export value		
$NHSI \times Metal\_Input\_Share$	-0.243**		
	(0.106)		
$NLSI \times Metal\_Input\_Share$		-0.459	
		(0.300)	
$NNSI \times Metal\_Input\_Share$			-1.055**
			(0.510)
Exporter-year FE	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes
Observations	59413	59413	59413

Note: $NHSI$, $NLSI$ and $NNSI$ denotes the number of harmful, liberalizing and neutral subsidies interventions by the Chinese government per year, respectively. $Metal\_Input\_Share$ is the share of Chinese metal input in the production of exportable goods in a particular sector at a given year and country. The 2014 input share of metal to the downstream sectors is used as a proxy for the 2015-2018 metal input share. We classify countries according to the intensity of Chinese subsidy intervention. Robust standard errors clustered at the exporter-product level are reported in the parentheses. *, **, *** represent the level of statistical significance at 10%, 5%, and 1%, respectively.

Heterogeneous Effect (2): Based on basic metal use intensity

	(1)	(2)	(3)	(4)
	Dependent Variable: log of export value			
	Non-intensive users		Intensive users	
$NSI \times Metal\_Input\_Share$	5.210**	1.088	-0.101***	-0.119***
	(2.349)	(1.821)	(0.0215)	(0.040)
Exporter-year FE	Yes	Yes	Yes	Yes
Sector-year FE	No	Yes	No	Yes
Observations	26875	26875	32538	32,538
R2	0.345	0.647	0.514	0.788

Note: NSI is the number of total subsidies interventions by the Chinese government in each year; $Metal\_Input\_Share$ is the share of Chinese metal input in the production of exportable goods in a particular sector at a given year and country. Robust standard errors clustered at the exporter level are reported in the parentheses. *, **, *** represent the level of statistical significance at 10%, 5%, and 1%, respectively.

Heterogeneous Effect (3): Only high intensively affected countries

	(1)	(2)	(3)
	Dependent Variable: log of export value		
$NSI \times Metal\_Input\_Share$	0.055	-0.144***	-0.148**
	(0.049)	(0.051)	(0.059)
Exporter-year FE	No	Yes	Yes
Sector-year FE	Yes	No	Yes
Observations	41847	41847	41847
R2	0.458	0.199	0.664

Note: NSI is the number of total subsidies interventions by the Chinese government in each year; $Metal\_Input\_Share$ is the share of Chinese metal input in the production of exportable goods in a particular sector at a given year and country. The 2014 input share of metal to the downstream sectors is used as a proxy for the 2015-2018 metal input share. We classify countries according to the intensity of Chinese subsidy intervention. Countries that are affected by more than 58 Chinese subsidy interventions are considered as highly intensively affected countries. As such we drop 11 countries (that includes Bulgaria, Croatia, Cyprus, Estonia, Greece, Hungary, Latvia, Lithuania, Luxembourg, Malta, Portugal, Slovak Republic) from the original sample. Robust standard errors clustered at the exporter-product level are reported in the parentheses. *, **, *** represent the level of statistical significance at 10%, 5%, and 1%, respectively.

Heterogeneous Effect (4): Developed versus developing countries

	(1)	(2)
	Dependent Variable: log of export value	
	Developed Countries	Developing Countries
$NSI \times Metal\_Input\_Share$	-0.180***	-0.050
	(0.060)	(0.063)
Exporter-year FE	Yes	Yes
Sector-year FE	Yes	Yes
Observations	47770	11643
R2	0.306	0.385

Note: NSI is the number of total subsidies interventions by the Chinese government in each year; $Metal\_Input\_Share$ is the share of Chinese metal input in the production of exportable goods in a particular sector at a given year and country. Robust standard errors clustered at the exporter-product level are reported in the parentheses. *, **, *** represent the level of statistical significance at 10%, 5%, and 1%, respectively.

Additional Results: RCA and Base Metal Subsidy

	(1)	(2)	(3)
	Dependent Variable: Revealed comparative advantage		
NSI × Metal_Input_Share	-0.042*	-0.082***	-0.090**
	(0.023)	(0.029)	(0.044)
Exporter-Year FE	Yes	No	Yes
Sector-Year FE	No	Yes	Yes
Number of Observations	59331	59331	59331
R^2	0.0292	0.0464	0.0754

Conclusion

- The paper investigates the effect of Chinese basic metal sector subsidies on the export competitiveness of the major economies downstream sectors.

- The finding shows that Chinese subsidies distortions have considerably large adverse effect on the export performance of other countries.

- Especially, the deleterious effect of Chinese subsidies interventions is much larger for developed economies.

- More importantly, both harmful and neutral subsidies interventions reduce export competitiveness of other countries.

Presentation 5

DOES SERVICIFICATION ENHANCE FIRM PRODUCTIVITY? EVIDENCES FROM INDONESIA'S FIRM-LEVEL ANALYSIS USING SEMI-PARAMETRIC APPROACH

M.Sc. Vutha Hing and

Prof. Shandre Mugan Thangavelu

Institute of International Trade,

University of Adelaide, Australia

Does Servicification enhance firm productivity?

--Evidences from Indonesia's firm-level analysis using semi-parametric approach--

International Conference
"International Trade and Investment Toward Green and Digital Transformation"

26 November 2021

Vutha HING
Shandre Mugan Thangavelu

THE UNIVERSITY *of* ADELAIDE

Outline of presentation

1. Introduction

2. Estimation strategy

3. Empirical results

4. Conclusion

Introduction

- Services activities in manufacturing are intensifying over past decades

- There is strong evidences manufacturing firms use greater service inputs and services professions in production process

- Also, more and more manufacturing firms bundle services in their core products

- The increasing importance of services in manufacturing is called *"servicification"*

- Reasons behind increasing servicifiation are:
  - ✓ The rise of GVC using services to link fragmented production components across whole value chains
  - ✓ To add value and sharpen customer relationship
 - ✓ to enhance efficiency and productivity

About 49% of the value added in world gross exports originates in the service sector ➔ highlighting that services are traded embodied in goods
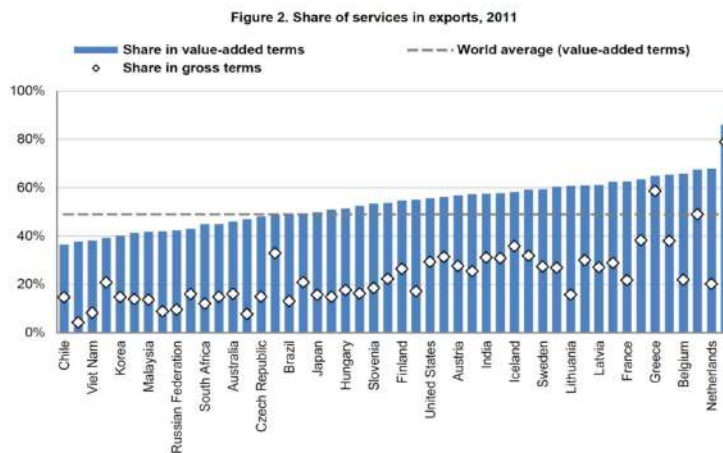
Source: Miroudot and Cadestin (2017)

Substantial amount of economic activity in manufacturing is made up of services.

Figure 9. Share of services employment within manufacturing firms, 1999-2015
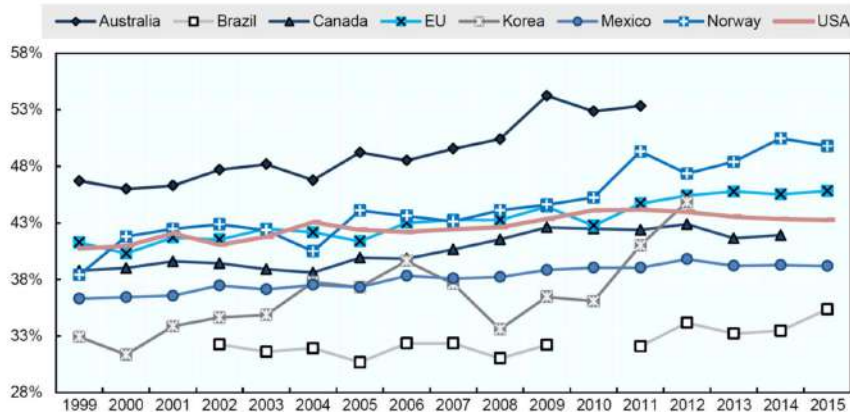
Source: Miroudot and Cadestin (2017)

- This paper recognizes this shift in service-manufacturing linkage and explores how servicification affect firm productivity level.

- Specifically, it examines the effects of servicification (firms from both supply-side and demand-side) on productivity using unbalanced panel firm-level data from Indonesian manufacturing industries

Empirical strategy

Two-stage approach

- ✓ Stage one involves estimation of Cobb-Douglas production function using semi-parametric approach and then derive productivity

- ✓ In stage two, we regress productivity with servicification and other firm attributes

1) Estimation of productivity

- ✓ Estimate the production function using semi-parametric approach developed by Levinsohn and Petrin (2003)—LP method

$$y_t = \beta_0 + \beta_k k_t + \beta_l l_t + \beta_m m_t + \omega_t + \eta_t$$

- ✓ Use intermediate inputs as proxy to correct the simultaneity between input choices and productivity shocks

- ✓ STATA command:
  - ○ levpet ln_VA, free(ln_lab_high ln_lab_low) proxy(ln_Ele) capital(ln_K) valueadded reps(250)
  - ○ predict tfp, omega

2). Servicification and its impact on productivity

$$ln\_tfp_{ist} = \alpha_0 + \beta_1 serv\_inp_{ist} + \beta_2 serv\_outp_{ist} + \beta_3 for\_own_{ist} + \beta_4 acc\_fin_{ist} + \beta_5 gvc_{ist} + \beta_6 exp\_spillover_{ist} + d_t + d_s + \varepsilon_{ist}$$

Variables	Definition	Measure
tfp	Total factor productivity derived from production function estimate (Dependent variable)	Firm productivity level
serv_inp	Servicification in terms of input; share of industrial services to total inputs (%)	Service input intensity
serv_outp	Servicification in terms of output; share of revenues from selling manufacturing services and selling electricity to outputs (%)	Service output intensity
for_own	1 if more than 10% of capital owned by foreign; 0 otherwise	Ownership structure and foreign network
acc_fin	1 if firm borrow money from bank or financial institution; 0 otherwise	Access to finance
gvc	1 if firm imports raw materials AND export products; 0 otherwise	GVC participation and exposure to international suppliers/partners
exp_spillover	Share of outputs of export firms to output of all firms (%)	Export spillover

- Estimation methods
  - ✓ OLS fixed effect as baseline
  - ✓ General Method of Movement (GMM) to correct endogeneity

- Source of data
  - ✓ Indonesian Annual Manufacturing Survey (IAMS) over the period 2005-2015
  - ✓ Unbalanced panel data with roughly 19, 347--28,545 firms
  - ✓ Observations in empirical analysis: 127,356

Empirical results

Table 1: Results of productivity effects of servicification

TFP	(1) OLS	(2) Sys GMM
Foreign ownership	0.717***	0.747***
	(0.0226)	(0.150)
Access to finance	0.0973***	0.129***
	(0.00887)	(0.0265)
Export spillover	0.570***	-0.294
	(0.129)	(0.193)
GVC participation	0.0882***	0.150***
	(0.0180)	(0.0577)
Share of service inputs to total expenses	-0.113	0.781***
	(0.0910)	(0.270)
Share of service income to total revenues	0.122***	0.445*
	(0.0208)	(0.232)
Observations	127,537	86,263
R-sq	0.3252	-
Year-FE	Yes	Yes
Sector-FE	Yes	Yes
AR(2) (p-value)	-	0.958
Hansen test (p-value)	-	0.106

- GMM estimator is appropriate as the estimate proves that there is not autocorrelation and strong and valid instruments

- Negative but insignificant relationship between share of industrial services and productivity in OLS-FE but the sign and magnitude turn positive and significant once we correct endogeneity problems via GMM method

- Estimates for service revenue is strongly positive and the results are robust across various estimators.

- Overall, the magnitude of effect are as follows:
  ✓ 10 percentage point increase in service input intensity leads to 7-8 percent rise in productivity
  ✓ 10 percent growth in service revenue results in 4-5 percent increase in productivity

- Coefficients of foreign ownership, access to finance and GVC participation are positive and significant across all estimators

  → The findings confirm argument that firm heterogeneities play an important role in determining firm performance, specifically, productivity.

Robustness checks

To further demonstrate the robustness of our results, we conduct various alternative specifications:

1) Alternative measures of productivity:
   - **Measure 1:** output per workers (commonly known as labour productivity)
   - **Measure 2:** TFP derived from production function using GMM method

Table 2: Results of alternative measures of productivity

Productivity	(1) Labour productivity Sys GMM	(2) TFP with GMM estimator Sys GMM
Share of service inputs to total expenses	**0.468***	**0.761***
	(0.260)	**(0.268)**
Share of service income to total revenues	**1.405***	**0.447***
	(0.185)	**(0.232)**
Observations	137,304	86,263
Year-FE	Yes	Yes
Sector-FE	Yes	Yes
AR(2) (p-value)	0.01	0.975
Hansen test (p-value)	0.128	0.111

2). Alternative measures of servicification

Change measure of servicification from ratio to binary value

1) *Input servicified firm* (1 if ratio of service input ratio greater than median)

2) *Output servicified firm* (1 if ratio of service output greater than median)

Table 3: Results of alternative measures of servicification

Total factor productivity	Sys GMM
Service inputs dummy (1= firms purchasing service inputs)	0.369***
	(0.0788)
Service income dummy (1= firms selling services)	0.373***
	(0.112)
Observations	86,263
AR (2)	0.884
Hansen test	0.016

Conclusion

- The findings highlight the significant contribution of services both in aspects of inputs and outputs in helping firms raise productivity

- Productivity effects of input servicification is greater than output servicification

- We also find evidence suggesting the importance of firm heterogeneities i.e. foreign ownership, access to finance, and participation in GVC in boosting productivity

- Despite representing Indonesian manufacturing firms, our results provide additional evidence that explain the recent global trend of why manufacturing firms become more service intensive. Productivity gains from servicification is one of the obvious reason.

Annex

1. Supply-side of servicificatioin

- *Variable:* Share of service inputs to total expense.

- It captures the intensity of service factors used in manufacturing of final goods

- *Coverage:* input services include spending on packaging, maintenance and repair, promotion and advertising

2. Demand-side of servicification

- *Variable:* Share of service revenue to output.

- It captures service output intensity

- *Coverage:* revenues from services include sales of electricity and fees from manufacturing services

Session 2
DIGITAL ECONOMY

Presentations:

1. The Internet of Things in Enterprises and Corporate Social Responsibility: Context, Trends, Main Areas of Use
   Dr. Bajak Maria, *Cracow University of Economics, Poland*

2. Can Digitalization Reduce Country Distance in International Trade? An Empirical Analysis of European Countries
   Prof. Judy Hsu and M.Sc. Cao Thuy Linh, *Feng Chia University, Taiwan and University of Economics and Business, Vietnam National University – Hanoi*

3. Development of Five Key Pillars of Vietnam's Digital Economy
   Dr. Nguyen Thi Vu Ha, *University of Economics and Business, Vietnam National University – Hanoi*

4. E-commerce and Upgrading in the Garment and Textile Industry: The Lessons from Chinese Market and Implications for Vietnamese Firms
   M.Sc. Dinh Van Hoang, *Foreign Trade University, Hanoi, Vietnam*

Presentation 1
THE INTERNET OF THINGS IN ENTERPRISES AND CORPORATE SOCIAL RESPONSIBILITY:
CONTEXT, TRENDS, MAIN AREAS OF USE

Dr. Bajak Maria

Cracow University of Economics, Poland

1

The Internet of Things in Enterprises and Corporate Social Responsibility: context, trends, main areas of use

---

2

The predominant goal of the presented study is to identify the main areas of application of the intelligent objects in a socially responsible enterprise

Main goal

The Internet of Things

The industrialization and computerization of
modern environment means that more and more
objects in surroundings exchange information
with each other via the network, creating an
intelligent system that allows automation,
optimization and control of various areas
of social life

Maria Bajak
Cracow University of Economics

Internet of things in private life

4

- raised comfort related to the automation of personal space,
- reduction of household costs,
- increased personal security,
- improved healthcare,
- facilitation of communication and connection with surroundings,
- distance management of a residential facility.

5 Internet of things in society

- pollution reduction and environmental protection,
- optimization of the flow of people, services and capital related to,
the automation of public space,
- improved functioning of uniformed and rescue services,
- increase in the level of public security,
- public space monitoring,
- creating new professions and job opportunities.

6 Internet of things in business

- improved production process,
- cost reduction,
- increased employee safety,
- expanded staff competencies,
- creating market niches,
- higher efficiency of marketing activities,
- optimization in the field of transport and logistics,
- advancement in trade processes.

7 Integrated SMART Environment
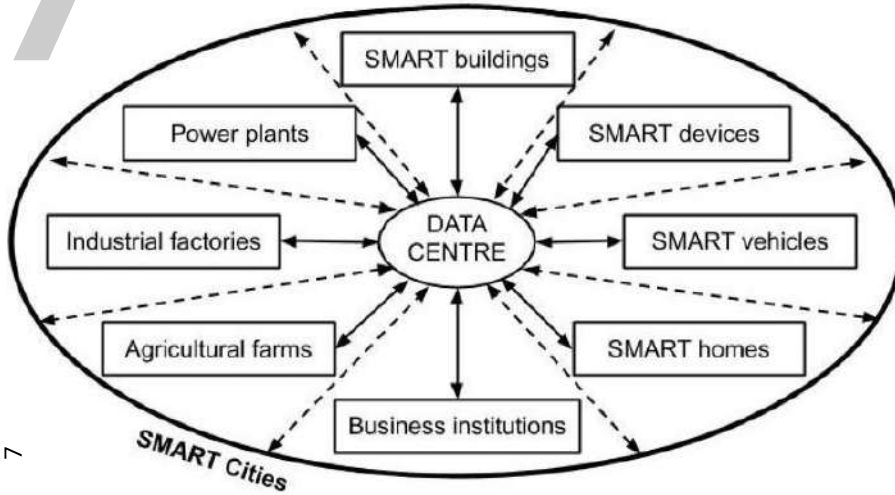
Maria Bajak
Cracow University of Economics

Maria Bajak
Cracow University of Economics

"CSR is the responsibility of enterprises for their impact on society. (...) CSR is the process whereby enterprises integrate social, environmental, ethical and human rights concerns into their core strategy, operations and integrated performance, in close collaboration with their stakeholders".
~ European Commission

Corporate Social Responsibility

Methodology

To implement the adopted assumptions, it was decided to select a method partially similar to the case study. This tool is supposed to lead to answers to revealing questions, explaining "Who?", "What?", "Where?", "How?", "Why?", relating to the examined object.
Due to the specific nature of the subject matter, it was decided to select several researched projects. As a result, it enables the adoption of a broader perspective while achieving the research objective, which is the basis for further analyses

Maria Bajak

Who?
City of Amsterdam and local entrepreneurs

What?
The testing of solutions by entrepreneurs aimed at reducing energy consumption and waste

Where?
Utrechtsestraat in Amsterdam

How?
Creation and implementation by entrepreneurs and IT companies various IoT solutions to protect the environment

Why?
A pilot project aimed at reducing energy consumption and CO2 emissions throughout the city

Climate Street in Amsterdam

The Crystal in London

Who?
Siemens, in collaboration with the City of London (as part of the Smart London initiative)

What?
Creating a building that operates exclusively on the electricity it produces

Where?
City of London

How?
Location of over 3,500 data collection points in the building, which optimizes the space management process

Why?
Seeking to create an autonomous building that in practice implements the principles of sustainable development

Who?
Port of Cagliari, City of Cagliari with local stakeholders (e.g. Confindustria della Sardegna Meridionale)

What?
Creating a harbour management optimization system for port operators, sailors, and partly to tourists

Where?
City of Cagliari

How?
Placement of sensors within the port and creation of a process management platform based on the obtained data

Why?
Striving to control, integrate and optimize the management of the Cagliari's ports and metropolitan area

Cagliari Port 2020

Sidly Telemedicine Wristbands

Who?
Medical care units, local governments, foundations, employers

What?
Implementation of a system that allows quick assistance in the event of disturbances in vital parameters or detection of a fall

Where?
Europe

How?
Use of wristbands for medical measurements that sends automatic notifications when irregularities are detected

Why?
Raising the standards of care for seniors and sick people, as well as increasing safety in workplaces

1
Environmental Protection and Ecology

2
Sustainable Development

3
Social Commitment and Human Rights

4
Employee Relations

5
Consumer Protection

6
Competitive Environment

The main areas of optimization of social life by means of intelligent objects

The results of the research in a macro perspective: trends and forms of support

— the economic value that the IoT will generate by 2030 will be from $ 5.5 trillion to $ 12.6 trillion

— it is worth highlighting the need for the government to support such initiatives

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The Internet of Things in Enterprises and Corporate Social Responsibility: context, trends, main areas of use

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Thank you for your attention!

Presentation 2
CAN DIGITALIZATION REDUCE COUNTRY DISTANCE IN INTERNATIONAL TRADE? ANEMPIRICAL ANALYSE OF EUROPEAN COUNTRIES

Prof. Judy Hsu[1] and M.Sc. Cao Thuy Linh[2]

[1]Feng Chia University, Taiwan

[2]University of Economics and Business, Vietnam National University – Hanoi

International Conference
International Trade and Investment Towards Green and Digital Transformation
(CIECI 2021)

CAN DIGITALIZATION REDUCE COUNTRY DISTANCE IN INTERNATIONAL TRADE? AN EMPIRICAL ANALYSIS OF EUROPEAN COUNTRIES

Judy Hsu[1] and Thuy Linh Cao[2]

Presenter: Thuy Linh Cao
Hanoi, 26 November 2021

1: Feng Chia University, Taiwan
2: University of Economics and Business, VNU

Overview

Research Question: Can Digitalization reduce the negative effect of country distance in international trade?

Sample: Over 17,000 trading pairs between 28 European Countries and the rest of the World.

Exploited Index: Digital Economy and Society Index (DESI) by European Commission

Estimation Methodology: System Generalized Method of Momentums (System GMM)

Overview (cont.)

Main Results: Empirical evidence has found to prove that DESI can positively moderate the unfavorable reaction of geographic distance on international trade

Contributions:

- First paper to examine the moderating effect of Digitalization in the relationship between country distance and international trade;

- Extend international business literature;

- Raise encourage to imply digitalization in countries to promote trade.
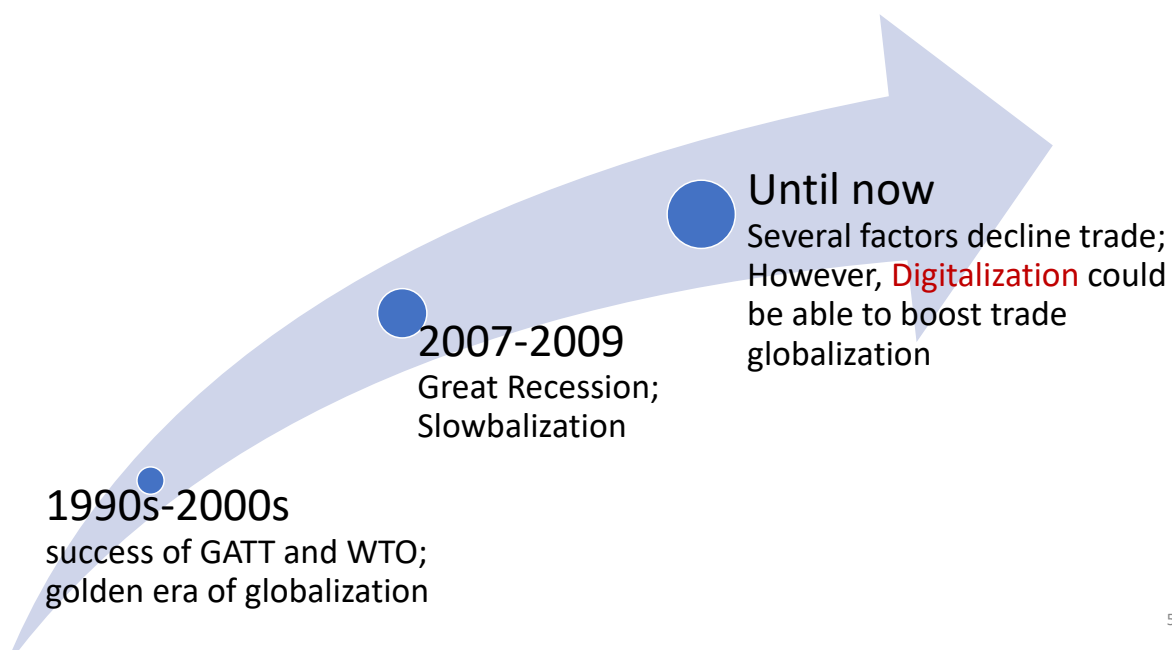
Research Structure

1. Introduction

2. Literature Review

3. Data and Methodology

4. Results and Discussion

5. Concluding Remarks

1. Introduction

Until now
Several factors decline trade;
However, Digitalization could
be able to boost trade
globalization

2007-2009
Great Recession;
Slowbalization

1990s-2000s
success of GATT and WTO;
golden era of globalization

1. Introduction (cont.)

Aim:
- To shed light on effect of digitalization on international trade;

- To find empirical evidence supporting digitalization promote international trade by reducing country distance among countries which are widely known as huge barriers in global activities

1. Introduction (cont.)

European Countries to be chosen:

- One the most active area in digitalization (Europe 2020 Strategy);

- Have performance measurement system to track the evolution of the EU member states in digital competitiveness (DESI);

- One of the biggest players in global trade: 14.0% of global imports and 15.9% of global exports in 2019

2. Literature Review

A series of studies focusing on:

- **Digitalization**: Hagberg et al. (2016), Eling and Lehmann (2018), etc. => digitalization is the most significant on-going transformation of contemporary society and encompasses several domains of daily life

- **Country Distance and its negative effect on international trade**: Ghemawat (2001), Berry et al. (2010), Dow and Karunaratna (2006), etc.

- **Impact of Digitalization**: Yip and Dempster (2005), Resciniti et al. (2019), Katsikeas et al. (2019), ect. => suggest digitalization makes it easier to cull various barriers and issues and to identify more quickly new market opportunities

2. Literature Review

Hypotheses:

H_1: Digitalization reduces the negative effect of country distances on international trade.

H_{1a}: Digitalization <mark>reduces the negative</mark> effect of language distance on international trade.

H_{1b}: Digitalization reduces the negative effect of religion distance on international trade.

H_{1c}: Digitalization reduces the negative effect of administrative distance on international trade.

H_{1d}: Digitalization reduces the negative effect of geographic distance on international trade.

H_{1e}: Digitalization reduces the negative effect of economic distance on international trade.

3. Data and Methodology

Data		Source	Unit
International Trade	Import/Export value annually	EuroStat	Million Euro
Digitalization	DESI index and its 5 components	Euro Commission	0-100 Score
Country Distance	Language Distance	Exploit data from Dow and Karunaratna (2006); updated	0-5 Score
	Religion Distance		
	Administrative Distance	Exploit data from Berry et al. (2010); updated	Score
	Geographic Distance		Km
	Economic Distance		Score

3. Data and Methodology (cont.)

Variable	Abr.	Definition and Scope
DESI	Desi	Digital Economy and Society Index of report country, is weighting average of 5 below factors, score from 0-100
Connectivity	Con	% of deployment of broadband infrastructure and its quality, including fixed broadband, mobile broadband, fast and ultrafast broadband and broadband prices.
Human Capital	Human	% population having skills needed to take advantage of the possibilities offered by a digital society.
Use of Internet	Net	% population having activities already online, from consumption of online content to modern communication activities or online shopping and banking.
Integration of Digital Technology	Tech	% of businesses and their exploitation of the online sales channel, social media, big data, cloud, artificial intelligence, and environmental technology
Digital Public Services	Pub	% of Digitization of public services for citizen, business and eGovernment.

3. Data and Methodology (cont.)

Models: to examine main effects

$$Ex_{ijt} = \alpha + \beta_1 Lang_{ijt} + \beta_2 \operatorname{Re}lig_{ijt} + \beta_3 Ad\min_{ijt} + \beta_4 Geo_{ijt} + \beta_5 Econ_{ijt} + \beta_6 Desi_{it} + \varepsilon_{it}, \qquad \textbf{(1)}$$

$$Im_{ijt} = \alpha + \beta_1 Lang_{ijt} + \beta_2 \operatorname{Re}lig_{ijt} + \beta_3 Ad\min_{ijt} + \beta_4 Geo_{ijt} + \beta_5 Econ_{ijt} + \beta_6 Desi_{it} + \varepsilon_{it}, \qquad \textbf{(2)}$$

where $i=1,\dots,28$ and $j=1,\dots,q$ are the country index, $t=1,\dots,T$ is the time index, α is the intercept, β_i is corresponding estimated parameter, $Lang$ is language distance between country i and j, $Relig$ is religion distance, $Admin$ is administration distance, Geo is geographic distance, $Econ$ is economic distance, $Desi$ are the DESI index of a reporter country within the EU, Ex is Export from an European country to its trading partner.

3. Data and Methodology (cont.)

Models: to examine the moderating effect of Desi

$$Ex_{ijt} = \alpha + \beta_1 Lang_{ijt} + \beta_2 \operatorname{Re} lig_{ijt} + \beta_3 Ad\min_{ijt} + \beta_4 Geo_{ijt} + \beta_5 Econ_{ijt} + \beta_6 Desi_{it}$$
$$+ \beta_7 Desi_{it} * Lang_{ijt} + \beta_8 Desi_{it} * \operatorname{Re} lig_{ijt} + \beta_9 Desi_{it} * Ad\min_{ijt} + \beta_{10} Desi_{it} * Geo_{ijt} + \beta_{11} Desi_{it} * Econ_{ijt} + \varepsilon_{it},$$

(3)

$$Im_{ijt} = \alpha + \beta_1 Lang_{ijt} + \beta_2 \operatorname{Re} lig_{ijt} + \beta_3 Ad\min_{ijt} + \beta_4 Geo_{ijt} + \beta_5 Econ_{ijt} + \beta_6 Desi_{it}$$
$$+ \beta_7 Desi_{it} * Lang_{ijt} + \beta_8 Desi_{it} * \operatorname{Re} lig_{ijt} + \beta_9 Desi_{it} * Ad\min_{ijt} + \beta_{10} Desi_{it} * Geo_{ijt} + \beta_{11} Desi_{it} * Econ_{ijt} + \varepsilon_{it},$$

(4)

Estimation Method: system GMM

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4. Results and Discussions

Table 3: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Ex	17164	1.292e+09	6.244e+09	1	1.496e+11
Im	17164	1.317e+09	6.302e+09	0	1.546e+11
Admin	17164	60.069	33.305	.043	271.347
Geo	17164	5442.99	3589.97	118.382	19836.652
Econ	17164	8.038	9.726	.015	85.381
Lang	17164	9.137	1.415	0	10
Relig	17164	4.327	2.755	0	10
Desi	17164	48.597	9.387	31	70
Con	17164	57.57	8.296	29.5	73
Human	17164	43.237	11.885	24	78
Net	17164	45.452	12.928	17	75.2
Tech	17164	41.574	14.82	11	86
Pub	17164	55.171	14.865	26	86

Wide range

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Table 4: Pairwise Correlation

Variables	Ex	Admin	Geo	Econ	Lang	Relig	Desi	Con	Human	Net	Tech	Pub	Im
Ex	1.000												
Admin	-0.050	1.000											
Geo	-0.182	-0.070	1.000										
Econ	-0.078	-0.097	0.032	1.000									
Lang	-0.097	0.177	-0.006	-0.106	1.000								
Relig	-0.094	0.126	-0.062	-0.035	0.179	1.000							
Desi	0.049	0.051	0.041	0.305	-0.116	0.017	1.000						
Con	0.025	0.032	0.026	0.167	-0.073	-0.006	0.532	1.000					
Human	0.014	0.092	0.028	0.320	-0.098	0.057	0.851	0.310	1.000				
Net	0.042	0.018	0.034	0.318	-0.085	0.004	0.834	0.207	0.702	1.000			
Tech	0.069	0.025	0.035	0.254	-0.081	-0.004	0.836	0.400	0.580	0.674	1.000		
Pub	0.038	0.006	0.034	0.089	-0.106	0.003	0.729	0.180	0.561	0.614	0.460	1.000	
Im	0.882	-0.058	-0.168	-0.081	-0.084	-0.089	0.050	0.025	0.027	0.041	0.055	0.043	1.000

Table 5: Main Effect

VARIABLES	(1) Export	(2) Import	(3) Export	(4) Import
Lang	-0.0413	-0.00878	0.0397	0.0418
	(0.0620)	(0.0907)	(0.0665)	(0.0931)
Relig	-0.866***	-1.161***	-0.986***	-1.223***
	(0.148)	(0.258)	(0.158)	(0.260)
Admin	0.00427*	0.0113***	0.00351	0.0105***
	(0.00231)	(0.00318)	(0.00243)	(0.00318)
Geo	-0.000317***	-0.000312***	-0.000328***	-0.000318***
	(1.80e-05)	(2.17e-05)	(1.87e-05)	(2.21e-05)
Econ	-0.0390***	-0.0730***	-0.0549***	-0.0854***
	(0.00578)	(0.00757)	(0.00627)	(0.00795)
Desi			0.0598***	0.0448***
			(0.00569)	(0.00728)
Year Dummy	Yes	Yes	Yes	Yes
Constant	23.51***	23.36***	20.52***	21.10***
	(0.413)	(0.544)	(0.476)	(0.580)
Observations	17,164	16,573	17,164	16,573
Number of Pair	3,515	3,481	3,515	3,481
AR1	0.000	0.000	0.000	0.000
AR2	0.164	0.979	0.341	0.983
Hansen	0.107	0.580	0.318	0.279

Note: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Confirm
- **Negative effect** of country distance variables
- **Positive effect** of DESI

4. Results and Discussions (cont.)

Table 6a: Moderating Effects of DESI on Export

VARIABLES	(5) Export	(6) Export	(7) Export	(8) Export	(9) Export	(10) Export
Lang	0.261	-0.242***	0.0387	0.0266	0.0410	2.751***
	(0.241)	(0.0342)	(0.0666)	(0.0644)	(0.0648)	(0.672)
Relig	-0.991***	-7.162***	-0.986***	-0.937***	-0.972***	-6.797***
	(0.160)	(1.616)	(0.157)	(0.152)	(0.154)	(1.389)
Admin	0.00357	-0.00182	-0.000776	0.00303	0.00304	0.0317**
	(0.00245)	(0.00185)	(0.00947)	(0.00235)	(0.00239)	(0.0124)
Geo	-0.000329***	-0.000335***	-0.000329***	-0.000636***	-0.000325***	-0.000911***
	(1.87e-05)	(1.87e-05)	(1.86e-05)	(7.17e-05)	(1.83e-05)	(0.000105)
Econ	-0.0552***	-0.0471***	-0.0545***	-0.0556***	0.115***	0.109***
	(0.00633)	(0.00542)	(0.00630)	(0.00616)	(0.0245)	(0.0242)
Desi	0.0999**	-0.564***	0.0541***	0.0240***	0.0837***	0.0149
	(0.0403)	(0.140)	(0.0122)	(0.00784)	(0.00672)	(0.0328)
Desi*Lang	-0.00431					-0.0583***
	(0.00431)					(0.0131)
Desi*Relig		0.142***				0.135***
		(0.0324)				(0.0279)
Desi*Admin			8.64e-05			-0.000687***
			(0.000176)			(0.000238)
Desi*Geo				6.40e-06***		1.19e-05***
				(1.38e-06)		(2.01e-06)
Desi*Econ					-0.00317***	-0.00308***
					(0.000470)	(0.000460)

Support H$_{1d}$

4. Results and Discussions (cont.)

Table 6b: Moderating Effects of DESI on Import

VARIABLES	(11) Import	(12) Import	(13) Import	(14) Import	(15) Import	(16) Import
Lang	0.377	-0.267***	0.0448	0.0296	0.0523	1.232
	(0.307)	(0.0412)	(0.0938)	(0.0926)	(0.0903)	(4.127)
Relig	-1.206***	-3.574**	-1.219***	-1.176***	-1.231***	-3.660
	(0.265)	(1.707)	(0.260)	(0.258)	(0.253)	(8.726)
Admin	0.0104***	0.00247	0.0271***	0.0100***	0.0101***	0.0371
	(0.00322)	(0.00185)	(0.0111)	(0.00314)	(0.00308)	(0.0643)
Geo	-0.000318***	-0.000303***	-0.000318***	-0.000579***	-0.000313***	-0.000638
	(2.23e-05)	(2.07e-05)	(2.21e-05)	(9.10e-05)	(2.11e-05)	(0.000462)
Econ	-0.0857***	-0.0781***	-0.0868***	-0.0864***	0.176***	0.190***
	(0.00800)	(0.00714)	(0.00809)	(0.00793)	(0.0270)	(0.0422)
Desi	0.107**	-0.256*	0.0674***	0.0145	0.0818***	0.0533
	(0.0489)	(0.149)	(0.0151)	(0.00908)	(0.00812)	(0.0443)
Desi*Lang	-0.00666					-0.0290
	(0.00518)					(0.0802)
Desi*Relig		0.0679**				0.0696
		(0.0343)				(0.175)
Desi*Admin			-0.000335*			-0.000711
			(0.000200)			(0.00126)
Desi*Geo				5.43e-06***		7.01e-06
				(1.74e-06)		(8.37e-06)
Desi*Econ					-0.00484***	-0.00510***
					(0.000532)	(0.000682)

Support H$_{1d}$

5. Concluding Remarks

Main Results

- Confirming the positive effect of Digitalization

- Digitalization can positively moderate the unfavorable reaction of geographic distance on international trade.

Contributions

- Extend international business literature;

- Raise encourage to imply digitalization in countries to promote trade.

5. Concluding Remarks (cont.)

Limitation

- The period in regression is narrowed from 2015 to 2019 (due to availability of relating data)
- Effect of DESI is focused on international trade only

Future Studies

- To extend to other international business activities such as foreign direct investment, global value chain, etc.

- To examine industry and firm level at the advantage of digitalization

Q&As

Presentation 3
DEVELOPMENT OF FIVE KEY PILLARS OF VIETNAM'S DIGITAL ECONOMY

Dr. Nguyen Thi Vu Ha

University of Economics and Business, Vietnam National University – Hanoi

**INTERNATIONAL CONFERENCE
CIECI 2021 "INTERNATIONAL TRADE AND
INVESTMENT TOWARDS GREEN AND DIGITAL
TRANSFORMATION"**

**DEVELOPMENT OF FIVE KEY PILLARS OF
VIETNAM'S DIGITAL ECONOMY**

Dr. Nguyen Thi Vu Ha, VNU-UEB

1

Outline

**Overview of a
Digital Economy**

**The development
of five key pillars
for a digital
economy in
Vietnam**

Recommendations

2

What is a Digital Economy?

A bottom-up approach: characterise industries' and firms' output or production processes to decide whether they should be included in the Digital Economy → US BEA (2018), McKinsey (2018), IMF (2018), G20 (2016)

A top-down or trend-based approach: first identify the key trends driving the digital transformation and then analyse the extent to which these are reflected in the real economy → WB (2016), OECD (2019), Oxford Economics (2016)

A flexible approach, breaking the Digital Economy into core and non-core components and thereby finding a compromise between adaptability and the need to arrive at some common ground on the meaning of the term.

3

Definition of the Digital Economy

The Digital Economy incorporates all economic activity reliant on, or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. It refers to all producers and consumers, including government, that are utilising these digital inputs in their economic activities. **(OECD, 2020)**
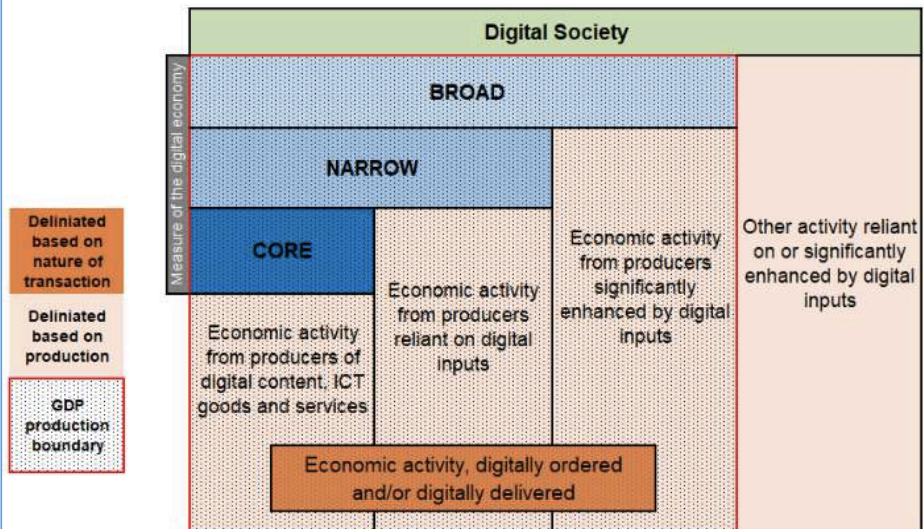
4

Five key pillars for an inclusive digital economy in a country (World Bank)

(i) digital infrastructure	(ii) digital platforms	(iii) digital financial services	(iv) digital entrepreneurship	(v) digital skills

build the core sector of the digital economy

contribute to the narrow-scale construction of the digital economy

make a significant contribution to the development of the digital economy in a broad-scale

contribute to inclusive growth and poverty reduction in countries.

Areas of Assessment Based on Maturity of Digital Economy

	Nascent	Growing	Advanced
Digital infrastructure	Access to undersea internet cables, backbone networks	Backbone networks, data clouds, IXPs, privacy, and cybersecurity	4G/5G networks, rural connectivity, internet of things
Digital platforms	Digital shared services, digital identity, and digital financial management	Digital government, open data, e-commerce	Mobile apps, AI applications, and software-enabled platforms
Digital financial services	Basic digital payments, e.g. person-to-person payments	Broad digital payments, e.g. business-to-person, government-to-person	Digital financial services, e.g. savings, credit, insurance
Digital entrepreneurship	Talent development, and business mentoring	Angel/seed financing, innovation centers, regional hubs	Venture financing, M&A, IPOs, BPO centers, local digital industry
Digital skills	Bootcamps, and digital skill trainings	Business/management skill training	Digital-savvy workforce

https://thedocs.worldbank.org/en/doc/694441594319396632-0090022020/original/DE4ADiagnosticToolV2FINALJUNE24.pdf

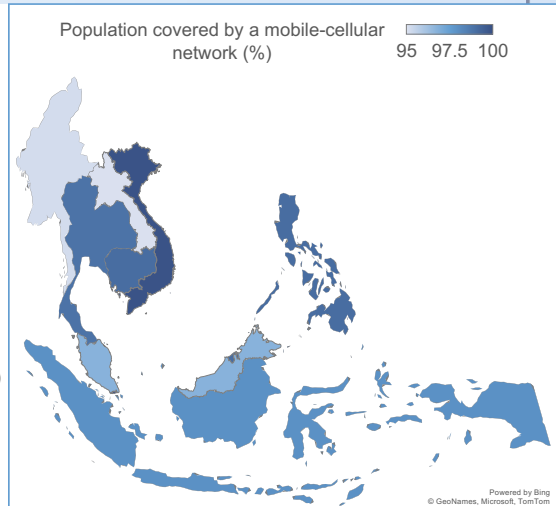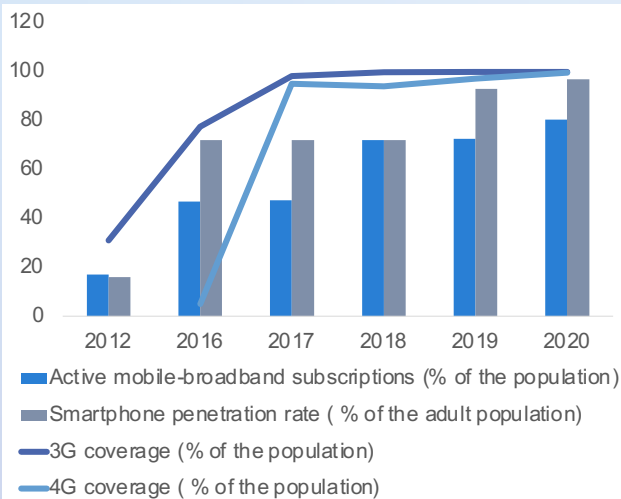# Vietnam's Digital infrastructure

Digital infrastructure underpins the use of digital technologies, and facilitate interactions between connected people, organisations and machines.

A well-developed digital infrastructure is a prerequisite for digital economy development.

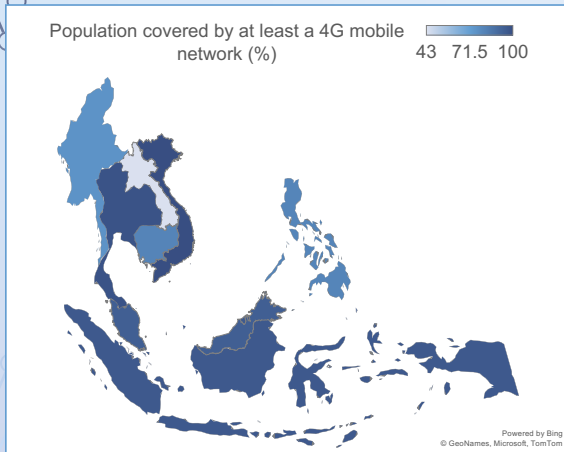Digital infrastructure includes broadband access to the internet; mobile networks and affordability of broadband access…

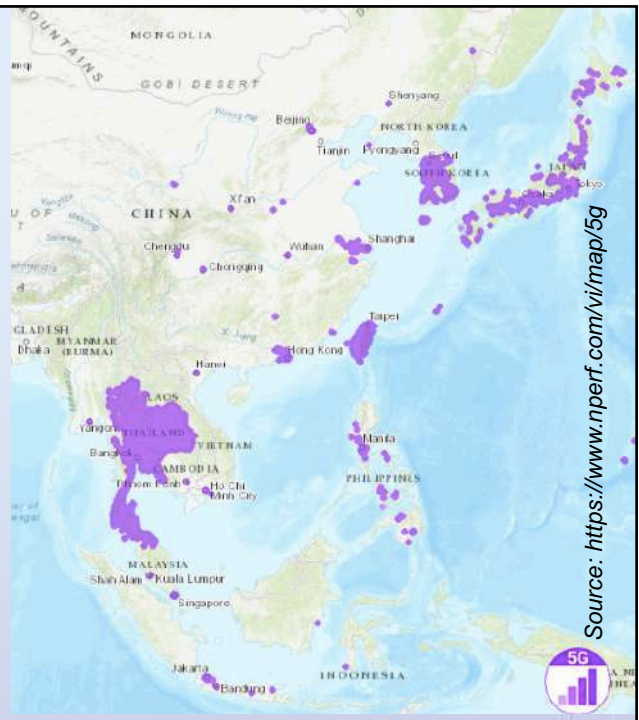# The digital infrastructure in Vietnam has seen strong growth in terms of quantity and quality

Source: https://itu.int/data

Population covered by a mobile-cellular network (%)   95 97.5 100

- Active mobile-broadband subscriptions (% of the population)
- Smartphone penetration rate (% of the adult population)
- 3G coverage (% of the population)
- 4G coverage (% of the population)

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Network coverage

Population covered by at least a 4G mobile network (%)
43 71.5 100

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Source: https://itu.int/data

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Mobile and fixed telephone/broadband subscription

Viet Nam	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mobile-cellular subscriptions per 100 inhabitants	126.83	143.26	146.63	136.34	148.45	129.83	128.79	126.87	147.20	141.23	142.73
Fixed-telephone subscriptions per 100 inhabitants	16.34	11.45	10.64	7.41	7.33	7.90	5.98	4.64	4.50	3.79	3.29

Mobile-cellular subscriptions per 100 inhabitants
60.84 166.61

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Fixed-telephone subscriptions per 100 inhabitants
0.34 32.33

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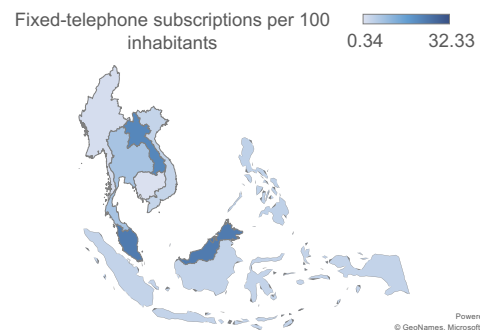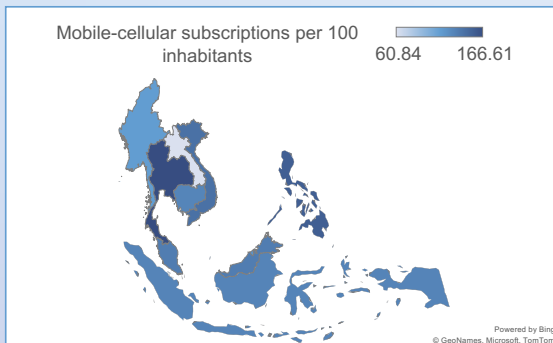
10

Mobile and fixed telephone/broadband subscription

Viet Nam	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Active mobile-broadband subscriptions per 100 inhabitants	7.99	14.40	17.07	18.97	31.33	38.61	46.90	47.41	71.89	72.46	80.23
Fixed broadband subscriptions per 100 inhabitants	4.17	4.32	5.32	5.68	6.54	8.26	9.72	11.91	13.60	15.35	17.16
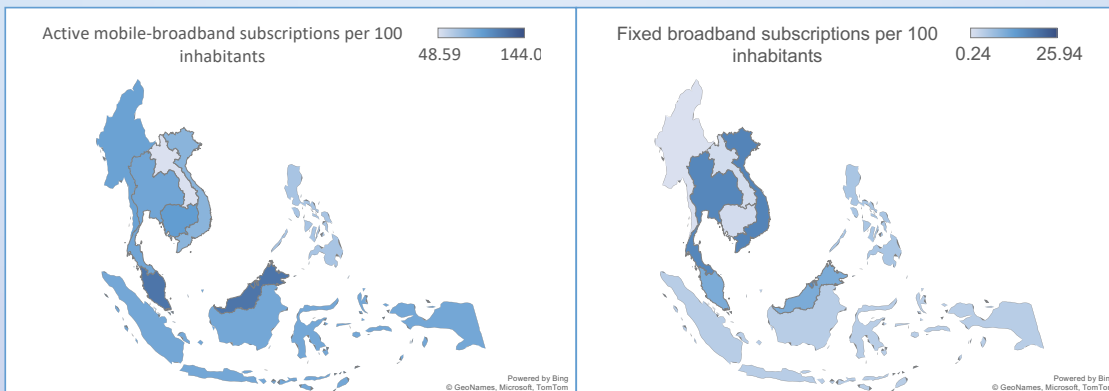
11

International bandwidth per Internet user (MB/s)
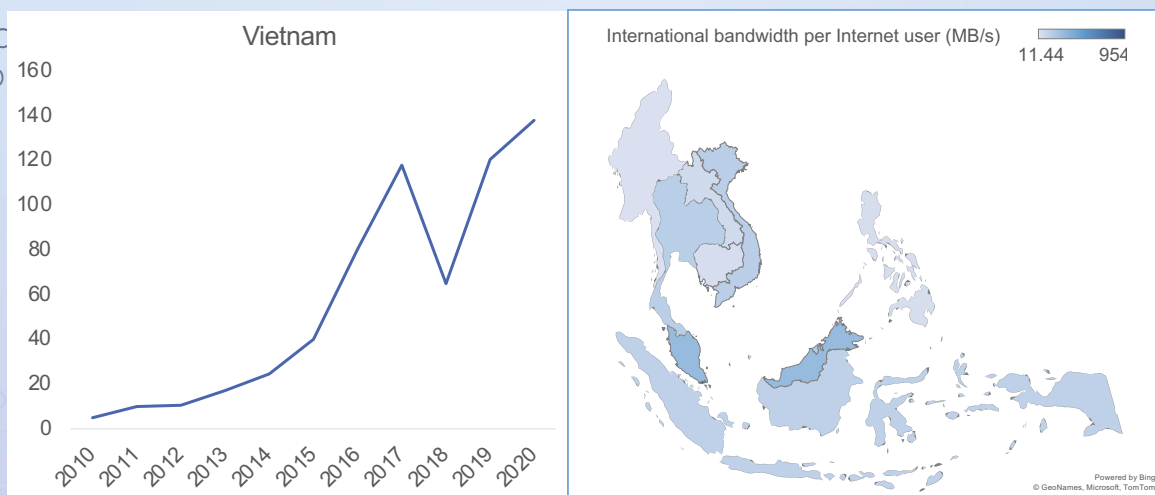
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Speedtest Global Index in Sep. 2021

Fixed Broadband speed (Mbps): Brunei 34.59, Cambodia 28.32, China 196.57, Indonesia 27.83, Laos 48.16, Malaysia 107.55, Philippines 71.85, Singapore 255.83, Thailand 225.17, Vietnam 78.34

Mobile speed (Mbps): Brunei 67.32, Cambodia 23.75, China 165.38, Indonesia 23.12, Laos 30.93, Malaysia 31.34, Philippines 35.03, Singapore 105.01, Thailand 56.9, Vietnam 43.32

■ Fixed Broadband speed (Mbps)
■ Mobile speed (Mbps)

https://www.speedtest.net/global-index/vietnam#mobile

Rank - Mobile speed (Mbps) 17 62.5 108

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Rank - Fixed Broadband speed (Mbps) 2 59 116
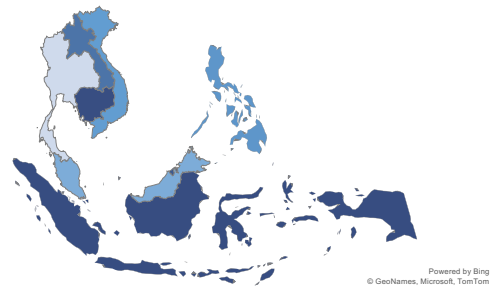
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Vietnam's Digital infrastructure

■ Households with Internet access at home (%)

Households with a computer at home (%)
Households with Internet access at home (%)
Internet users (millions)
Internet penetration rate (% of the total population)

Brunei Darussalam 53.59, Cambodia 73.60, Indonesia 78.18, Laos, Malaysia 91.71, Myanmar, Philippines 17.65, Singapore 98.44, Thailand 85.20, Viet Nam 74.80

Source: https://itu.int/data
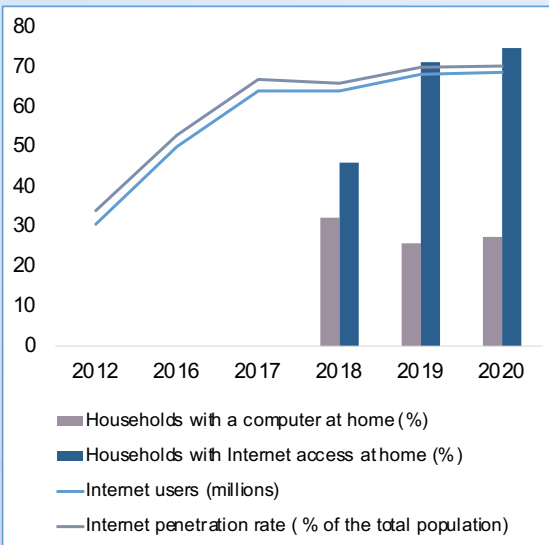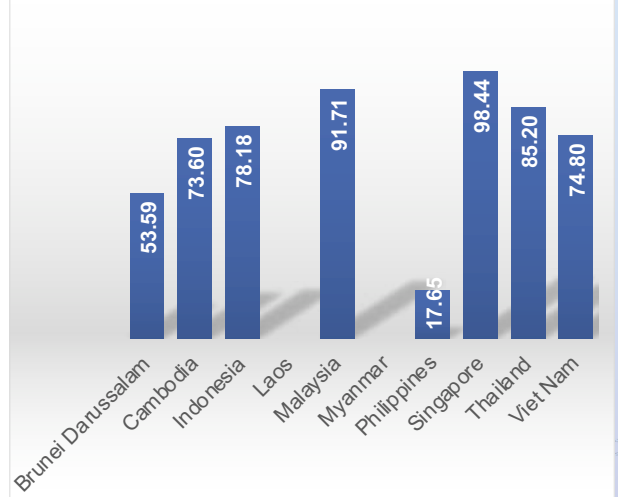
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ICT Price baskets (IPB)

Viet Nam	2018	2019	2020	Rank 2020
Fixed broadband basket as a % of GNI p.c.	3.65	3.65	3.92	102
Mobile broadband basket as a % of GNI p.c.	1.11	1.11	1.04	71
Mobile cellular basket as a % of GNI p.c.	2.66	2.66	1.96	79
Mobile data and voice basket (high consumption) as a % of GNI p.c.	2.17	2.17	1.87	115
Mobile data and voice basket (low consumption) as a % of GNI p.c.	1.99	1.99	1.87	92

Source: https://itu.int/data

ICT Price baskets in 2020	Fixed broadband basket as a % of GNI p.c.	Mobile broadband basket as a % of GNI p.c.	Mobile cellular basket as a % of GNI p.c.	Mobile data and voice basket (high consumption) as a % of GNI p.c.	Mobile data and voice basket (low consumption) as a % of GNI p.c.
Brunei Darussalam	0.96	0.28	0.32	0.95	0.59
Cambodia	12.16	1.62	4.95	10.99	5.19
Indonesia	10.93	1.33	1.83	2.43	1.33
Lao P.D.R.	8.31	2.37	3.5	9.43	4.63
Malaysia	2.19	0.91	0.63	1.19	0.99
Myanmar	11.55	1.04	0.84	2.52	1.07
Philippines	7.85	1.36	3.01	2.9	2.9
Singapore	0.74	0.37	0.37	0.37	0.37
Thailand	3.29	1.18	0.57	2.66	1.6
Viet Nam	3.92	1.04	1.96	1.87	1.87

Source: https://itu.int/data

Vietnam's Digital infrastructure

Digital infrastructure in Vietnam is being developed rapidly, but it is mainly concentrated in urban areas.

The number of broadband subscribers and the level of bandwidth per internet user in Vietnam is increasing, but the broadband speed is average globally.

Regardless of income or geographic location, almost every Vietnamese household owns a mobile phone, but access to more expensive technologies is unequal and costly.

Digital platforms

Digital platforms offer products and services, accessible through digital channels, such as mobile devices, computers, and the internet.

- Digital platforms facilitate digital exchange and transactions, enabling producers and users to create value by interacting with each other.
- Governments operate digital platforms to offer citizen-facing government services and share information.
- Commercial firms and non-profit foundations also operate digital platforms to offer a growing array of products, services and information.

4 leading online-to-offline (O2O) platform sectors:

- e-Commerce, Transport/Ride Hailing; Food Delivery; Digital Financial Services (Education; Healthcare)
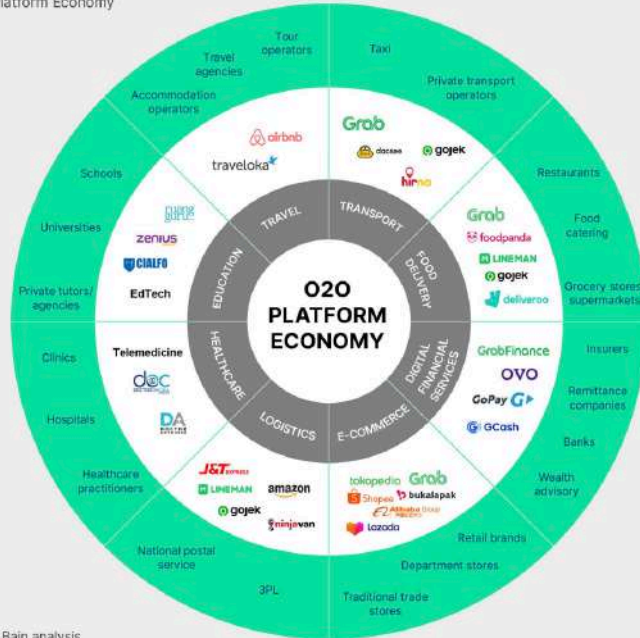
Southeast Asia's O2O Platforms

Source:
https://fintechnews.sg/56844/fintech/southeast-asias-o2o-platforms-reach-mainstream-acceptance/

Figure 3
SEA's Platform Economy

Source: Bain analysis

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Key benefits and opportunities of Platforms

Improved consumer options and experience	New livelihood & income opportunities	Rising MSME reach and productivity	Digital payment infrastructure and financial inclusion	Accelerated logistics infrastructure development	Technology ecosystem building and innovation
8 in 10 consumers have more options using Platforms	5M Grab Driver-partners as of Dec 2020	8 in 10 MSMEs have greater reach through Platforms	>70% Digital lending users did not have prior access to loans	US$ 3B+ investment in SEA-6 e-comm logistics (2019-Q1 2021)	1,000+ start-ups 'founded by' 1st gen SEA Platforms

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E-commerce platforms IN VIETNAM

International e-marketplaces such as Singapore's Shopee and Alibaba-owned Lazada currently hold the leading positions within the Vietnamese e-commerce market.

There has been an increasing number of newly registered Vietnamese e-commerce sites, especially in the form of e-marketplaces. Local brand The Gioi Di Dong has emerged as one of the most popular e-commerce sites in recent years, specializing in consumer electronics and IT devices.

Top 5 websites ranking for e-commerce and shopping in Vietnam in Sep 2021: Shopee.vn, Lazada.vn, Tiki.vn, chotot.com, bachhoaxanh.com (https://www.similarweb.com/top-websites/vietnam/category/e-commerce-and-shopping/)

Vietnam's e-commerce (B2C) revenue
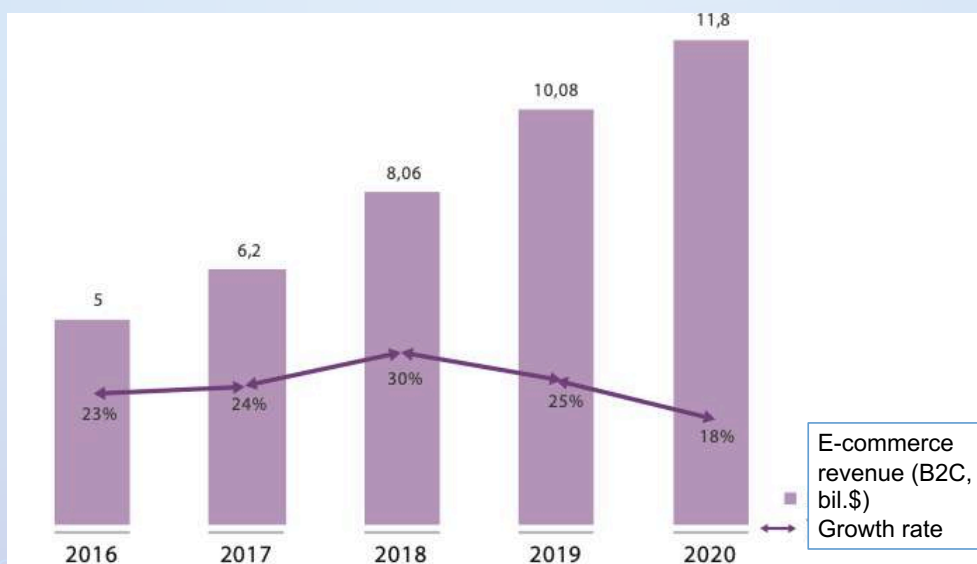
Source: The White Book on Vietnamese E-commerce 2021

ASEAN e-commerce

Country	Number of people purchasing consumer goods via the internet	Total value of the consumer goods ecommerce market	Annual growth in the total value of the consumer goods ecommerce market	Online consumer goods purchases average annual spend per user
Singapore	3.07 mil.	$2.41 bil.	(+32.4%)	**$785**
Indonesia	138.1 mil.	$30.31 bil.	(+49.0%)	$219
Malaysia	13.10 mil.	$4.46 bil.	(+37.3%)	$341
Philippine	38.88 mil.	$3.55 bil.	(+42.5%)	$91
Thailand	33.67 mil.	$7.29 bil.	(+42.8%)	$216
Vietnam	45.60 mil.	$6.03 bil.	(+36.3)	**$132**

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ASEAN e-commerce main category

| Main category	Travel, mobility, accommodation	Fashion & beauty	Electronics & physical media	Food & personal care	Furniture & appliances	Toys, diy & hobbies	Digital music	Video games
Singapore	$2.26 bil. (-47.4)	$522.9 mil. (+31.1)	$570.4 mil. (+31.0)	$592.5 mil. (+37.0)	$473.2 mil. (+31.0)	$246.5 mil. (30.7)	$49.34 mil. (+39.7)	$179.8 mil. (+21.0)
Indonesia	$6.02 bil. (-45.8)	$9.81 bil. (+50.7)	$6.91 bil. (+38.9)	$4.66 bil. (+61.3)	$4.48 bil. (+47.8)	$4.44 bil. (+51.5)	$199.5 mil. (+35.1)	$1.68 bil. (+31.1)
Malaysia	$2.65 bil. (-50.9%)	$1.42 bil. (+43.7%)	$1.17 bil. (+35.1%)	$449.1 mil. (+38.4%)	$586.2 mil. (+37.0%)	$836.6 mil. (+30.4%)	$19.82 mil. (+32.4%)	$355.3 mil. (+22.2%)
Philippine	$3.01 bil. (-53.8)	$652.7 mil. (+28.0)	$955.4 mil. (+37.4)	$483.5 mil. (+64.3)	$845.0 mil. (+46.3)	$609.1 mil. (+47.8)	$23.48 mil. (+41.1)	$1.27 bil. (+30.8)
Thailand	$3.38 bil. (-43.4)	$710.7 mil. (+35.1)	$2.40 bil. (+24.2)	$2.34 bil. (+74.3)	$438.9 mil. (+37.0)	$1.40 bil. (+42.4)	$83.10 mil. (+28.2)	$389.7 mil. (+25.0)
Vietnam	$3.18 bil. (-40.5%)	$1.44 bil. (+37.2%)	$1.57 bil. (+32.6)	$1.02 bil. (+45.9)	$1.09 bil. (+33.6)	$917.1 mil. (+34.9)	$16.15 mil. (+33.2)	$215.0 mil. (+35.3)

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Digital platforms IN VIETNAM

17% 2019
22% 2020
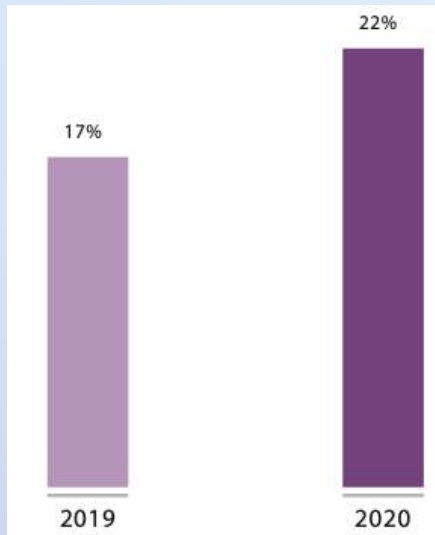
Percentage of enterprises participating in e-commerce platforms in Vietnam

24.247 29.370 36.451

Notified

1.091 1.191 1.525

Confirmed

2020
2019
2018

The number of e-commerce websites and applications has been notified and confirmed by the Ministry of Industry and Trade

Source: The White Book on Vietnamese E-commerce 2021

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Digital platforms in VIETNAM
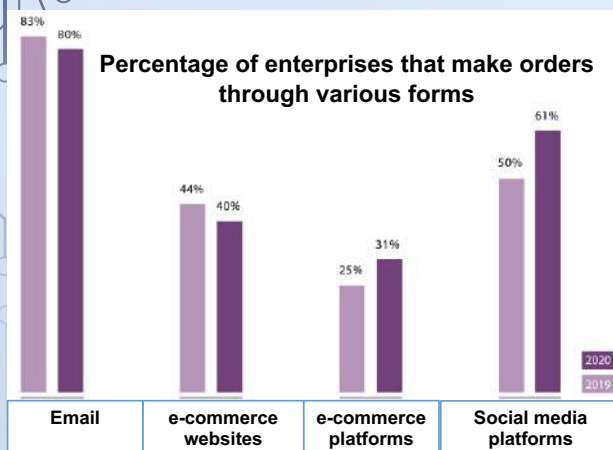
Percentage of enterprises that make orders through various forms

83% 80% Email
44% 40% e-commerce websites
25% 31% e-commerce platforms
50% 61% Social media platforms

2020
2019
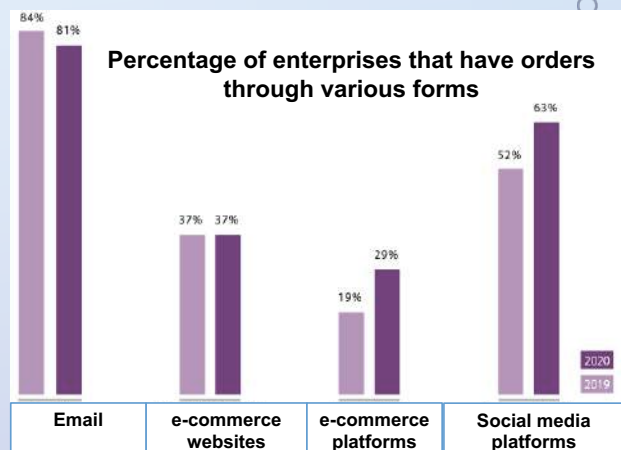
Percentage of enterprises that have orders through various forms

84% 81% Email
37% 37% e-commerce websites
19% 29% e-commerce platforms
52% 63% Social media platforms

2020
2019

Source: The White Book on Vietnamese E-commerce 2021

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Digital platforms IN VIETNAM

Social media platforms:

- YouTube (92%), Facebook (91.7%), Zalo (76.5%), FB Messenger (75.8%), Instagram (53.5%) and Tikok (47.6%)

Ride – Hailing market (Grab, goViet, BE, etc.)

- In 2020, there were 5.38 million using digitally enabled ride-hailing services with a total value of $575.8 million → $107 per user of digitally enabled ride-hailing services
- Annual growth in the total value was -30.9% in 2020 due to the pandamic

Source: https://datareportal.com/reports/digital-2021-vietnam

DIGITALLY ENABLED RIDE-HAILING MARKET & FOOD DELIVERY MARKET

Country	Number of people using digitaly enabled ride-hailing services	Total value of the digitally enabled ride-hailing market	Annual change in the total value of the digitally enabled ride-hailing market	Digitally enabled ride-hailing services: average annual revenue per user	Number of people using online services to order take-away food delivery	Total value of the online food delivery market	Annual change in the total value of the online food delivery market	Online food delivery services: average annual revenue per user
Singapore	1.12 mil.	$389.2 mil.	-39.4%	**$348**	2.40 mil.	$464.2 mil.	+35.7%	**$194**
Indonesia	15.79 mil.	**$1.14 bil.**	(-43.1%)	$72	37.34 mil.	**$1.95 bil.**	(+35.2%)	$52
China	237.8 mil.	**$21.63 bil.**	(-44.3%)	$91	410.8 mil.	**$51.51 bil.**	(+28.0%)	**$125**
Malaysia	1.90 mil.	$125.2 mil.	(-41.8%)	$66	6.86 mil.	$211.4 mil.	(+45.9%)	$31
Philippine	2.13 mil.	$132.0 mil.	(-50.7%)	$62	8.83 mil.	$247.2 mil.	(+48.5%)	$28
Thailand	3.64 mil.	$347.1 mil.	(-33.6%)	$95	9.97 mil.	$274.5 mil.	(+38.2%)	$28
Vietnam	5.38 mil.	$575.8 mil.	(-30.9)	**$107**	9.53 mil.	$302.1 mil.	(+45.9)	$32

Digital platforms IN VIETNAM

Digital platforms are mainly used to streamline simple business functions such as business administration, sales, and payment methods
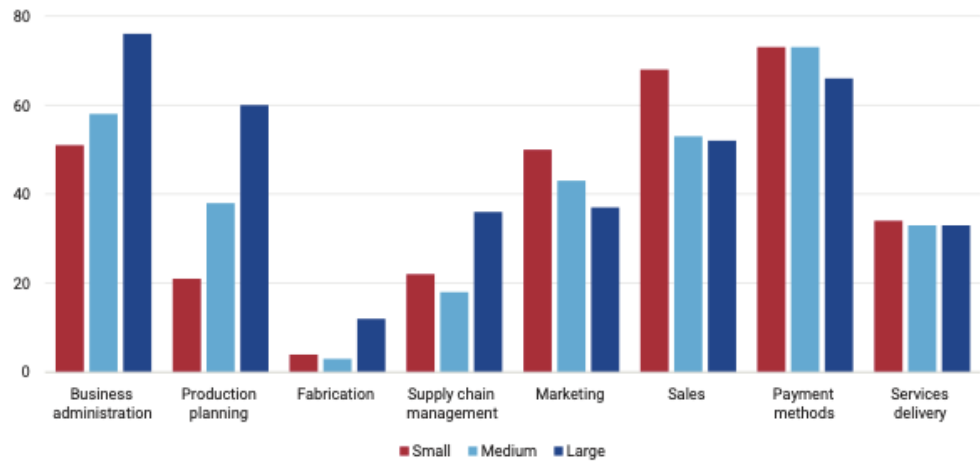
Uptake of digital platforms is still mainly focused on simpler business functions

Source: World Bank, 2021

Vietnam's Digital financial services

Digital financial services (DFS) are a critical enabler of a digital economy, when supporting digital infrastructure is available. DFS covers financial products and services, including payments, transfers, savings, credit, insurance, securities, financial planning, and account statements.

DFS are delivered via digital/electronic technology, including through a payment card, online, or via a mobile phone; various instruments may be linked to e-money or traditional bank accounts.

DFS can provide individuals and households with convenient and affordable channels through which to make and receive payments, as well as to save and borrow. Firms can leverage DFS to more easily transact with their customers and suppliers, as well as to build digital credit histories and seek financing. Governments can use DFS to increase efficiency and accountability in various payment streams, including for disbursement of social transfers, and receipt of tax payments.
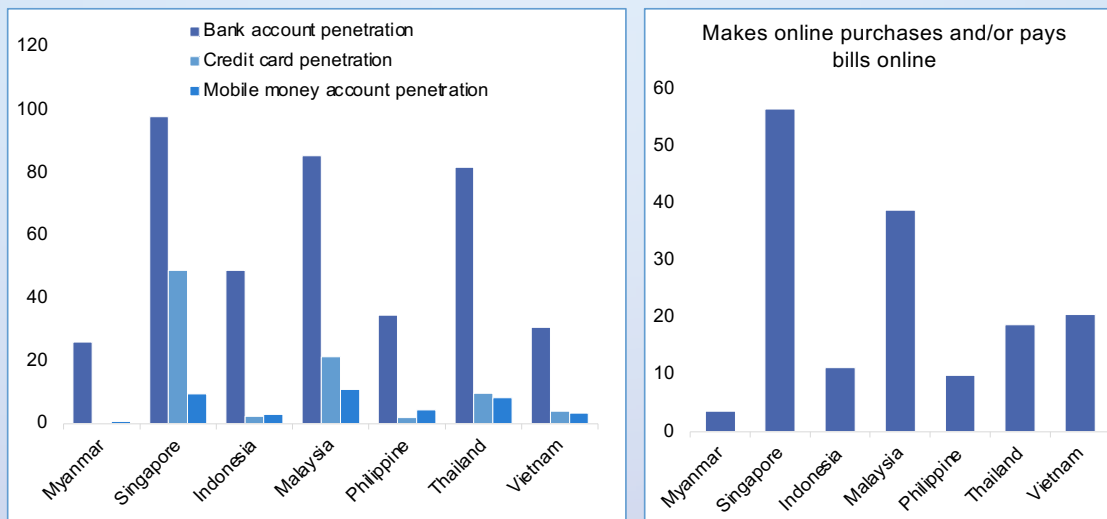
Vietnam's Digital financial services

Digital financial services indices	2017	2018	2019	2020
Bank account penetration (% of the population aged +15)	31	31	30	30.8
Credit card penetration (% of the population aged +15)	2	4.1	4.1	4.1
Mobile money account penetration (% of the population aged + 15)	0.5	3.5	3.5	3.5
Commercial bank branches per 100,000 adults[2]	3.45	3.91	3.98	4.0
ATMs per 100,000 adults[2]	24.59	25.32	25.90	26.26

Source: Digital 2016, 2017, 2018, 2019, 2020, 2021 [2] World Bank Data 2021

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Source: Digital 2021

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Digital payments in Vietnam

Transaction value

- Mobile POS payments (mil.$)
- Digtal Commerce (mil.$)

Year	Mobile POS payments	Digital Commerce
2017	124	6775
2018	448	8375
2019	899	10174
2020	1622	9985
2021	2149	12922
2022	2681	15491
2023	3216	17894
2024	3752	20137
2025	4323	22056

Number of user (mil.)

- Digtal Commerce
- Mobile POS payments

Year	Digtal Commerce	Mobile POS payments
2017	26.3	5.2
2018	34.2	12.4
2019	39.6	18.4
2020	45.6	26.4
2021	51.8	29.1
2022	57.6	31
2023	63	32.5
2024	66.9	33.7
2025	70.9	34.9

Transaction value per user ($)

- Digtal Commerce
- Mobile POS payments

Year	Digtal Commerce	Mobile POS payments
2017	257.9	23.7
2018	244.6	36.3
2019	256.8	48.8
2020	219	61.3
2021	249.6	73.9
2022	268.8	86.4
2023	284.1	98.9
2024	301.1	111.5
2025	311.1	124

Source: https://www.statista.com/outlook/dmo/fintech/digital-payments/vietnam

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E-wallet and mobile banking in Vietnam

Transaction value of e-wallet in Vietnam (bil.$)

Year	Value
2015	0.9
2016	1.4
2017	2.3
2018	4.9
2019	10.4
2020	14

Transaction value of mobile banking in Vietnam (bil.$)

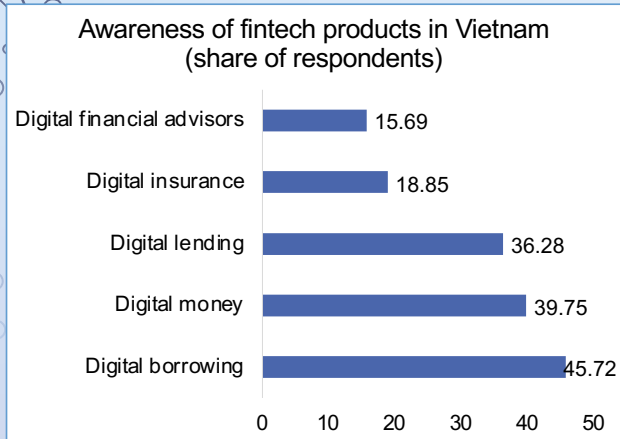| Year	Value
2015	5.6
2016	13
2017	29
2018	77.4
2019	240
2020	
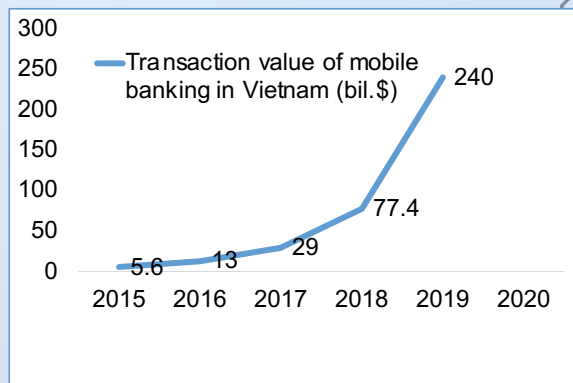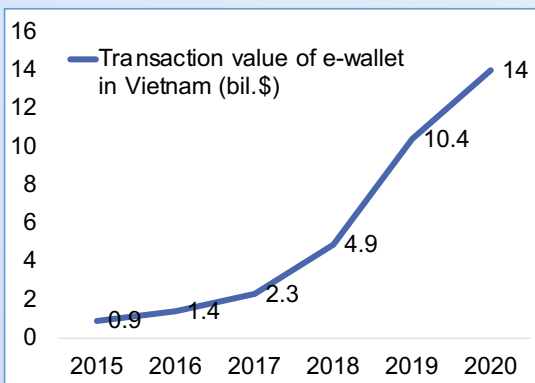
The rate of users pay with their phones in Vietnam is estimated at 29.1%, the third-highest in the world. However, the amount of money spent by each customer is low, estimated at only 74 USD per one transaction in 2020.

Source: https://www.statista.com/outlook/dmo/fintech/digital-payments/vietnam

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Vietnamese people have a lack of understanding of financial services

Awareness of fintech products in Vietnam
(share of respondents)

Product	Value
Digital financial advisors	15.69
Digital insurance	18.85
Digital lending	36.28
Digital money	39.75
Digital borrowing	45.72

(scale: 0 10 20 30 40 50)

Source:
https://www.statista.com/outlook/dmo/fintech/digital-payments/vietnam

Country	Adults who are financially literate (%) 2014
Cambodia	18
Indonesia	32
Malaysia	36
Myanmar	52
Philippines	25
Singapore	59
Thailand	27
Viet Nam	24

https://gflec.org/wp-content/uploads/2015/11/3313-Finlit_Report_FINAL-5.11.16.pdf?x63881

Vietnam's Digital financial services

Vietnam has great potential to develop DFS

- the product or service online purchase penetration in Vietnam has seen strong growth, from 39% of internet users in 2016 to 78.7% in 2020.
- In 2020, there were 36.23 million people who made digitally enabled payment transactions with a total value of $8.61 billion

The application of new technology in banking and financial services is highly encouraged in Vietnam

Digital entrepreneurship

Digital entrepreneurship and innovation create an ecosystem that helps bring the digital economy to life, by spurring new, growth-oriented ventures, products, and services that leverage technology.

- By enabling the transformation of existing businesses, digital entrepreneurship contributes to net employment growth and helps to enhance competitiveness and productivity.

Digital entrepreneurship in a digital economy can be divided into two distinct categories, each with their characteristics: **1) digital start-ups, and 2) established digital businesses.**

- They serve as a critical foundation to enable traditional offline businesses (both large and MSMEs) to adopt new digital business models and digital technologies, creating positive spillover effects in the rest of the economy.

Digital entrepreneurship in Vietnam

The digital entrepreneurship ecosystem is nascent but dynamic

- Vietnam has invested significantly in science, technology, engineering and mathematics (STEM), digital and entrepreneurial education in-country.
- Vietnam has created new funds in key agencies from the National Technology Innovation Fund, to the National Agency for Technology, Entrepreneurship and Commercialisation Development.
- Most of Vietnam's start-ups are operating in the digital market → a promising future for digital entrepreneurs in online retail, logistics and payments locally and beyond Vietnam's borders
- Vietnam is the 3rd most active start-up ecosystem in ASEAN, behind Singapore and Indonesia
- Digital entrepreneurship is contributing to Vietnam's remarkably effective handling of the COVID-19 pandemic.

Source: http://digipencil.vn/wp-content/uploads/2017/12/rmit-apec-digital-entrepreneurship-report.pdf

# Digital entrepreneurship in Vietnam

Digital businesses are platform-based and data-driven firms that offer digital services or content, digital payments, or digital solutions to other businesses, notably start-ups and small firms that do not have the internal resources to develop these capacities on their own.

- Homegrown digital platform-based marketplaces, like Sendo and Tiki, compete with regional players like Lazada and Shopee.

But Vietnam has fewer digital businesses (around 250) than other East Asia and Pacific (EAP) countries, including Malaysia (450) or Indonesia (530). Vietnam's digital businesses are also operating in a smaller number of digital subsectors than other EAP countries (WB, 2021)

Main barriers to digital innovation in the private sector in Vietnam

Source: World Bank, 2021
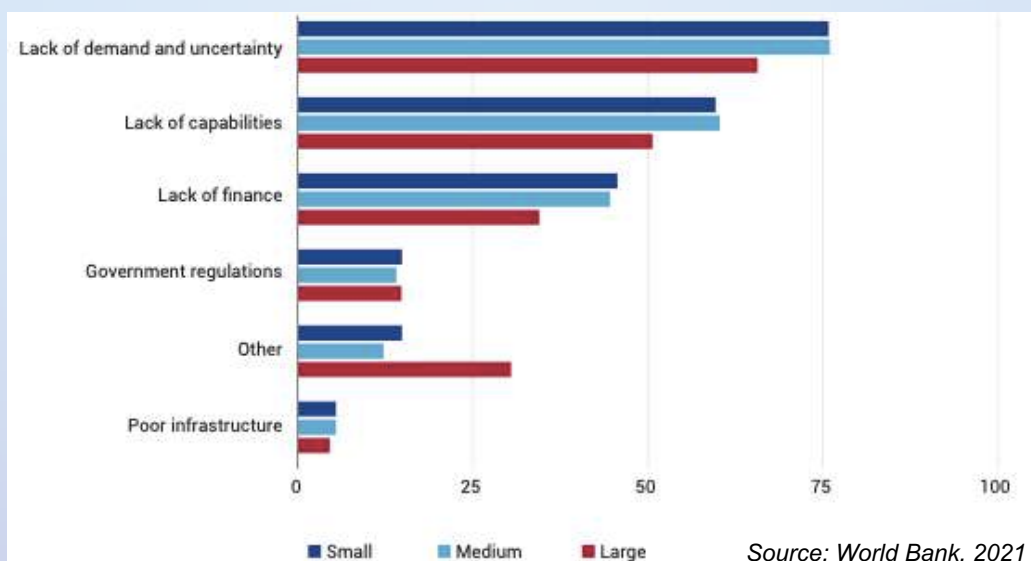
Digital skills

Economies require a digitally savvy workforce to build robust digital economies

- Digital skills constitute technology skills, together with business skills for building or running a start-up or enterprise.
- Greater digital literacy enhances the adoption and use of digital products and services amongst the larger population.

Vietnam's workforce lacks the necessary skills to fully *harness* the digital economy

- Many enterprises lack regular practice using ICT software and systems.
- Only 40% of businesses report adequate ICT skills to maintain and fully use their digital systems, and the skill shortage is projected to reach 1 million ICT workers by 2023 (WB, 2021)
- This talent shortage has been exacerbated by the brain drain of many local skilled workers to overseas markets.

Vietnam

- **Regional Leader**
- **Requires Development**
- **Lagging**

People, Skills and Education

A Conducive Skilled Visa Policy Environment for Entrepreneurs

Availability of Expertise and Mentorship

Current Skills Availability

Math and Science Education (Primary and Secondary)

Vietnam receives average scores in both the government's capacity to regulate online content and the legal framework's adaptability to digital business models (WB, 2021)

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ICT Skills in Vietnam
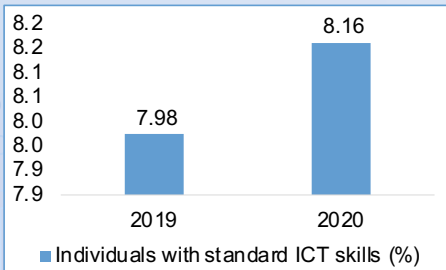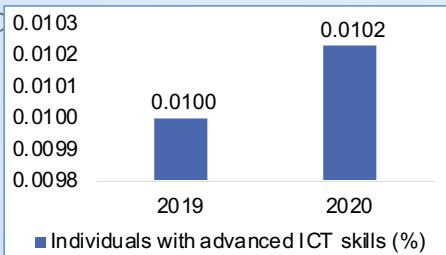
# Specialized skills in ITC - E-commerce which are difficult to recruit in Vietnam

Individuals with advanced ICT skills (%)
- 2019: 0.0100
- 2020: 0.0102

Individuals with standard ICT skills (%)
- 2019: 7.98
- 2020: 8.16

Percent of enterprises participating the survey

- Online payment implementation skills: 28
- E-commerce project planning and implementation skills: 34
- Online marketing skills: 37
- Database management skills: 40
- Installing modes, applications, and fixing common computer…: 45
- Exploiting and using e-commerce applications skills: 45
- Website e-commerce trading floor management skills: 46

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ICT Skills in ASEAN

ICT Skills in 2020	Individuals with basic ICT skills (%)	Individuals with standard ICT skills (%)	Individuals with advanced ICT skills (%)
Brunei Darussalam	56.96033	39.5309109	27.6887432
Cambodia	29.2186782	4.6912001	1.35622407
Indonesia		25.272222	3.52657441
Malaysia	51.6658526	41.5704561	11.1131426
Philippines			0.67007677
Singapore	53.5137571	40.3283493	8.21618399
Thailand	16.8507029	9.53948451	1.01591787
Viet Nam		8.16118865	0.01023235

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Maturity of Vietnam's Digital Economy
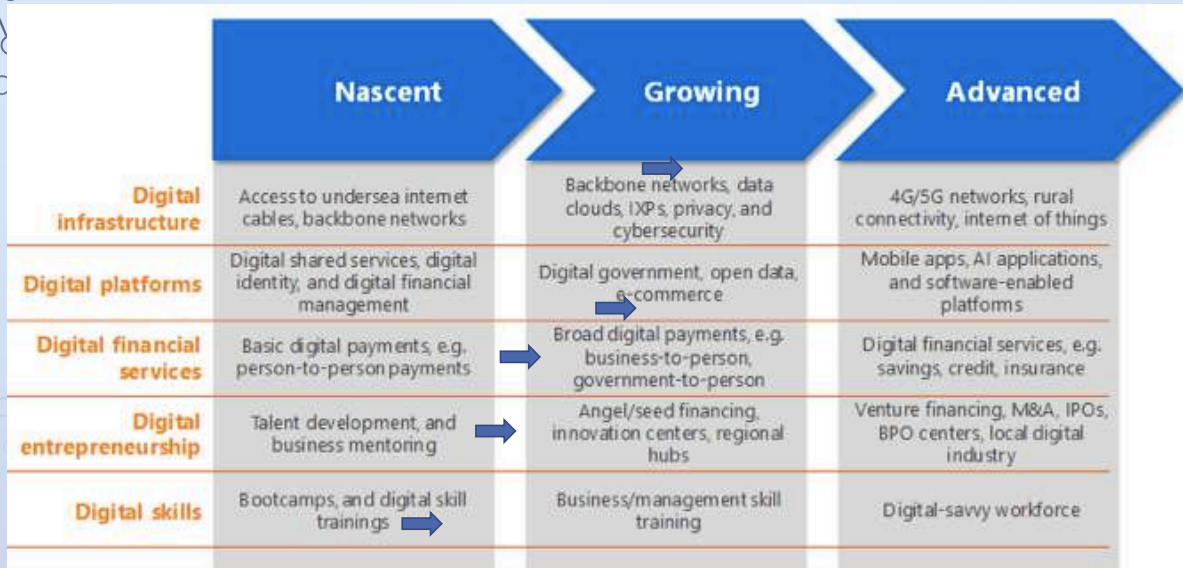
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Where is Vietnam in the global digital race today?

Connect · Build digital foundations and enablers (digital ID, digital payment, data analytics, etc.) and ensure system comparability and interoperability

Harness · Invest in analog complements: regulations, skills/literacy, and leadership and institutions

Innovate · Create and expand new economy services, business models, digital entrepreneurs, and e-government

Protect · Mitigate risks: cybersecurity and privacy, mis-information, inequality of opportunities, automation, and digital monopoly

Vietnam performs well compared to its peers and even to the aspirational countries, in some areas, but exhibits significant weaknesses in other areas.

The country appears to have done well in terms of connectivity, as it is highly ranked in terms of even though the speed ofmobile phone and internet penetration, connections is lagging that in more advanced countries.

Vietnam is also making progress in the use of new digital tools by businesses and government, even if those are mainly used for basic functions

Vietnam's performance is relatively weak in harnessing and protecting users and ranks toward the bottom of Harness and Protect

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Vietnam's future digital economy: 4 Scenarios

Cameron A, Pham T H, Atherton J, Nguyen D H, Nguyen, T P, Tran S T, Nguyen T N, Trinh H Y & Hajkowicz S (2019). *Vietnam's future digital economy – Towards 2030 and 2045*. CSIRO, Brisbane.

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Vietnam's digital economy in future

VISION BY 2030

Vietnam becomes a digital country characterized by stability and prosperity and a pioneer in experimenting with novel technologies and models; the management and administration activities of the Government, the production and business practices of enterprises and the way people live and work are renovated fundamentally and comprehensively; the established digital environment is safe, humane and all-encompassing

Major targets by 2025 and 2030 in Vietnam's digital economy

Targets	By 2025	By 2030
Digital economy (per cent of GDP)	20 %	30 %
Digital economy forms of each sector	at least 10 %	at least 20 %
Annual productivity	7 %	8 %
Ranked on the ICT Development Index (IDI)	in the top 50	in the top 30
Ranked on the Global Competitiveness Index (GCI)	in the top 50	in the top 30
Ranked on the Global Innovation Index (GII)	in the top 35	in the top 30
Ranked on the Global Cybersecurity Index (GCI)	in the top 40	in the top 30
Coverage of Fiber optic internet infrastructure	more than 80 % of households and 100 % of communes	nationwide
Broadband service and smartphones	Nationwide 4G/5G service	Nationwide 5G service
Digital checking account (% of the population)	More than 50 %	More than 80 %

Source: Decision No. 749/QD-TTg dated June 03, 2020, by the Prime Minister

Recommendations for Vietnam's future digital economy

First, further complete the framework for the effective implementation of the digital economy.

Second, increase investment in science and technology to modernise and synchronise digital technology.

Third, invest more in systematic e-learning and train high-quality human resources.

Fourth, motivate data-driven e-government and enterprises' proactiveness and innovation

Last, develop a cyber insurance market to help businesses recover financially when a cyber incident happens.

Thank you
for your attention!

Presentation 4
E-COMMERCE AND UPGRADING IN THE GARMENT AND TEXTILE INDUSTRY: THE LESSONS FROM CHINESE MARKET AND IMPLICATIONS FOR VIETNAMESE FIRMS

M.Sc. Dinh Van Hoang

Foreign Trade University, Hanoi, Vietnam

E-COMMERCE AND UPGRADING IN THE GARMENT AND TEXTILE INDUSTRY: THE LESSONS FROM CHINESE MARKET AND IMPLICATIONS FOR VIETNAMESE FIRMS

By MSc. Dinh Van Hoang
Foreign Trade University, Hanoi, Vietnam

CONTENTS

1. Introduction
2. Literature Review and Analytical Framework
3. Vietnamese Apparel Value Chain and E-commerce Status
4. Discussion
5. Conclusion
6. Practical Implications
7. References

1. INTRODUCTION

1.1 Research Background:

▪ Vietnam's garment and textile industry has been under development since 1990 and has become increasingly important in Vietnam's economic growth (Dinh & Dang, 2011).

  ➢ Garment export value in 2020: *35,2 billion USD*; in 2009: *8,5 billion USD*; in 2004: *4,2 billion USD* (VCYA, 2021)

▪ But, heavily dependent on external sources of supply.

▪ So the added value in each product is low and thus low production efficiency.

▪ E-commerce sales in Vietnam has been developing at a similar pace as world e-commerce sales and faster than GDP (World Bank, 2021).

  ➢ (In 2020, e-commerce market value: almost *12 billion USD*, equal to *2.5 % of GDP* with around *53% of population* shopping online).

---

1. INTRODUCTION

1.2 Research Abstract:

▪ **Objective**: clarify impacts of e-commerce on upgrading in apparel value chain, thus give practical implications for Vietnamese apparel firms.

▪ **Research method**: qualitative method and case study analysis.

▪ **Research data**:
  ✓ *Secondary data:* to present the facts of Vietnam's textile and garment industry & the position of Vietnamese apparel value chain and e-commerce adoption status
  ✓ *Primary data:* collected via direct interviews with the Vietnamese case study to highlight the impacts of e-commerce on upgrading.

▪ **Findings**: e-commerce facilitates apparel firms with functional upgrading and end market upgrading

▪ **Outline**:
  ✓ *First*, summarize the growth and adoption of e-commerce in Vietnam.
  ✓ *Second*, focus on hostically analysing the impacts of e-commerce on the apparel value chain, especially industial upgrading.
  ✓ *Third*, analyze case studies and draw practical implications for Vietnamese apparel firms.

2. LITERATURE REVIEW AND ANALYTICAL FRAMEWORK

2.1 The value chain:

- **Terms:** *"Value system"* (Porter, 1985), *"Value stream"* by (Womack & Jones, 1996), *"global commodity chains"* (Gary Gereffi & Korzeniewicz, 1994).
- **Global value chain (GVC) framework:** examines how a given industry is organized through the analysis of the structure and dynamics of various factors related to global transactions, especially the focus on nature and content of the linkages that span international borders (Gary Gereffi, 2010; Gibbon, Bair, & Ponte, 2008).
- **Four dimensions of GVC analysis:** geographic scope, governance, upgrading and local institutional context (G Gereffi & Fernandez-Stark, 2016).
- **The governance structure:** how the value chain is controlled by the firm and more specifically how the power relationships determine the allocation and flow of financial and human resources in a chain (Gary Gereffi, 1999).
- ***In the apparel industry:***
  - ✓ Lead firms are able to collect and process information, thus stay at a strong bargaining position (Coe, Hess, Yeung, Dicken, & Henderson, 2004; Gary Gereffi, 1997).
  - ✓ Suppliers upgrade within production, but face discouragement and even obstacles: *design, marketing activities, branding and retailing* (Bair & Gereffi, 2001; Tokatli, 2007).

2. LITERATURE REVIEW AND ANALYTICAL FRAMEWORK

2.2 Upgrading in the apparel value chain

Upgrading type in apparel value chain
Source: Frederick & Gereffi, 2011

Upgrading type	Description
Product upgrading	Shift to more sosphiticated products with higher unit prices: Basic => Functional (R&D).
Process upgrading	Reduce cost, increase efficiency by reorganizing the manufacturing system or investing in new machinary or logistics technology.
Functional upgrading	Apparel manufacturers increase the range of functions and have responsibility for higher value activities; a switch from manufacturer to service provider may occur: CMT => OEM => ODM => OBM.
End market upgrading	Diversifying to new buyers or new geographic or product market.
Chain upgrading	Diversifying to other industries.

2. LITERATURE REVIEW AND ANALYTICAL FRAMEWORK

2.3 E-commerce in the apprel value chain:

▪ E-commerce is not limited to buying and selling online, but includes all pre-sales and after-sales activities (Slavko, 2016).

▪ In the era of e-commerce, *the relationship between GVC lead firms possibly changes* (Li, Frederick, & Gereffi, 2019).

▪ *Internet-engaged consumers and platform companies* exist, impacting on the nature of traditional producer and buyer in the GVC framework (Rehnberg & Ponte, 2018).

▪ In the "two-sided market" created by internet-based platform companies: *Consumers are the demand side* while *e-commerce-focused apparel firms are the supply side* of the new market (Parker & Van Alstyne, 2018).

---

2. LITERATURE REVIEW AND ANALYTICAL FRAMEWORK

2.3 E-commerce in the apprel value chain

▪ *Governance in the e-commerce era* (Parker & Van Alstyne, 2018):

(1) The displacement of traditional place-based retailers by online sales.

(2) Internet-based platform companies create two-sided markets linking consumers directly with a wide range of decentralised producers.

▪ *Three impacts of e-commerce on apparel industry* (Li et al., 2019):

(1) Online marketplace allows small businesses and individuals to sell online.

(2) Specialised online retail sites sell certain category items.

(3) Online-to-offline e-commerce (O2O) using online channels to increase and then drive consumers into offline stores.

Digital and analytics can transform domains in every part of the apparel value chain
Source: Gonzalo, Harreis, Altable, and Villepelet (2020)

Customer experience (front)
● Seamless omnichannel experience
● Personalized customer journeys, activations, and promotions to maximize customer value
● Prescriptive merchandising optimization
● Online artificial-intelligence-powered sales associates
● Markdown optimization powered by advanced analytics (AA)
● Shelf, format, and macro space optimization
● Store of the future

Supply chain and distribution (middle)
● Allocation of new collection merchandise (no sales historical record)
● AA-powered granular demand forecasting and replenishment
● IoT-enabled warehouse optimization and automation
● Optimal warehouse picking and slotting
● End-to-end digitized supply-chain planning
● AA-powered network, transport, and route optimization
● Platform for last-mile delivery

Product development and support functions (back)
● Digital collection development and management
● End-to-end digitized product management (including design, virtual sampling, production visibility)
● Digitized and robotized finance and back-office processes
● Talent and HR analytics

3. VIETNAMESE APPAREL VALUE CHAIN AND E-COMMERCE STATUS

3.1 Vietnam's garment and textile industry:

✓ *Import-intensive* as a result of heavy dependence on the foreign source of inputs and uncompetitive, particularly in terms of quality (Goto, 2012).

Top 10 countries importing textile fibers
Source: WTO, 2021

STT	2015	2016	2017	2018	2019	2020
1	EU	EU	EU	EU	EU	EU
2	US	US	US	US	US	US
3	China	China	China	China	VN	VN
4	VN	VN	VN	VN	China	China
5	Bangladesh	Japan	Bangladesh	Bangladesh	Bangladesh	Japan
6	Hongkong	Hongkong	Japan	Japan	Japan	UK
7	Japan	Bangladesh	Hongkong	Hongkong	UK	Bangladesh
8	Mexico	Mexico	Turkey	Indonesia	Indonesia	Canada
9	Turkey	Turkey	Mexico	Mexico	Hongkong	Korea
10	Indonesia	Indonesia	Indonesia	Turkey	Mexico	Indonesia

✓ *Production on a contractual CMT* (cut, make and trim) basis with input provision from international buyers, which means a high degree of labor and low skill intensity (Goto, Natsuda, & Thoburn, 2011; Nadvi et al., 2004).

✓ *Functions of high added-value conducted by international lead firms*: procurement of input materials, designing, branding and marketing.

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3. VIETNAMESE APPAREL VALUE CHAIN AND E-COMMERCE STATUS

3.2 Vietnam's e-commerce:

✓ E-commerce has empowered *end customers with more impacts over firm activities* and has not only *assisted large manufacturers but also SMEs* (Li et al., 2019).

✓ E-commerce in Vietnam is expanding more rapidly than across the world. *(In 2020, Vietnam's ecommerce market value: around 12 billion USD, equal to 2,5% of GDP (World Bank, 2021)*

Growth in world and Vietnam e-commerce sales (%) and growth in Vietnam's GDP (%)

	Actual	Target / Forecast
Vietnam e-commerce sales:	Actual	Target
Vietnam GDP:	Actual	Forecast
World e-commerce sales:	Actual	Forecast
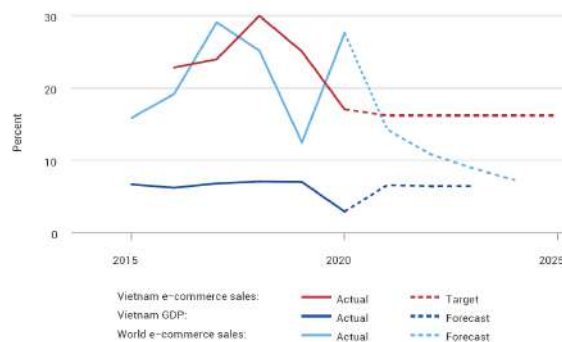
Source: (World Bank, 2021)

3. VIETNAMESE APPAREL VALUE CHAIN AND E-COMMERCE STATUS

3.2 Vietnam's e-commerce:

Vietnamese B2C E-commerce Revenue 2016-2020
(bil. USD)

	2016	2017	2018	2019	2020
The estimated number of online customers (mil. People)	32,7	33,6	39,9	44,8	49,3
The estimated shopping value per an online customer (USD)	170	186	202	225	240
The ratio of B2C e-commerce revenue over the total nationawide revenue of goods and service retail sales.	3%	3,6%	4,2%	4,9%	5,5%
The ratio of internet users	54,2%	58,1%	60%	66%	70%

Source: The White Book on Vietnamese E-commerce, 2021

Uptake of digital platforms is still mainly focused on simpler business functions
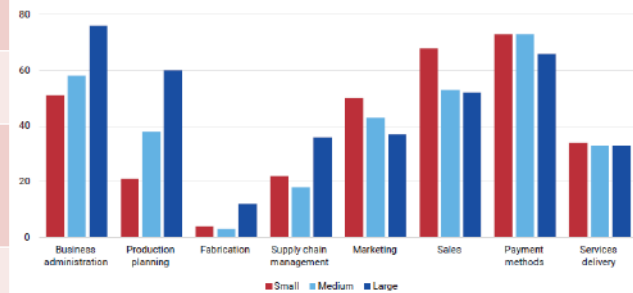
Source: World Bank, 2021

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4. DISCUSSION

4.1 Functional upgrading via e-commerce

- Given functional upgrading, small businesses face up to more obstacles to upgrading than larger ones because lead firms control intagible service activities of high added value: product development, design, marketing, brading and management (Frederick & Staritz, 2012).

- E-commerce changes the traditional marketing and logistics model of apparel industry in the digital era (Wei & Zhou, 2011).

- E-commerce enables apparel firms (Bruce & Daly, 2010):
  - ✓ Reduce the costs of purchasing
  - ✓ Manage supplier relationships efficiently
  - ✓ Streamline logistics and inventory
  - ✓ Plan production
  - ✓ Reach customers in a more effective way

Stage of functional upgrading in the apparel value chain
Source: Frederick, 2010

1. Firms in developing countries enter the value chain into the Assembly or Cut Make Trim (CMT) production segment;
2. By developing the necessary competencies in sourcing and direct distribution to retail outlets, firms and countries are able to upgrade to become full package or Original Equipment Manufacturer (OEM) suppliers.
3. By performing design functions, the full package supplier upgrades into stage 3. These suppliers carry out all steps involved in the production of a finished garment, including design, fabric purchasing, cutting, sewing, trimming, packaging, and distribution.
4. By incorporating branding of products, in addition to or in lieu of design and manufacturing, firms enter the Original Brand Manufacturer (OBM) stage of the value chain. In developing countries, firms typically enter this stage with brand development for products sold on their domestic or neighboring country markets.

4. DISCUSSION

4.1 Functional upgrading via e-commerce

Case study analysis:

❖*Case 1: Handu Company, China*
→ In 2006: set up as a small store on Taobao with around 40 employees, bridging the Korean apparel supplier and Chinese customers.
→ In 2008: first achievement by creating the first brand called Hstyle while conducting R&D and design, but outsourcing production
   ➢ Successful switch as a result of its experience gained via online retail platform.
→ In 2014: accelerated over well-known global brands-Uniqlo and Only in its domestic market.
→ The second upgrading: manufactured by itself for quality assurance.

   ➢ ***Roles of e-commerce*** (Li et al., 2019):
   ✓ *Enable the product teams to respond with the demand more quickly and cut various costs.*
   ✓ *Enable more direct interactions with consumers, linked to platform companies.*

---

4. DISCUSSION

4.1 Functional upgrading via e-commerce
Case study analysis:
❖*Case 1: Handu Company, China*

Handu's functional upgrading via e-commerce
Source: Li et al. (2019)
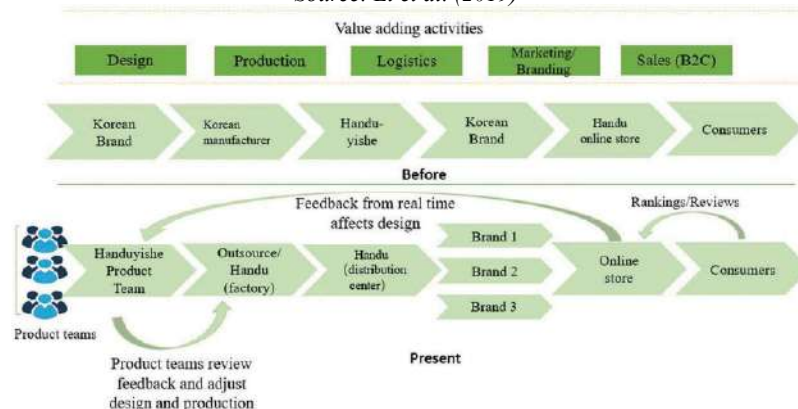
4. DISCUSSION

4.1 Functional upgrading via e-commerce
<u>**Case study analysis:**</u>
❖ *Case 2: A leading apparel manufacturer, Vietnam*
→ In 2014: set up but has experienced radical changes in upgrading and has become one of the fastest runners in the Vietnamese garment and textile industry.
→ Joint venture with a Japanese lead firm (34% owned by the Japanese lead firm) to conduct CMT-based production at the beginning.
→ Currently producing under CMT, FOB and ODM contracts at the same time, especially ODM contracts for domestic market and OBM for its own brand.
→ Growth path:
▪ First: upgraded its function successfully from CMT to ODM with the techinical support from the Japanese lead firm.
▪ Second: developed dual online and offline sales channels at the same time and has been able to produce its own brand products.
  ➢ ***Roles of e-commerce:***
  ✓ Help to collect end customers' feedback and reviews more quickly and then allow the firm to redesign its own products to meet the market demand.
  ✓ Conducting digital marketing campaigns facilitates to brand its own products easily at a lower cost.

4. DISCUSSION

4.2 End market upgrading via e-commerce

▪ End market upgrading here is diversifying to *new buyers or new geographic or product market* (Frederick & Gereffi, 2011).
▪ E-commerce provides *an alternative sales channel to reach new customers at a lower cost* (Li et al., 2019).
▪ *The case in China:*
  → Internet helps SMEs to enter the market easily while provideing a boost to leading brands in China by giving them greater market reach (Bain & Company, 2015).
  → Top Chinese brands are connecting online stores with physical ones to promote buyer engagement, in particular O2O methods to increase sales (Li et al., 2019).
▪ *The case in Vietnam:*
  → Shows the same results of end market upgrading with the help of e-commerce.
  → Diversified the end market by entering the domestic market instead of catering the Japanese market only.

5. CONCLUSION

- E-commerce clearly shows its role as a powerful new force in the global economy in this digital era.
- *Many models of e-commerce, varying depending on the relations between participants* in trade such as B2B, B2C, B2E, C2C, C2B (Slavko, 2016).
- The Covid-19 pandemic has elevated *digital channels as a must-have* for apparel firms, as e-commerce plays as *traffic and engagement generation engine* to digital and leverage digital channels to drive store traffic and vice versa (Gonzalo et al., 2020).
- E-commerce facilitates apparel firms to upgrade functionally, which matches the finding of Li et al. (2019).
  - ✓ Online platforms provide *a valuable source of information, feedback and reviews* of customers and thus manufacturers can *adjust their products to meet the market demand* (Jinfu & Aixiang, 2009).
  - ✓ *E-marketing* is another benefit.
- On the other hand, e-commerce also enables firms to upgrade their end markets by *finding new customers* (Li et al., 2019) by *creating new markets and economic activities characterized by rapid information processes and market dynamics*, providing the *infrastructure for collecting and disseminating information*, serving as *a new channel for the sales, promotion of products and services delivery* (Slavko, 2016).

5. PRACTICAL IMPLICATIONS

- E-commerce radically **changes the governance structure** and **gives rise to various business models** (Li et al., 2019), enabling Vietnamese garment and textile industry - one of the long-lasting sectors, labor-intensity and high dependence on lead firms – to upgrade themselves.
- Also, more popular use of online platforms to buy garment and textile products by customers is a big chance for apparel firms.
- *Functional upgrading*:
  - ✓ Online platforms, along with analytical tools, facilitate firms to manage information: customers' feedback and reviews, thus enable firms to develop product and marketing strategies successfully.
  - ✓ Apparel firms not only can reduce the cost for a given level of performance along a customer need for a higher level of performance at a given cost (Jinfu & Aixiang, 2009).
- *End market upgrading*:
  - ✓ Online shops serve as showrooms to display products visually instead of physical stores.
  - ✓ Instead of participating in fairs or promotion events at a big expense, apparel firms can digitize all promotion processes via e-commercial tools facilitating firms to reach new markets and new customers in a cost-effective way

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THANKS FOR LISTENING
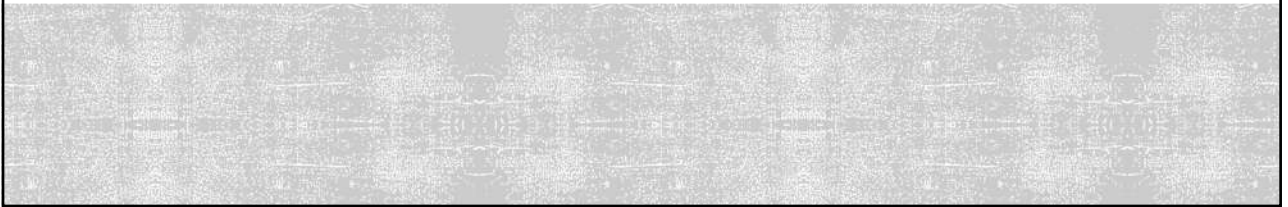
Session 3
SUSTAINABLE DEVELOPMENT

Presentations:

1. Fast and Sustainable Development Space: An Integrated Approach
    Dr. Ly Dai Hung, *Vietnam Institute of Economics, Hanoi*

2. The Effectiveness of The UN-REDD Programme as A Guardian of Tropical
    Forests in Developing Countries
    Lakmini Fernando, Firmin Doko Tchatoka and Prof. Stephanie F. McWhinnie,
    School of Economics and Public Policy, University of Adelaide, Australia

3. Correspondence between Economic Development and Environmental Problems
    in Modern China
    Dr. Alla A. Kravchenko, Dr. Viktor V. Stetsyuk, and Alina V. Zayats, *School of
    Economics and Management, FEFU. Vladivostok*

4. Overview of venture capital in the world, in Vietnam and propose policies to
    promote venture capital activities in Vietnam
    M.Sc. Dang Thanh Dat and Assoc.Prof. Nguyen Thi Kim Anh, *University of
    Economics and Business, Vietnam National University – Hanoi*

5. Startup-related Factors to Attract Angel Investment In the Context of Sustainable
    Development in Vietnam
    Assoc.Prof. Nguyen Thi Kim Anh and M.Sc. Tran Huong Linh, *University of
    Economics and Business, Vietnam National University - Hanoi*

Presentation 1
FAST AND SUSTAINABLE
DEVELOPMENT SPACE:
AN INTEGRATED APPROACH

Dr. Ly Dai Hung

Vietnam Institute of Economics, Hanoi, Vietnam

FAST AND SUSTAINABLE DEVELOPMENT SPACE:

AN INTEGRATED APPROACH

Conference on International Economic Cooperation and Integration

CIECI 2021 - 26/11/2021 - Hanoi, Vietnam

Dr. Ly Dai Hung

Vietnam Institute of Economics, Hanoi, Vietnam

Overview

1. Introduction

2. Analysis Framework

3. Empirical Evidence

4. Conclusion

1. Introduction

Fast and Sustainable Development

View point — Economic-Social Development Strategy 2021-2025 và 2021-2045 (Vietnam Government, 2021).

Economic state — Steady state in Neo-classical growth model (Solow, 1956; Swan, 1956).

Objective — Sustainable Development Goals (United Nations)
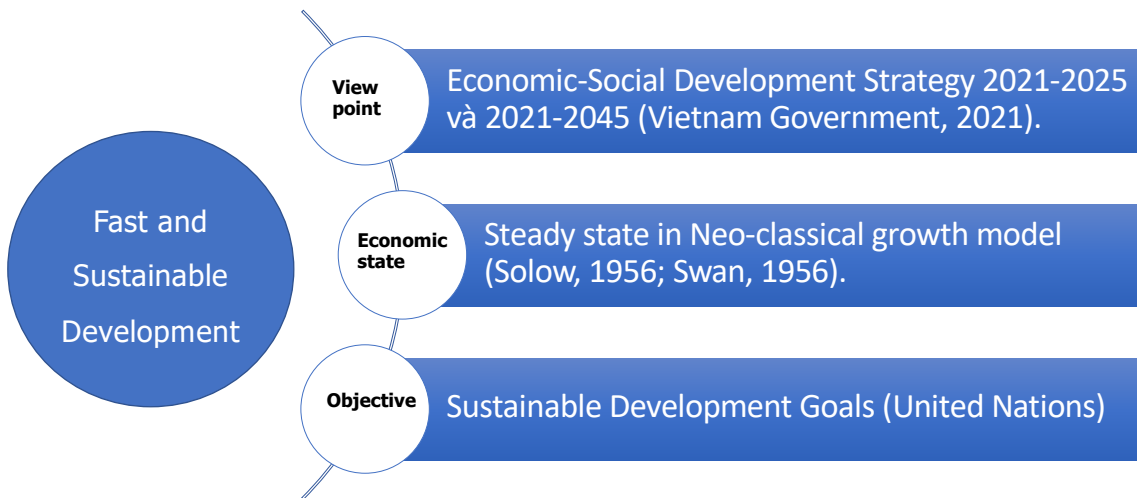
1. Introduction (cont.)

This paper considers the fast and sustainable development as an economic state.

Figure 1 implies that the GDP per person grows with technology progress rate (g) (Solow, 1956).

Figure 1
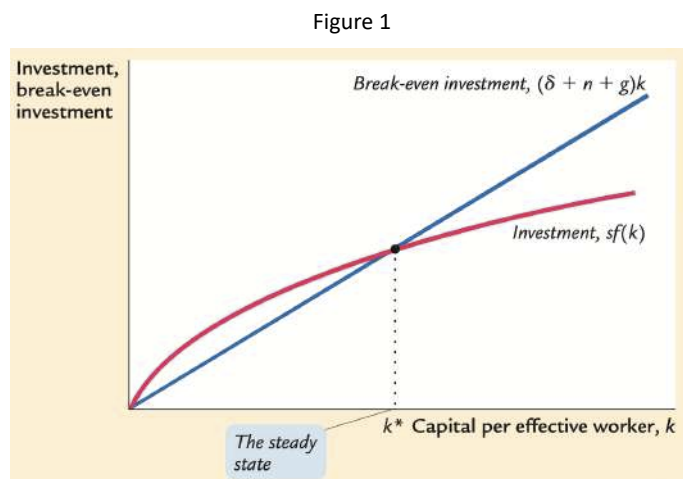
Source: Macroeconomics, 8th Edition, Gregory Mankiw, page 238.

2. Analysis Framework

i. Theory

ii. Data

iii. Model

2.i. Theory

Sustainable Development.

The economics of exautible resource (Hotelling, 1931): the priace of exaustible resource needs to grow with a rate being equal to the interest rate, with effective exploitation and perfect competitive market. This rule is based on the sustitutability of natural and human-made physical capital.

This line of research generates the concept of the weak sustainability

The ecology expands the Hotelling rule (1931) to account for the unsustitutability of natural and human-made physical capital (Daly, 1990).

This line of research generates the concept of the strong sustainability

2.i. Theory (cont.)
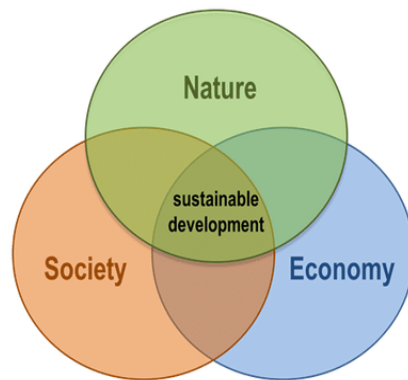
Weak sustainability
Based in Brundtland 1987.
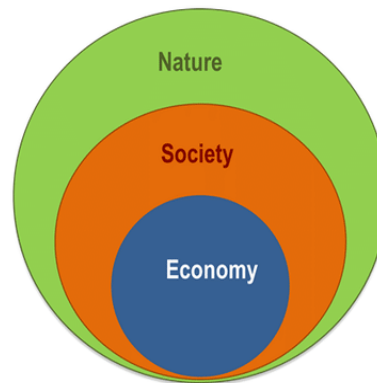
Strong sustainability
Giddings 2002.

2.i. Theory (cont.)

Fast Development:

• Economic development includes the economic growth and ensured income equality (Asian Development Bank report, 2008).

• Fast development includes a high economic growth rate and improved or at least stable income inquality.

• Within this paper, *the fast development is understood as a higher economic growth rate than the turning point of Kuznet curve (Kuznets, 1955; Piketty, 2006).*

2.i. Theory (cont.)

Within this paper, the fast and sustainable development is the combination of sustainable development with each incremental 1% of economic growth rate.

Higher Growth Rate than Kuznets Turning Point

Sustainable Development

Fast and Sutainable Development
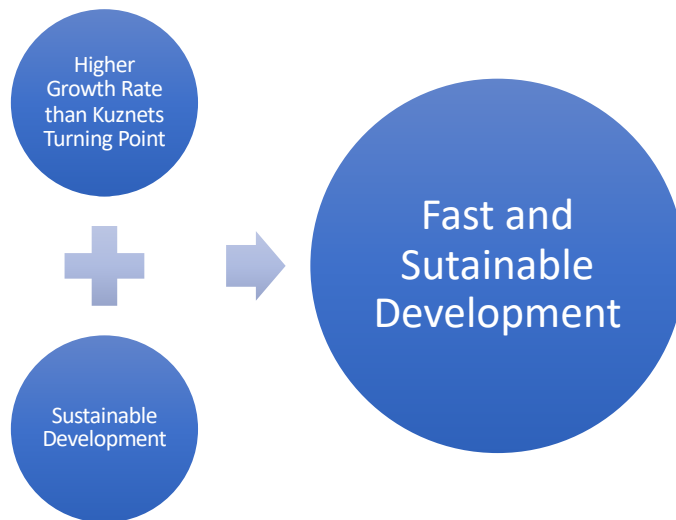
2.i. Theory (cont.)

Table 1: Fast and Sustainable Development Concepts		
Criteria	Weak Sustainability (Positive Genuine Savings)	Strong Sustainability (Biocapacity Reserve)
Fast Development (Higher Growth Rate than Turning Point of Kuznets Curve)	Fast and Weak Sustainable Development	Fast and Strong Sustainable Development

2.ii. Data

The cross-section data includes 172 economies, each is averaged over 1990-2019.

- Economic growth rate *(aGDPgrowth)* is measured by the growth rate of GDP per person on constant 2011 national prices, from Penn World Table 9.1 (Groningen University, 2020).

- Income inequality is measured by the Gini index *(Gini)*, from the World Bank's dataset of World Development Indicators.

- Sustainable development includes 2 indicators: (i) Genuine savings per GDP on % *(GenSav)*, which captures the environmental datamage caused by economic activities; (ii) Biocapacity Index *(BioCap)*, which compares the ability of nature to meet the demand by human: biocapacity reserves for positive index and biocapacity deficit for negative index.

2.iii. Model

- For the fast development, we carry out the following regression equation to access the income distribution along with the economic growth process:

$$aGini^j = \alpha + \beta^{Growth} aGDPgrowth^j + \beta^{Growth,2} (aGDPgrowth^j)^2 + u^j \quad (1)$$

- The significant estimated coefficients ($\beta^{Growth}, \beta^{Growth,2}$) if any would prove the existence of the Kuznets curve.

  ❖ Kuznets (1955) suggests that when the economic growth rate is low, an increase of economic growth rate is associated with more income inequality. But when the economic growth rate is high, an increase of economic growth rate is associated with less income inequality.

  ❖ As an implication, when an economy has a higher economic growth rate than the turning point, an increase of economic growth is associated with less income inequality.

  ❖ Then, we can choose the turning point of the Kuznets curve to set up a threshold so that an economy achieves a fast development if its economic growth is higher the threshold.

2.iii. Model (cont.)

- Each variable proxy for sustainable development, $Y^j = (GenSav^j, BioCap^j)$, is regressed on the economic growth rate (denoted by $aGDPgrowth^j$), by the following empirical model:

$$Y^j = \alpha + \beta^{Growth,y} \, aGDPgrowth^j + u^j \quad (2)$$

whereby the error term (u^j) captures the impact of unknown variables.

- Base on this coefficients, we compute the difference between the realized and optimal values, in which the optimal value is the predicted value by the empirical model.

❖ For an economy, when the residual of genuine savings per GDP is positive, that economy has attained a better performance of weak sustainability than the prediction by the empirical model. This implies that there is still available space for this economy to raises both economic growth and genuine savings, leading to an improvement of fast and weak sustainable development.

❖ For an economy, when the residual of biocapacity is positive, that economy has achieved a greater performance than the prediction by the empirical model. This implies that there is still available space for this economy to raises both economic growth and biocapacity reserve, leading to an improvement of fast and strong sustainable development state.

3. Empirical Evidence

Table 3: Cross-Section Regression Results of Income Distribution (aGini), Genuine Savings per GDP (aGenSav) and Biocapacity Reserve(+)/Deficit(-) (aBioCap) on Economic Growth Rate

	(1)	(2)	(3)
VARIABLES	aGini	aGenSav	aBioCap
Economic Growth Rate	3.051**	1.524***	0.307***
(aGDPgrowth)	(1.188)	(0.508)	(0.101)
Squared Value of aGDPgrowth	-0.356**		
(aGDPgrowth2)	(0.144)		
Constant	34.18***	3.463*	-1.565***
	(2.247)	(1.925)	(0.389)
Observations	149	153	146
R-squared	0.043	0.056	0.060

Notes: Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

3. Empirical Evidence (cont.)

Table 4: Panel-Data Regression Results of Genuine Savings per GDP (aGenSav) and Biocapacity Reserve(+)/Deficit(-) (aBioCap) on Economic Growth Rate

	(1)	(2)
VARIABLES	GenSav	BioCap
Economic Growth Rate	0.271***	0.0163***
(GDPgrowth)	(0.0329)	(0.00419)
Constant	7.490***	4.212***
	(0.172)	(0.0295)
Observations	3,331	6,645
R-squared	0.021	0.002
Number of Countries	158	179

3. Empirical Evidence (cont.)

Figure 1: Kuznets Curve
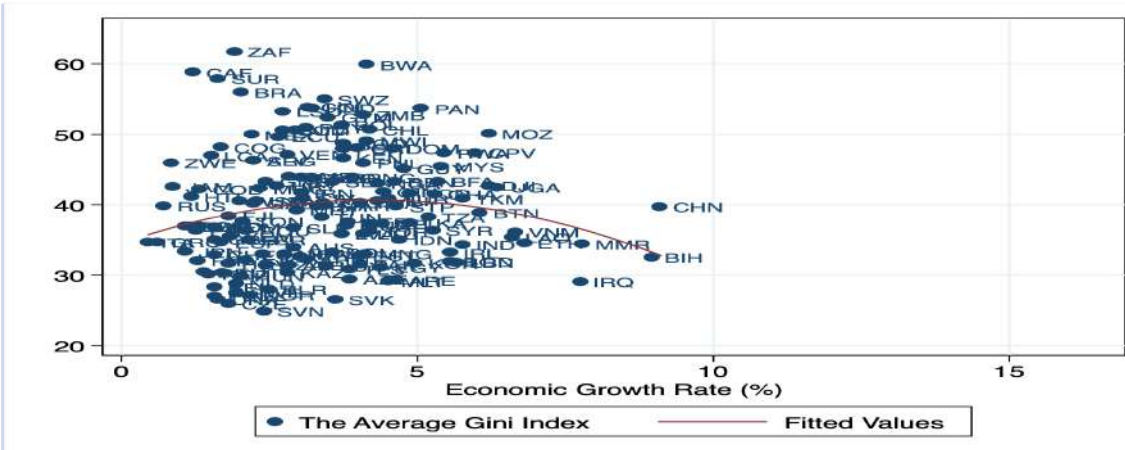
3. Empirical Evidence (cont.)

Figure 2: Fast and Weak Sustainable Development
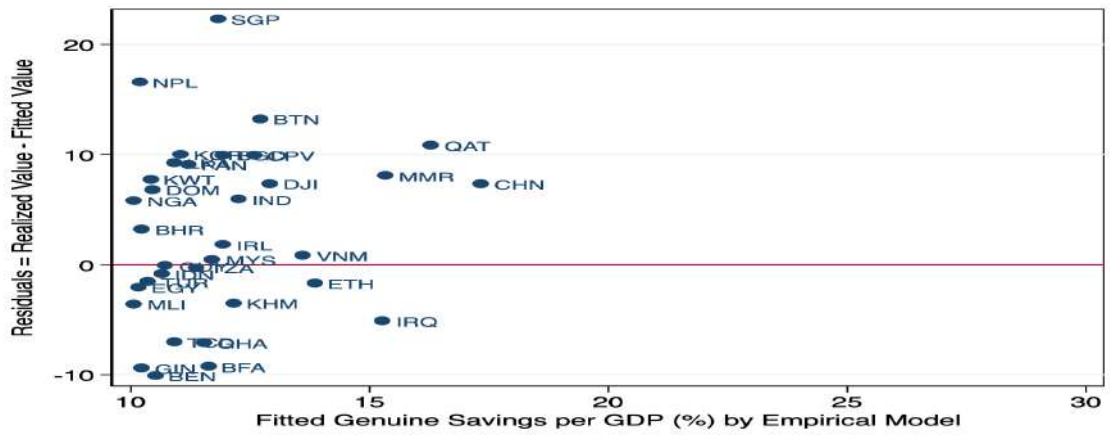
3. Empirical Evidence (cont.)

Figure 2: Fast and Strong Sustainable Development

3. Empirical Evidence (cont.)

Country	Economic Growth	Income Inequality	Genuine Savings	Biocapacity Reserve (+) / Deficit (-)	Residuals		
					Income Inequality	Genuine Savings	Biocapacity
United States	2.28	40.47	6.35	-5.48	1.17	-0.59	-4.62
China	9.11	39.72	24.67	-0.92	7.27	7.31	-2.15
Vietnam	6.66	36.09	14.42	-0.05	-2.62	0.79	-0.53
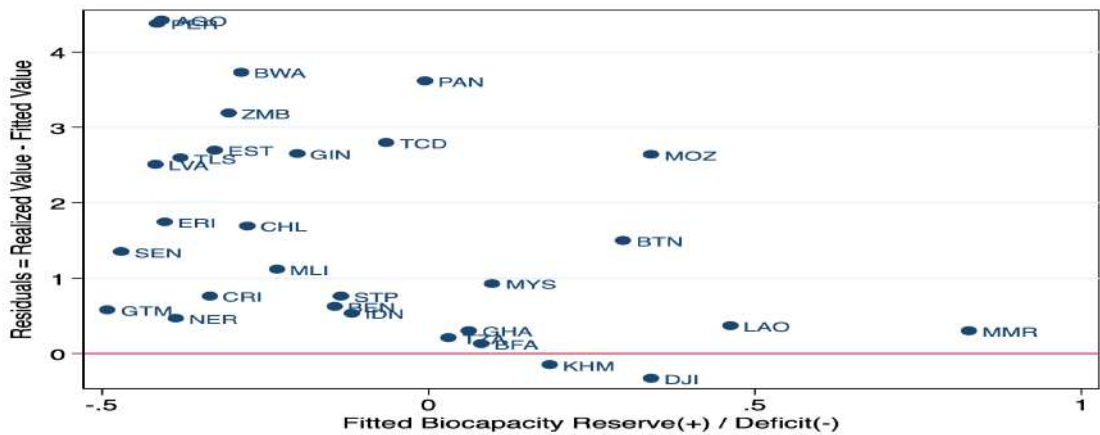
Table 5: Case Study in Fast and Sustainable Development Space

4. Conclusion

- The paper analyzes the fast and sustainable development space by an integrated approach, which combines the economic growth and sustainable development literature.

- The research method employs a quantitative method which examines an empirical evidence in the whole world economy by one cross-section data sample of 172 economies over the 1990-2019 period.

- The results suggest that an economy can first attain the objective of fast and weak sustainable development, then, the fast and strong sustainable development.

Thank You Very Much !

Presentation 2
THE EFFECTIVENESS OF THE UN-REDD PROGRAMME AS A GUARDIAN OF TROPICAL FORESTS IN DEVELOPING COUNTRIES

Lakmini Fernando, Firmin Doko Tchatokawhitetext
and Prof. Stephanie F. McWhinnie
School of Economics and Public Policy,
University of Adelaide, Australia

The effectiveness of the UN-REDD Programme as a guardian of tropical forests in developing countries

Lakmini Fernando, Firmin Doko Tchatoka and Stephanie F. McWhinnie

Conference on International Economic Cooperation and Integration 2021

THE UNIVERSITY of ADELAIDE

Motivation

- Tropical forests play an important role in combating climate change and preserving biological diversity
- National policies are not typically enough to curtail deforestation
- United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD) is a key global initiative to tackle climate change

- UN-REDD works with developing country partners to implement REDD+ activities that provide incentives to protect forest for positive environmental outcomes

OUR PAPER

- Evaluate the impact of UN-REDD on reducing deforestation and associated emissions
- Employ a novel econometric technique: staggered differences-in-differences
  - Allows quantification over time
  - Enables identification of causal effects in presence of confounding factors
- Use spatially accurate and consistent satellite panel data on deforestation for 102 developing countries

DEFORESTATION

- Deforestation is estimated to contribute to 20% of global emissions that lead to climate change
- Tropical deforestation and degradation accounts for 11% of these, more than global transport

(# countries)	Annual Deforestation (2001-2018)	
	(million ha)	(%)
World (150)	19.7	0.5
Developing (102)	10.7	0.5
Africa (46)	2.3	0.4
Asia-Pacific (34)	3.4	0.6
L.Am & Carib (22)	5.1	0.5

UN-REDD Programme

- UN-REDD launched in 2008, 65 countries have adopted since
- Goal to enhance carbon stocks in tropical forests while contributing to sustainable development
  - Establish reference levels
  - Develop monitoring systems
  - Promote adoption of national strategies
- Participating countries receive:
  - Results-based payments
  - Technical assistance, capacity building, & policy advice

Data

- Deforestation: national tree cover loss, 30% canopy cover, 100,000 ha/year, *Global Forest Watch*
- Emissions: CO_2 from above ground biomass loss 30% canopy cover, 100,000 ha/year, *Global Forest Watch*
- Covariates: GDP growth, Popn growth, Trade openness, Ag exports, Rural pop, Ag employment, Ag land, Arable land, *World Development Indicators*

- 102 developing countries, 2001-2018
  - 62 countries adopted REDD since 2008
  - 40 countries did not ever adopt

Deforestation & Associated Emissions
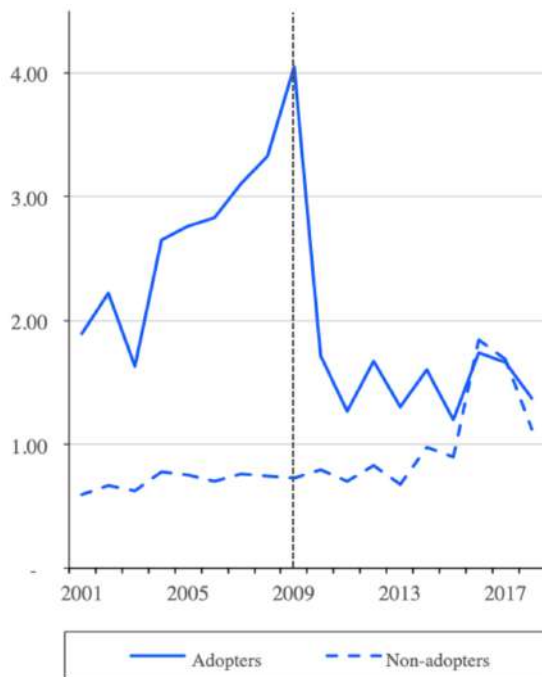
(a) Deforestation
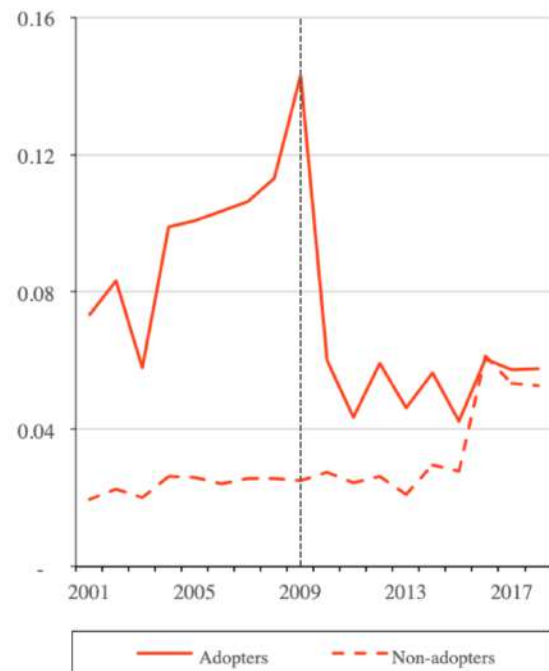
(b) Emissions

Empirical Specification

$$Y_{it} = (REDD_i \times POST_{it})' \beta + X_{it}' \gamma + \sum_i \mu_i + \sum_t \eta_t \\ + \sum_i Country_i \times Time_t + \varepsilon_{it}$$

- Estimate causal impact of UN-REDD on deforestation and associated emissions (Y_{it})
- Staggered DID (Athey & Imbens, 2018) allows for different adoption dates and to determine differing impacts over time
- β is our key coefficient of interest that captures effect of adoption in each of five two-year periods

Impact of UN-REDD
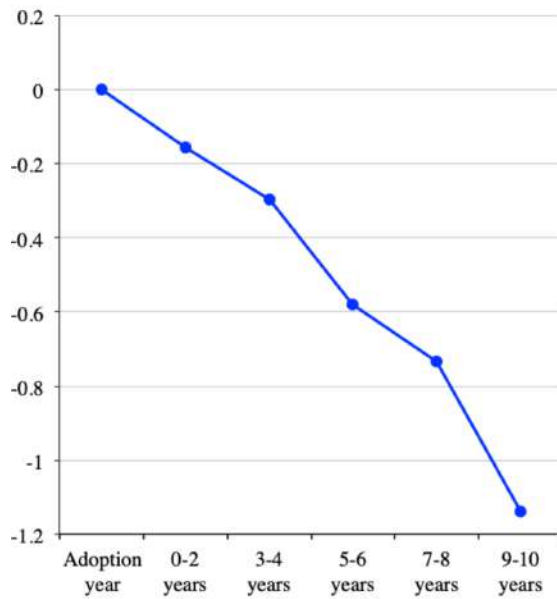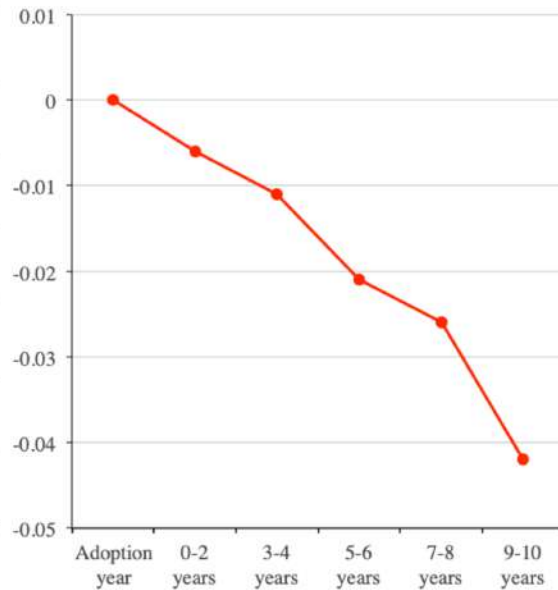
(a) Deforestation   (b) Emissions

Results by Region

(a) Deforestation   (b) Emissions

RESULTS BY INCOME GROUP

(a) Deforestation

(b) Emissions

RESULTS SUMMARY

- Impacts occur 9-10 years after adoption: 113,800 ha less deforestation, 42 mt less emissions
- Staggered DID approach valuable for identifying changes over longer periods
- Incorporating country-specific trends appears crucial in identification
- First two-years reduction of 15,600 ha, substantial compared to 90,300 ha annual loss pre-programme
- Biggest impacts in Latin America & Caribbean and Upper-middle income group

CONCLUSION

- Evaluating the impact of UN-REDD is important for understanding the effectiveness of global climate policy implementation
- Our novel econometric approach shows that UN-REDD has been successful at curbing deforestation and associated emissions in developing countries
- Positive effects take time to manifest: strongest effects are felt 9-10 years post-adoption
- Heterogeneous policy effects are observed across regions and income levels
- Successful future policy is likely to be aided by accounting for such time horizons and country heterogeneity
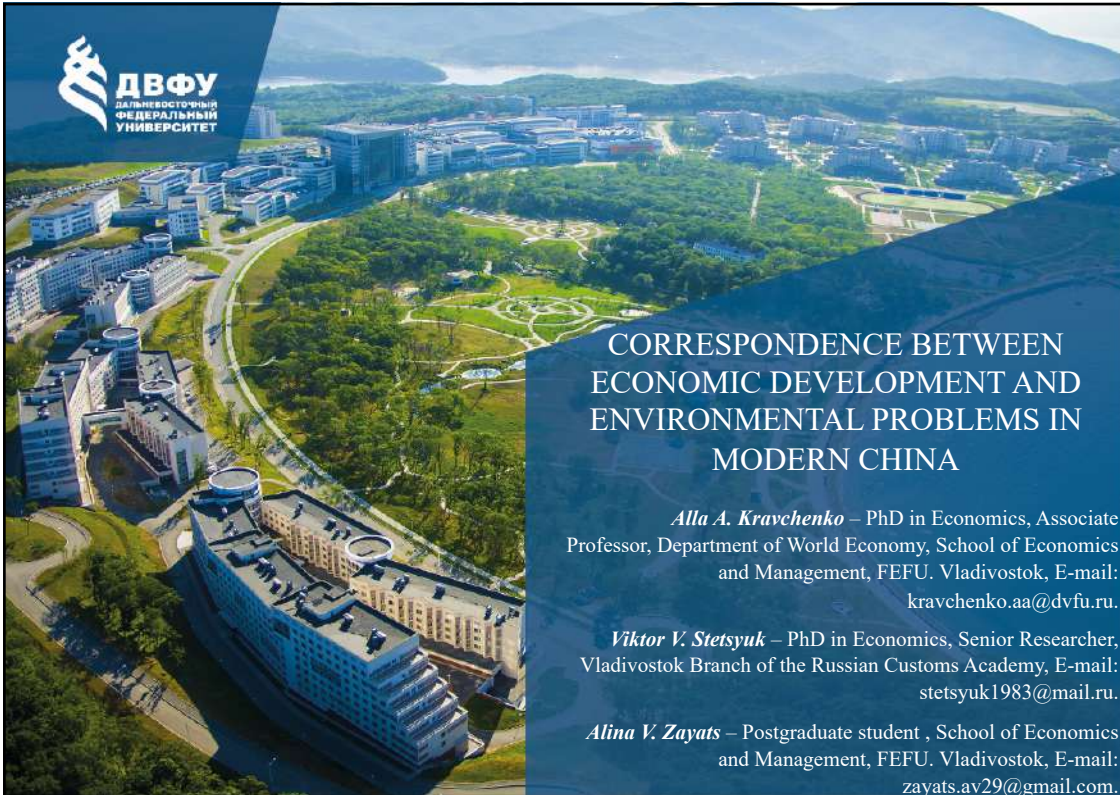
THANK YOU

Presentation 3
CORRESPONDENCE BETWEEN ECONOMIC DEVELOPMENT AND ENVIRONMENTAL PROBLEMS IN MODERN CHINA

Dr. Alla A. Kravchenko, Dr. Viktor V. Stetsyuk, and Alina V. Zayats

School of Economics and Management, FEFU. Vladivostok

CORRESPONDENCE BETWEEN
ECONOMIC DEVELOPMENT AND
ENVIRONMENTAL PROBLEMS IN
MODERN CHINA

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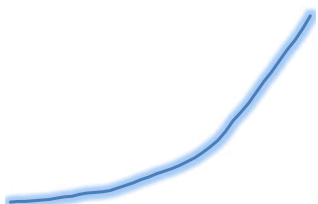
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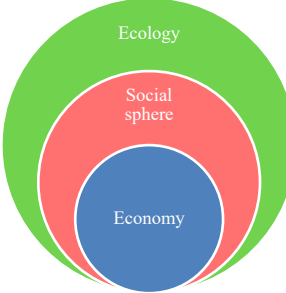
Alina V. Zayats – Postgraduate student , School of Economics
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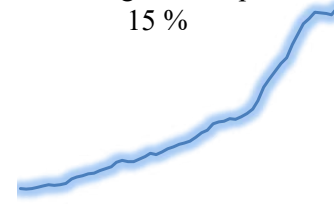
Relevance and goal

Average GDP growth
9,8%

Ecology

Social
sphere

Economy

Average Growth Rate
of Ecological Footprint
15 %

Economic growth

Ecological problems

2

2

The consequences of economic development for the environment

Ecological problems

Water pollution

Air pollution

China's water footprint in 2017 г., %

28%
46%
26%

■ Blue ■ Grey ■ Green

Wastewater discharge

Solid waste

Emissions

Greenhouse gases

Fine particles

3
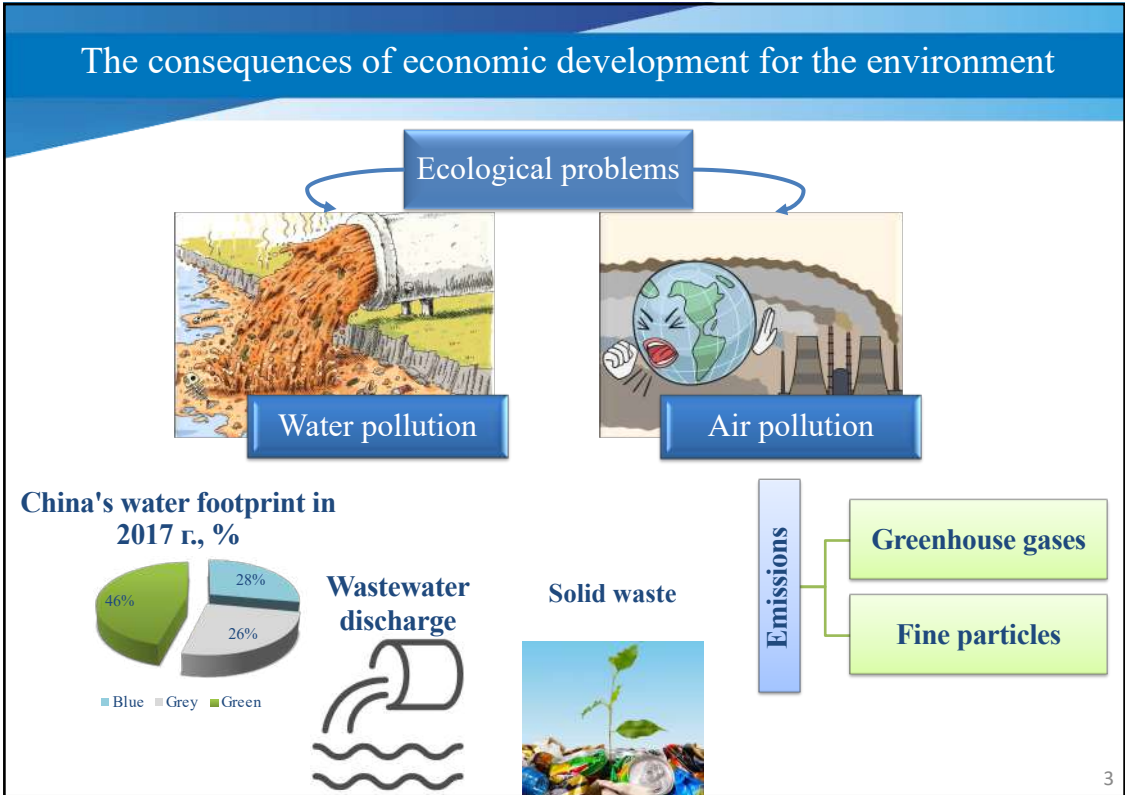
3

Database of indicators to assess the impact of economic development on environmental safety in China

| Block name	Indicator	Units
Economic Development Indicators	– GDP	trillion USD
	– industrial exports	million USD
	– industrial production	trillion USD
	– agricultural production	100 million yuan
	– crop production	100 million yuan
	– livestock production	100 million yuan
	– coal consumption	million tons of oil equivalent
	– chemical fertilizer consumption	10000 tons
Environmental indicators	– ecological footprint	global hectares
	– PM 2.5	mkg/m³
	– nitrogen oxide emissions NO_x	thousand metric tons of CO_2 equivalent
	– greenhouse gas emissions	kilotons of CO2 equivalent
	– carbon dioxide emissions CO_2	million tons CO_2
	– volume of wastewater discharged	million tons
	– solid waste pollution	million tons
	– methane emissions	kilotons of CO2 equivalent

4

Correlation matrix of indicators of economic development and the state of the environment

	GDP	Industrial exports	Agricultural production	Crop production	Coal consumption	Industrial production	Chemical fertilizer consumptionn
Ecological footprint	0,531827078		0,543463866	0,568326648	0,647187761	0,521461208	0,556825832
Nitrogen oxide emissions NOx			0,559497727	0,767410034			
Greenhouse gas emissions	0,575229611	0,571614586	0,51959966	0,516569406	0,680464685		
Carbon dioxide emissions CO2		0,688227664			0,781709818	0,566547052	
Volume of wastewater discharged	0,530277411					0,655704638	
Methane emissions	0,613976732		0,649271799	0,682585635	0,634243593		

5

Dynamics of coal consumption and CO2 emissions in China in 1997–2017

carbon dioxide emissions CO2, million tons CO2

coal consumption, million tons of oil equivalent
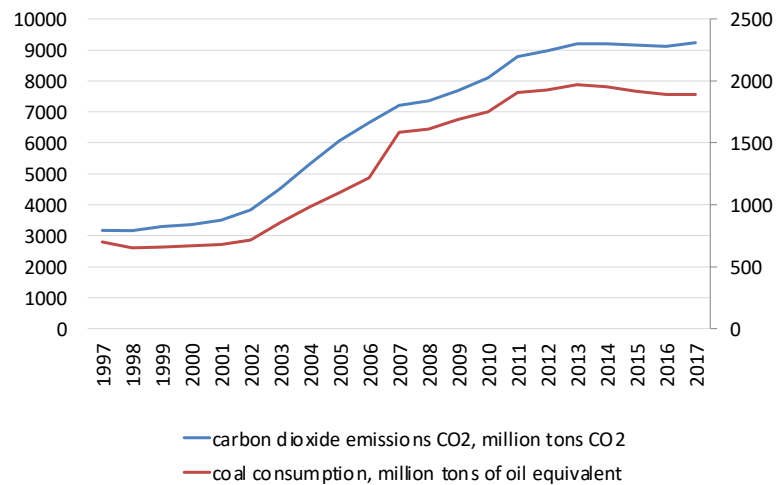
6

6

The results of evaluating the true causal relationship by the Ingle-Granger criterion

$$t_{\text{факт.}} < t_{0,05}$$

Growth rates of investments in environmental protection
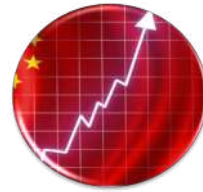
Growth rates of economic development

China has ineffective environmental policies

7

7

The results of assessing the relationship of exports and investment in combating environmental pollution in 1997-2017.

$$EXP = CAI + CAG + DSI + C$$

Variable	r	P-value	F-value	Correlation
Investing in air pollution control	0,878	0,000	0,000	Strong
Investment in water pollution control	0,679	0,001	0,001	Moderate
Investment in industrial solid waste control	0,566	0,008	0,008	Moderate

Investing in air pollution control can maintain positive export performance while implementing rational government policies for environmental safety

8

8

Thank you for attention!

Presentation 4
OVERVIEW OF VENTURE CAPITAL IN THE WORLD, IN VIETNAM AND PROPOSE POLICIES TO PROMOTE VENTURE CAPITAL ACTIVITIES IN VIETNAM

M.Sc. Dang Thanh Dat and

Assoc.Prof. Nguyen Thi Kim Anh

University of Economics and Business,

Vietnam National University – Hanoi

International Conference

INTERNATIONAL TRADE AND INVESTMENT TOWARDS GREEN AND DIGITAL TRANSFORMATION

Overview of venture capital in the world, in Vietnam and proposed policies to promote venture capital activities in Vietnam

Dang Thanh Dat, Nguyen Thi Kim Anh

VNU - University of Economics and Business

26th, November, 2021

VENTURE CAPITAL

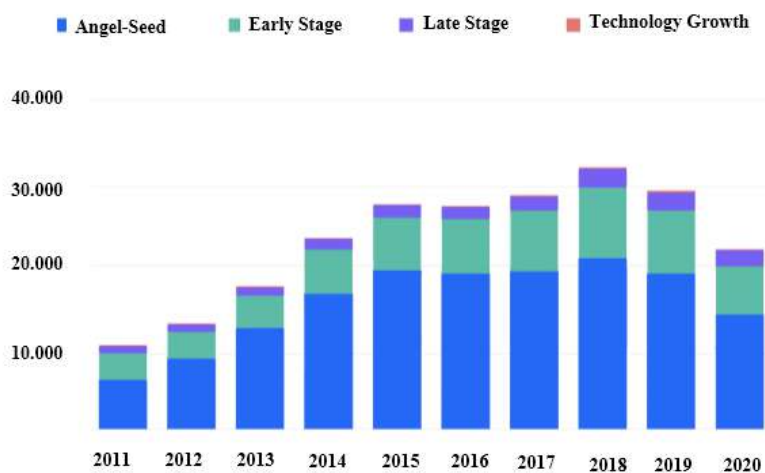
Venture Capital Plays a Vital Role in a Startup's Growth
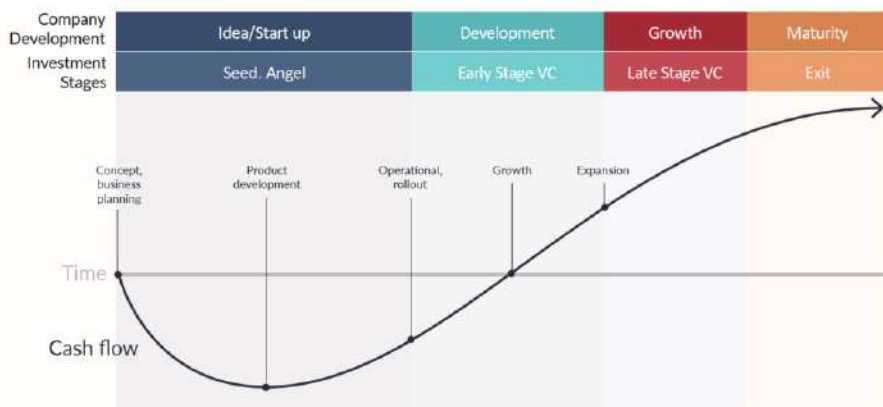
Sources of funding: VCs, angel investors, incubators, accelerators, strategic investors (corporate groups), growth equity investors, private equity firms, debt investors

Global venture capital value from 2011 to 2020
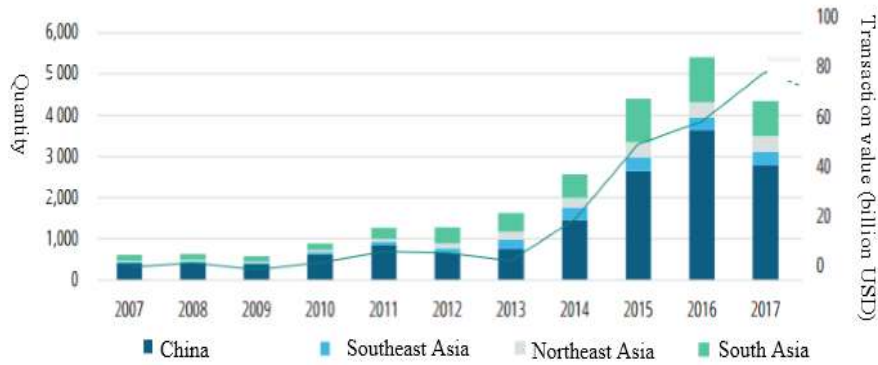Source: Crunchbase news
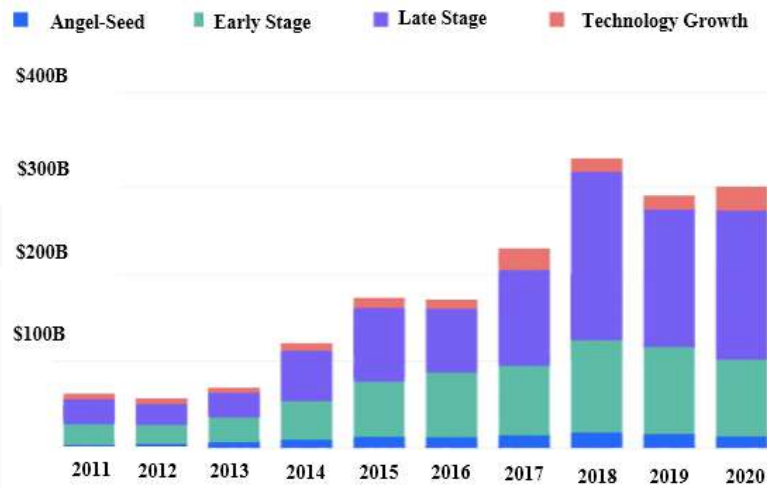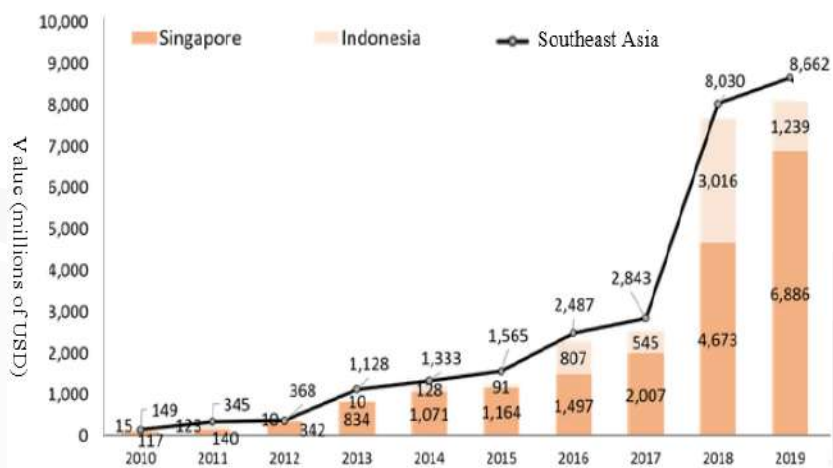

Global venture capital deals from 2011 to 2020
Source: Crunchbase news

Number of deals and venture capital value in Asia from 2007 to 2017

Source: Preqin Pro

Southeast Asia venture capital value from 2010 to 2019

Source: Vertex Holdings

POLICIES TO PROMOTE VENTURE INVESTMENT OF DEVELOPED COUNTRIES

- Governments have different method to encourage venture capital development:
  - Britain uses tax incentives.
  - Sweden encourages taxes for early stage investments.
  - Belgium uses tax incentives and guarantees the loss of venture capitalists.
  - Germany uses a guarantee and investment cooperation tool, in which the state will supplement the needing capital in the early stages of a startup with venture capitalists.

POLICIES TO PROMOTE VENTURE INVESTMENT OF DEVELOPED COUNTRIES

- France offers tax incentives for investment funds that invest a lot of capital in the early stages of high-tech enterprises.
- The Netherlands provides credit support with preferential interest rates for investors and investment guarantees.
- Japan uses tax incentives.
- In China, the Chinese Government directly invested capital as a primer for private investors to safely conduct venture capital, establishing a venture capital corporation dedicated to technology development in 1985.

POLICIES TO PROMOTE VENTURE INVESTMENT OF DEVELOPED COUNTRIES

- Governments of countries develop legal frameworks for venture capital funds:
  - In the US: the Small Business Investment Act.
  - In China, the Chinese Government initiated the formulation of a long-term strategy for the development of the venture capital industry, issued guiding policy documents, and provided a legal framework for venture capital activities,...
  - In Israel, state-owned venture capital fund was established to directly invest in startup (1993),...

## POLICIES TO PROMOTE VENTURE INVESTMENT OF DEVELOPED COUNTRIES

- In addition, the governments have an indirect impact on venture investment through creating a competitive business environment based on technology level, effectively enforcing regulations on rights to protect intellectual property rights, promulgating policies to encourage the development of new technologies and entrepreneurship.

VENTURE CAPITAL IN VIETNAM
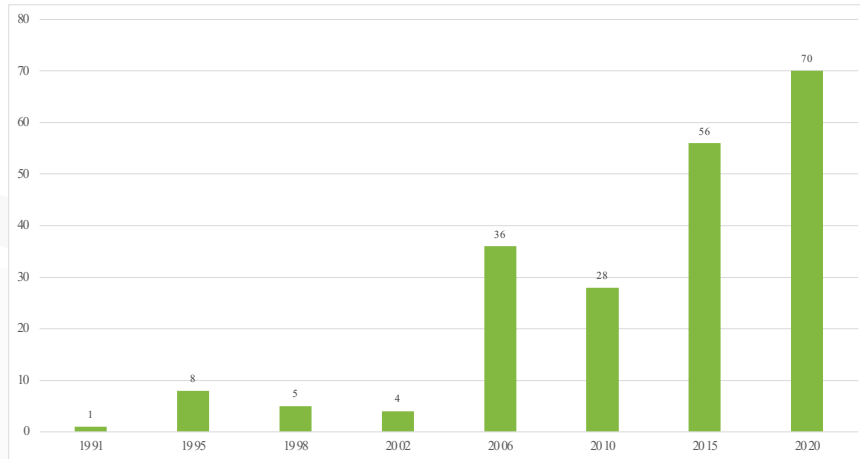
Number of venture capital funds operating in Vietnam from 1991 to 2020

VENTURE CAPITAL IN VIETNAM
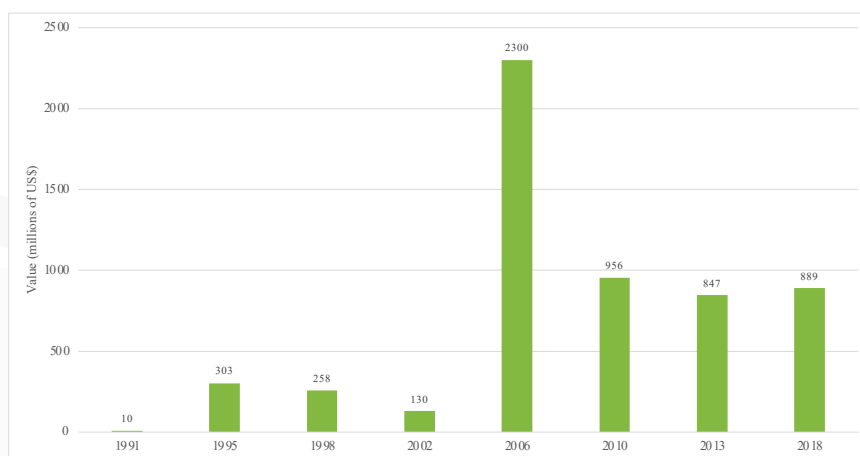
Venture capital value in Vietnam from 1991 to 2018

VENTURE CAPITAL IN VIETNAM

- Before 2016, the legal regulations related to venture investment activities in Vietnam were scattered in different legal documents.

- 2016: Project "Initiative for Startup Ecosystem in Vietnam" (844), 2018: Decree No. 38/2018/ND-CP guiding investment for innovative small and medium enterprises.

- Although there are many foreign venture capital funds operating in Vietnam, none of them have established a legal entity in Vietnam but only opened a representative office in Vietnam.

VENTURE CAPITAL IN VIETNAM

- The number of venture capital funds established by Vietnamese legal entity is small, but diverse, from private funds, close ended fund, open ended fund, mutual fund.

- Vietnam's legal policy for startups is still in the process of being completed.

PROPOSING POLICIES TO PROMOTE VENTURE CAPITAL ACTIVITIES IN VIETNAM

- Issue specific regulations guiding venture capital investment activities.

- Implementing tax incentives for venture capital investment activities to encourage investment

- Encourage the establishment of more domestic venture capital funds.

- The form of state investment in venture funds through representation by a state agency.

- Encourage the establishment of Associations/ Associations of venture capital investors.

Thank You !

Presentation 5
STARTUP-RELATED FACTORS TO ATTRACT ANGEL INVESTMENT IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT IN VIETNAM

Assoc.Prof. Nguyen Thi Kim Anh
and M.Sc. Tran Huong Linh
University of Economics and Business,
Vietnam National University – Hanoi

Startup-related factors to attract angel investment in the context of sustainable development in Vietnam

Authors: 1. Nguyen Thi Kim Anh - Senior lecturer, Faculty of International Business and Economics, UEB, VNU

2. Tran Huong Linh (Ms.), Faculty of International Business and Economics, UEB, VNU

PRESENTER: TRAN HUONG LINH

1

Content

1 Introduction

2 Overview of angel investors and startups

3 Startup-related factors to attract angel investment from the perspective of some interviewed BAs in Vietnam

4 Conclusion

2

2

1. Introduction

- Economic growth towards **sustainable development** requires **technical innovation**

- **Startups** have a great contribution!

- Angel investment **supports** startups.

3

Vietnam is expected to become an **innovation-led** and socio-environmental **sustainable economy**

… with **startups** and **angel investment** playing vital roles.

Being a potential destination

Facing difficulties to attract angel capitals

introduction

4

4

2

Overview
of startups and
Business Angels
(BAs)

2.1 Definition

Startup?

- Young
- Small
- Innovative
- Scalable (expected)

"startups are enterprises being in their early stages of establishment and operating in highly innovative and creative business industries"

(According to Phan Hoang Lan, one of the main authors of the Government's Decision No. 844/QD-TTg approving the Project to support the innovative startup ecosystem)
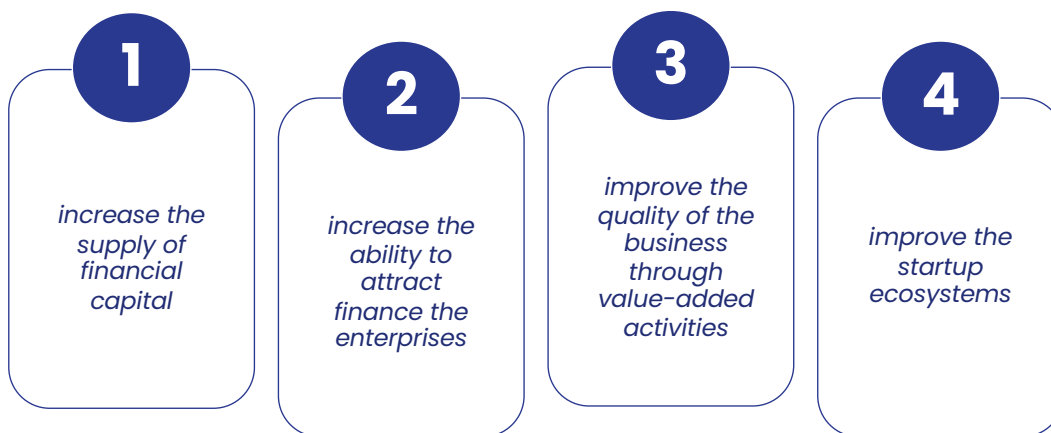
definition

Business Angel?

- **Wealthy** individuals
- Invest not only **money**
- Care about **profit & non-profit**
- Do **not have close relationship** with the owners.

Why called "Angel"?

- Accept the high risk

- Provide not only money but also **knowledge, experience, relationship**

2.2 The role of BAs

1 increase the supply of financial capital

2 increase the ability to attract finance the enterprises

3 improve the quality of the business through value-added activities

4 improve the startup ecosystems

2.3 Startup-related factors attracting BAs

1   *The passion of the business owner*

2   *The trustworthiness of the business owner*

3   *The quality of the management team*

4   *The rationality of the exit strategy*

What are the reasons for failure?

1   *Owners are not willing to share a controlling stake*

2   *Startup cannot provides the information needed*

3   *Startups do not understand the angel investors*

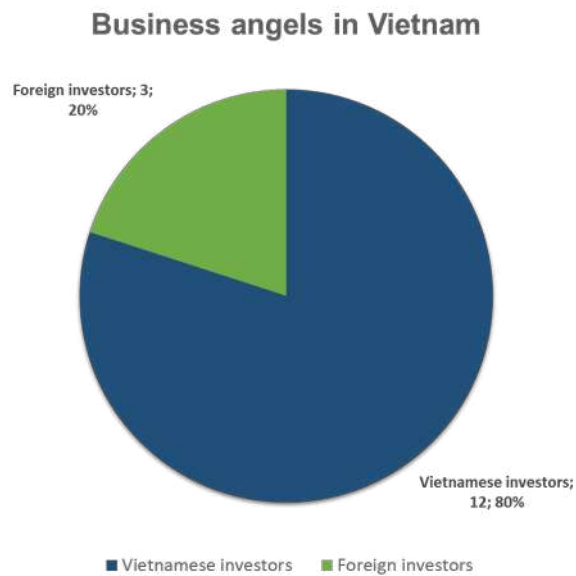**4**   *Startup do not guarantee for long-term return*

3

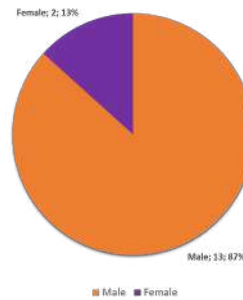## Startup-related factors to attract angel investment in Vietnam

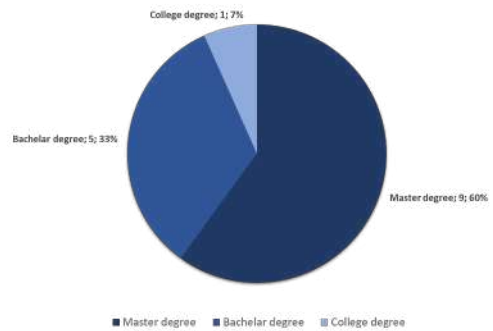### from the perspective of some interviewed business angels

3.1 Profile of the interviewed BAs

Business angels in Vietnam

Foreign investors; 3; 20%

Vietnamese investors; 12; 80%

Vietnamese investors   Foreign investors

Business angels in Vietnam categorized by gender

Female; 2; 13%

Male; 13; 87%

Male   Female

Business angels in Vietnam categorized by academic level

College degree; 1; 7%

Bachelar degree; 5; 33%

Master degree; 9; 60%

Master degree   Bachelar degree   College degree

profile of the interviewed BAs

What are in common?

What are different?

Experience

In training, business and technology applications

Number of deals

5-10 deals/investor

Geographical area

VN investors: VN only

Foreign investors: other ASEAN countries

Investment field

Diverse, based on
- Area of expertise
- The market needs

Investment value

Not fixed:
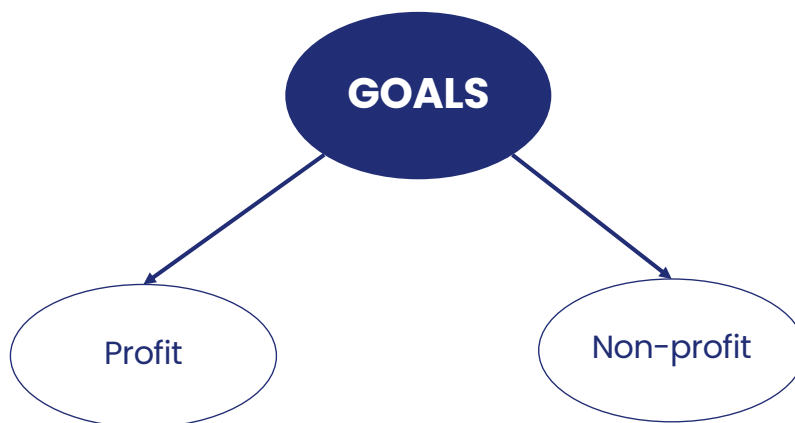- 200 million VND on average
- Differ by case

3.2 Goals and strategies of BAS

GOALS

Profit

Non-profit

... are quite **similar**

STRATEGIES are quite **different**

1
Based on area of expertise

With **expertise field,**
- Larger projects, larger investment
- Higher control

With **other fields**,
- Small and medium-sized projects
- Clear commitment to ensure the interests

2
Based on risk reduction

- Some BAs **cooperate** with others on an investment project
- Some BAs requires startups to have **headquarter in Singapore**

Goals and strategies of BAs

15

15

STRATEGIES

3
Based on BAs' role

Supporting role:
- Orienting
- Consulting
- Networking
- Helping raise next-round funding

Controlling role:
- Taking financial control
- Taking legal control

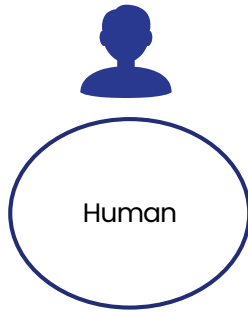### 4
Based on BAs' capital hold

- 20-30%
- Ordinary shareholders

- 60-70%
- Main shareholders

5
Based on exit strategy

- Calculated according to the **value** of the Startup

Goals and strategies of BAs

16

16

3.2 Startup-related factors attracting BAs

Human

- Passionate, ambitious & trustworthy founder
- Honest team
- Good sales & presentation skill members

Business Model

- Clear business model
- Potential market
- Potential product/idea
- Profitable (prefered!)

Financial & investment plan

- Reasonable capital call number
- Transparent financial plan
- Commitments & KPIs
- Exit strategy

17

3.3 Advantages and disadvantages of Vietnam startups in attracting angel capital

Advantages

Vietnamese entrepreneurs
- Highly skilled and well-trained
- Ambitious

Employees
- Good technical background
- Hard-working
- Good attitude
- Good teamworking skills

Disadvantages

- Lacking knowledge about BAs
- Overvaluing the startup
- Overestimating the ideas
- Lacking experience and knowledge
- Lacking broader market strategy
- Weak courage and endurance

May lead to failure

18

How about BAs?

- Still follow the trends and the old route
- Lack a network for angel investors

4. Conclusion

To solve the current weaknesses, Vietnam Startups should:

- Properly value themselves
- Think globally
- Find real mentors
- Cooperate and connect

To attract more BAs, Vietnam Startups should:

- Show a promising business model and growth potential
- Have the right leader and team
- Invest time to prepare the profile and presentation

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