

**BSP-PIDS Research Forum**

***Resilient Legs for Economic Recovery in the  
Post-Pandemic Era***

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# ASEAN-5\* countries: In competition for FDI

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*\*Indonesia, Malaysia, the Philippines, Thailand, Vietnam*

*Disclaimer: The views expressed herewith are the views of the authors and do not in anyway represent the views of the Bangko Sentral ng Pilipinas (BSP) or its management. The results of the research study are very preliminary and should not be quoted without prior permission from authors.*

# Outline of Presentation

1. Introduction
2. Stylized facts
3. Related literature
4. Empirical exercise
5. Results
6. Conclusion

# 1. Introduction

## *What happened to FDI\* during the pandemic?*

- Investment flows plunged globally by 35% in 2020 (UNCTAD, 2021)
- Southeast Asia saw a 25% decline (UNCTAD, 2021)

## *How important is FDI in the recovery phase/post-pandemic?*

- An important source of financing
- Set to partially recover in 2021 but uncertainty remains (UNESCAP, 2021)
- Heightened competition among countries to retain and attract FDI

*\*Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise interest (10 percent or more of voting stock) that is resident in another economy ((IMF Balance of Payments and International Investment Position Manual, 6th Edition (BPM6)).*

## *Countries have incorporated FDI in their recovery plans*

- Indonesia: working to pass a law to overhaul tax and labor market laws (*UNESCAP, 2021*)
- Vietnam: expanded the list of domestic SMEs eligible for incentives (*UNESCAP, 2021*)
- Myanmar: fast-tracked approvals for investment; reduced investment application fees (*UNESCAP, 2021*)
- Philippines: passage of CREATE; push to further open the economy to foreign investors

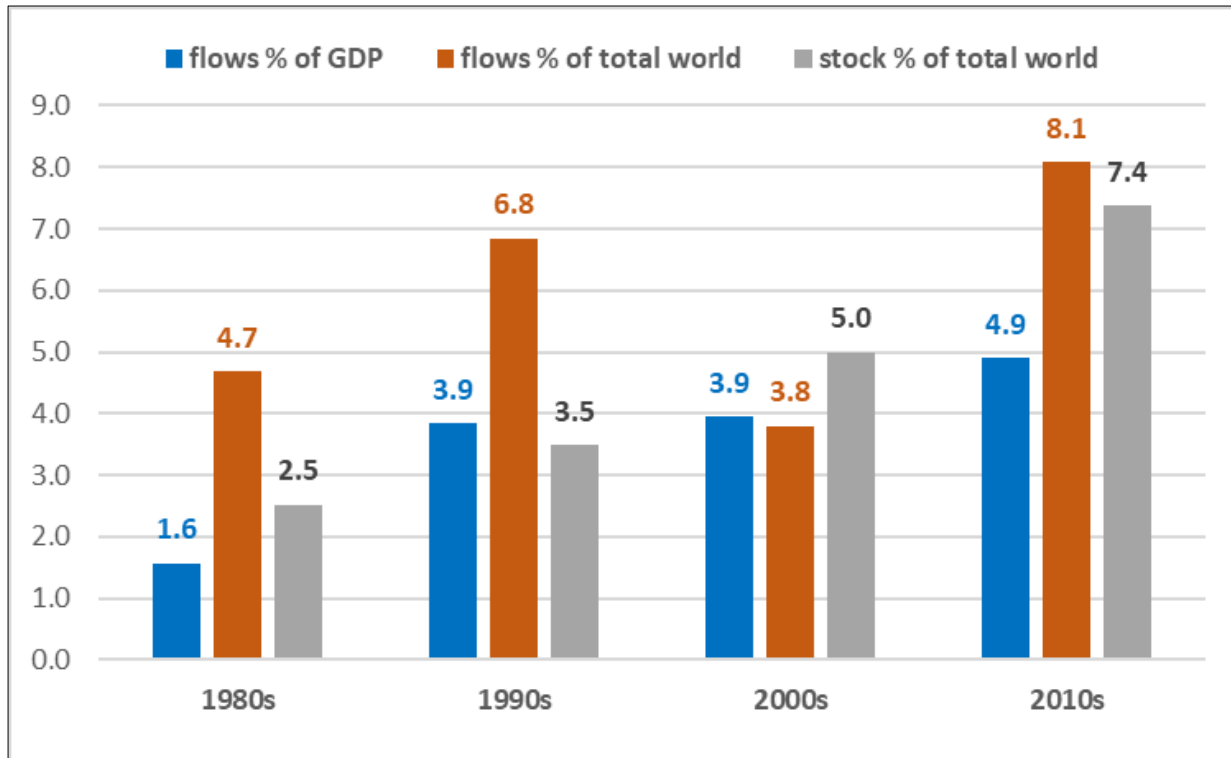
## *Challenges*

- Deterioration in macroeconomic outlook as a result of potential scarring effects of the pandemic
- Credit rating agencies have flagged downward pressures in some economies, which may make it even more challenging for countries to attract and retain FDI

## 2. Stylized Facts

**ASEAN FDI performance reflect improving macroeconomic fundamentals and policy environment...**

Figure 1. ASEAN\* Inward FDI Stock and Flows



\*Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam, Cambodia, Laos, Myanmar, Brunei D.  
Source: UNCTAD Database

Table 1. ASEAN Selected Performance Indicators

Performance Indicator	2000s	2010s
Inflation <sup>1</sup> (%)	6.2	3.2
GDP per capita <sup>1</sup> (US\$)	3,485	4,922
Corruption Perception <sup>2</sup>	32	40
Rule of Governance <sup>2</sup>	0.78	0.89
Global Competitiveness Index <sup>3</sup>	4.4	4.7

Notes:

1- decade average for ASEAN

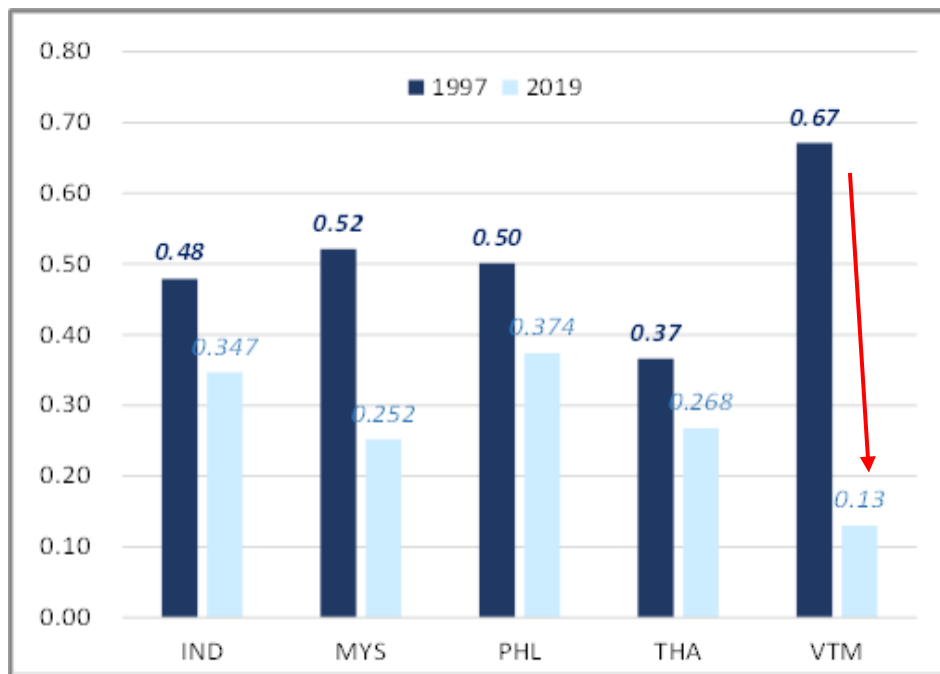
2 - end-2009 and end-2019 averages for ASEAN-5

3 - values refer to 2007-2008 and 2017-2018 averages for ASEAN-5

Sources: ARIC Database, World Development Indicators, Transparency International, The Heritage Foundation, World Economic Forum

## ... and reduced FDI restrictions

Figure 2. FDI Regulatory Restrictions,\*1997 and 2019

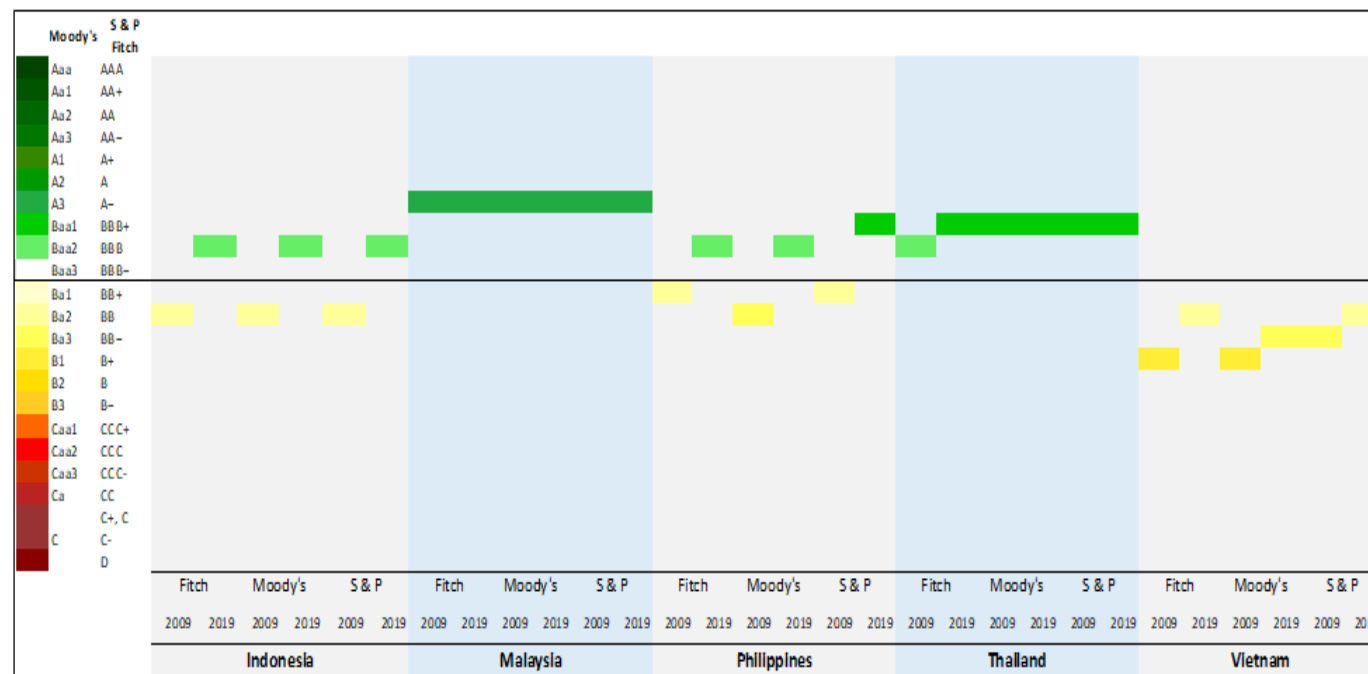


\*Consist of (1) foreign equity limitations; (2) discriminatory screening or approval mechanisms; (3) restrictions on employment of foreigners as key personnel; and (4) other operational restrictions (for instance, restrictions on branching, capital repatriation, or land ownership by foreign-owned enterprises). The index is valued on a 0 (open or no restrictions on FDI) to 1 (closed to FDI) scale

Source: OECD FDI Regulatory Restrictiveness Database

## ...progress attested by sovereign credit rating upgrades

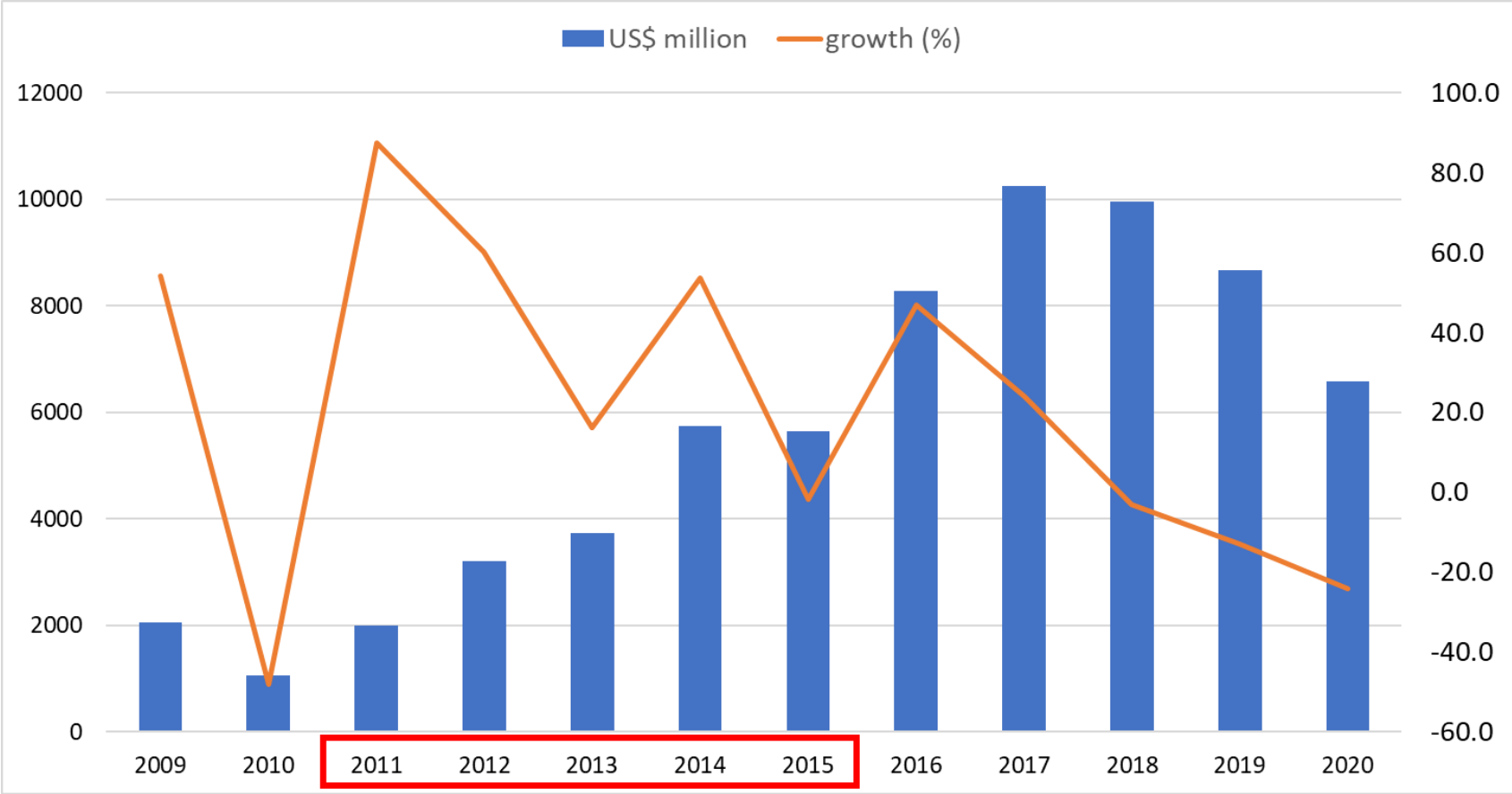
Figure 3. Sovereign Credit Ratings, 2009 and 2019



Source: Refinitiv, Standard and Poor's

*For the Philippines, sovereign credit rating upgrades led to improved FDI performance.*

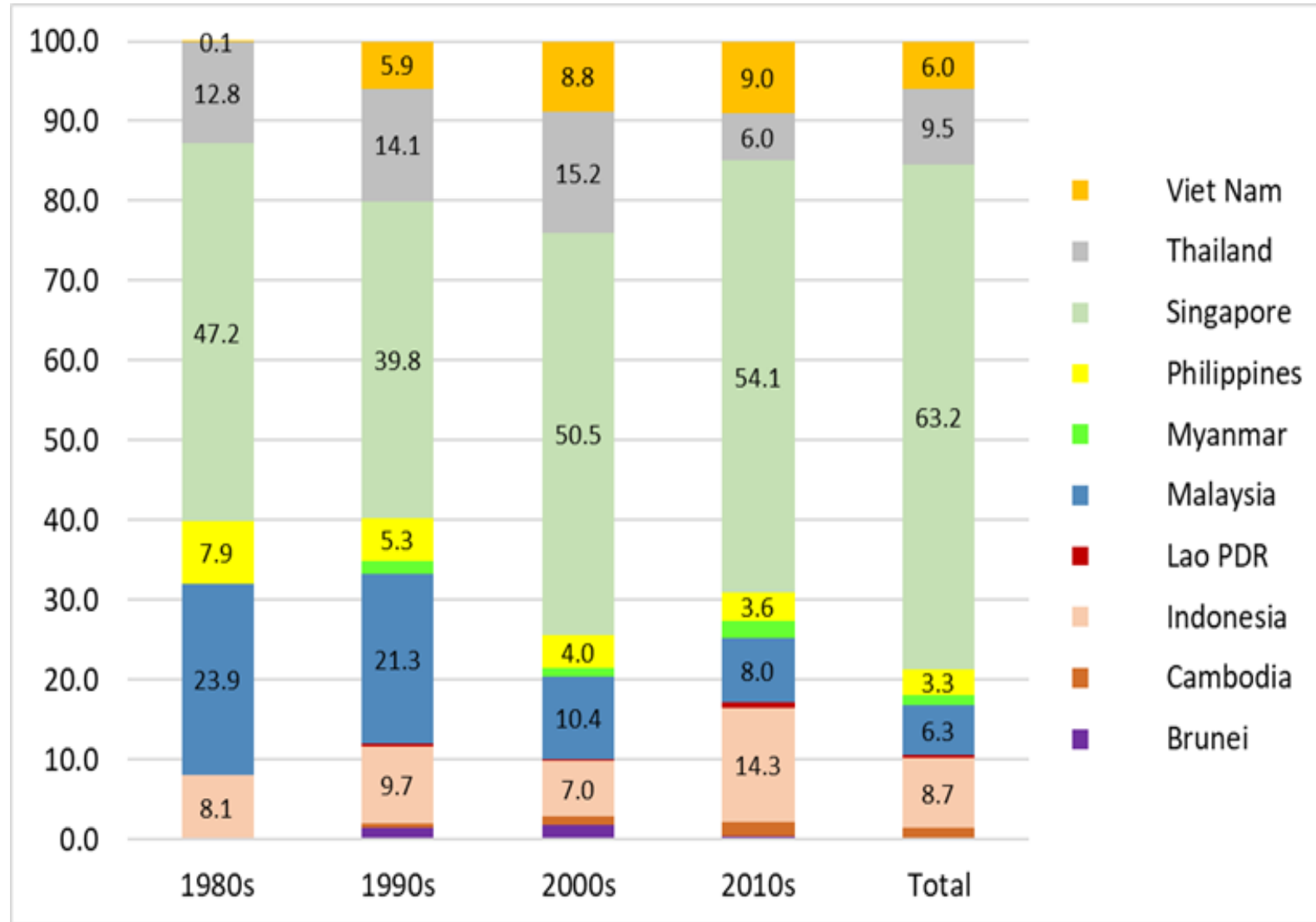
**Figure 4. FDI Inflows in the Philippines, 2009-2019**



Source: BSP Balance of Payments Statistics (BPM6)

- **Individual country FDI experiences have been varied**
  - Singapore consistent top recipient
  - The Philippines, Malaysia, and Thailand slipped
  - Vietnam and Indonesia improved
- **ASEAN countries are competing for FDI**

**Figure 5. FDI inflows in the ASEAN  
(% share of each country to ASEAN Total)**

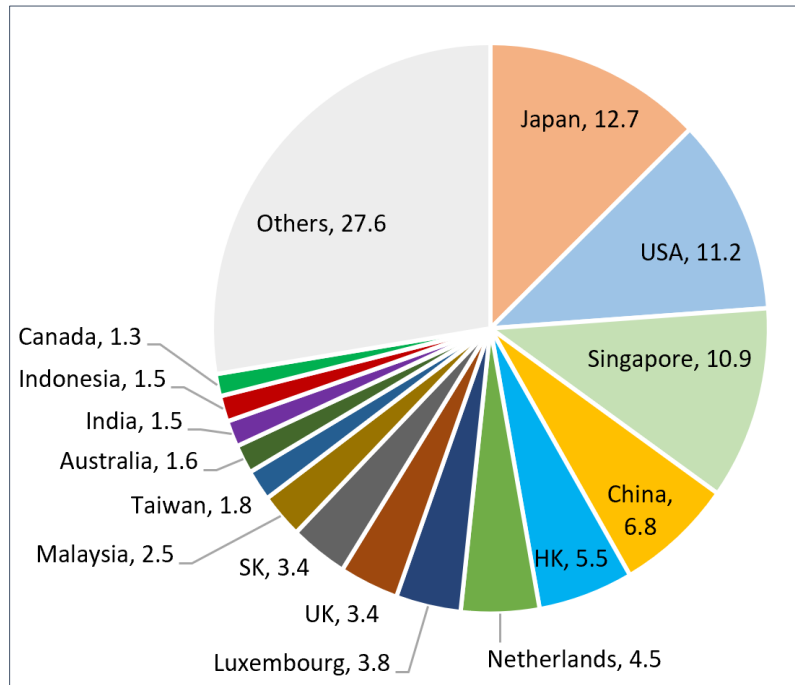


Source: UNCTAD



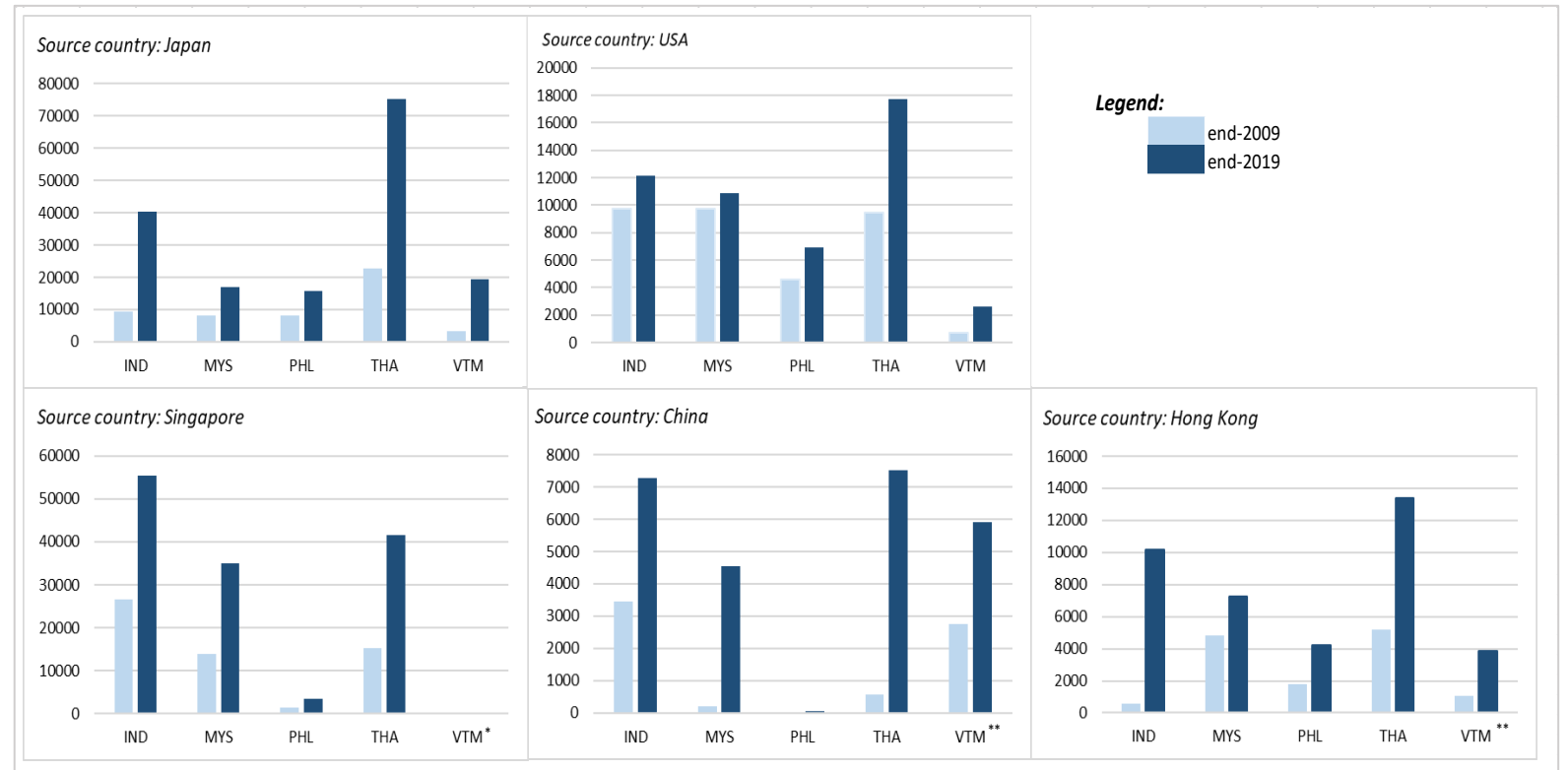
➤ **Top 15 source countries: 9 Asian and 6 non-Asian**

**Figure 6. ASEAN FDI by Source Country, 2010s  
(% share to ASEAN inward FDI)**



Source: ASEAN Statistics

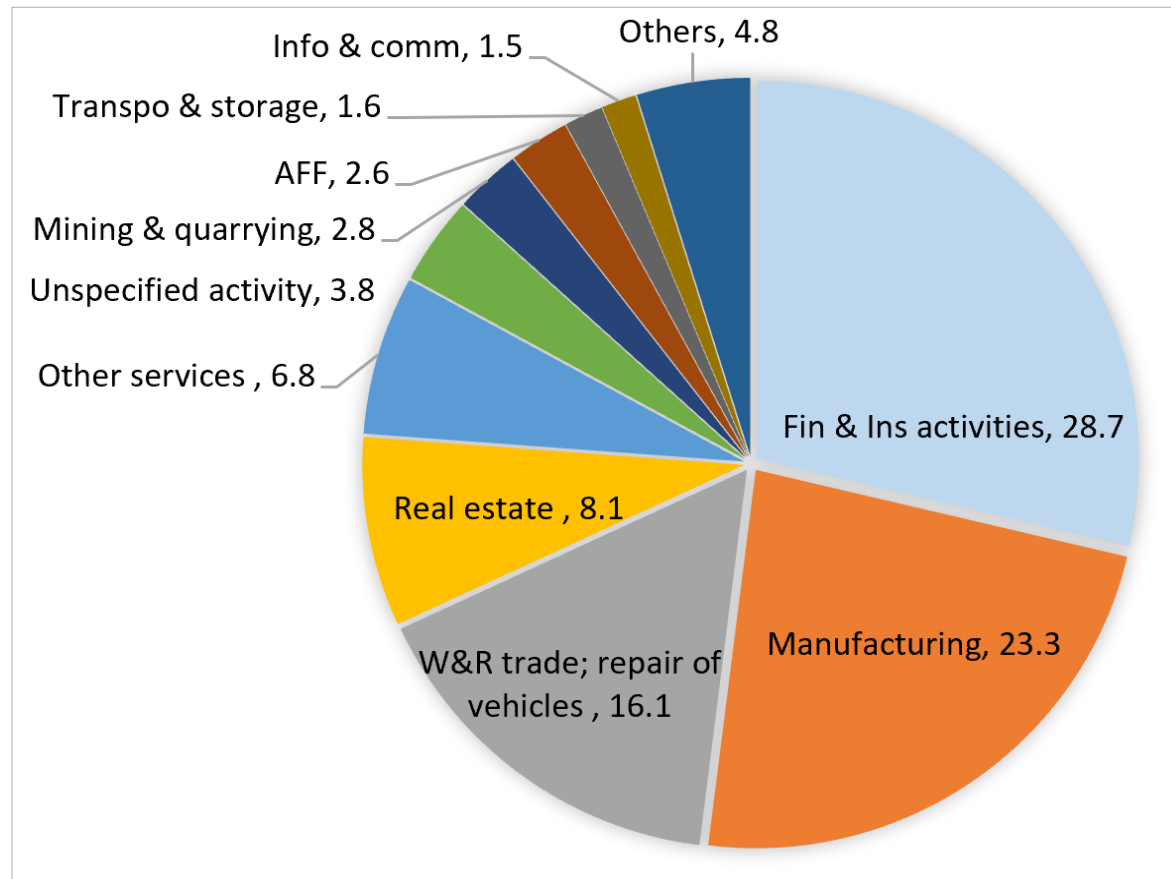
**Figure 7. FDI Outward Position of Source to Host Country, end-2009 and end-2019 (US\$ million)**



Notes: \*-confidential data; \*\*-some data points estimated  
 Source: IMF Coordinated Direct Investment Survey

- *Top recipient sectors were dominated by tertiary or services-oriented sectors*
- *Manufacturing remains an important recipient of FDI inflows*

Figure 8. Top Ten Recipient Sectors in ASEAN, 2012-2019 (US\$ millions)



Source: ASEAN Statistics

## Table 2. Top Five Recipient Sectors by Source Country, 2012-2019 (% of total FDI from Source Country)

Japan		United States		Singapore		China		Hong Kong		Netherlands		Luxembourg		United Kingdom	
<b>Manufacturing</b>	31.5	<b>Financial and Insurance activities</b>	45.7	<b>Manufacturing</b>	35.3	Real estate activities	23.8	<b>Financial and Insurance activities</b>	35.9	Wholesale and retail trade; repair of motor vehicles and motor cycles	47.8	<b>Financial and Insurance activities</b>	46.6	Wholesale and retail trade; repair of motor vehicles and motor cycles	34.8
<b>Financial and Insurance activities</b>	23.3	Wholesale and retail trade; repair of motor vehicles and motor cycles	16.1	Agriculture, forestry, and fishing	17.7	<b>Financial and Insurance activities</b>	20.9	<b>Manufacturing</b>	23.2	<b>Manufacturing</b>	17.4	<b>Manufacturing</b>	15.3	<b>Financial and Insurance activities</b>	28.1
Wholesale and retail trade; repair of motor vehicles and motor cycles	15.6	<b>Manufacturing</b>	15.6	<b>Financial and Insurance activities</b>	15.8	<b>Manufacturing</b>	13.7	Real estate activities	14.3	Mining and quarrying	12.4	Other services activities	15.2	Mining and quarrying	15.5
Other services activities	3.8	Other services activities	8.6	Wholesale and retail trade; repair of motor vehicles and motor cycles	9.0	Wholesale and retail trade; repair of motor vehicles and motor cycles	13.1	Wholesale and retail trade; repair of motor vehicles and motor cycles	8.1	Other services activities	5.9	Wholesale and retail trade; repair of motor vehicles and motor cycles	8.5	Other services activities	9.7
Real estate activities	2.4	Real estate activities	4.0	Real estate activities	8.7	Electricity, gas, steam and air conditioning supply	4.2	Construction	3.0	Electricity, gas, steam and air conditioning supply	3.2	Information and communication	3.0	Transportation and storage	5.6
South Korea		Malaysia		Taiwan		Australia		India		Indonesia		Canada			
<b>Manufacturing</b>	34.49	Real estate activities	33.02	<b>Financial and Insurance activities</b>	24.17	<b>Financial and Insurance activities</b>	58.73	<b>Financial and Insurance activities</b>	53.30	<b>Financial and Insurance activities</b>	36.45	<b>Financial and Insurance activities</b>	54.82		
Wholesale and retail trade; repair of motor vehicles and motor cycles	26.49	<b>Financial and Insurance activities</b>	23.15	<b>Manufacturing</b>	22.74	Wholesale and retail trade; repair of motor vehicles and motor cycles	32.92	Other services activities	16.25	Real estate activities	29.10	Professional, scientific and technical activities	24.50		
Real estate activities	5.48	<b>Manufacturing</b>	19.37	Wholesale and retail trade; repair of motor vehicles and motor cycles	20.31	Transportation and storage	5.78	Wholesale and retail trade; repair of motor vehicles and motor cycles	16.16	<b>Manufacturing</b>	12.35	Wholesale and retail trade; repair of motor vehicles and motor cycles	3.71		
<b>Financial and Insurance activities</b>	5.43	Information and communication	6.75	Construction	8.60	Mining and quarrying	4.27	Real estate activities	9.94	Mining and quarrying	8.23	<b>Manufacturing</b>	3.41		
Electricity, gas, steam and air conditioning supply	4.811	Mining and quarrying	5.15	Real estate activities	6.33	Real estate activities	3.18	<b>Manufacturing</b>	1.80	Other services activities	2.24	Real estate activities	1.31		

Source: ASEAN Statistics

# *Research Questions*

- What factors explain differences in FDI across ASEAN-5\* countries?
- How do foreign direct investors differentiate across host countries?
- Are sovereign credit ratings useful in determining an economy's attractiveness for FDI?

\* Indonesia, Malaysia, the Philippines, Thailand, and Vietnam

# 3. Review of Related Literature

## Theoretical Literature

- OLI framework: Ownership, Location, and Internalization (Dunning, 2001)
- Four types of FDI: resource-seeking, market-seeking, strategic asset-seeking, and efficiency-seeking (Dunning and Lundan, 2008; Meyer, 2015)
- Third-country export-platform FDI (Ekholm et al., 2007)

## Empirical Literature

- FDI constitutes long-term investments, thus, most likely driven by long-term considerations about the real economy (Koepke, 2015): macroeconomic stability, market size, economic openness and labor cost (Das, 2018; Bhasin and Murthy, 2017).
- Over time there have been changes in the focus of FDI determinants: tax-related variables, infrastructure, and institutions have become prominent factors (Bhasin and Murthy, 2017; Sahiti et al., 2018)
- Emerging strand of the literature: information provided by sovereign credit ratings (SCRs) can spillover to FDI (Emara and El Said, 2020; Cai et al., 2018; Kinato, 2017)

# 4. Empirical Exercise

Gravity Model: 
$$Y_{ijt} = \frac{X_{it}^a X_{jt}^b}{D_{ijt}^d}$$

$Y_{ijt}$  – FDI inflows from country i to country j at time t

$X_{it}$  – GDP of source country i at time t

$X_{jt}$  – GDP of host country j at time t

$D_{ijt}$  – geographical distance between countries i and j at time t; and **other investment costs**

- Bilateral FDI data from IMF's Coordinated Direct Investment Survey (CDIS)
- Annual frequency 2009-2019; 70 unique country-pairs used in estimations
- Host economies - ASEAN-5: Indonesia, Malaysia, the Philippines, Thailand and Vietnam
- Source economies - ASEAN's top 15 host countries:
  - 9 Asian: Japan, Singapore, China, Hong Kong, South Korea, Malaysia, Taiwan, India, Indonesia
  - 6 non-Asian: USA, United Kingdom, Canada, Australia, the Netherlands, and Luxembourg
- Poisson pseudo-maximum likelihood (PPML) estimator (Santos Silva and Teneyro, 2006)

## Some observations

 *best performer*

Variables	Highest	Lowest
FDI Inward Stock	THA	PHL
Real GDP	IND	VTM
Fitch	MLY	VTM
Moody's	MLY	VTM
S&P	MLY	VTM
Human capital index	THA	VTM
Corruption perception index*	MLY	PHL
Rule of law	MLY	PHL
Ease of doing business score	MLY	PHL
Quality of roads index	MLY	PHL
Telecommunications infrastructure index	MLY	IND
FDI equity restrictions index	PHL	VTM
Inflation	IND	MLY
Corporate tax rate	PHL	VTM/THA
Minimum monthly wage	MLY	VTM

*Notes: Based on end-2019 values; \*uses a scale of zero to 100, where zero is highly corrupt and 100 is very clean*

# 5. Results

## FDI from Top 15 Source Countries to ASEAN-5: Impact of Gravity Variables and Sovereign Credit Ratings

Dependent variable: <i>FDI outward position</i>	(1)	(2)	(3)	(4)
source market size	0.115 <i>0.209</i>	-0.672 <i>0.246</i>	-0.678 <i>0.285</i>	-0.682 <i>0.279</i>
<u>host market size</u>	0.793*** <i>0.001</i>	0.785*** <i>0.000</i>	0.863*** <i>0.000</i>	0.772 *** <i>0.000</i>
<u>distance</u>	-0.448** <i>0.01</i>	-0.443** <i>0.028</i>	-0.457** <i>0.017</i>	-0.455** <i>0.022</i>
<u>Fitch rating</u>		0.105** <i>0.029</i>		
<u>S &amp; P rating</u>			0.102** <i>0.029</i>	
<u>Moody's rating</u>				0.085** <i>0.041</i>
constant	-0.045 <i>0.989</i>	12.680 <i>0.216</i>	11.888 <i>0.281</i>	13.404 <i>0.225</i>
R-squared	0.19	0.77	0.78	0.77
RESET (p-value)	0.63	0.66	0.48	0.62
No. of Observations	700	700	700	700

Notes: (1) robust standard errors in italics; (2) \*, \*\*, and \*\*\* - significant at 10%; 5%, and 1%, respectively; (3) year and source country dummies included, but not shown; specification (1) excludes country dummies; (4) null hypothesis of RESET: no evidence of misspecification

- Larger market size of the destination/host economy increases FDI
- Greater geographical distance decreases FDI from source to host economy
- Higher sovereign credit ratings can prompt foreign direct investors to increase their FDI position in a destination/host country



## FDI from Top 15 Source Countries to ASEAN-5: Impact of Gravity Variables and Other Locational Factors

- *Strong evidence that high corporate tax rates deter foreign investors*
- *Some evidence that foreign equity restrictions have a significant impact on FDI*
- *Some evidence that better quality of human capital, public governance (less corruption and better rule of law), good infrastructure quality, and ease of trading across borders encourage FDI*
- *Modest impact: minimum wage, inflation*

Dependent variable: <i>FDI outward position</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
source market size	-0.594 <i>0.316</i>	-0.446 <i>0.438</i>	-0.508 <i>0.334</i>	-0.509 <i>0.331</i>	-0.517 <i>0.312</i>	-0.515 <i>0.315</i>	-0.547 <i>0.305</i>	-0.485 <i>0.379</i>	-0.536 <i>0.300</i>	-0.507 <i>0.326</i>
host market size	0.853*** <i>0.000</i>	0.927*** <i>0.000</i>	0.943*** <i>0.000</i>	0.999*** <i>0.000</i>	1.009*** <i>0.000</i>	1.029*** <i>0.000</i>	0.888*** <i>0.000</i>	1.049*** <i>0.000</i>	0.968*** <i>0.000</i>	1.042*** <i>0.000</i>
distance	-0.469*** <i>0.000</i>	-0.481*** <i>0.000</i>	-0.447*** <i>0.002</i>	-0.442*** <i>0.002</i>	-0.443*** <i>0.002</i>	-0.442*** <i>0.002</i>	-0.451*** <i>0.001</i>	-0.462*** <i>0.001</i>	-0.446*** <i>0.002</i>	-0.450*** <i>0.001</i>
corporate tax	-1.182*** <i>0.001</i>	-0.943*** <i>0.002</i>	-1.214*** <i>0.000</i>	-1.023*** <i>0.001</i>	-0.795*** <i>0.008</i>	-0.717*** <i>0.007</i>	-1.134*** <i>0.001</i>	-1.031*** <i>0.001</i>	-0.820** <i>0.034</i>	-0.649* <i>0.072</i>
minimum wage	-0.074** <i>0.040</i>	-0.062* <i>0.079</i>	-0.02 <i>0.350</i>	-0.015 <i>0.467</i>	-0.023 <i>0.262</i>	-0.023 <i>0.216</i>	-0.026 <i>0.323</i>	0.025 <i>0.424</i>	-0.026 <i>0.316</i>	-0.018 <i>0.528</i>
human capital	4.328*** <i>0.001</i>	2.986*** <i>0.001</i>	2.399*** <i>0.010</i>	2.199** <i>0.020</i>	1.178 <i>0.160</i>	1.17 <i>0.110</i>	2.147*** <i>0.010</i>	1.053 <i>0.167</i>	1.243 <i>0.219</i>	0.710 <i>0.424</i>
FDI equity restrictions	-0.499** <i>0.022</i>	-0.509** <i>0.014</i>	-0.422* <i>0.066</i>	-0.361 <i>0.131</i>	-0.431* <i>0.058</i>	-0.409* <i>0.085</i>	-0.337 <i>0.157</i>	-0.266 <i>0.262</i>	-0.384 <i>0.100</i>	-0.403* <i>0.075</i>
inflation		-0.054** <i>0.021</i>	-0.037 <i>0.111</i>	-0.03 <i>0.263</i>	-0.024 <i>0.284</i>	-0.023 <i>0.355</i>	-0.02 <i>0.332</i>	-0.058** <i>0.011</i>	-0.018 <i>0.414</i>	-0.030 <i>0.215</i>
corruption			0.688* <i>0.069</i>		0.312 <i>0.362</i>					
rule of law				0.970* <i>0.063</i>		0.418 <i>0.432</i>				
EDB-trading across borders					1.579*** <i>0.004</i>	1.510** <i>0.014</i>			1.322** <i>0.048</i>	1.834** <i>0.014</i>
road infra							0.589** <i>0.037</i>		0.316 <i>0.269</i>	
telecomms infra								0.570** <i>0.022</i>		0.141 <i>0.344</i>
constant	16.621 <i>0.109</i>	12.06 <i>0.234</i>	10.607 <i>0.273</i>	10.808 <i>0.264</i>	2.579 <i>0.805</i>	3.09 <i>0.76</i>	13.552 <i>0.161</i>	10.936 <i>0.276</i>	5.473 <i>0.628</i>	1.572 <i>0.887</i>
R-squared	0.82	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
RESET (p-value)	0.622	0.31	0.37	0.38	0.36	0.37	0.34	0.35	0.34	0.35
No. of Observations	700	700	700	700	700	700	700	700	700	700

# Using two different samples of source countries

*Asian: Japan, Singapore, China, Hong Kong, South Korea, Malaysia, Taiwan, India, Indonesia*

*Non-Asian: USA, United Kingdom, Canada, Australia, the Netherlands, and Luxembourg*

Locational Factors	Source Country	
	Asian	non-Asian
Source country size	✓ (-)	
Host country size	✓	✓
Distance	✓	
Sovereign credit rating		✓
Minimum wage		✓
Corporate tax rate	✓	✓
Human capital index	✓	✓
FDI equity restrictions	✓	✓
Inflation (macroeconomic stability)		✓
Corruption/Rule of Law		✓
EDB – trading across borders	✓	✓
Infrastructure		✓

# Main findings

## Differences between Asian and non-Asian direct investors

- Small market size of some Asian economies is a motivation to invest in ASEAN-5 countries
- Sovereign credit ratings have a positive signaling effect on non-Asian investors.
- Non-Asian investors are more sensitive to labor costs and governance.

## Common findings regardless of the FDI source country

- Foreign investors tend to invest more in host countries with larger market sizes.
- Foreign investors are deterred by high corporate tax rates.
- Foreign investors consider ease of trading across borders an important factor.
- Removing foreign equity restrictions can help increase direct investment.

# 6. Conclusion

- Sovereign credit ratings have signaling effects for foreign direct investors.
- Lower corporate tax rates can potentially increase FDI.
- Reducing restrictions on foreign equity can help increase investments.
- Ease of trading across borders is important for foreign investors in ASEAN-5.
- Governance is highly correlated with ease of doing business and quality of infrastructure.
- Foreign investors are attracted by a range of economic and non-economic factors.

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