



A Portrait of High-income Thailand : Future Labor Market Outlook

Research Institutes Network (RIN)

2022 Online Workshop V

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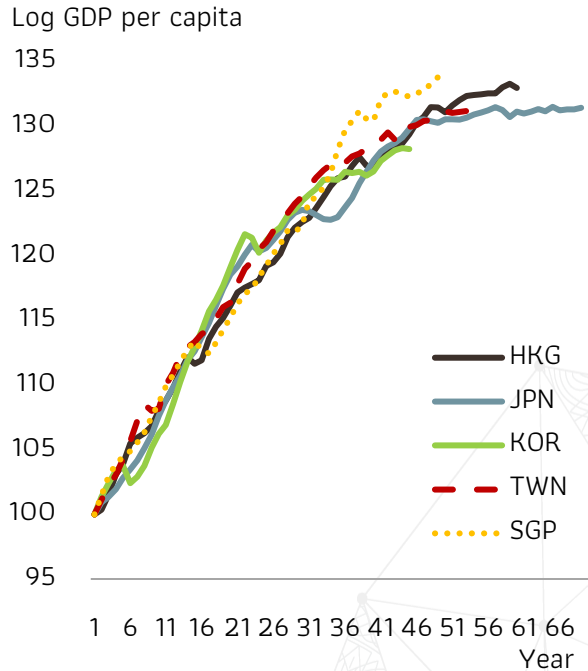
Pornchanok Tapkham

Structural Economic Policy Department

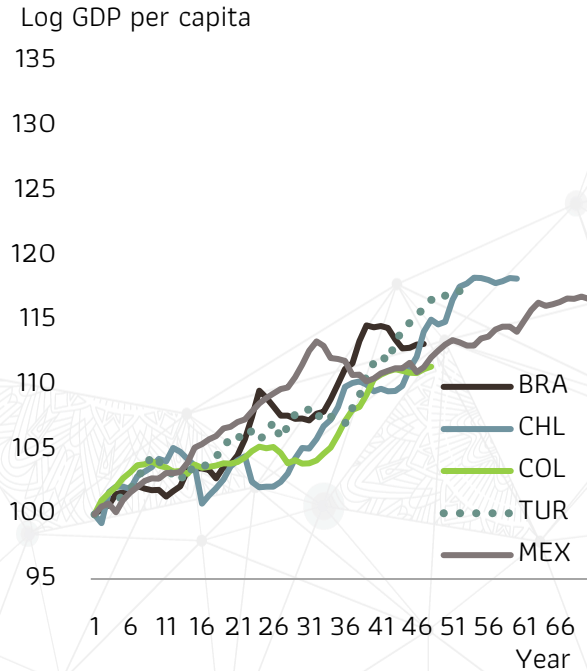
Bank of Thailand

The long-term economic growth trends are not necessarily directional

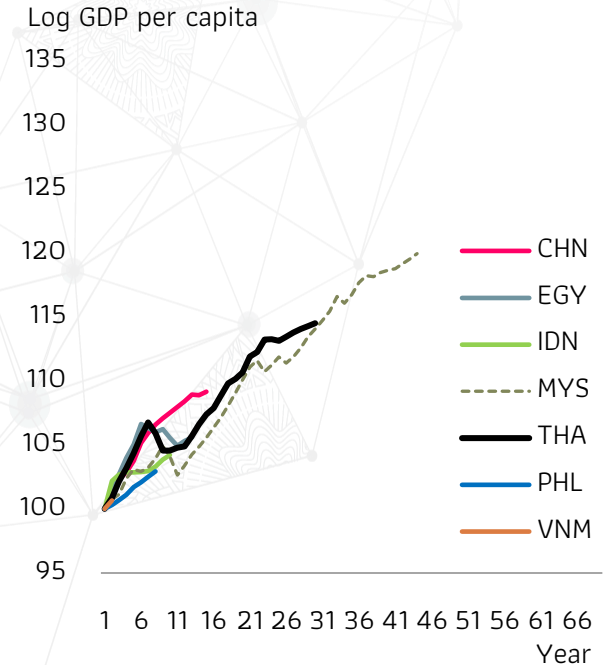
Attained High Income



Growth Reversals



Ongoing Growth Trends

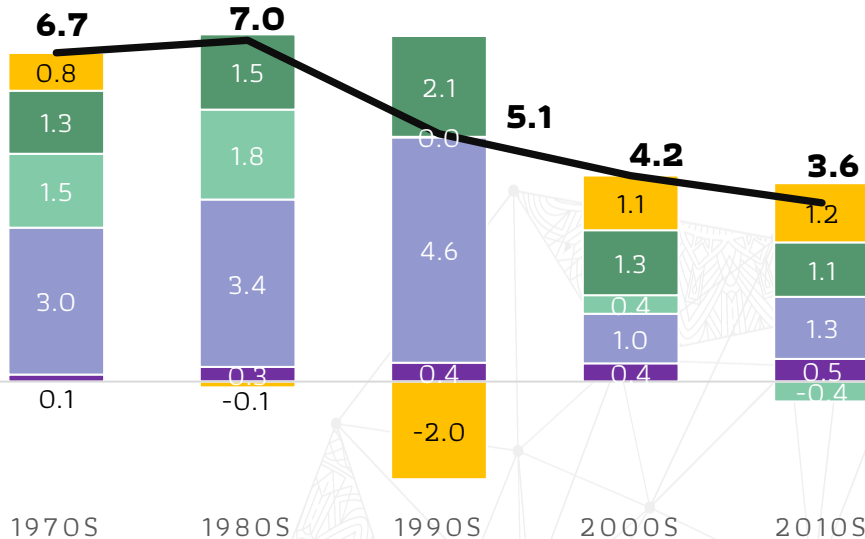
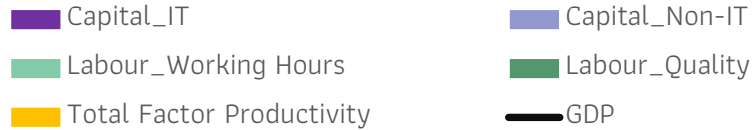


Source: Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer. [2015]. "The Next Generation of the Penn World Table". American Economic Review, 105[10], 3150-3182, available for download at www.ggdc.net/pwt

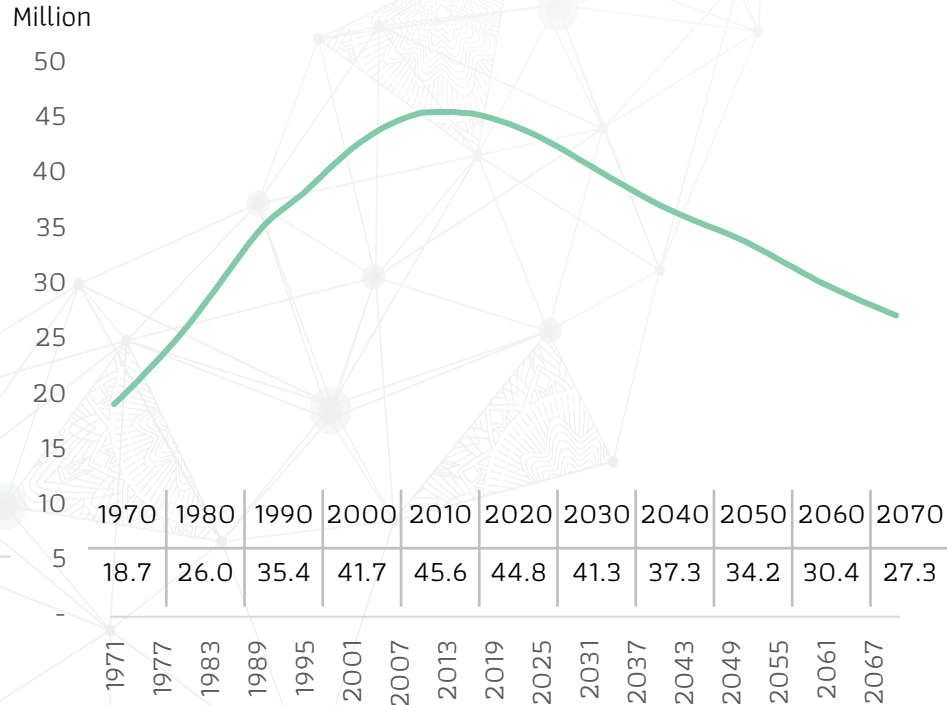
Note: Country graduates into middle-income status if her real GDP per capita reached \$3,000 constant 2005 PPP [year 1].

Even before the pandemic outbreak, Thailand's economic growth had slowed down

CONTRIBUTION TO GDP GROWTH



LABOUR WORKFORCE [15-59]

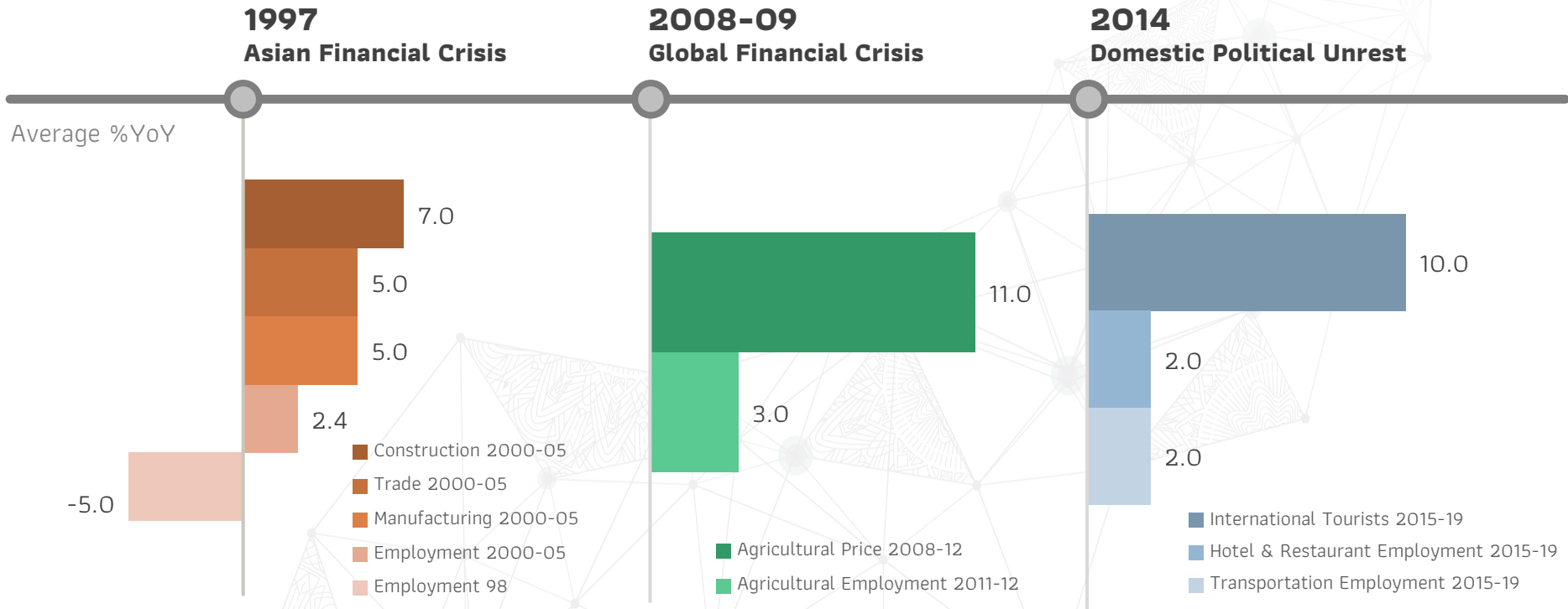


Source: UN Population Projection 2019.

Source: Asian Productivity Organization. [2021]. "APO Productivity Databook 2021".

Note: 1970s covers 1971-1979

Thailand's Labor Market Flexibility has allowed labor reallocation to be a key driver of economic growth



Source: Amarase and Laosutsan. [2021].

Data from National Statistical Office's Labor Force Survey, Ministry of Agriculture and Cooperatives's Farm Price Index, and Ministry of Tourism and Sports

Structural Issues : Ageing, Low Productivity & Skills Shortage

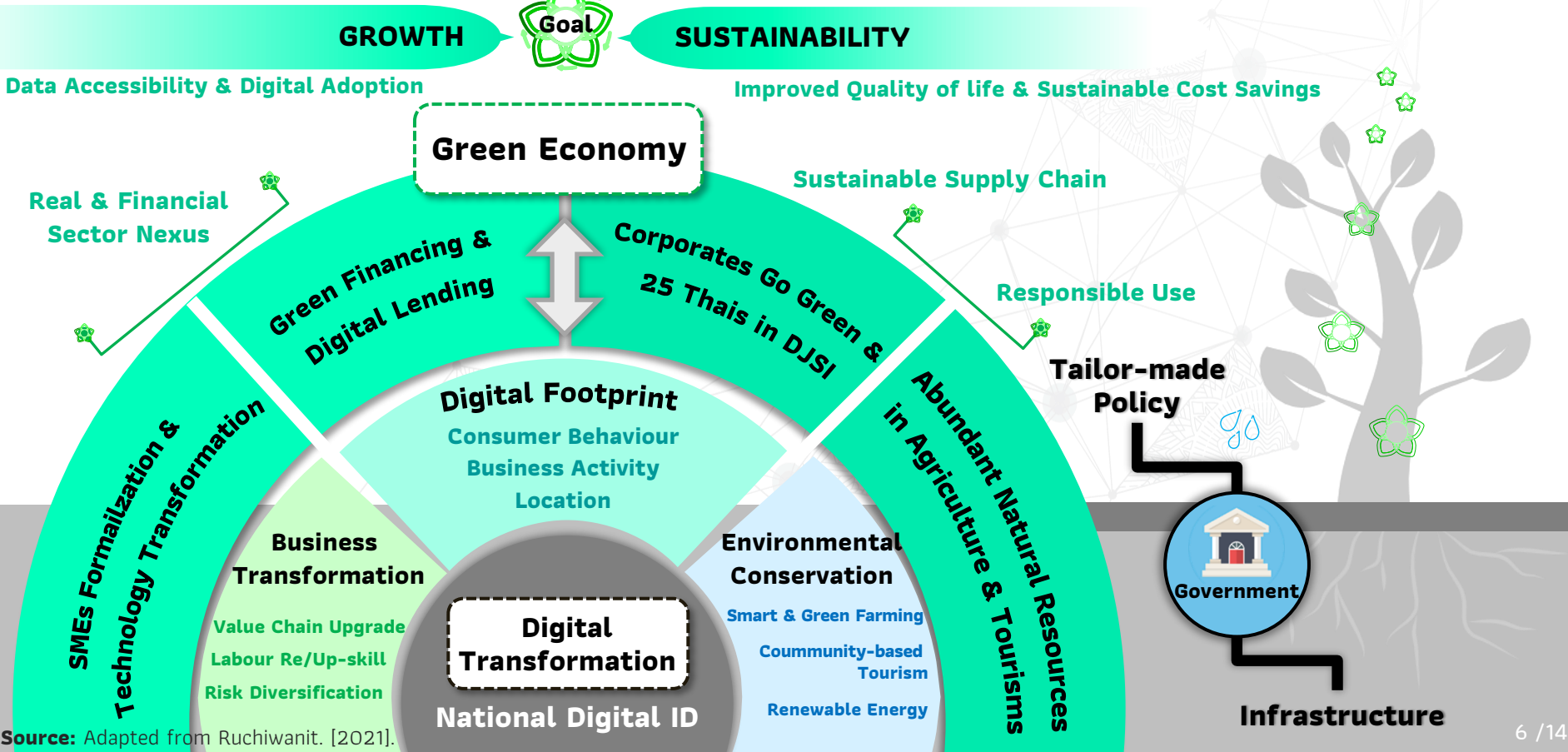


¹Based on average wages divided by sectors and skills ²Leepipatpiboon and Thongsri, 2017, figures in parentheses are number of labor and average wages as of Q4 2020
Source: Bank of Thailand & Eastern Economic Corridor. [2021]. *Thailand Labour Market Restructuring*



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BANK OF THAILAND

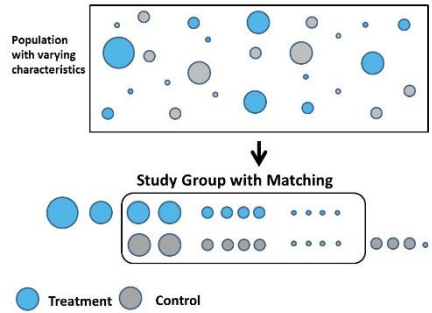
Digital and Green Economy have laid solid foundation for sustainable growth



Source: Adapted from Ruchiwanit. [2021].

Propensity score matching

$$\ln\left(\frac{e_i}{1-e_i}\right) = \ln\left(\frac{P(Z_i = 1 | x_i)}{1 - P(Z_i = 1 | x_i)}\right) = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \dots + \beta_p x_{ip}$$



Mean difference

$$\widehat{ATT} = \frac{1}{N_1} \sum_{i=1}^{N_1} \left(r_{1i} - \sum_{j=1}^{N_0} w_{ij} r_{0j} \right)$$

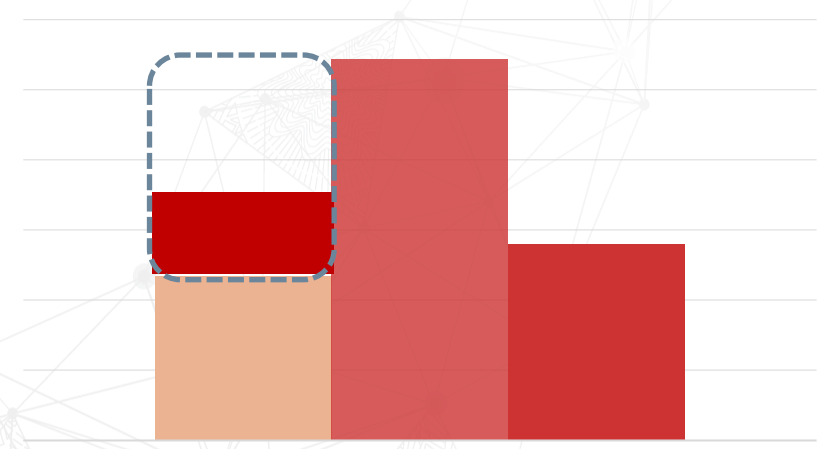
$$r_i = \beta_0 + \beta_1 z_i + \beta_2 e(X_i) + \beta_3 z_i \times e(X_i) + \varepsilon_i$$

$$w_{ij} = \frac{K\left(\frac{e(X_j) - e(X_i)}{h}\right)}{\sum_{l=1}^{N_0} K\left(\frac{e(X_l) - e(X_i)}{h}\right)}$$

Propensity Score Matching : Technician premium

baht/month

30,000
25,000
20,000
15,000
10,000
5,000
0



Manufacturing
[4.8 million]

- Non-Technician Earning
- Technician Earning
- Average Earning
- Technician premium*

* Technician premium is the estimated average treatment effect of technician occupation [1-digit ISCO < 4] on monthly earning, controlled for education level, degree's major and age

Source: National Statistical Office's Labor Force Survey 2019

Source: Wei Pan, Haiyan Bai. "Propensity Score Analysis Concepts and Issues".
Marc Ratkovic [2014]. "Propensity Score Matching and Beyond". Princeton University.

Riding the Green & Digital Wave to be a high-income Thailand

Pre COVID-19

High-income Thailand


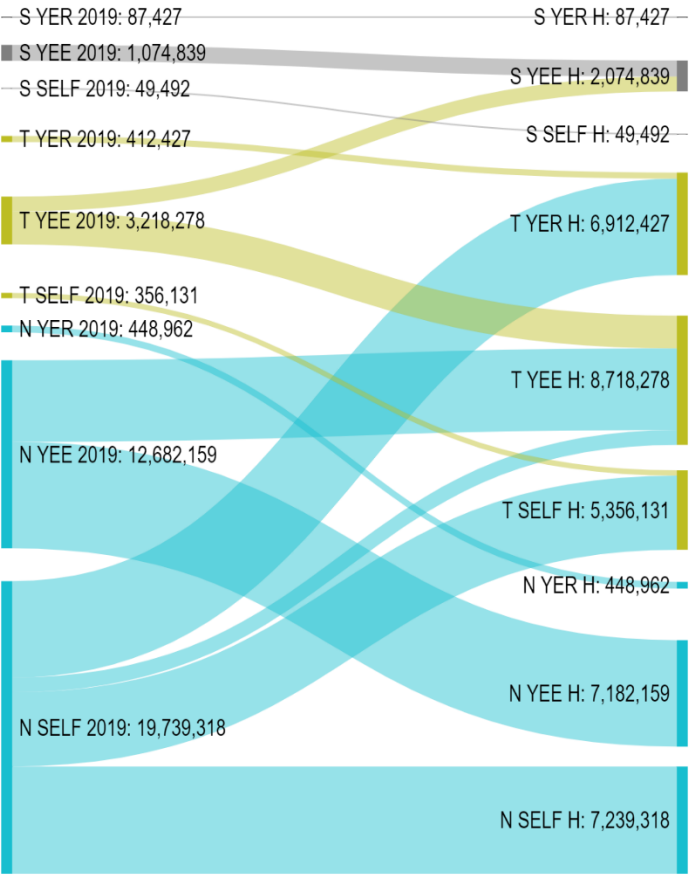
STEM
1.2 million




TECH
4 million




NON-TECH
33 million

STEM
2.2 million







TECH
21 million



NON-TECH
15 million



Green & Digital S-curve Plus

- 
Green Energy
 Biofuels & Biochemicals
- 
Green Technology
 Next - Generation Automotive
 Smart Electronics
 Robotics
 Aviation and Logistics
- 
Green Agro & Food
 Food for the Future
 Agro & Biotechnology
- 
Medical & Tourism
 Affluent, Medical & Wellness Tourism

Remark: S - STEM education, T - Technician, N - Low Skill, YER - Employer, YEE - Employee & SELF - Self-employed

Manufacturing Sectors :

Expand growth beyond Bangkok and vicinity & EEC

Pre COVID-19

High-income Thailand

High Income Worker
[persons]

	BKK & EEC	Other
Agro & Food	13,943	384
Energy & Chemical	13,853	1,602
Electronic & Machinery	3,590	950
ICT & Vehicle	497	3,040
Medical & Pharmaceutical	1,226	13
Other Manufacturing	5,966	242



	Formal	Informal
	239,344	534,457
	242,431	24,645
	198,152	-
	65,226	48,287
	74,108	36,096
	73,332	1,205



+ 0.89 million

+ 0.64 million



Remark : High income workers of manufacturing sector (ISIC 4 digit) in provinces with salary at least 30,000 baht/month

Formal covers employees under section 33 of the Social Security Act

Source : Social Security Offices, National Statistical Office's Labor Force Survey and calculated by authors

Fully utilize local endowment such as natural and cultural resources

Pre COVID-19

High-income Thailand

High Income Worker
[persons]

BKK & EEC

Other

Formal

Informal

Logistics

34,289

25

30,953

18,292



Trade

50,288

22

252,382

43,826



**R&D
Consultancy**

215,114

100

117,334

-



Finance

252,525

50

26,950

92,768



**ICT Media &
Entertainment**

99,775

1,608

73,537

92,594



**Real Estate &
Construction**

6,531

44

157,023

2,647



Other Services

2,362

-

1,466

17,736



**+ 0.66
million**

**+ 0.27
million**

Remark : High income workers of service sectors [ISIC 4 digit] in provinces with salary at least 30,000 baht/month

Formal covers employees under section 33 of the Social Security Act

Source : Social Security Offices, National Statistical Office's Labor Force Survey and calculated by authors

Promote SMEs' formalization & Foster their Entrepreneurship

Pre COVID-19

High-income Thailand

Self-employed
[persons]

Formal
Full-time Part-time

Informal
Full-time Part-time

**Manufacturing
& Construction**

58,458 6,792

771,187 76,164

Trade

153,314 4,549

2,000,335 52,206

Logistics

55,182 604

449,271 25,573

Other Services

51,800 8,827

578,938 78,538

**Hotel &
Restaurant**

94,670 4,325

1,142,833 4,514

Agriculture

87,206 29,834

4,464,301 1,810,821



**+ 3.8
million**



**+ 1.5
million**







**+ 4.0
million**



Remark : Full-time self-employed works at least 35 hours / week

Formal covers self-employed under section 39 and 40 of the Social Security Act

Source : Social Security Offices, National Statistical Office's Labor Force Survey and calculated by authors

4 Themes	HOW?	Impact
 <p>Advanced Sectors</p>	<ul style="list-style-type: none"> New investment 0.6 trillion baht/year [within EEC ¹] Hire additional 1 million STEM employees Upskill 6 million employees 	<p>28% of GDP</p>
 <p>SMEs Formalization 5 million²</p>	<ul style="list-style-type: none"> Promote SMEs' formalization & Upscale their business capacity through digital finance and public measure access Foster entrepreneurship for 2.5 million self-employed / Upskill 2.5 million employees 	<p>20% of GDP</p>
 <p>Sustainable Tourism 7.5 million³</p>	<ul style="list-style-type: none"> Sustainable Tourism & Medical Hub : Reduce 20% of international tourist but boost spending per head 50% ³ Raise business capacity of 2 million employer / Transform 1 million self-employed to be employer / Upskill 1 million employees under social security system 	<p>16% of GDP</p>
 <p>Smart Agriculture 12.4 million¹</p>	<ul style="list-style-type: none"> Raise 200% ⁴ of GDP in agricultural sector Transform 3 million traditional farmers to be smart farmer / Upskill 1 million employees in agricultural sector 	<p>16% of GDP</p>

¹ Bank of Thailand & Eastern Economic Corridor. [2021]. "Thailand Labour Market Restructuring"

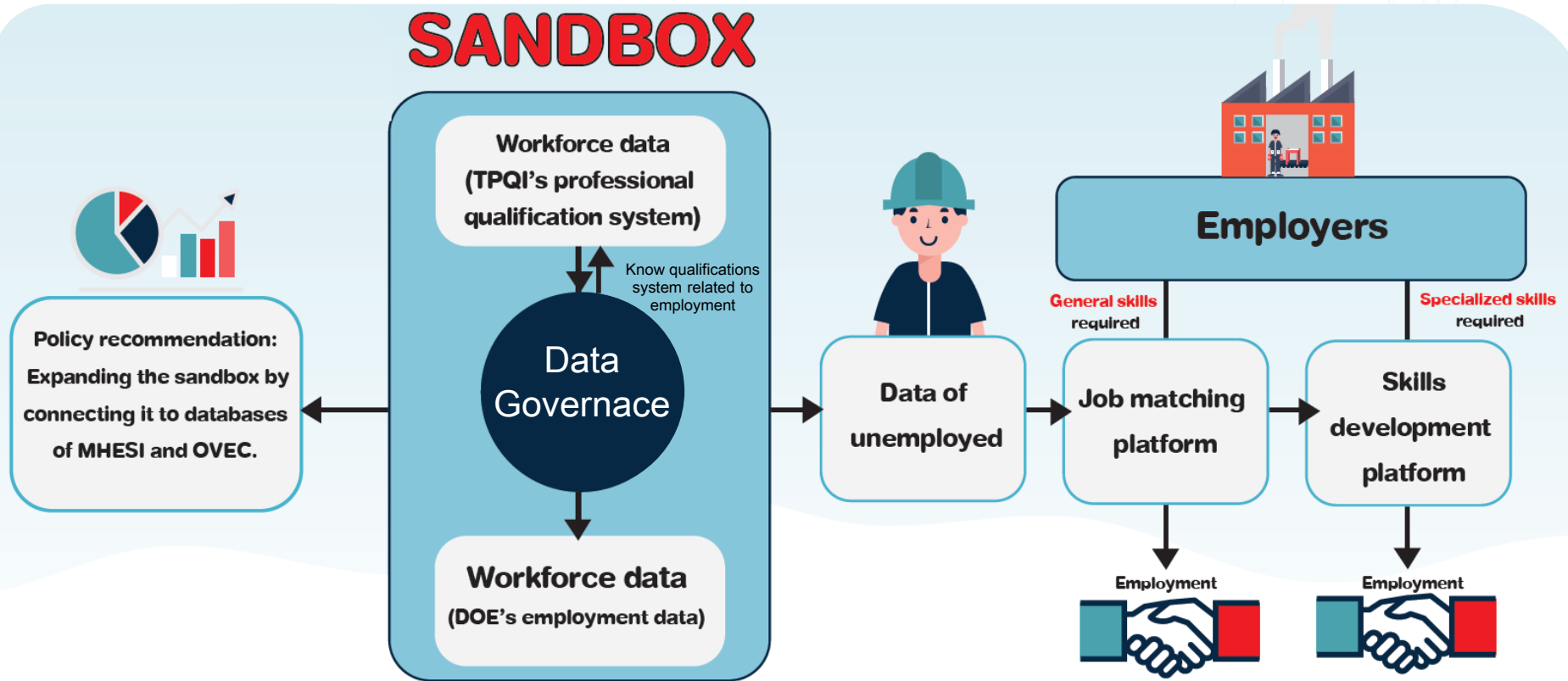
² Excluding registered SMEs based on OSMEP [2014]. "Thai SME's Introduction" and OSMEP [2021], "New Definition of Entrepreneur's Size"

³ Surawattananon et al [2021]. "Revitalising Thailand's tourism sector : In Search of Enablers for Future Sustainability"

⁴ NSTDA [2020]. "Smart Farming"

Skills development assists unemployed who lack skills or qualifications to match job vacancies

SANDBOX



Source: Thailand Professional Qualification Institute. [2021]. "E-Workforce Ecosystem : Optimizing National Workforce Management "



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Q & A