

Competitiveness of Thailand's Manufacturing Sector

Bhanupong

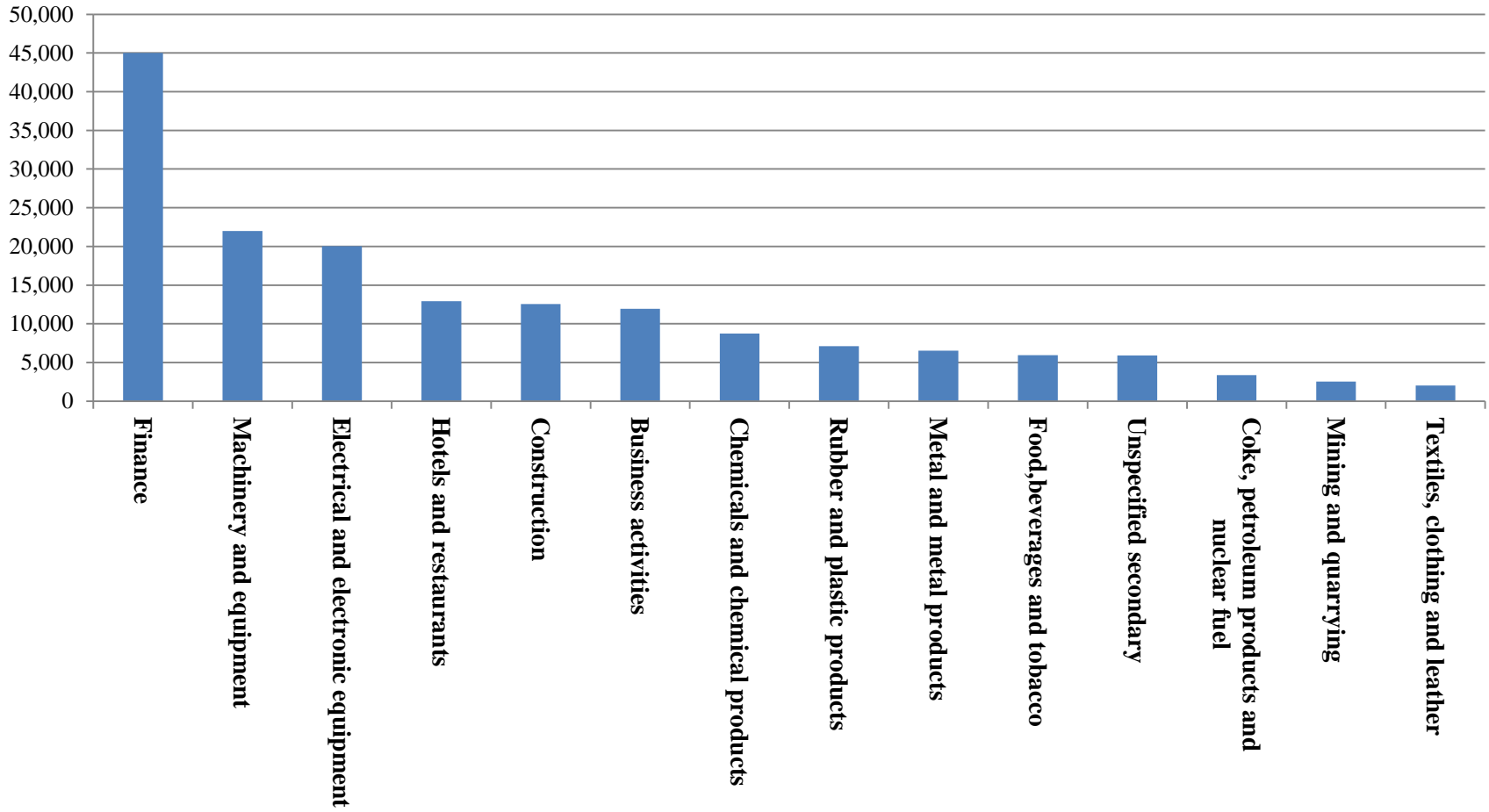
Lecture 13

Key issues

1. FDI, industrial development, and lessons from China
2. Overview of Thailand's industry
3. Global competitiveness
4. Manufacturing sector: BCG model
5. Diversification of exports

1. Thailand's FDI stock (2012)

USD million



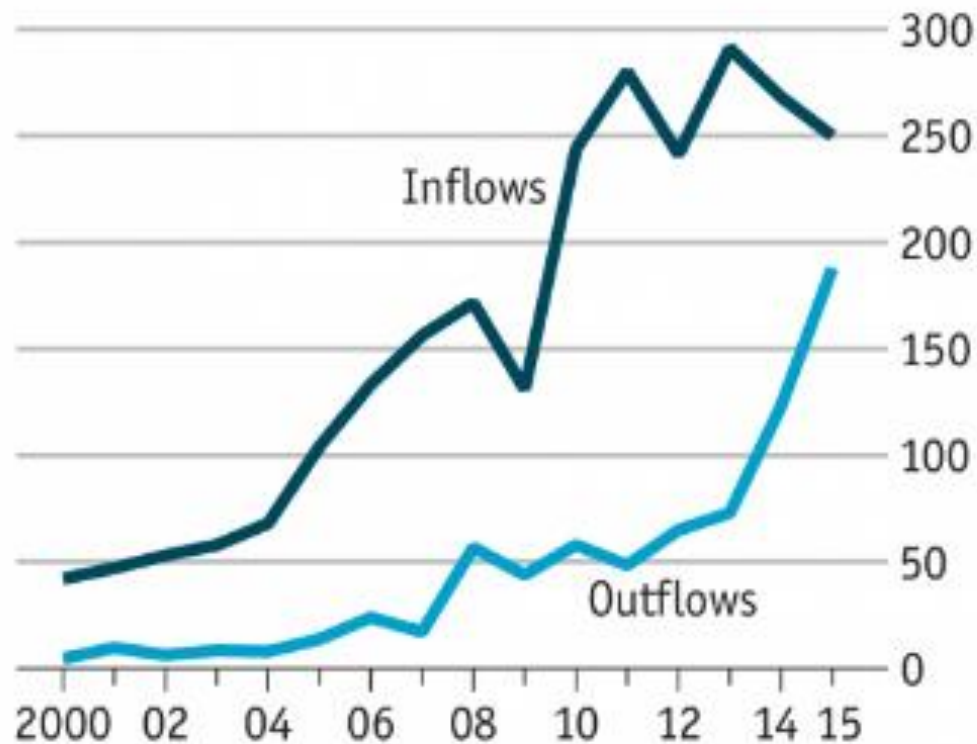
FDI-driven growth

- FDI has always been the lifeline to Thailand's industrial development.
- With strong value of the baht, rising wages, and political uncertainty, foreign direct investment has been directed to other countries in the region; thereby constraining capacity output growth and competitiveness of the industries.

China's inflows of foreign investment

Not so hot

China, foreign direct investment, \$bn



Source: World Bank

China's eight emerging industries

- China's emerging industries have a great need for development in terms of technological innovation and national development and play a leading role in the long-term development of the society as a whole.
- The emerging industries announced last year by China's National Bureau of Statistics include **eight** major industries:
- Energy-efficient and environmental technologies, next-generation information technology (IT), biotechnology, high-end equipment manufacturing, new energy, new materials, new energy vehicles, and digital technology.

China's Industry Development Strategy

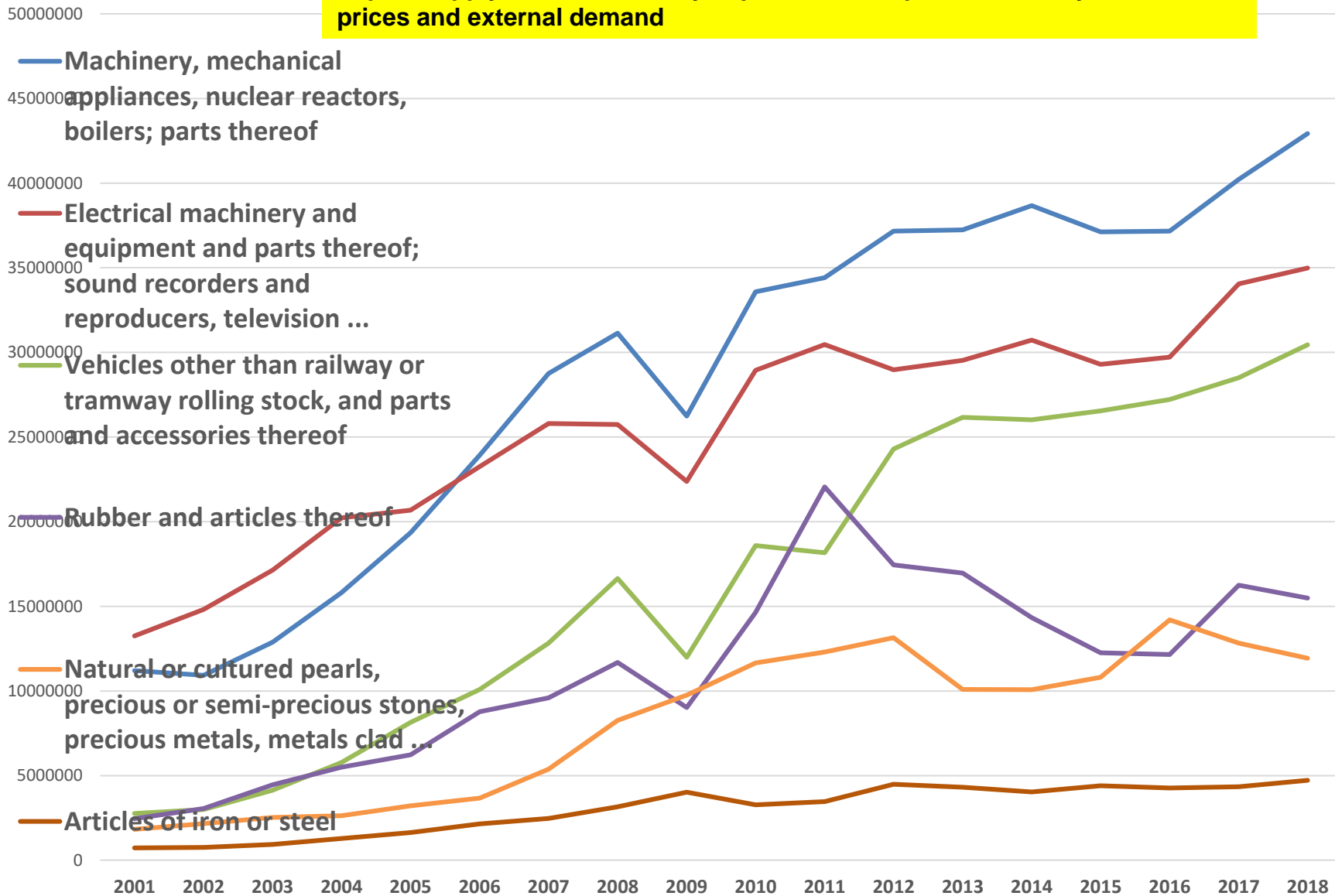
- The Chinese government has established **long-term goals** at the national level to foster emerging industries and is implementing national strategies to achieve them.
- First, through participation in the international technology standardization process, China is aiming to enhance its competitiveness.
- Second, China is *jointly conducting R&D* by providing an infrastructure and development environment favorable to *overseas companies*.
- Third, the Chinese government is striving **to maximize synergies** among industries.
- Fourth, the government aims to enhance competitiveness through a strategy that **reduces market intervention** and creates sound market order.

2. Overview of Thailand's industries

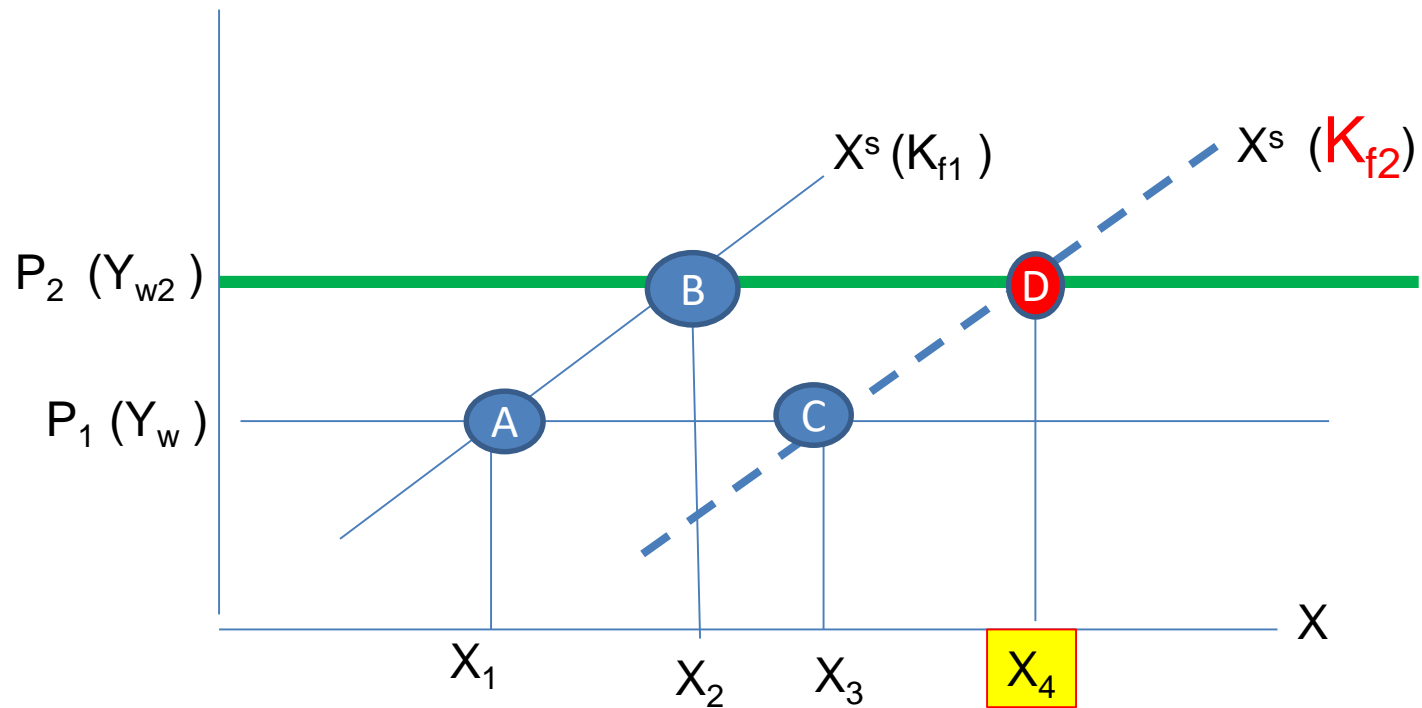
- The growth of Thailand's industry is largely determined by external demand. The world business cycles are responsible for fluctuations in Thailand's manufactured exports.
- Thailand is a price taker in the world markets.
- On the supply side, capital stock of the industry accumulated from substantial flows of foreign direct investment contributed to spectacular export performance in the past.

Thailand's major export commodities (million usd)

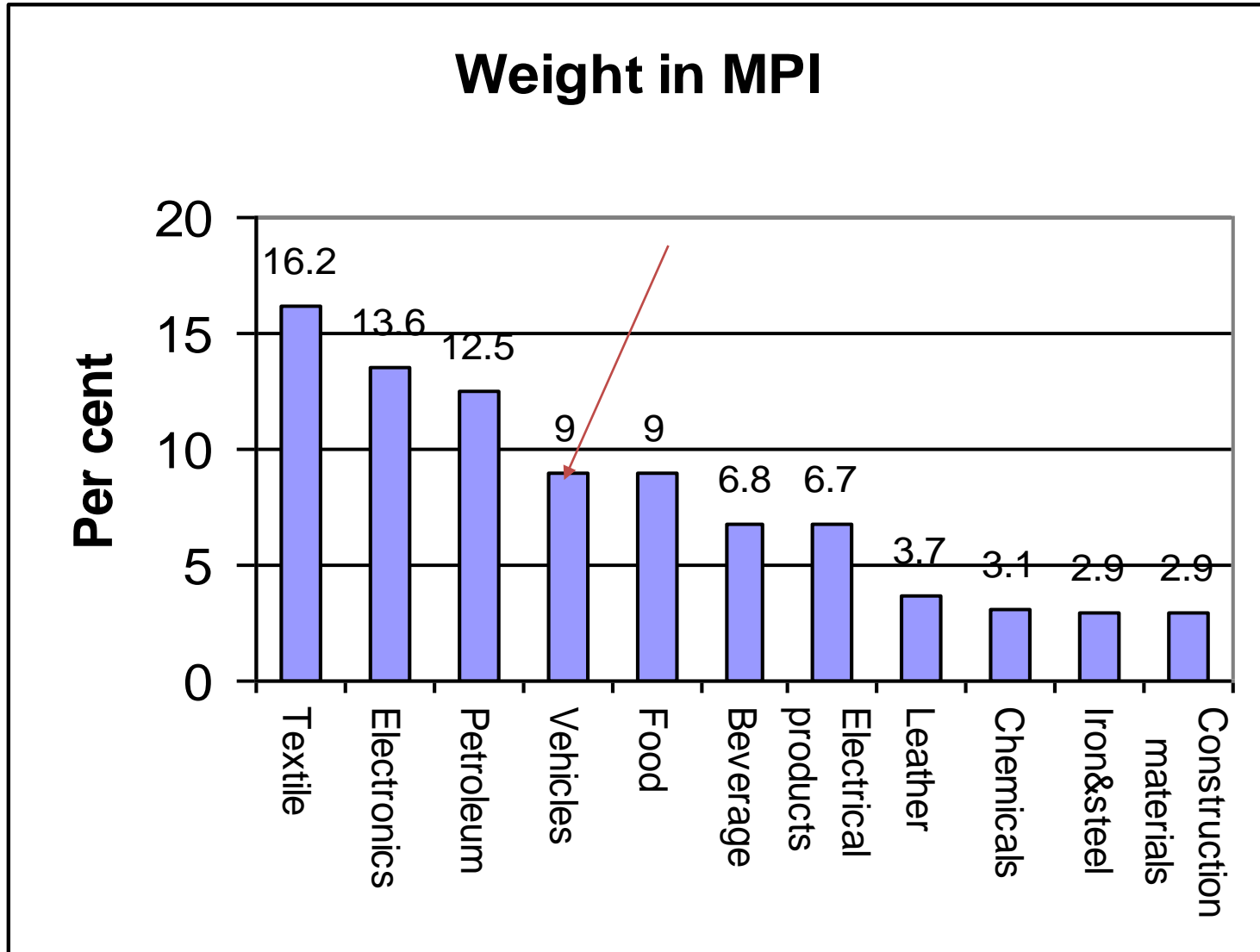
Export supply is determined by capital stock, export demand by world prices and external demand



Increased FDI stock (K_2) and rising world output level (Y_{w2}) led to booming exports (X_4)

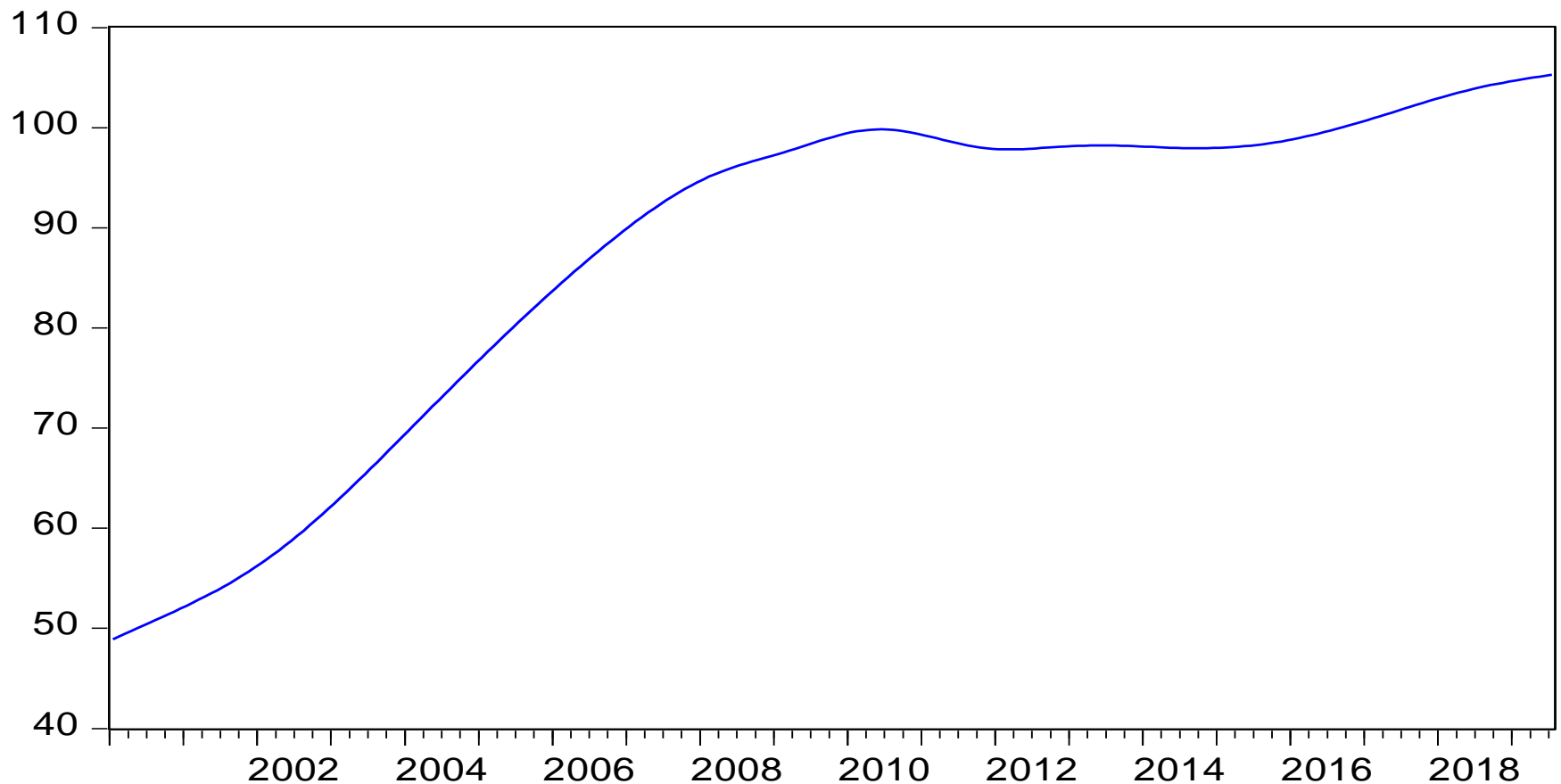


Thailand's major Industries

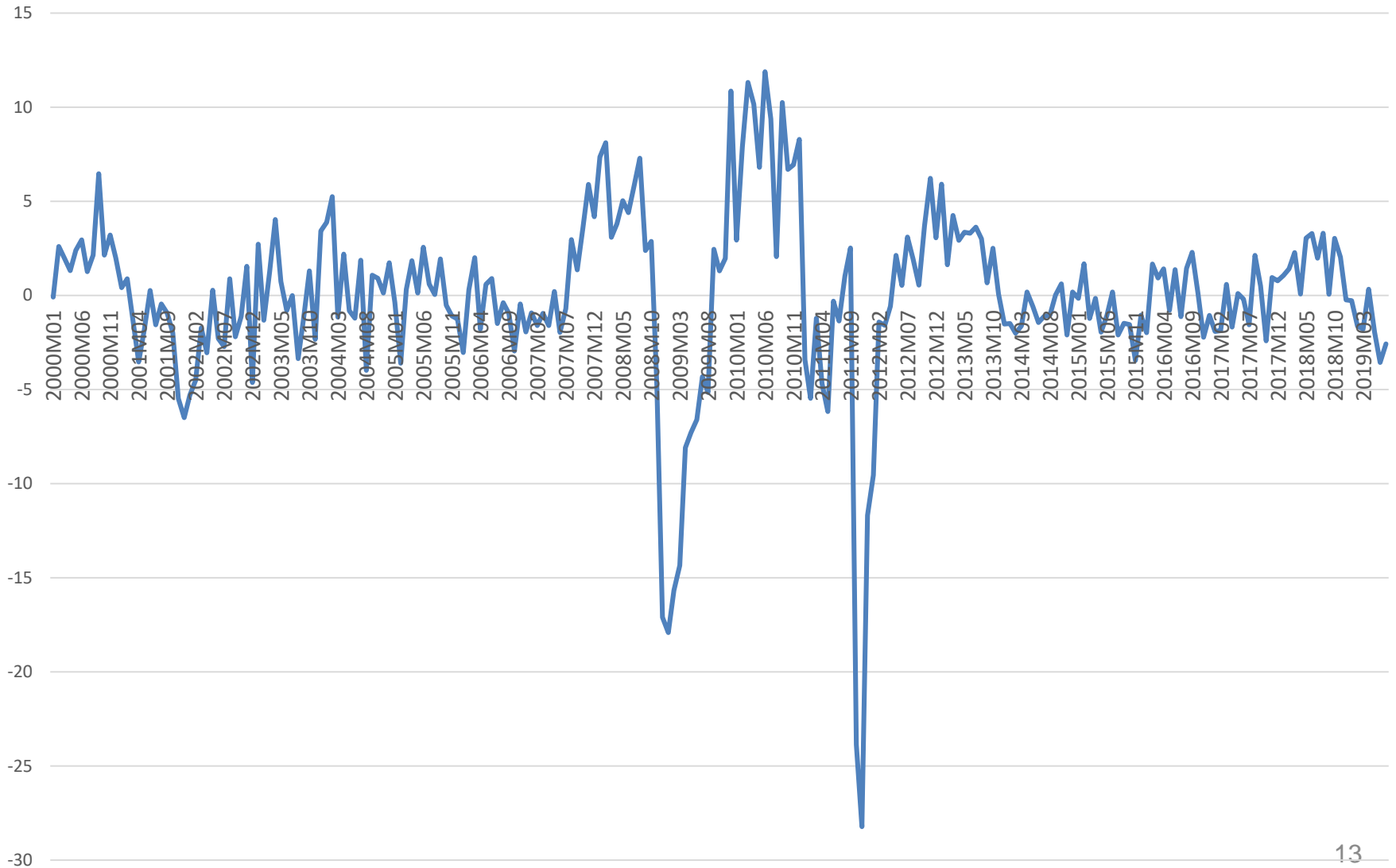


Manufacturing Production Index (MPI)

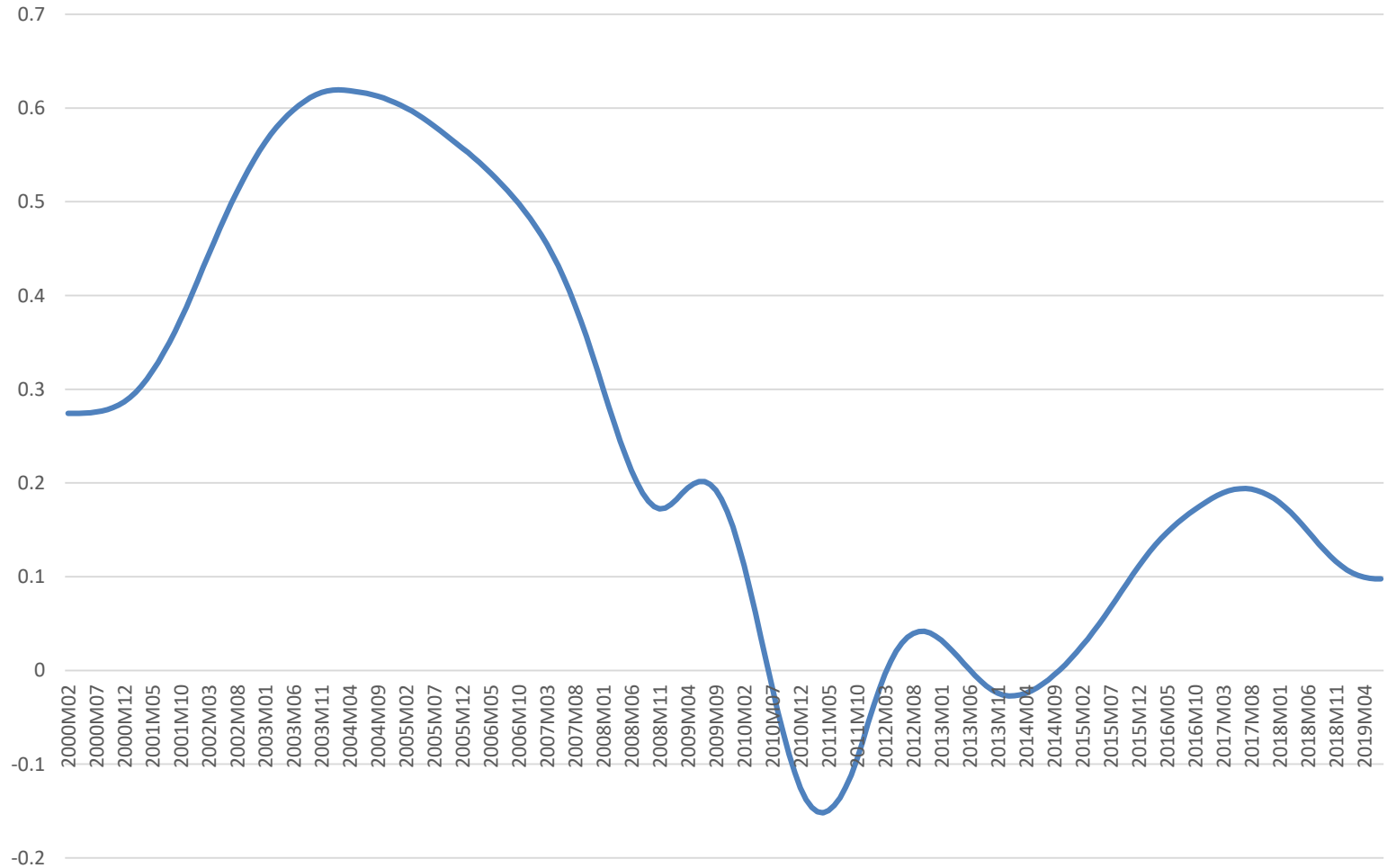
TREND of MPI



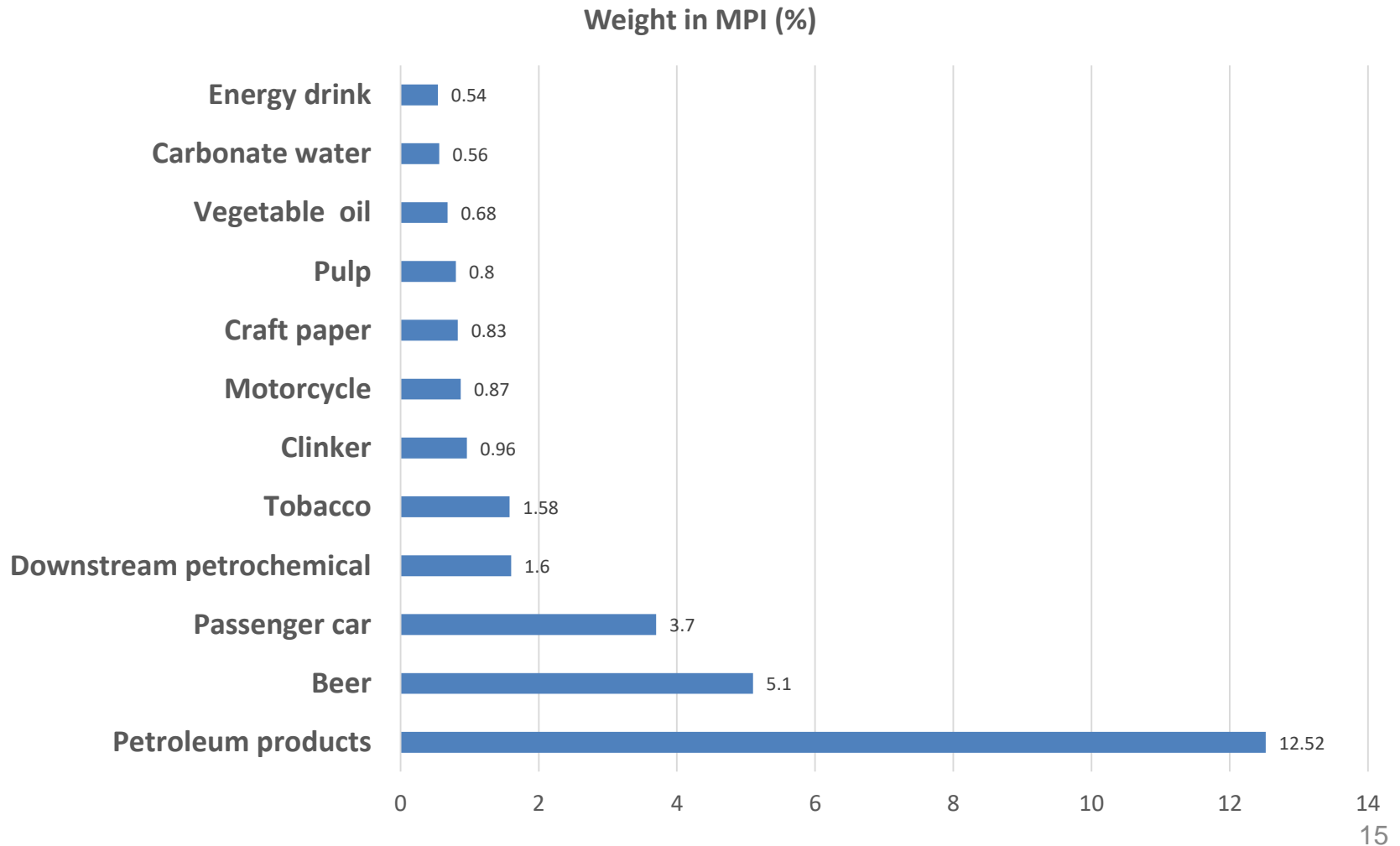
Deviation from the trend manufacturing output: 2000-2019 Percent



Changes in the MPI trend 2000-2019



Domestic market-oriented Industry (Export-output ratio < 0.3)

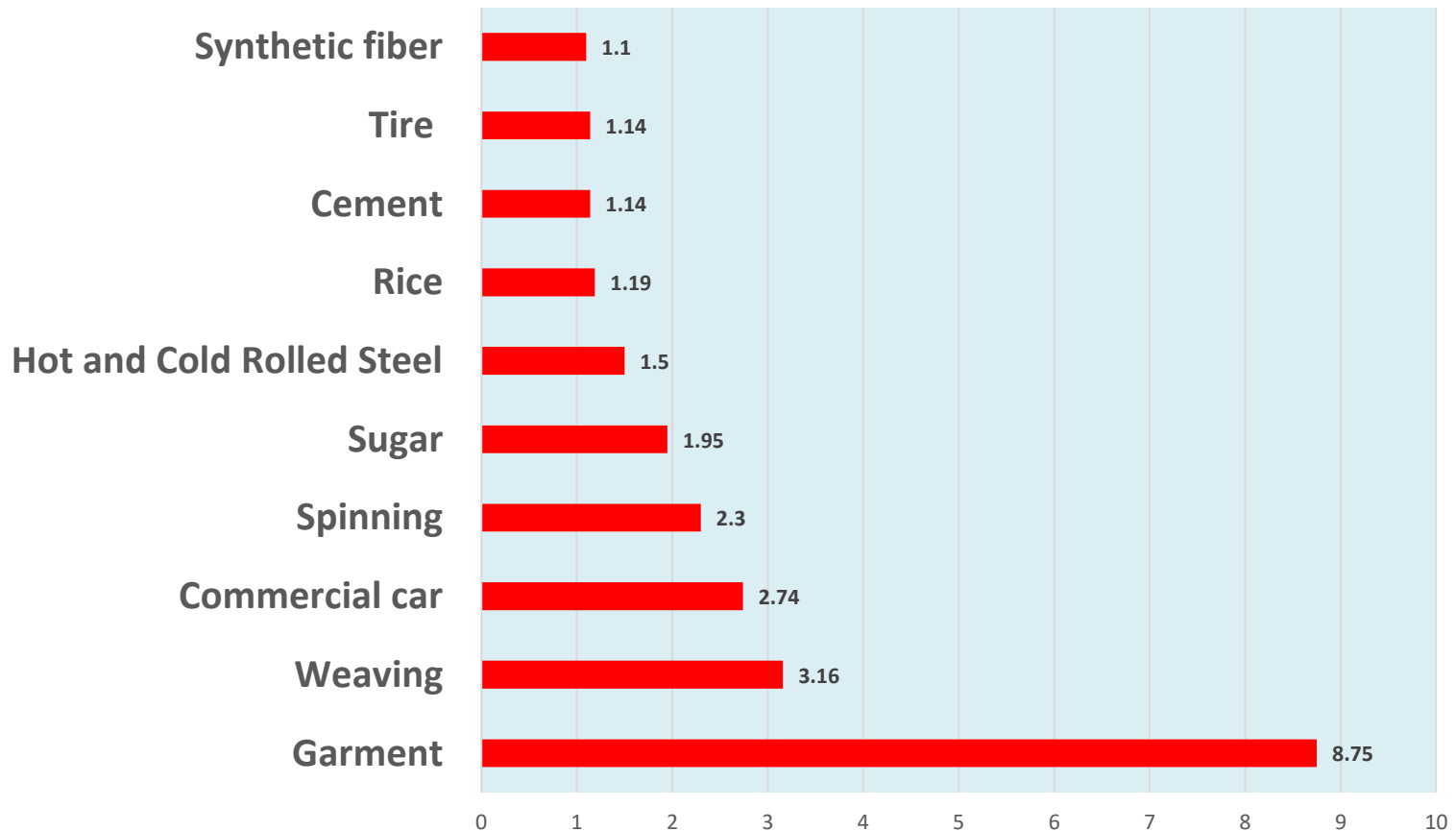


Export market-oriented Industry:

$$0.3 < (X/Q) < 0.6$$

Weight in MPI (%)

Export Oriented: Weight in MPI

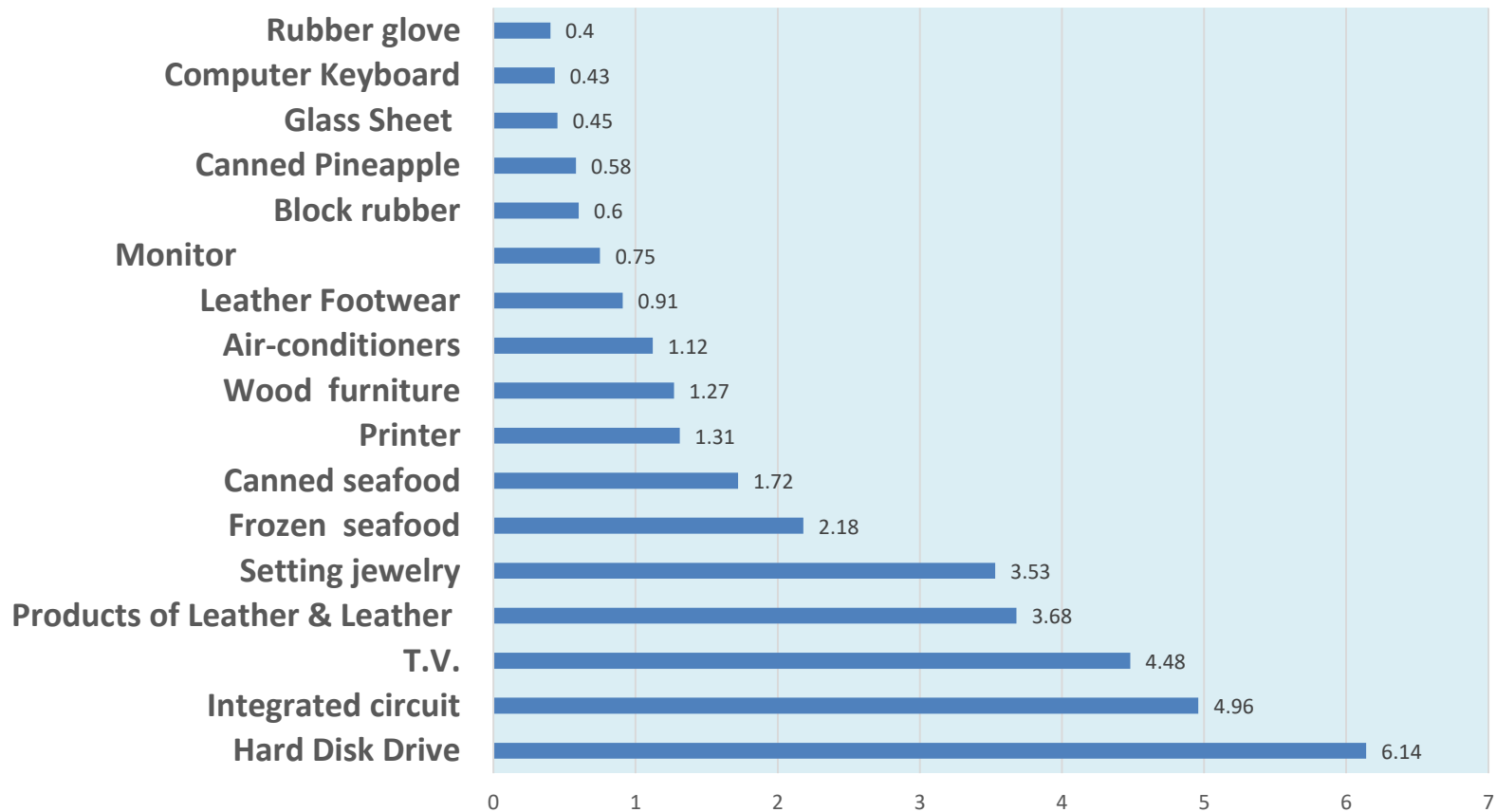


Ultra export market-oriented Industry:

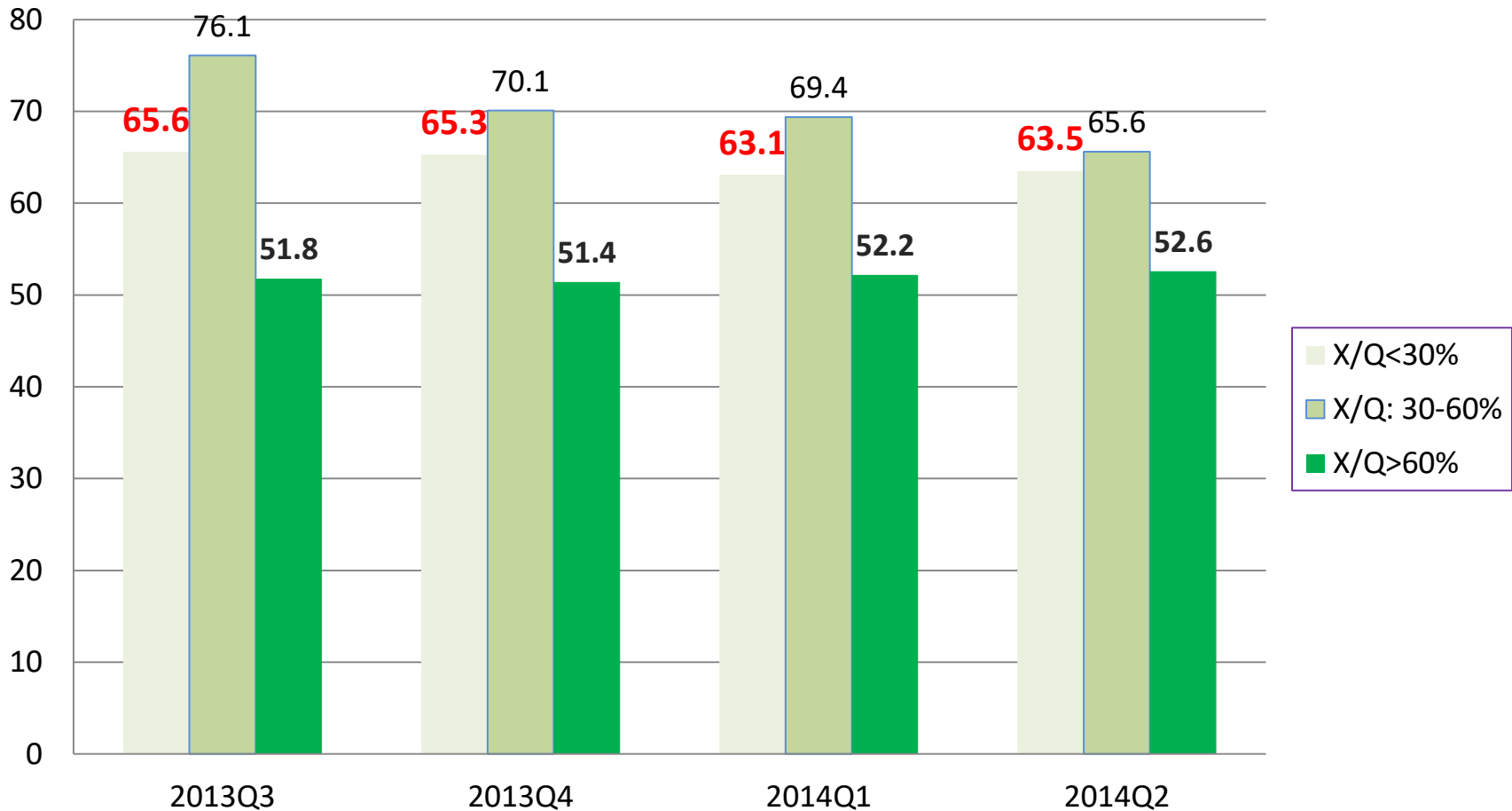
$$(X/Q) > 0.6$$

Weight in MPI (%)

Ultra Exported-Oriented Industry
Weight in MPI



Capacity utilization by type of market orientation



Exported-oriented industries experienced lower capacity utilization than domestic-oriented industries

3. Global Competitiveness

- A country's future prosperity depends on its **growth in productivity**, on which government policies can influence.
- Nations compete to choose policies to promote higher living standards.
- International Institute for Management Development (IMD) and **World Economic Forum (WEF)** have their own ways of measuring competitiveness.

Paul Krugman

"Competitiveness: a dangerous obsession."

Foreign affairs (1994): 28-44.

- International trade is **not** a zero-sum game.
- Countries do not compete in the same way as companies.
- When two countries compete through trade, they both win, either experience trade deficit or surplus.
- Recall Adam Smith's gains from exchange and specialization

Paul Krugman

different in principle from asking whether General Motors is competitive in the North American minivan market.

In fact, however, trying to define the competitiveness of a nation is much more problematic than defining that of a corporation. The bottom line for a corporation is literally its bottom line: if a corporation cannot afford to pay its workers, suppliers, and bondholders,

it will go out of business. So when we say that a corporation is uncompetitive, we mean that its market position is unsustainable—that unless it improves its performance, it will cease to exist. Countries, on the other hand, do not go out of business. They may be happy or unhappy with their economic performance, but they have no well-defined bottom line. As a result, the concept of national competitiveness is elusive.



A trade surplus may be a sign of national weakness, a deficit a sign of strength.

Competitiveness is not well defined by the bottom line (current account)

- If an uncompetitive company is losing money (negative at the bottom line), the company will go out of business unless it improves its performance.
- Countries do not go out of business when their trade balances are deficit.
- They may be happy or unhappy with their economic performance, but they have no well-defined bottom line.
- The concept of national competitiveness is elusive, says Krugman.

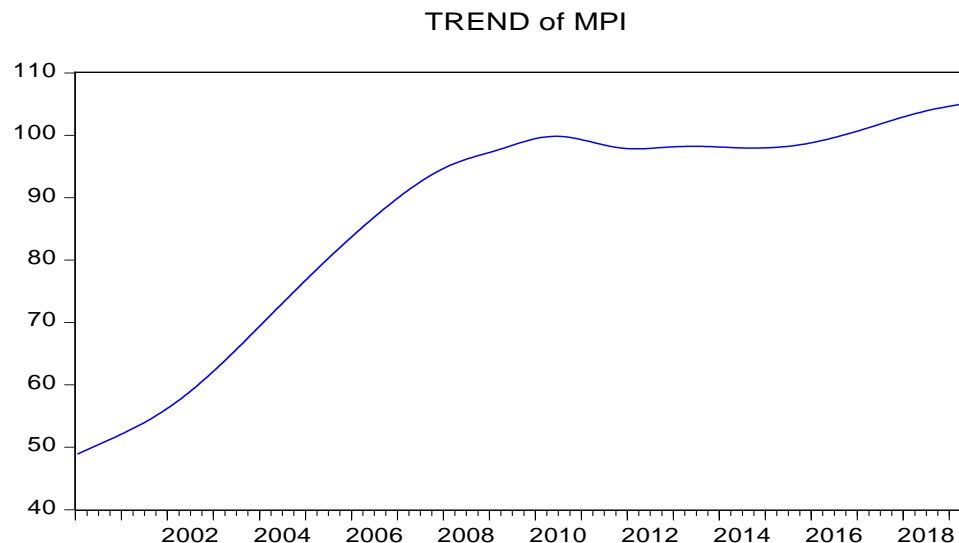
Jeffery Sachs

Competitiveness and GDP growth relationship

“Competitiveness” is not a meaningless word in Jeffery Sachs’ sense.

He defines “competitiveness”:

The ability of a country to achieve sustained high rates of growth in GDP per capita




Jeffery Sachs

Competitiveness and GDP growth relationship

He found a fairly **strong *correlation*** between recent growth rates and the competitiveness index.

- Critique: Correlation between the two variables does not guarantee that the competitive index will be a good predictor of economies' future growth prospects.
- ***IMD (Institute of Management Development)***

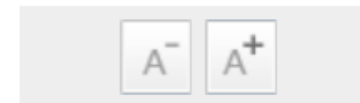
Do you think that Thailand's competitiveness is increasing?

30 May 2019 at 04:00  0 comments

NEWSPAPER SECTION: **NEWS** | WRITER: **POST REPORTERS**



Thailand has moved up five spots to assume 25th place in this year's World Competitiveness Rankings, which rated 63 economies for their economic performance, government efficiency, business efficiency and infrastructure development.



According to the latest report by the Switzerland-based International Institute for Management Development (IMD), Thailand came third in Asean, trailing behind Singapore and Malaysia.

Thailand's ranking is higher than South Korea, which moved down one position to 28th place this year, and Japan, which came in at 30th place, or five notches down from last year.

The better ranking was largely thanks to Thailand's improved economic performance, government efficiency, and infrastructure.

That said, the country's business efficiency ranking fell when compared to last year's ranking, the report noted.

IMD WORLD COMPETITIVENESS RANKING 2019

One-year Change

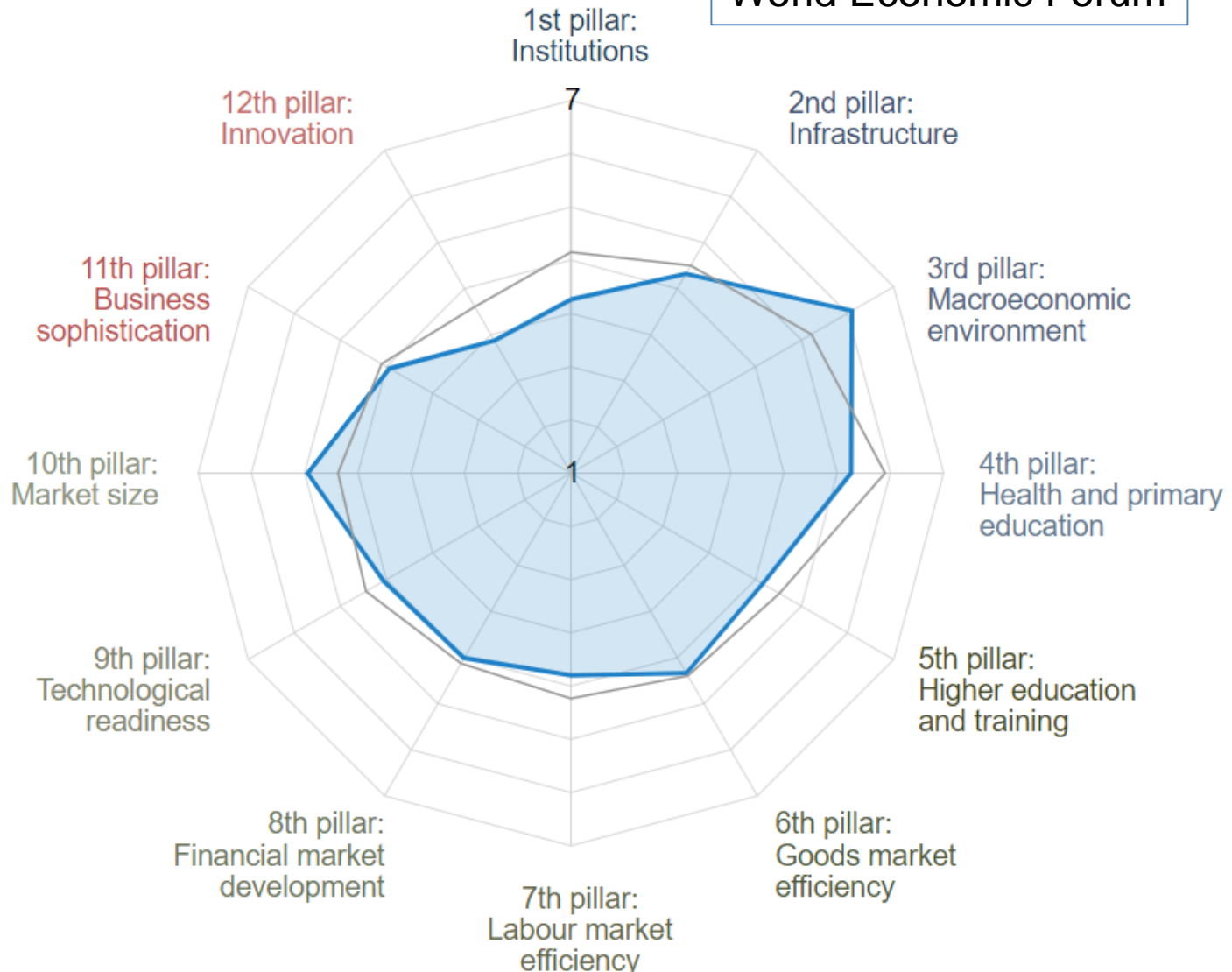
2019	Country	2018	Change
1	Singapore	3	+2 ↑
2	Hong Kong	2	- -
3	USA	1	-2 ↓
4	Switzerland	5	+1 ↑
5	UAE	7	+2 ↑
6	Netherlands	4	-2 ↓
7	Ireland	12	+5 ↑
8	Denmark	6	-2 ↓
9	Sweden	9	- -
10	Qatar	14	+4 ↑
11	Norway	8	-3 ↓
12	Luxembourg	11	-1 ↓
13	Canada	10	-3 ↓
14	China	13	-1 ↓
15	Finland	16	+1 ↑
16	Taiwan	17	+1 ↑
17	Germany	15	-2 ↓
18	Australia	19	+1 ↑
19	Austria	18	-1 ↓
20	Iceland	24	+4 ↑
21	New Zealand	23	+2 ↑
22	Malaysia	22	- -
23	United Kingdom	20	-3 ↓
24	Israel	21	-3 ↓
25	Thailand	30	+5 ↑



World Economic Forum
Global Competitiveness
Index

Thailand vs East Asia and Pacific's Global Competitiveness Index

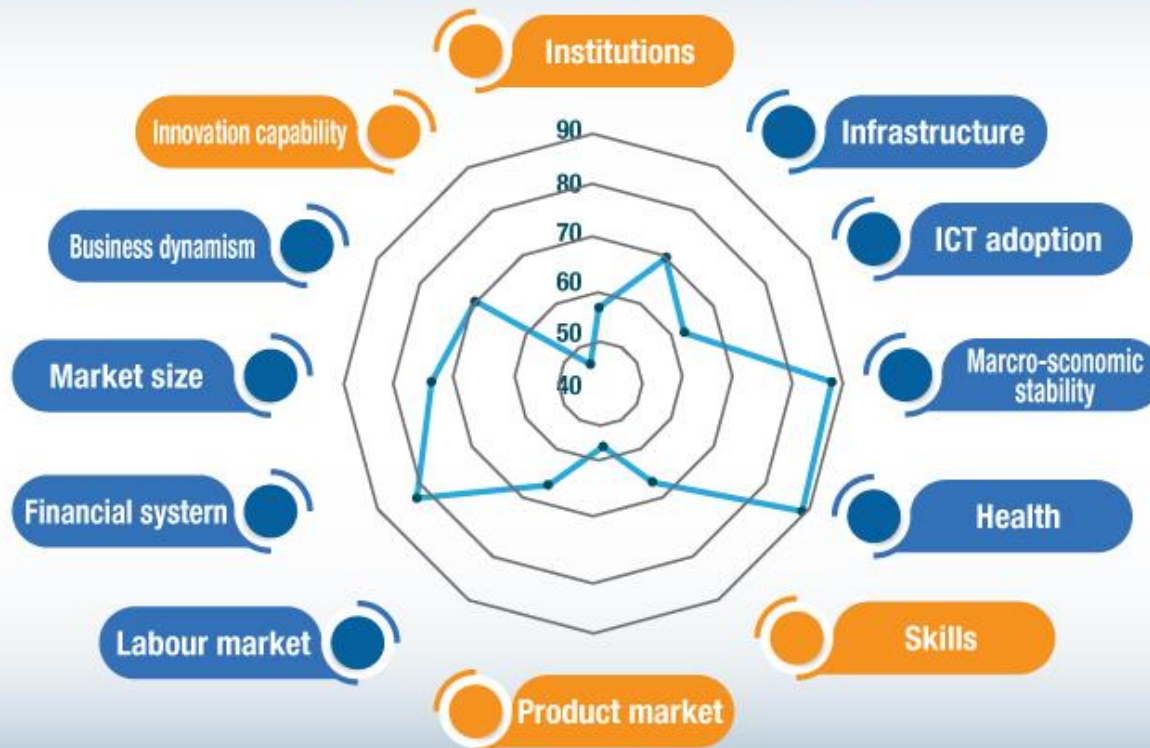
World Economic Forum



Global Competitiveness 2019

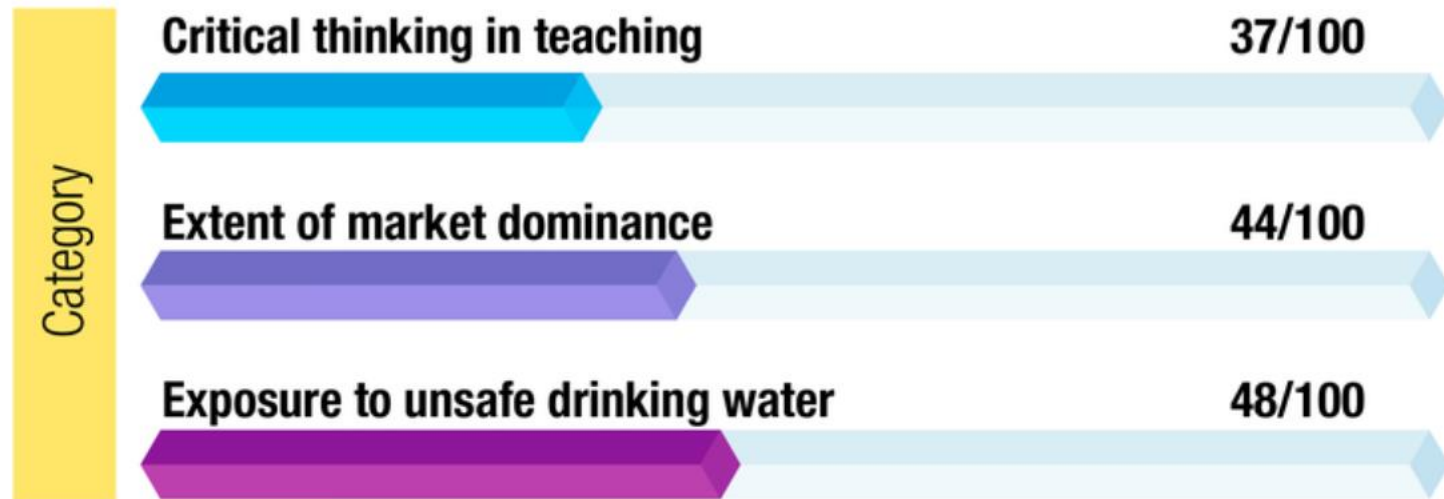
Thailand's Weaknesses in 12 Pillars

Performance Overview



Challenges: How to catch up with Singapore and not be overtaken by Vietnam

Thailand's lowest scores in the Global Competitiveness Index 2019

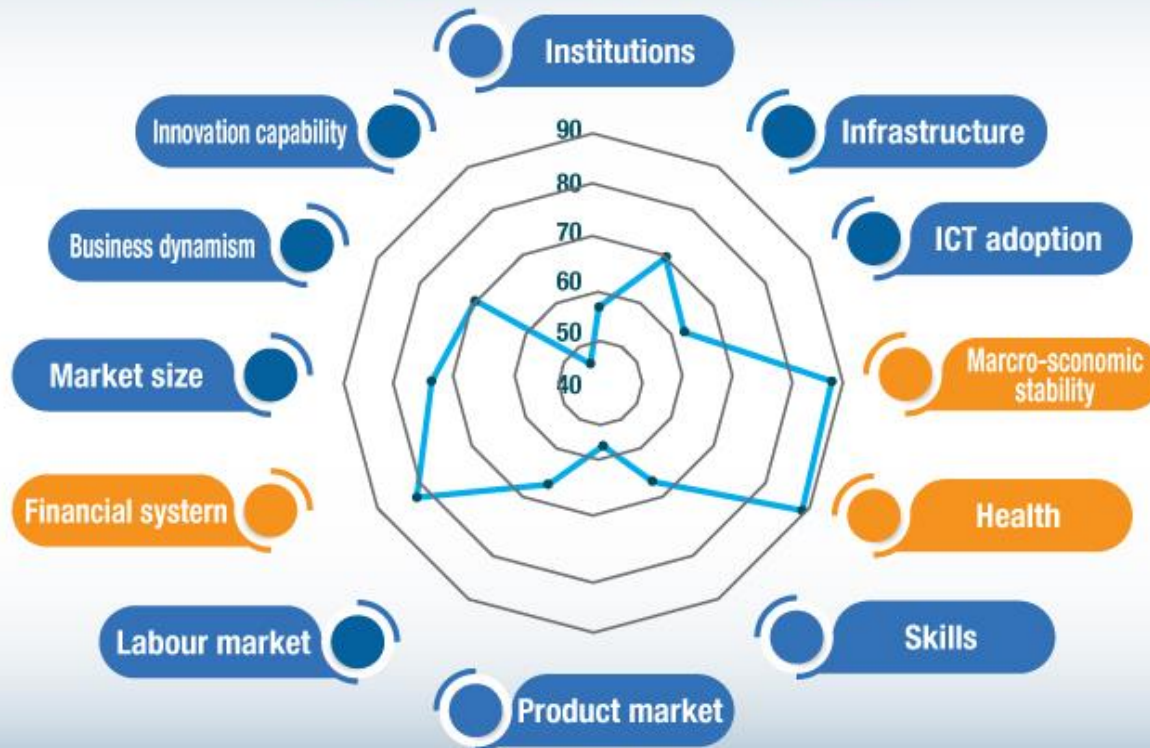


Source: WEF

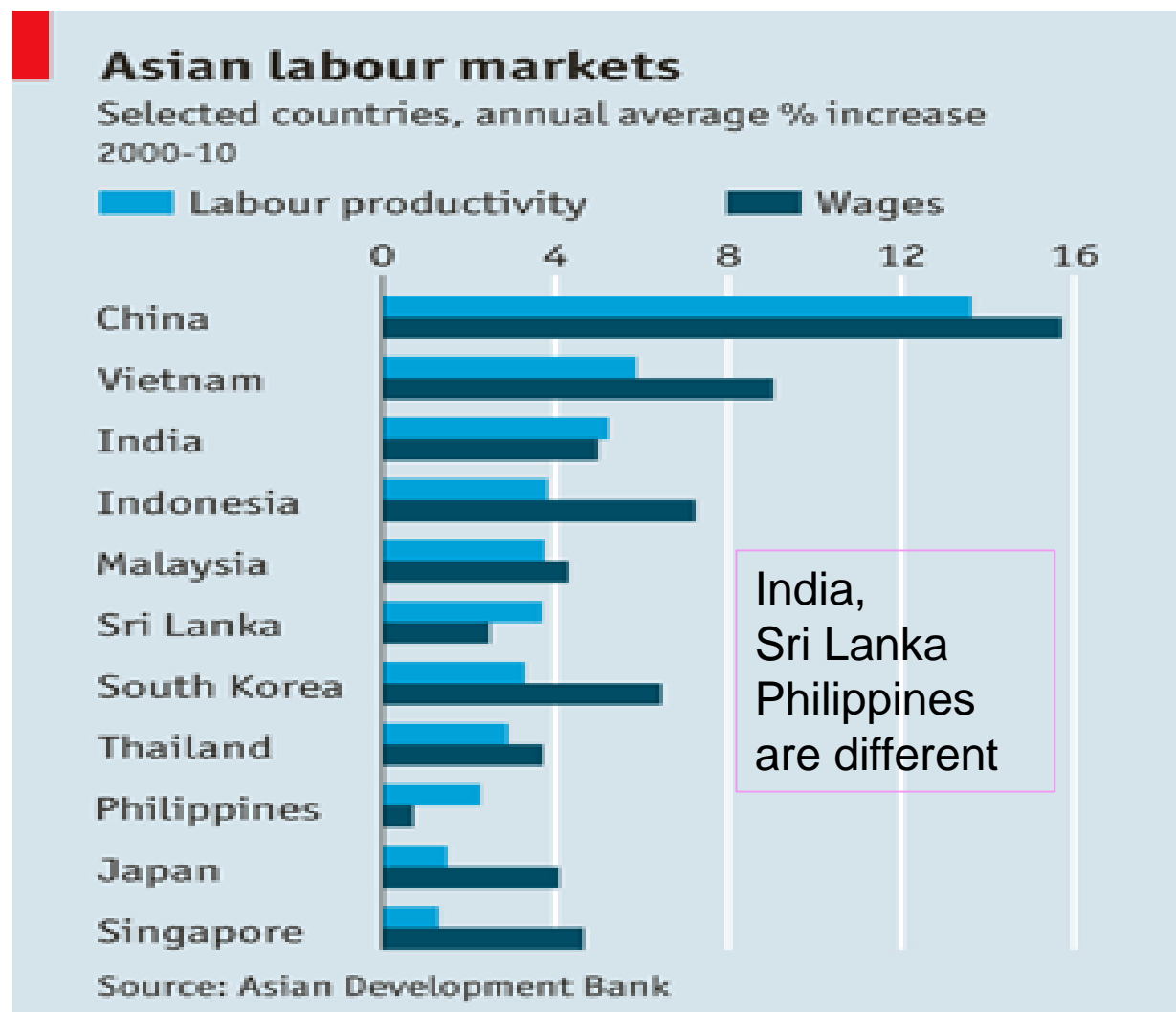
Thailand's ranking among 141 economies has dropped to 40th place from 38 in 2018 in the WEF Global Competitiveness Index.

Thailand's Best Performance in 12 Pillars

Performance Overview

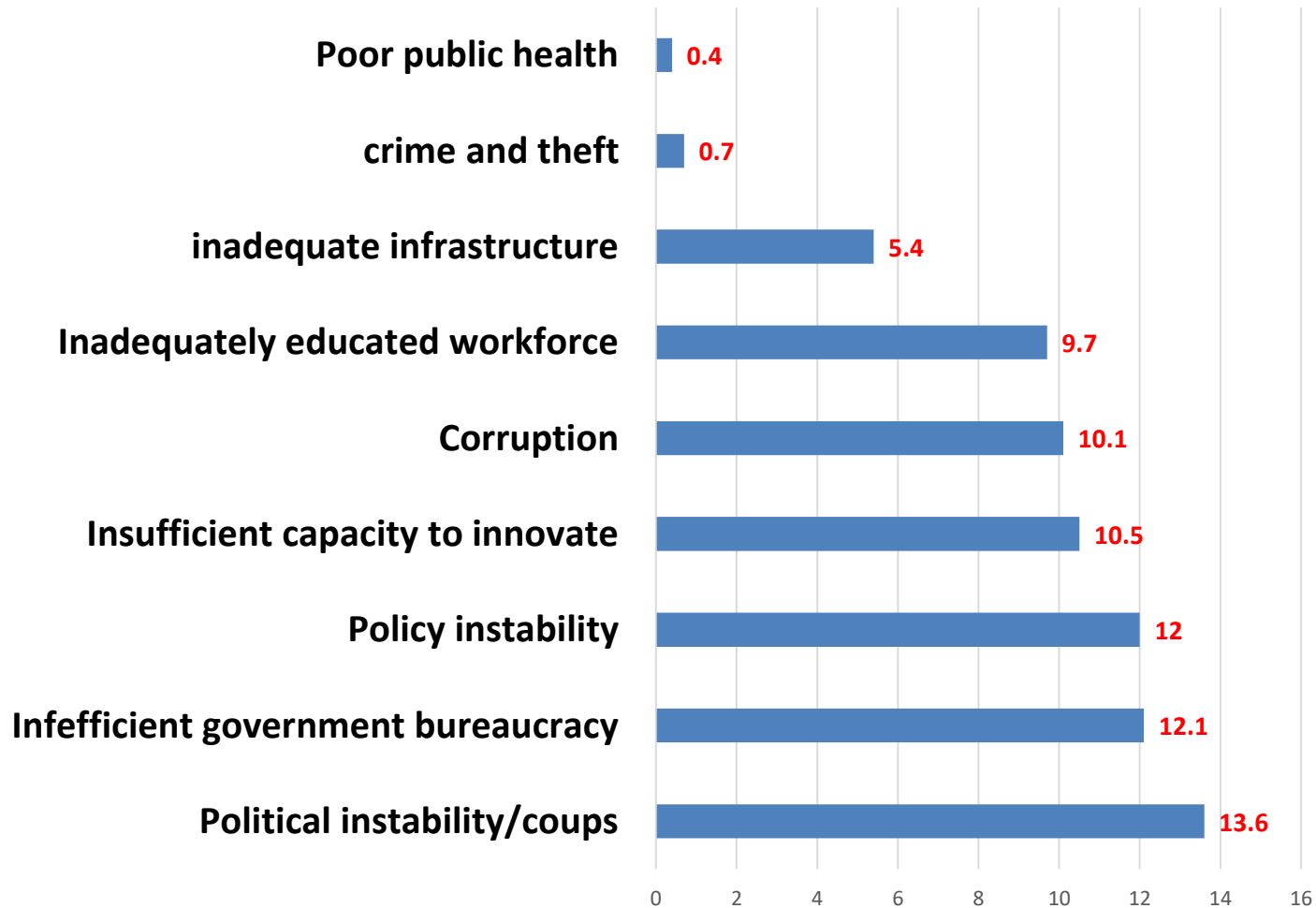


If labor productivity growth lags behind wage hikes, competitiveness deteriorates



World Economic Forum

Problematic factors for doing business in Thailand, 2018



OECD PISA 2018 MEAN RESULTS (CONDENSED)

Countries	Reading	Science	Mathematics
1 B-S-J-Z* (China)	555	590	591
2 Singapore	549	551	569
3 Macao (China)	525	544	558
4 Hong Kong (China)	524	517	551
5 Estonia	523	530	523
6 Canada	520	518	512
7 Finland	520	522	507
8 Ireland	518	496	500
9 Korea	514	519	526
10 Poland	512	511	516
11 Sweden	506	499	502
12 New Zealand	506	508	494
13 United States	505	502	478
14 United Kingdom	504	505	502
15 Japan	504	529	527
16 Australia	503	503	491
17 Chinese Taipei	503	516	531
18 Denmark	501	493	509
19 Norway	499	490	501
20 Germany	498	503	500
56 Malaysia	415	438	440
60 Brunei Darussalam	408	431	430
66 Thailand	393	426	419
73 Indonesia	371	396	379
78 Philippines	340	357	353
OECD Average	489	487	489

THAILAND



66/78

Reading



1st B-S-J-Z* (China)

78th Philippines

Data not available from Spain

Science



52/79

1st B-S-J-Z* (China)

79th Dominican Republic

Mathematics



56/79

1st B-S-J-Z* (China)

79th Dominican Republic

Note: *B-S-J-Z refers to Beijing, Shanghai, Jiangsu and Zhejiang

**Countries are ranked in descending order of the average reading score (focus of Pisa 2018)

Source: OECD Pisa 2018 Database

BKPgraphics

Countries with high per capita income, based on PPP, have high *PISA* scores

- High-income countries can afford high salaries for attracting able teachers and high-quality facilities including computer and science laboratories.
- High per capita income (based on PPP) implies high cognitive ability as students were less unlikely to be deprived of food and calories intake.
- High-income parents can afford private tuition and cram school for their children.
- Teaching in high-income countries can be a well-respected and often well-paid occupation.

- About 600,000 pupils from 79 countries, including 37 OECD nations, completed the latest test, which focused primarily on reading ability.
- In terms of gender equality, Thai girls scored higher than boys in mathematics by 16 points. Across OECD countries, boys outperformed girls by five points.
- While girls slightly outperformed boys in science (by two points) on average across OECD countries, in Thailand girls outperformed boys in science by 20 points.

Reading, math, and sciences

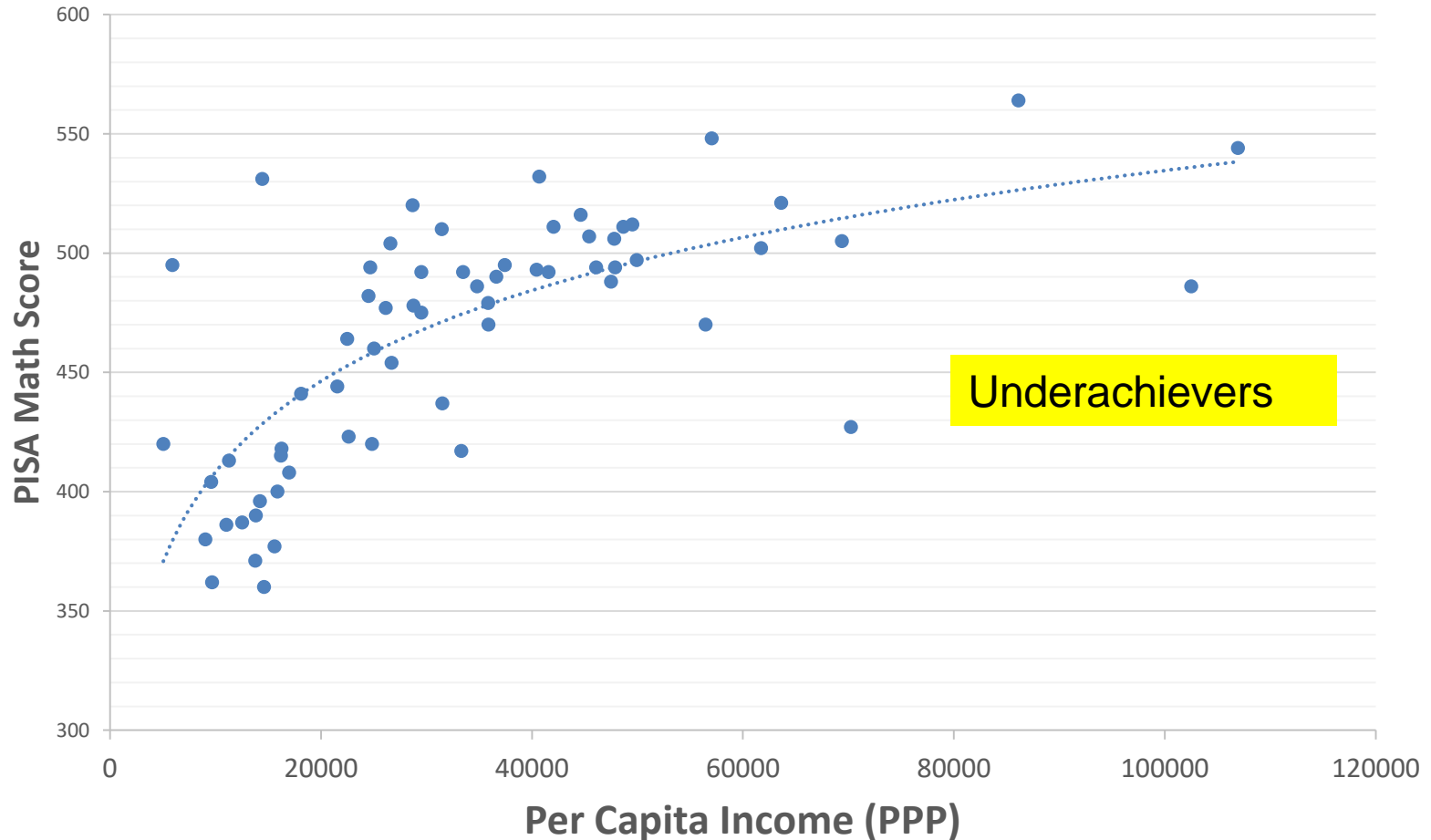
- Thai pupils recorded a score of 393 points in reading, far below the OECD average of 487.
- In sciences, students scored 426 points, much worse than the international average of 489.
- And in mathematics, Thailand scored 419 points, well below the OECD average of 489.
- Thailand's reading performance in Pisa 2018 was lower than in any previous assessment. In mathematics, by contrast, performance remained stable. Performance in science also appeared stable.
- The study also found socio-economically advantaged students in Thailand outperformed disadvantaged students in reading by 69 points.

Does culture matter?

- The incremental impact of increased income on PISA is smaller when income grows higher.
- Some high-income countries can be underachievers, compared to other countries with the same level of per capita income.
- Six Asian countries among the over-achievers belong to **Confucius** tradition.

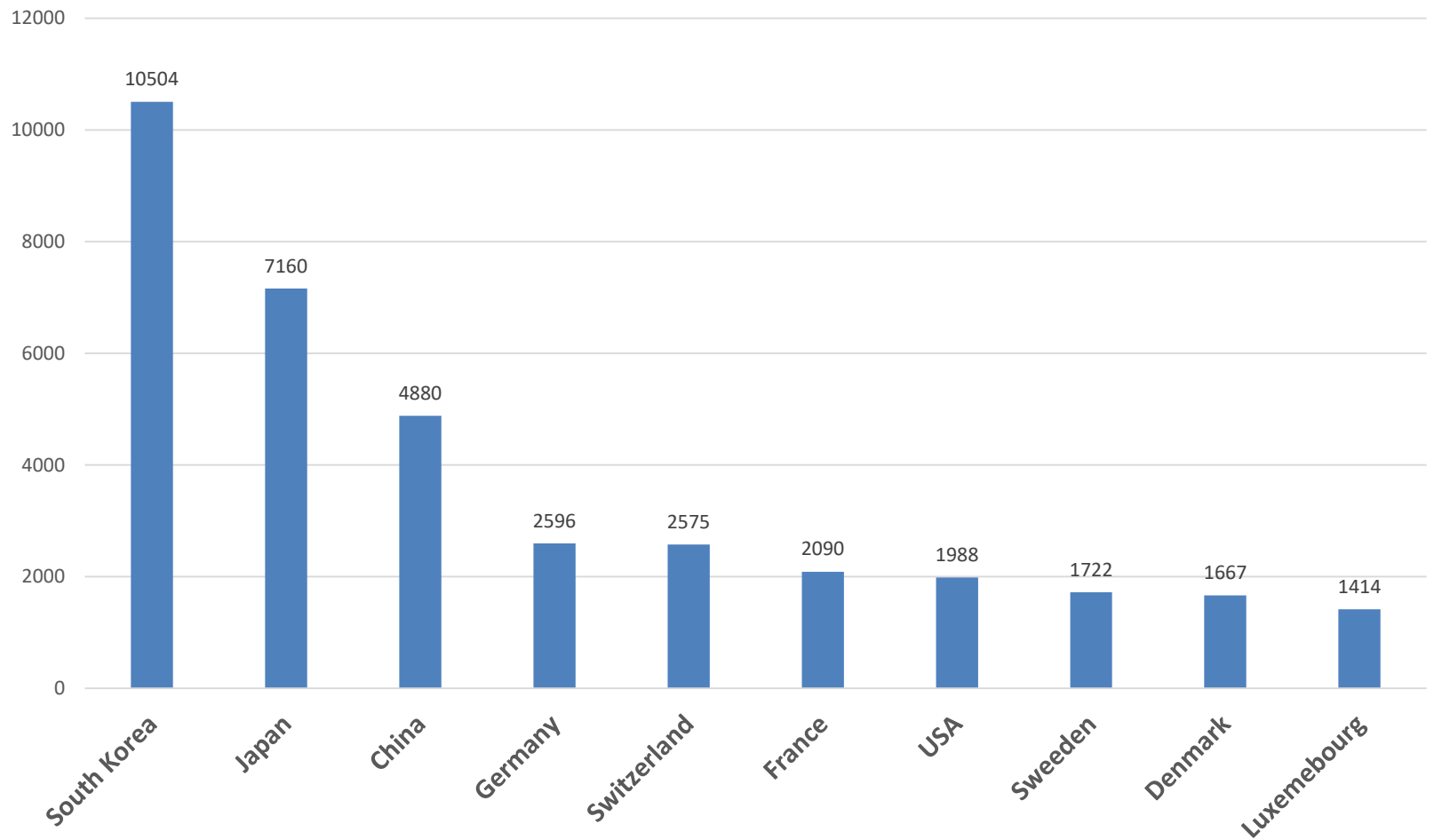
Income and Math PISA Scores: 2015

Source: OECD and World Bank



Japan, Hong Kong, South Korea, Taiwan, Macao, and BSJG-China: Cultural factor

Number of patents per GDP (2012)



4. Competitiveness of manufacture

The BCG model

- Boston Consulting Group (BCG) model
- Export the commodities which are growing faster than world trade volume (high income elasticity of demand)
- Manufacture commodities which gain the world market share (revealing competitiveness)

Revealed Competitiveness (Z)

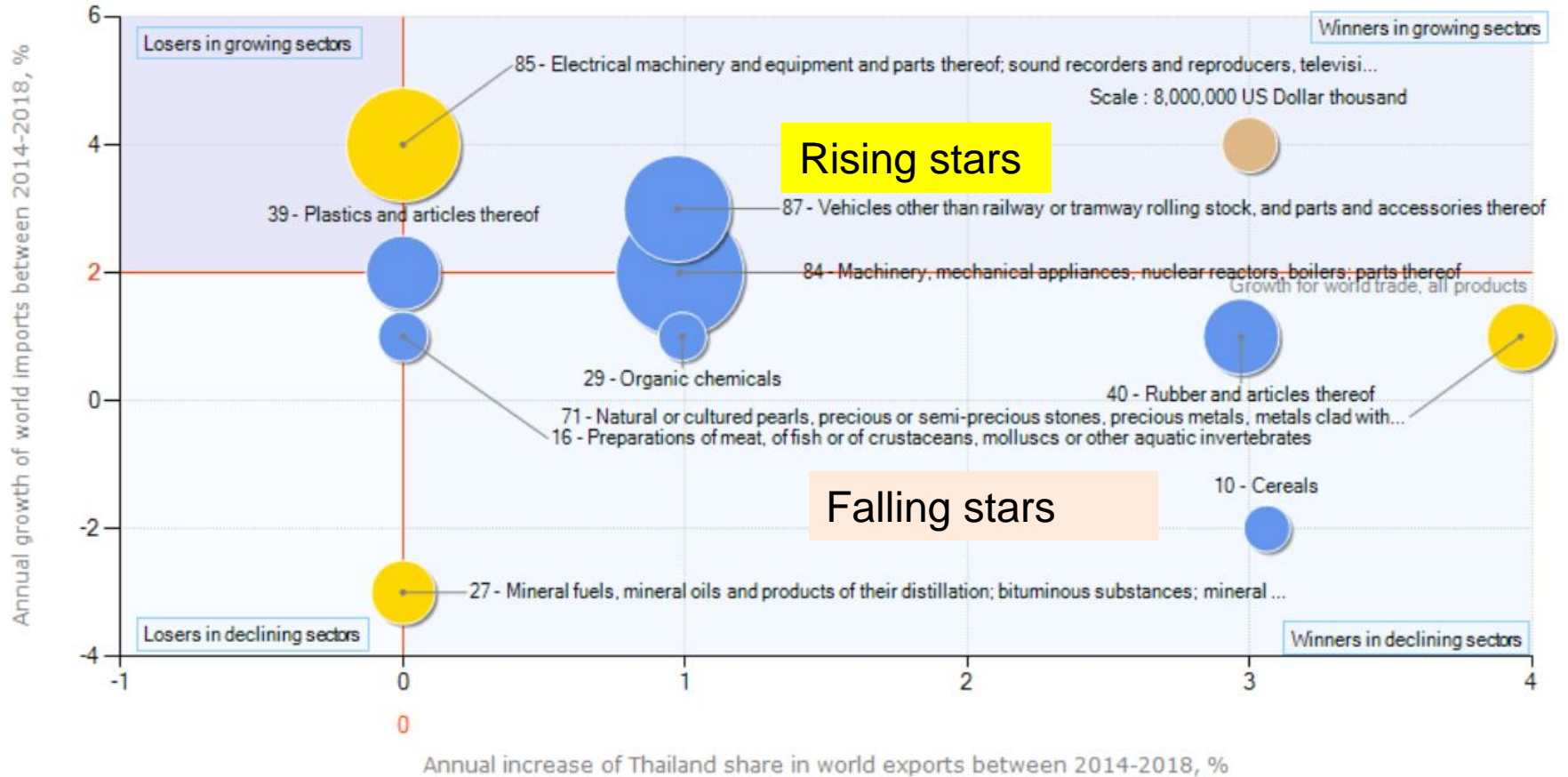
- International competitiveness is demonstrated by increasing the world market share (Z) of a particular exports
- We can raised the market share in either growing markets (high income elasticity of demand) and declining markets (low--less than unity--income elasticity of demand)
- Export dynamic commodities (increasing market share in total world trade)
- Export competitive commodities (gaining world market share in that particular commodity).

Competitive Positioning

Revealed competitiveness ($\dot{Z} > 0$) and income elasticity of demand (η)

	<p>Declining share of that product in world trade ($\eta < 1$)</p> <p>Declining sectors</p>	<p>Rising share of that product in world trade ($\eta > 1$)</p> <p>Growing (dynamic) sectors</p>
<p>Gaining world market share ($\dot{Z} > 0$)</p> <p>Winners</p>	<p>Falling stars</p> <p>(Cash Cows) winner in declining sector</p>	<p>Rising stars</p> <p>(Stars) winner in growing sector</p>
<p>Losing world market share ($\dot{Z} < 0$)</p> <p>Losers</p>	<p>Retreat Loser in declining sectors</p> <p>(Dog) Time to move to other growing industry</p>	<p>Lost Opportunity</p> <p>Losers in growing sectors (Problem Child) requiring helping hand, despite growing market demand</p>

Growth of national supply and international demand for products exported by Thailand in 2018



● Thailand is a net importer for this product

● Thailand is a net exporter for this product

● Reference bubble

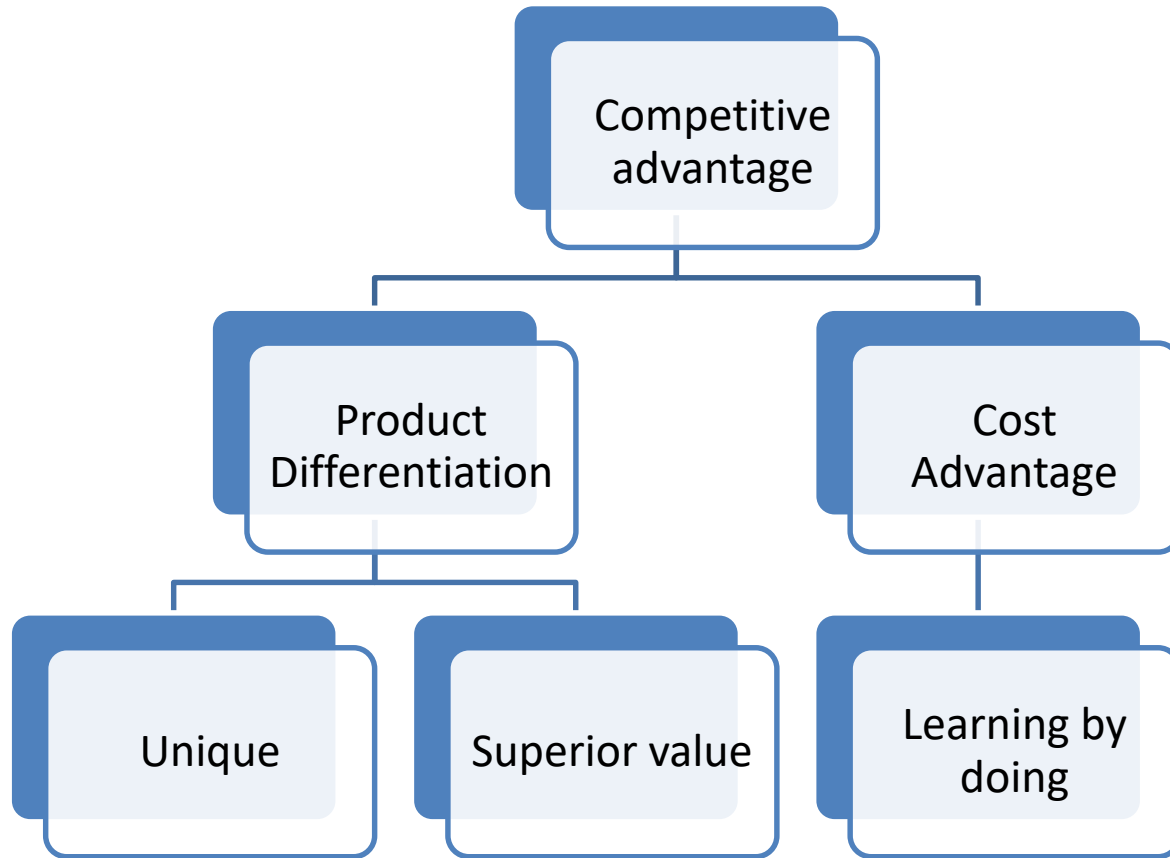
The bubble size is proportional to export value



Michael Porter (1990)

The Competitive Advantages of Nations

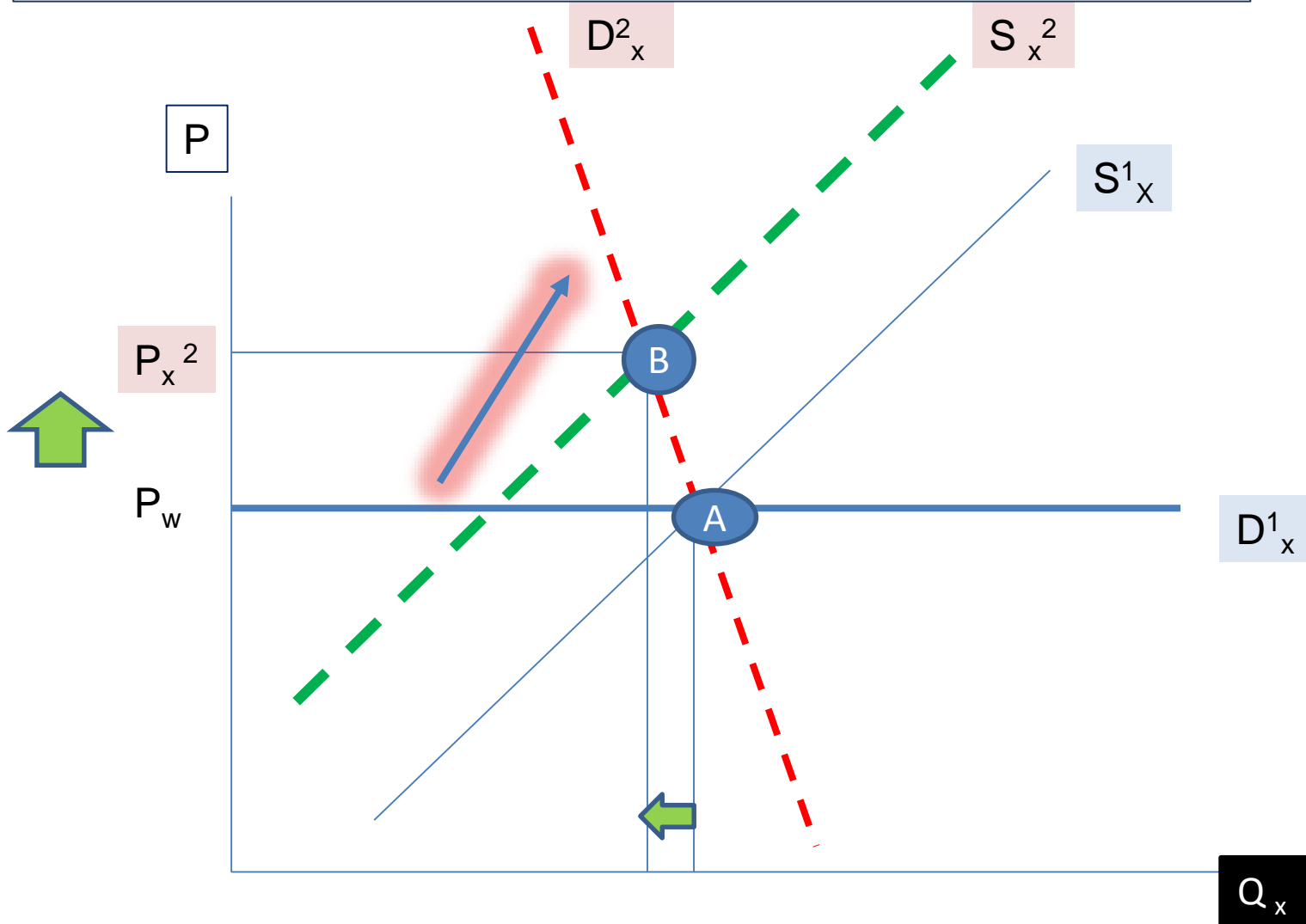
- There are two basic types of competitive advantages: **lower cost** and **product differentiation**.
- **Pure cost advantages** are less sustainable than **product differentiation**: Any new comer with lower costs can nullify a firm's cost advantage.
- Differentiation is the ability to provide ***unique and superior value to buyers*** in terms of product quality, special features, or after-sale service.
- Examples: differentiation in services provided by banks, supermarkets, and gasoline stations.



Further advices from Michael Porter

- **Differentiation** allows a firm to command a **premium price**, which leads to superior profitability provided costs are comparable to those of competitors.
- Pure cost advantages are more vulnerable because new product designs or product **differentiation can eliminate** cost advantage.
- The government can raise the probability of gaining competitive advantage but lacks the power to create advantage by itself.

Innovation raises unit cost of the product, but it can fetch higher product prices, as the demand become **less** inelastic



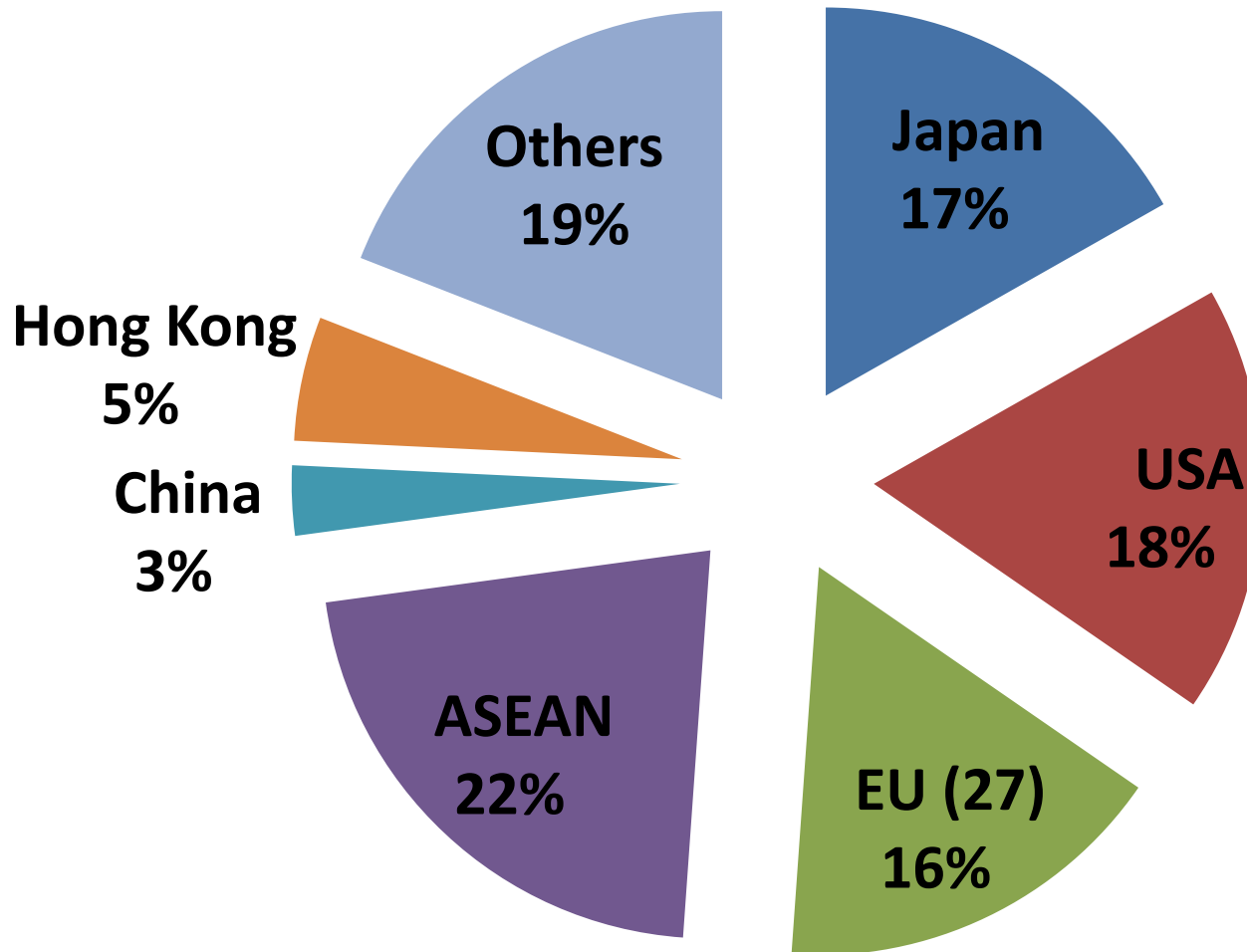
Higher export values, despite lower quantity of exports
Due to product differentiation through innovation

5. Diversification of Thai exports

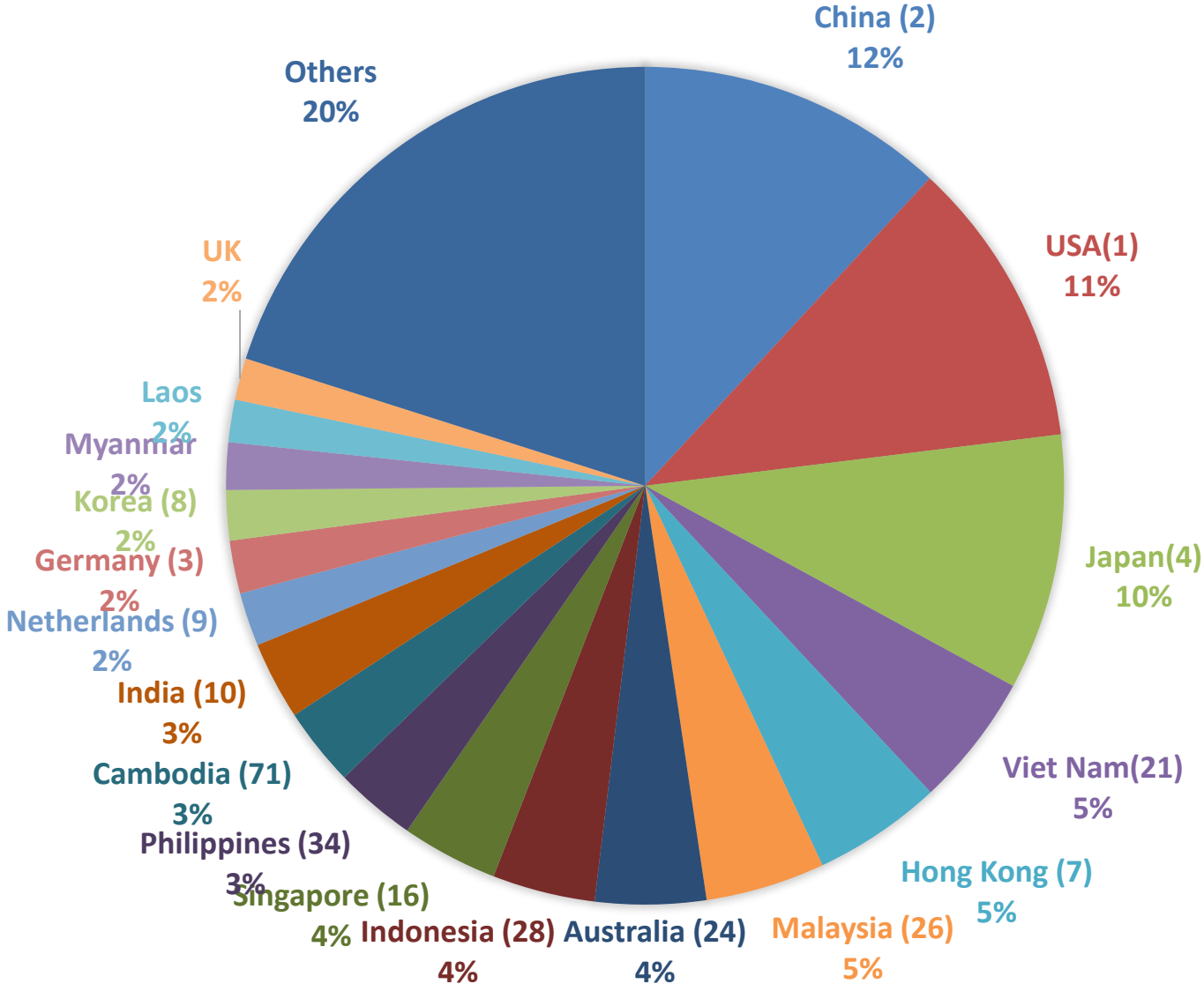
Product and market diversification

- A country is considered competitive in products in which it is increasing its world market share.
- An export product is considered dynamic in world trade if it is *growing faster* than the average for all products (either rising or falling stars).
- Thailand's exports were in the rising stars category for 54% in 1996, but they *fell* to 15% by 2000.
- Ten years after this study, the figures were totally different in 2006.
- Thailand did not do as well as its major competitors during the 1996-2000 boom in electronic exports.
- Thus the share of loss opportunity category *increased* from 3% to 43% of total exports.

Exports market diversification: 1995



THAILAND'S EXPORT MARKETS: 2018 (RANKING OF WORLD IMPORTS)



Review Questions

- *How was the manufacturing sector affected by the global slowdown in 2019?*
- *What went wrong with Thailand's exports in between 2014 and 2016?*
- *Would Thai exports resume its growth path in 2020?*
- *Compare China's emerging industries policy with Thailand's S-curve strategy*

Midterm Exam
February 2018
9:30-11:00 am

1. Explain how Thailand's early economic development evolved around the concept of the big push theory, the flying geese hypothesis, and the theory of economic backwardness.
2. Examine the relevance of political economy and the root of the Asian Financial Crisis (AFC).

3. Discuss the relationship between the Dutch disease and the Prebisch Hypothesis. Do you think that between 1991 and 2005 Thailand suffered from the Dutch disease and adverse consequences as described by the Prebisch Hypothesis?

