Competitiveness of Thailand's Manufacturing Sector

Bhanupong

Lecture 13

Course Syllabus
Lecture 13: **Industrial Competitiveness**

- This lecture provides an overview of Thailand's industry with references to the global competitiveness positioning of manufacturing exports.
- We discuss Thailand's diversification of exports, competitive wage and exchange rates.

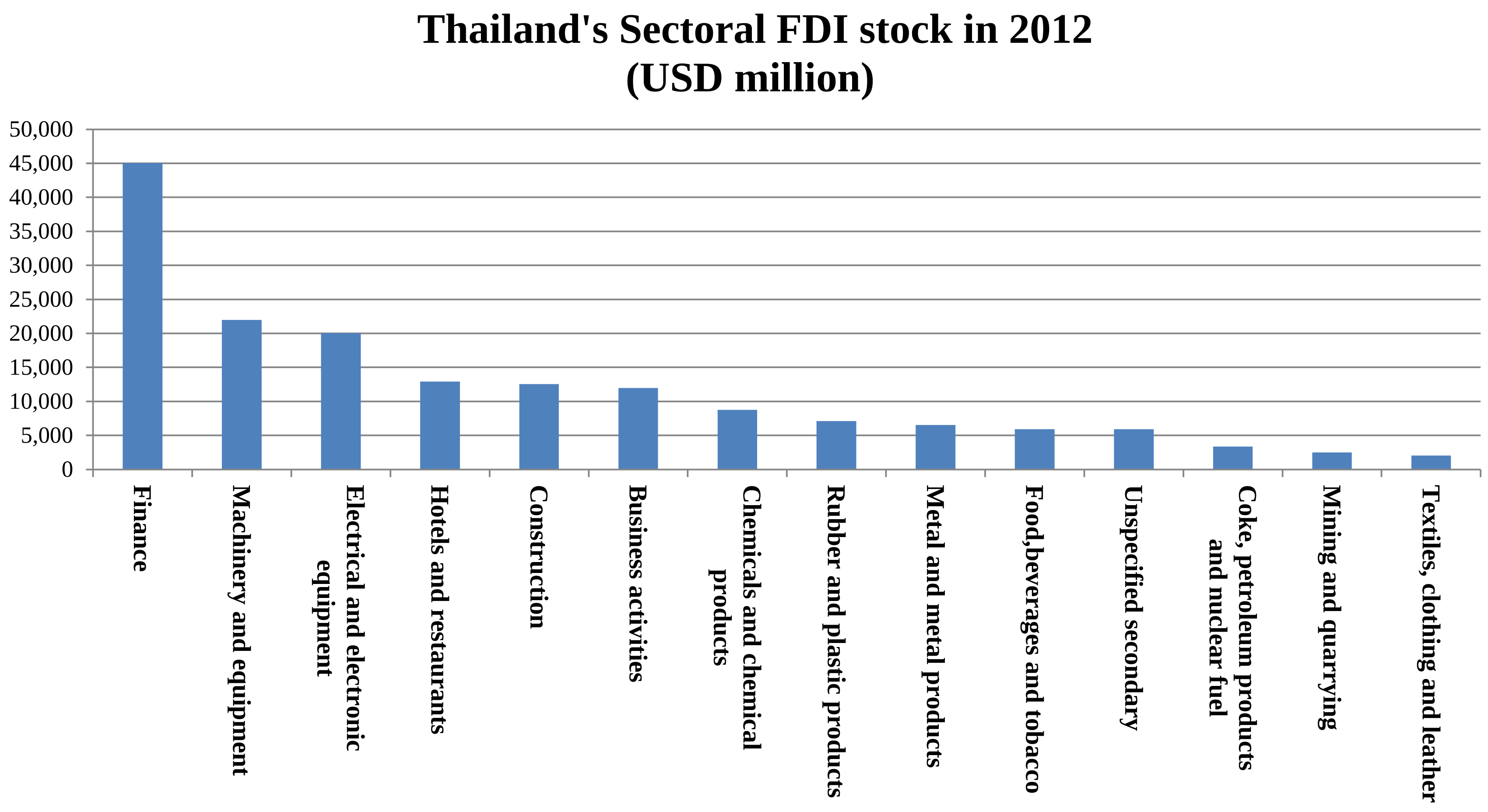
Key issues

1. The importance of FDI for industrial development
2. Overview of Thailand's industry
3. Global competitiveness
4. East Asian education model
5. Competitiveness of Thai manufacturing
6. Diversification of exports

1. The important role of FDI

- FDI is a dominant factor determining the success of Thailand's manufactured exports
- FDI provides technical spillovers and enhance productive capacity to exports.
- With the 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.

Capital stock deepening through FDI



How China attracts inflows of foreign investment

- For two decades, since China entered the WTO, foreign direct investment had flooded into China at an astonishing clip.
- But after reaching a peak of some $300 billion in 2013, foreign inflows have cooled just as Chinese direct investment overseas has skyrocketed.
- To win back jittery investors, China’s leaders have promised to liberalize investment laws.
- Several much-heralded revisions to China’s foreign-investment laws has come into force.
- Leaders promise a shift from a regime reliant on politicized administrative approvals to a registration system involving just a short “negative list” of forbidden investments.


Not so hot
China, foreign direct investment, $bn
300
250
200
150
100
50
0
Inflows
Outflows
2000
02
04
06
08
10
12
14
15
Source: World Bank

Damp squib: China’s foreign investment inflows

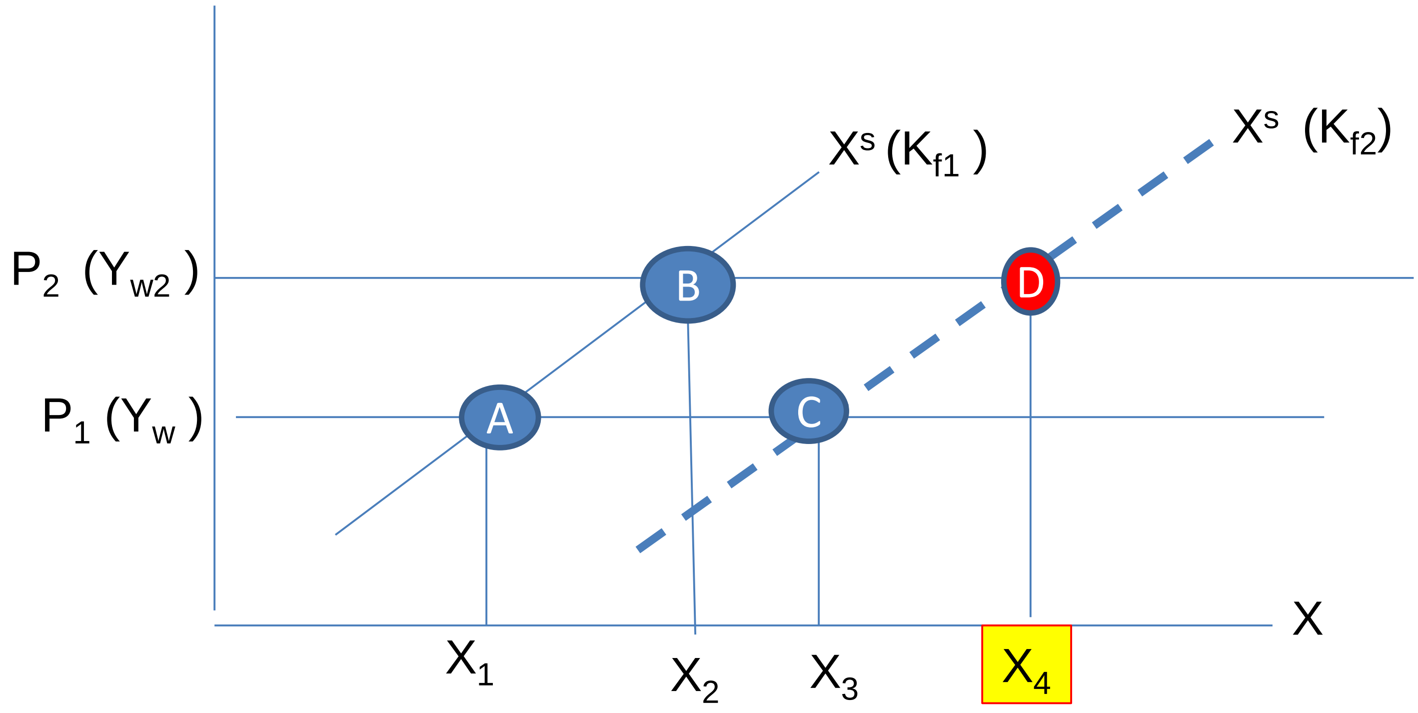
- Sadly, there is less to the latest reforms than meets the eye.
- Nothing in them puts foreign firms on an equal legal footing with local ones.
- Also, there are already signs of bureaucratic resistance to the shift to a registration system.
- Chinese leaders must do more if they want to persuade foreign investors the welcome mat is out.

2. Overview of Thailand’s industries

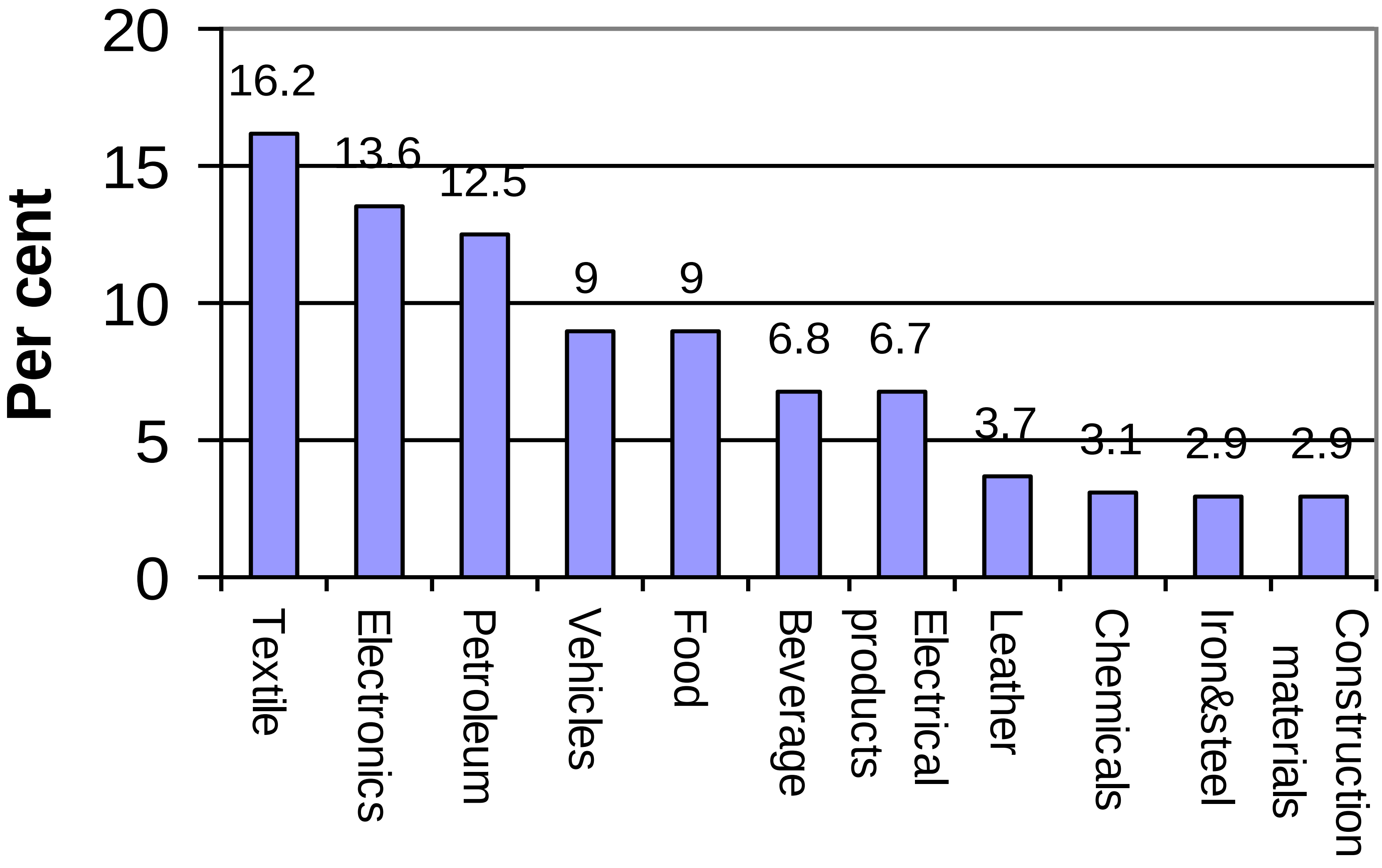
- The growth of Thailand’s industry is largely determined by external demand.
- The world business cycles are responsible for fluctuations in Thailand’s manufactured exports.
- Thailand is a price taker in the world markets.
- On the supply side, the capital stock of the industry accumulated from substantial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

Export supply is determined by the country's capital stock, export demand by world prices and external conditions

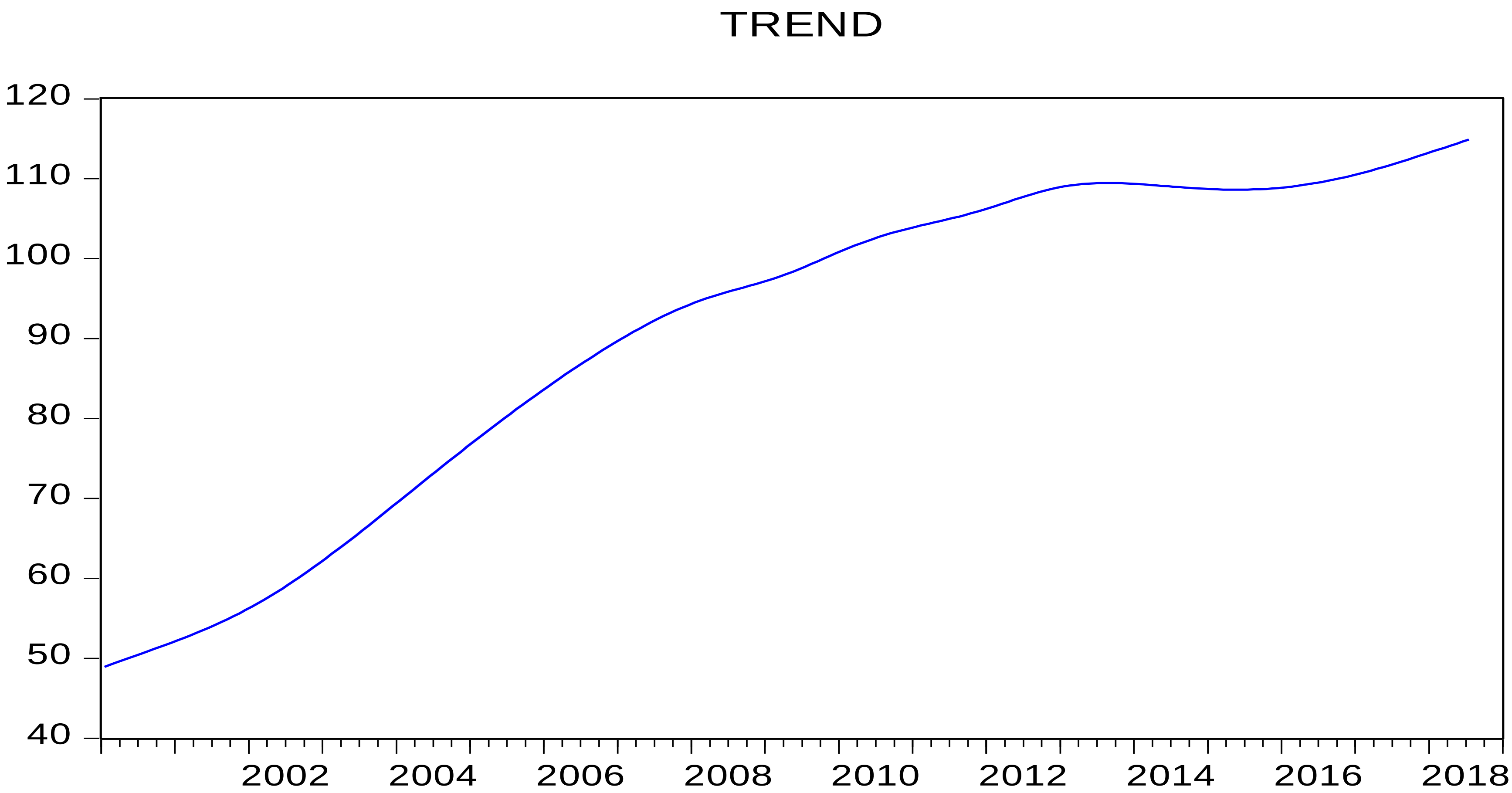
Increased FDI stock and rising world output led to booming exports



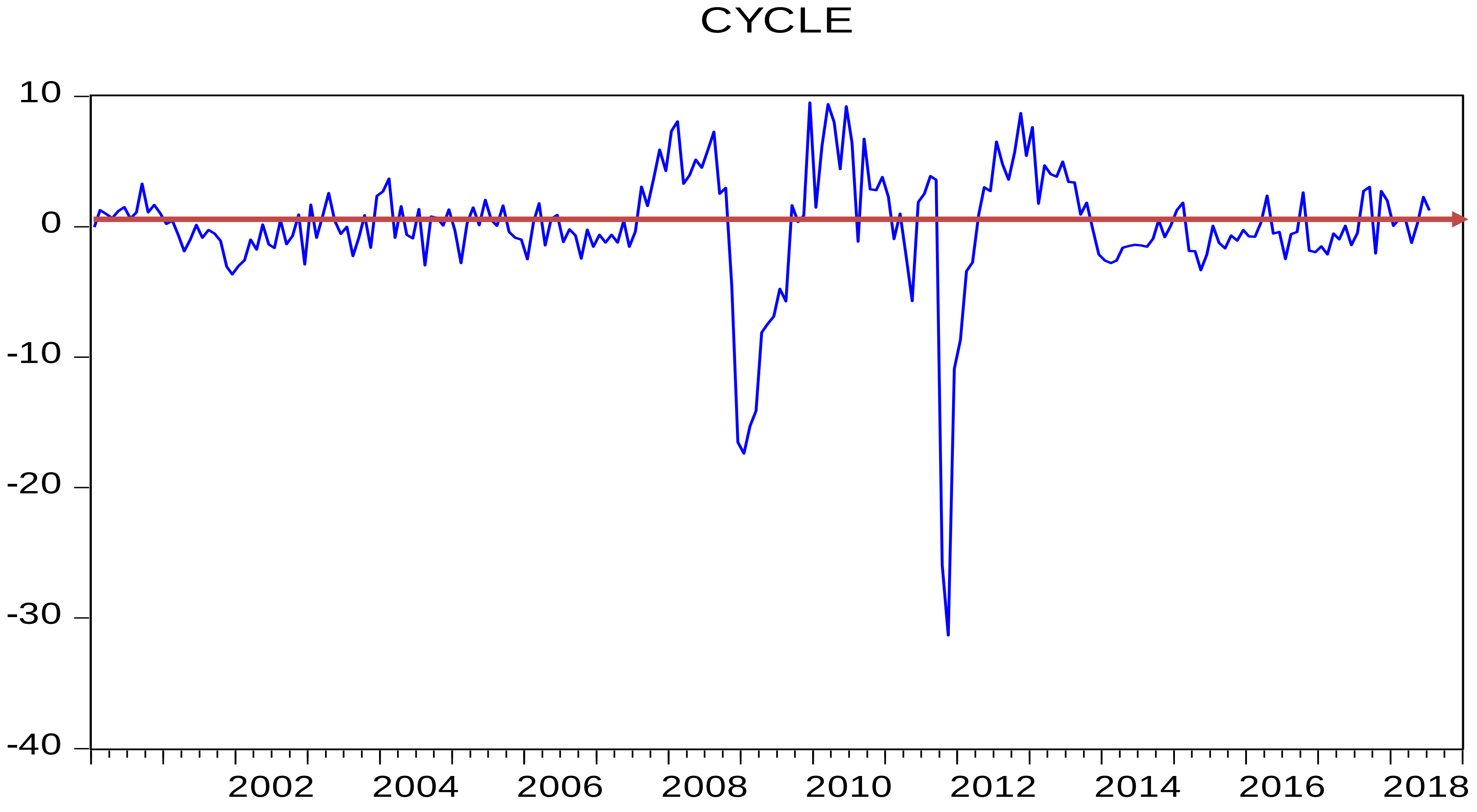
Weight in MPI



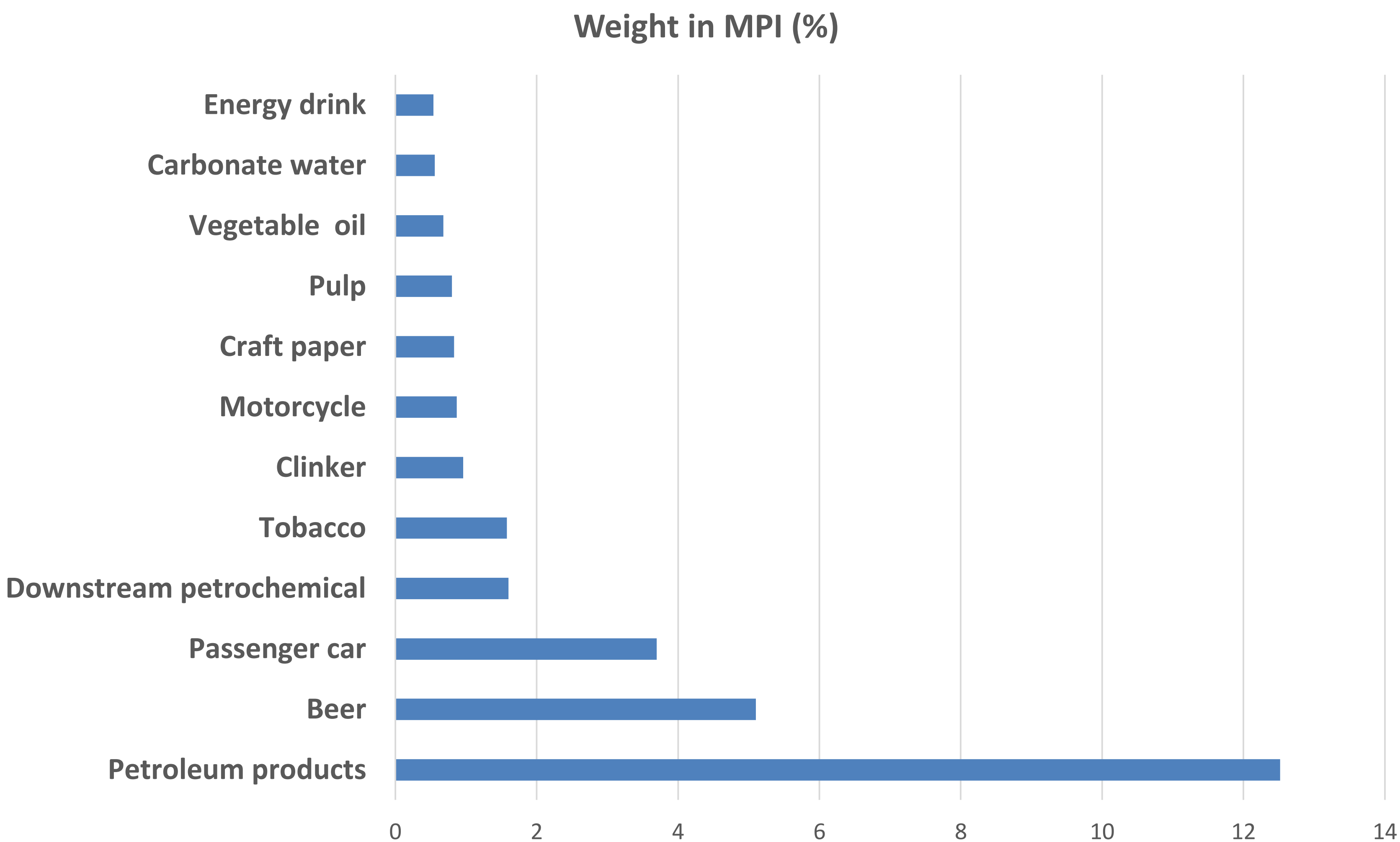
Manufacturing Production Index (MPI) Long-term path: permanent output



Deviation from the trend: Cyclical component (CYCLE) of the actual MPI



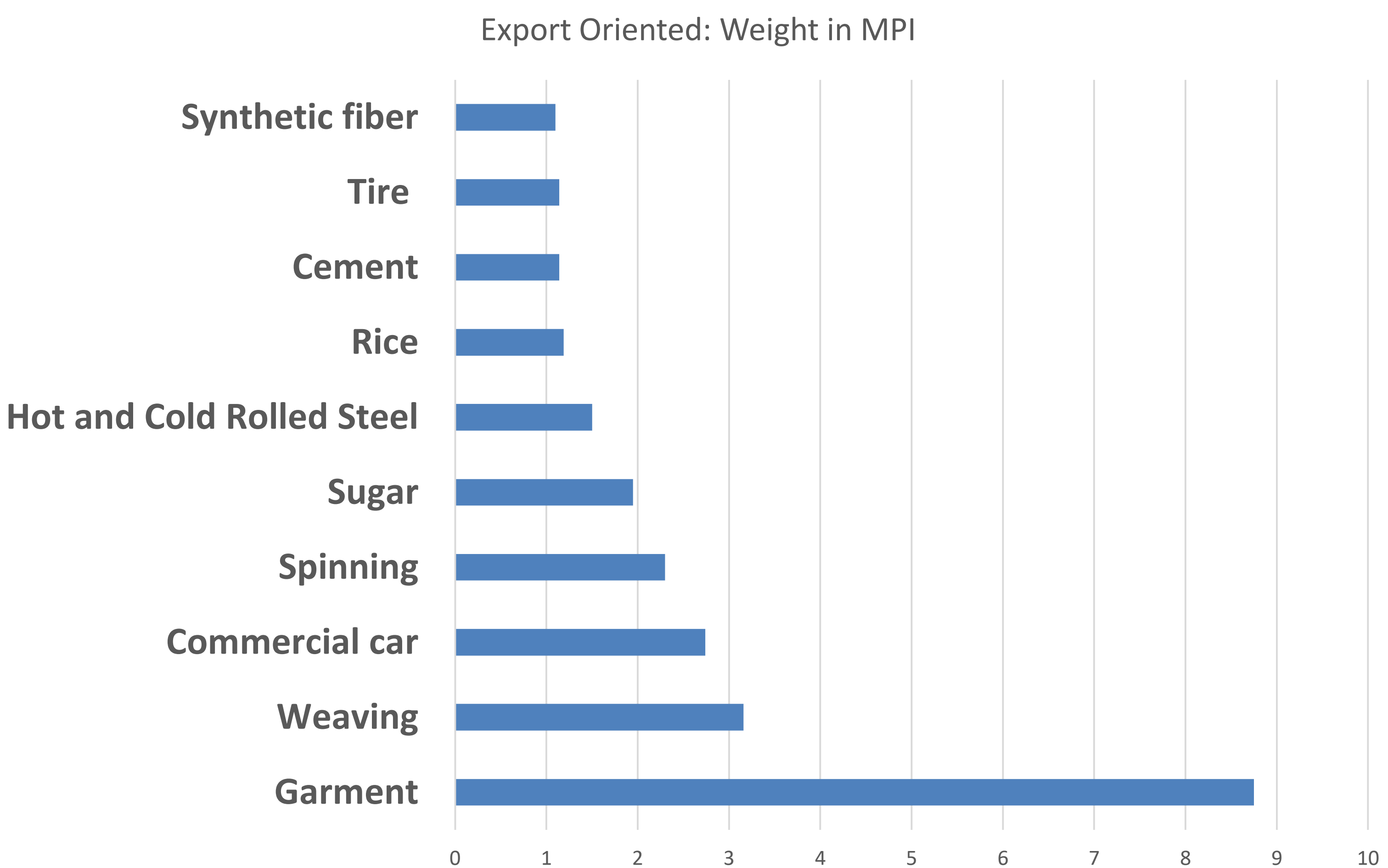
Domestic-oriented Industry (Export-output ratio < 0.3)



Medium export-oriented Industry:

0.3 <(X/Q)<0.6

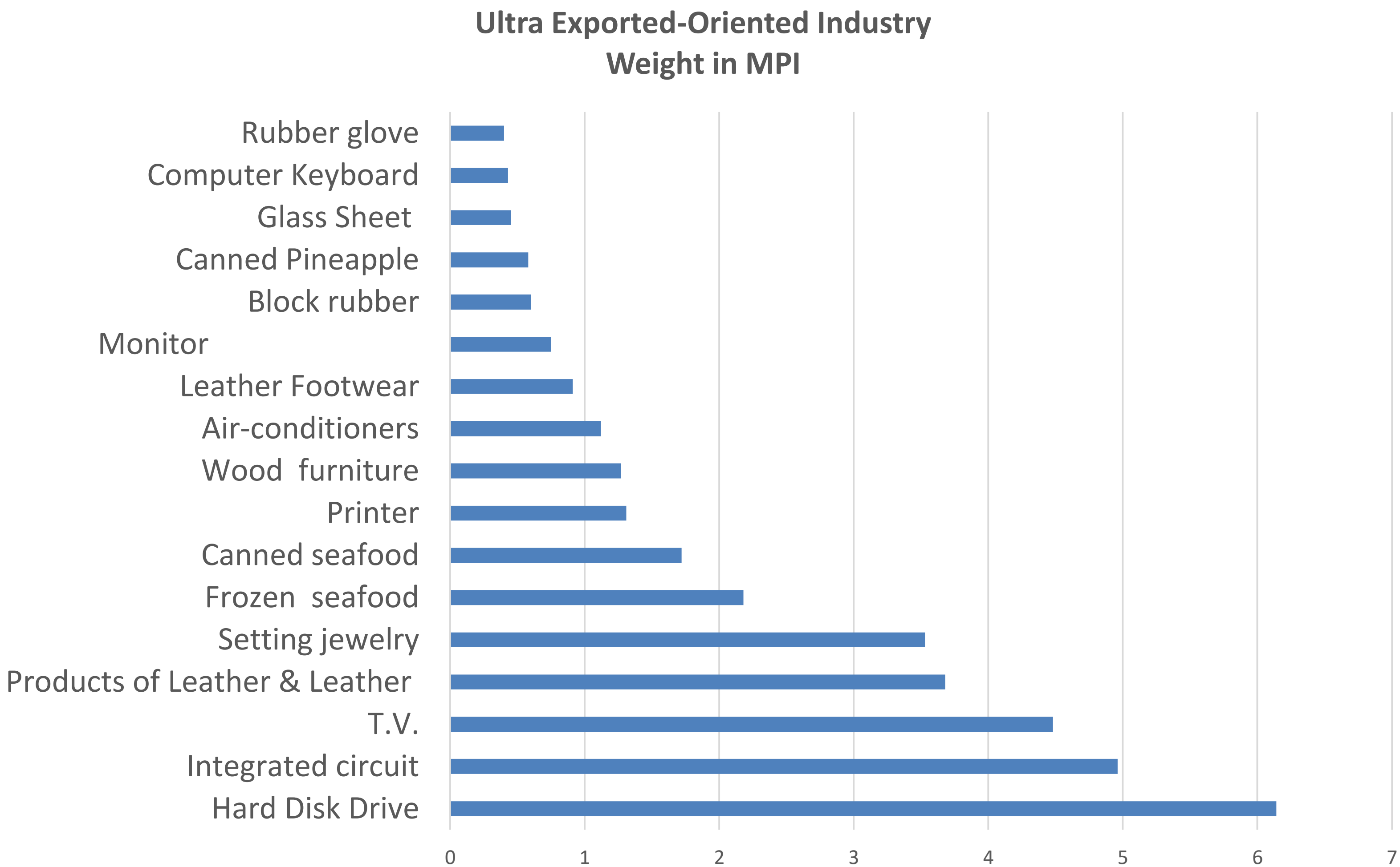
Weight in MPI (%)



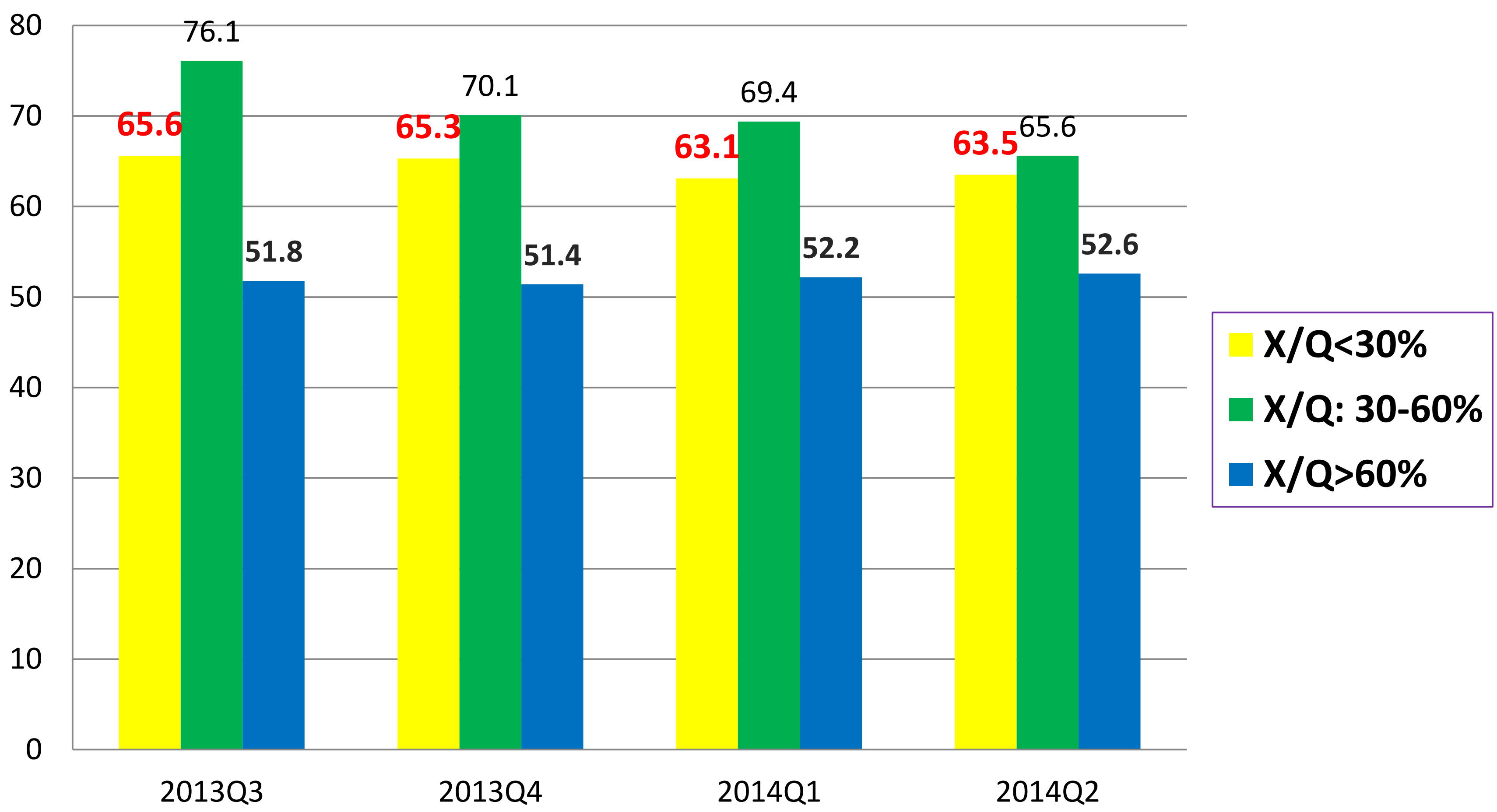
Ultra export-oriented Industry:

(X/Q) > 0.6

Weight in MPI (%)



Capacity utilization by types of market orientation
The middle path might be the best strategy



Domestic-oriented industries utilized capital capacity higher than Ultra export-oriented industries during the global growth slowdown

3. Global Competitiveness

It is all about productivity growth

- A country's future prosperity depends on its **growth in productivity**, 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.

- Countries do not compete in the same way as companies.
- When two countries compete through trade, they both win
- Thus, international trade is not a zero-sum game.

- Adam Smith: Gains from exchange and specialization from international trade.

- “The concept of national competitiveness is elusive.”
- Competitiveness of a nation is not the same as a corporation.

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.

Jeffrey Sachs
A positive relationship between
Competitiveness and GDP growth

Is "Competitiveness" a meaningless word?

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

Sachs' definition of competitiveness:

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

- Critique: Correlation between the two variables does not guarantee that the competitive index will be a good predictor of economies' future growth prospects.

2018 IMD WORLD COMPETITIVENESS RANKING

One year change

2018	Country	2017	Change
1	US	4	+3
2	Hong Kong	1	-1
3	Singapore	3	-
4	Netherlands	5	+1
5	Switzerland	2	-3
6	Denmark	7	+1
7	UAE	10	+3
8	Norway	11	+3
9	Sweden	9	-
10	Canada	12	+2
11	Luxembourg	8	-3
12	Ireland	6	-6
13	China	18	+5
14	Qatar	17	+3
15	Germany	13	-2
16	Finland	15	-1
17	Taiwan	14	-3
18	Austria	25	+7
19	Australia	21	+2
20	Britain	19	-1

Institute of Management Development (IMD)

Thailand slips to 30th in global competitiveness

US reclaims top spot

25 May 2018 at 04:00 1,117 viewed 5 comments

Source: IMD World Competitive Center

20	Britain	19	-1
21	Israel	22	+1
22	Malaysia	24	+2
23	New Zealand	16	-7
24	Iceland	20	-4
25	Japan	26	+1
26	Belgium	23	-3
27	South Korea	29	+2
28	France	31	+3
29	Czech Republic	28	-1
30	**Thailand**	**27**	**-3**

THAILAND PERFORMANCE

Source: IMD World Competitiveness Center

IMD said Thailand's challenges in 2018 include creating public awareness of the urgency and the magnitude of disruptive change; accelerating education reform and retraining/reskilling of the workforce to cope with future challenges; taking immediate action on applying technology and digital platforms for access to social services (such as education and healthcare); enhancing public services transformation to support the changing needs of businesses and citizens; and managing the political transformation and public conflict during the election process.

Labor productivity growth and wage hikes 2000-2010

The Global Competitiveness Report 2016-2017

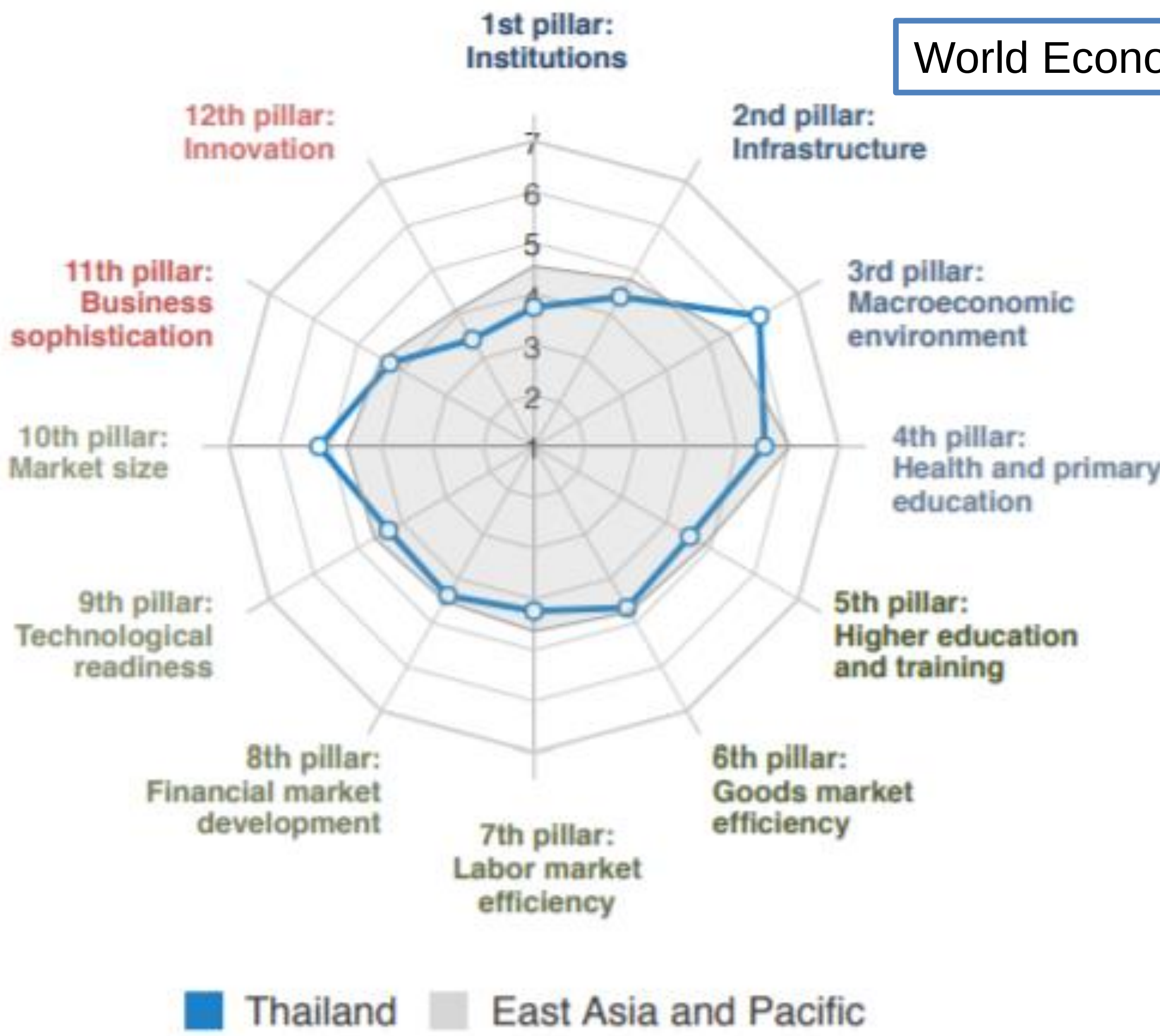
- The Global Competitiveness Report 2016-2017 assesses the competitiveness landscape of 138 economies, providing insight into the drivers of their productivity and prosperity.
- This year's edition highlights that ***declining openness*** is threatening growth and prosperity.
- It also highlights that monetary stimulus measures such as quantitative easing are not enough to sustain growth and must be accompanied by **competitiveness reforms.**
- Key finding points to the fact that updated business practices and ***investment in innovation*** are now as *important as infrastructure, skills and efficient markets*.

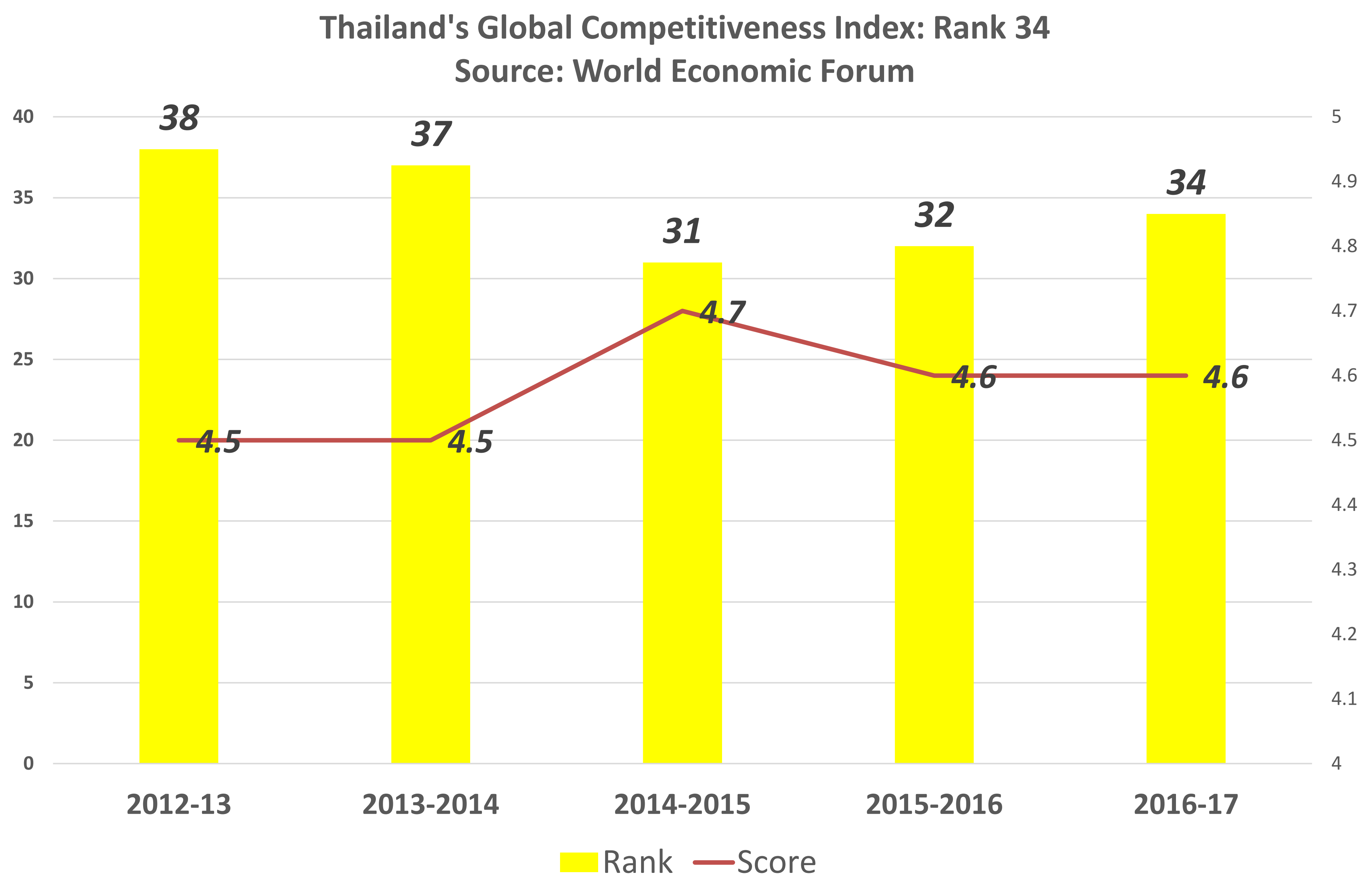
The Global Competitiveness Report World Economic Forum: 2016-2017

- Switzerland, Singapore and the United States remain the three world's most competitive economies.
- "Declining openness in the global economy is harming competitiveness and making it harder for leaders to drive ***sustainable, inclusive growth***," said **Klaus Schwab**, Founder and Executive Chairman, World Economic Forum.

Thailand’s weakest areas: 1,2,4,5,12

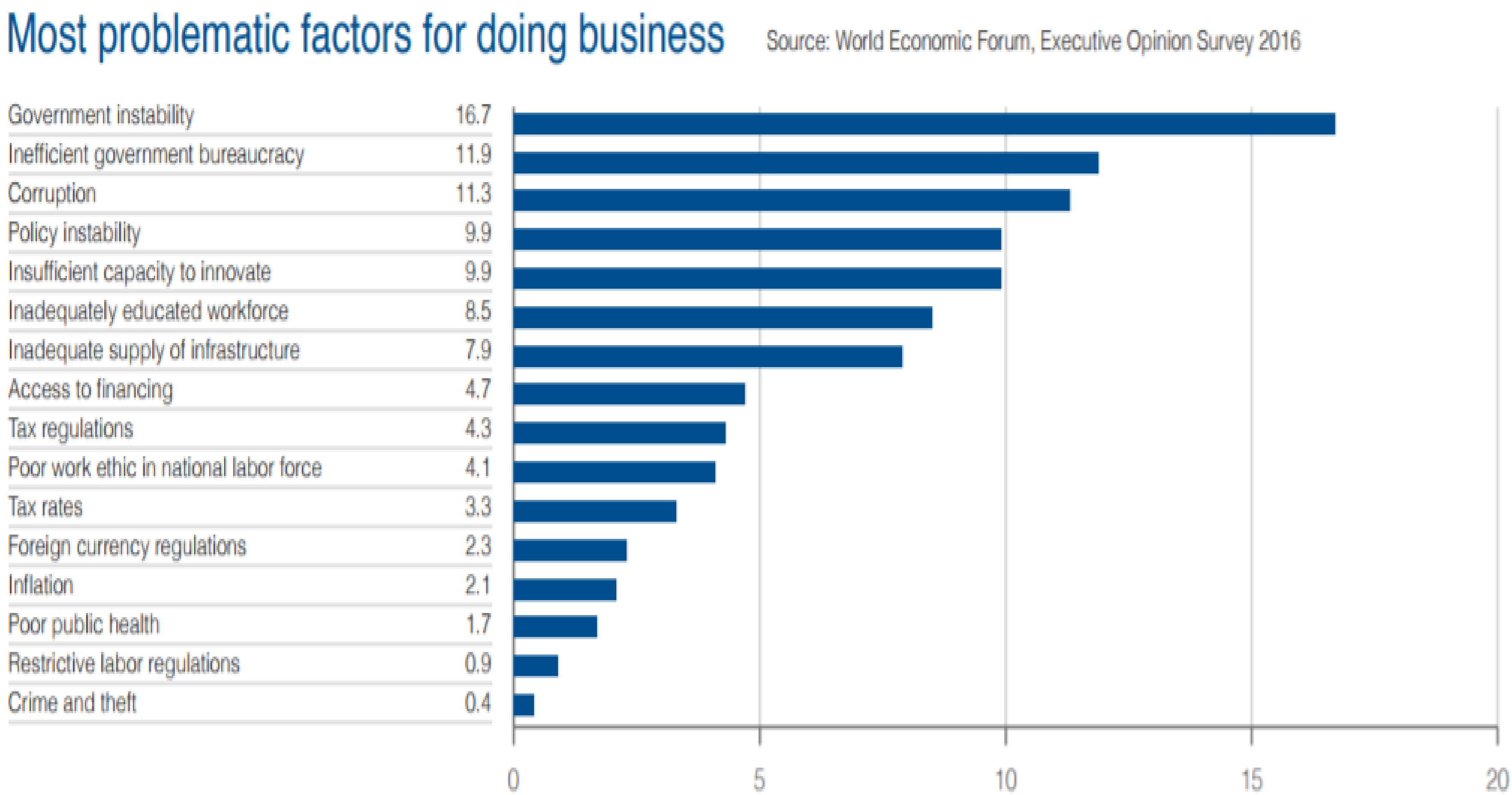
World Economic Forum




Thailand's Global Competitiveness Index: Rank 34
Source: World Economic Forum
40
35
30
25
20
15
10
5
0
5
4.9
4.8
4.7
4.6
4.5
4.4
4.3
4.2
4.1
4
38
37
31
32
34
4.5
4.5
4.7
4.6
4.6
2012-13
2013-2014
2014-2015
2015-2016
2016-17
Rank
Score

Thailand's problems

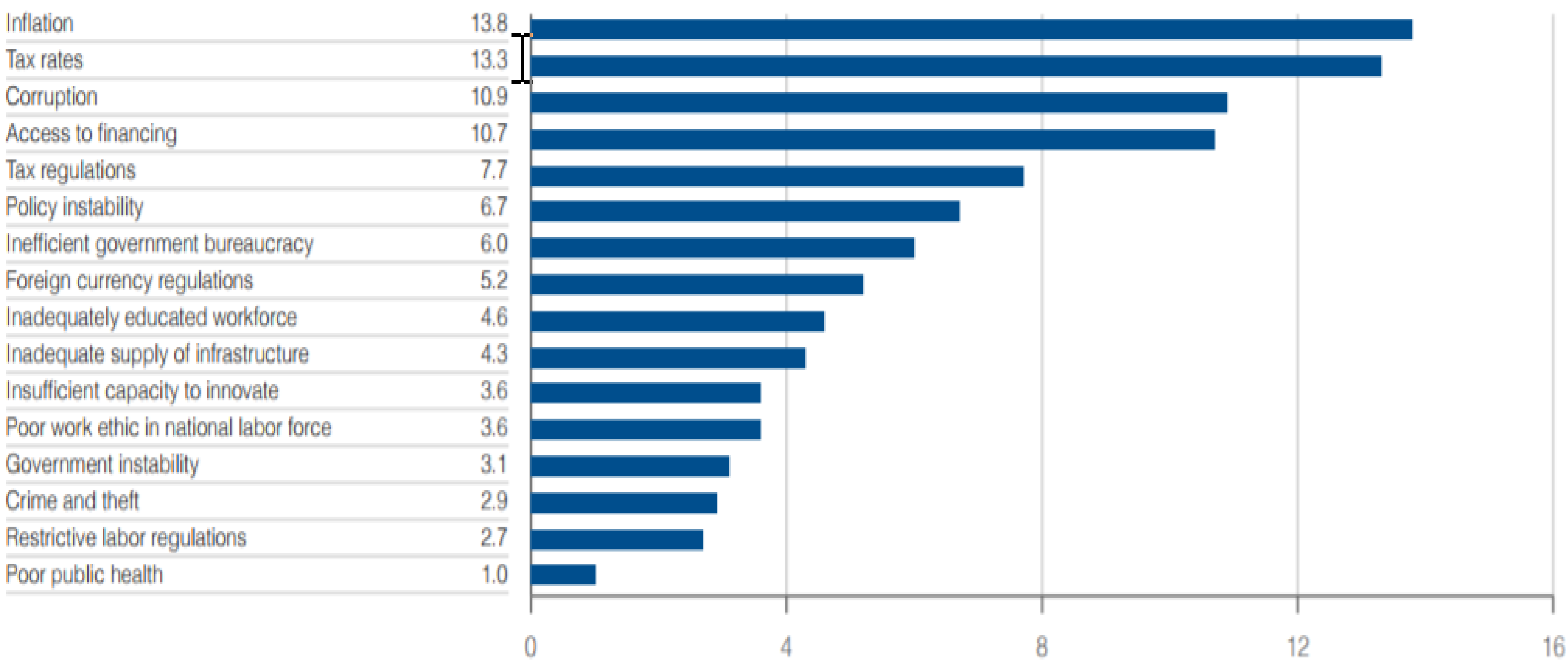
Government instability, inefficient bureaucracy, corruption, policy instability, insufficient capacity to innovate, inadequately educated workforce, inadequate supply of infrastructure



Compare Thailand’s problems with Russia Federation
Russia: Score of 4.5, Rank no. 43

Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Singapore: 2nd Rank: score 5.7

Table 1: The Global Competitiveness Index

2016-2017

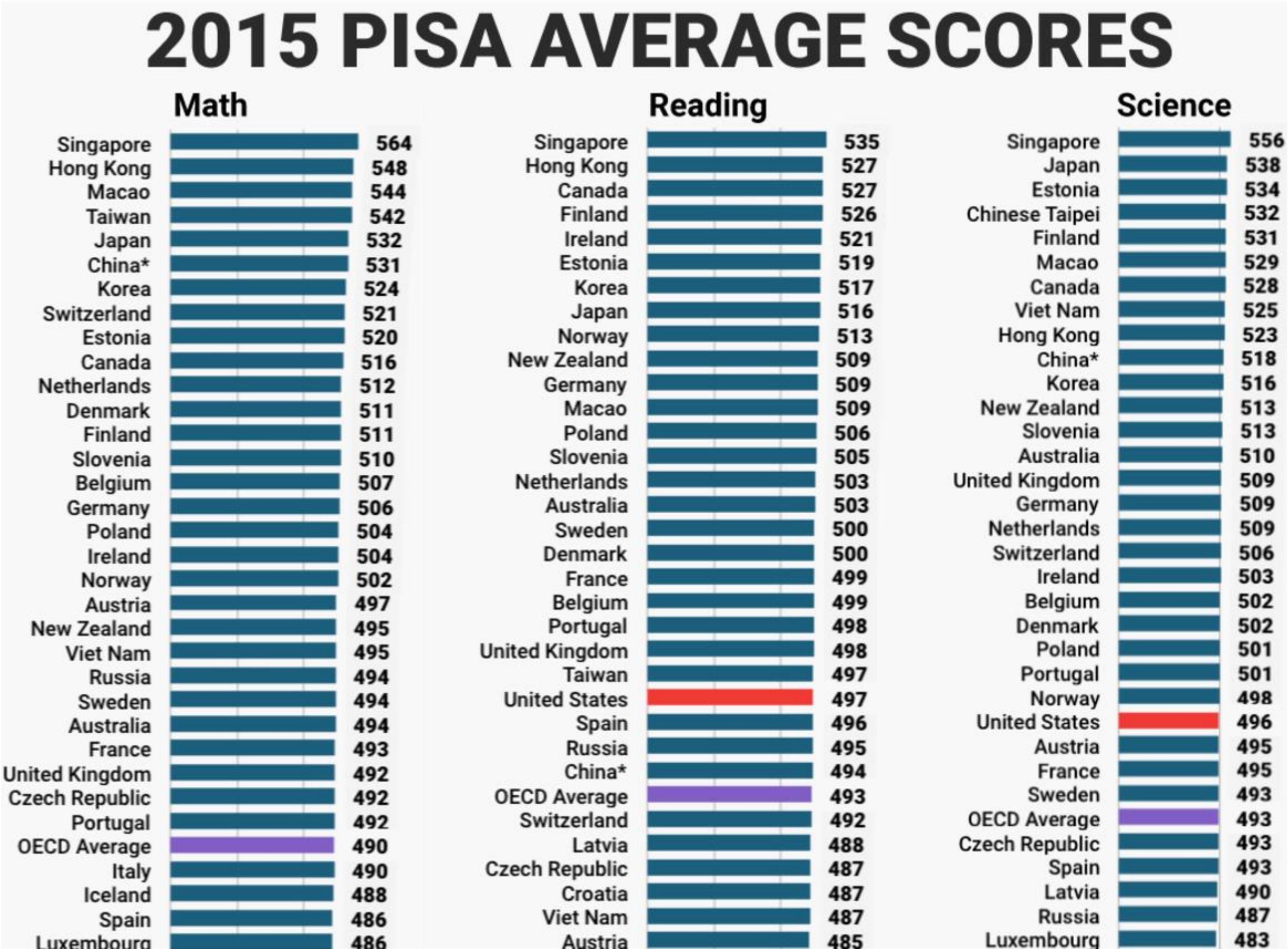
	OVERALL INDEX	
Country/Economy	Rank	Score
Switzerland	1	5.81
Singapore	2	5.72
United States	3	5.70
Netherlands	4	5.57
Germany	5	5.57
Sweden	6	5.53
United Kingdom	7	5.49
Japan	8	5.48
Hong Kong SAR	9	5.48
Finland	10	5.44

WEF urged Thailand to develop human resources

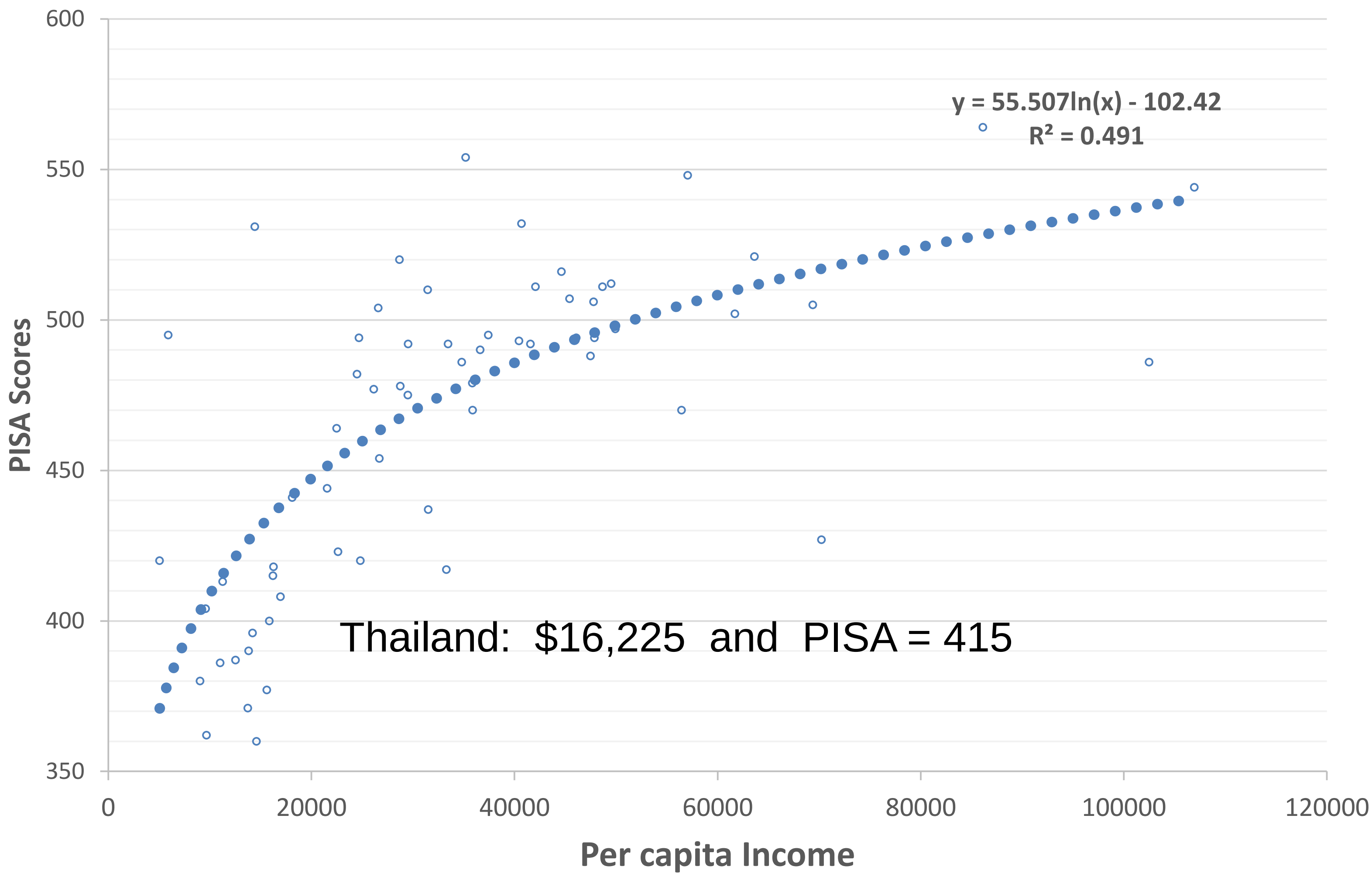
- The country needs to be concerned about sustained growth, and pay attention to more complex areas of competitiveness, where the shortcomings are.
- Despite having come up with the "Thailand 4.0" policy in order to focus more on ***innovation and technology***, it would take some time for the necessary development to take place and move the country out of the middle-income trap.
- The WEF recommended Thailand attach high importance to and seriously develop its ***human resources*** related to the education system, focusing on ***the quality of primary education***, internet use in schools, future workforce skills, ***school life expectancy***, and *critical thinking in teaching*.

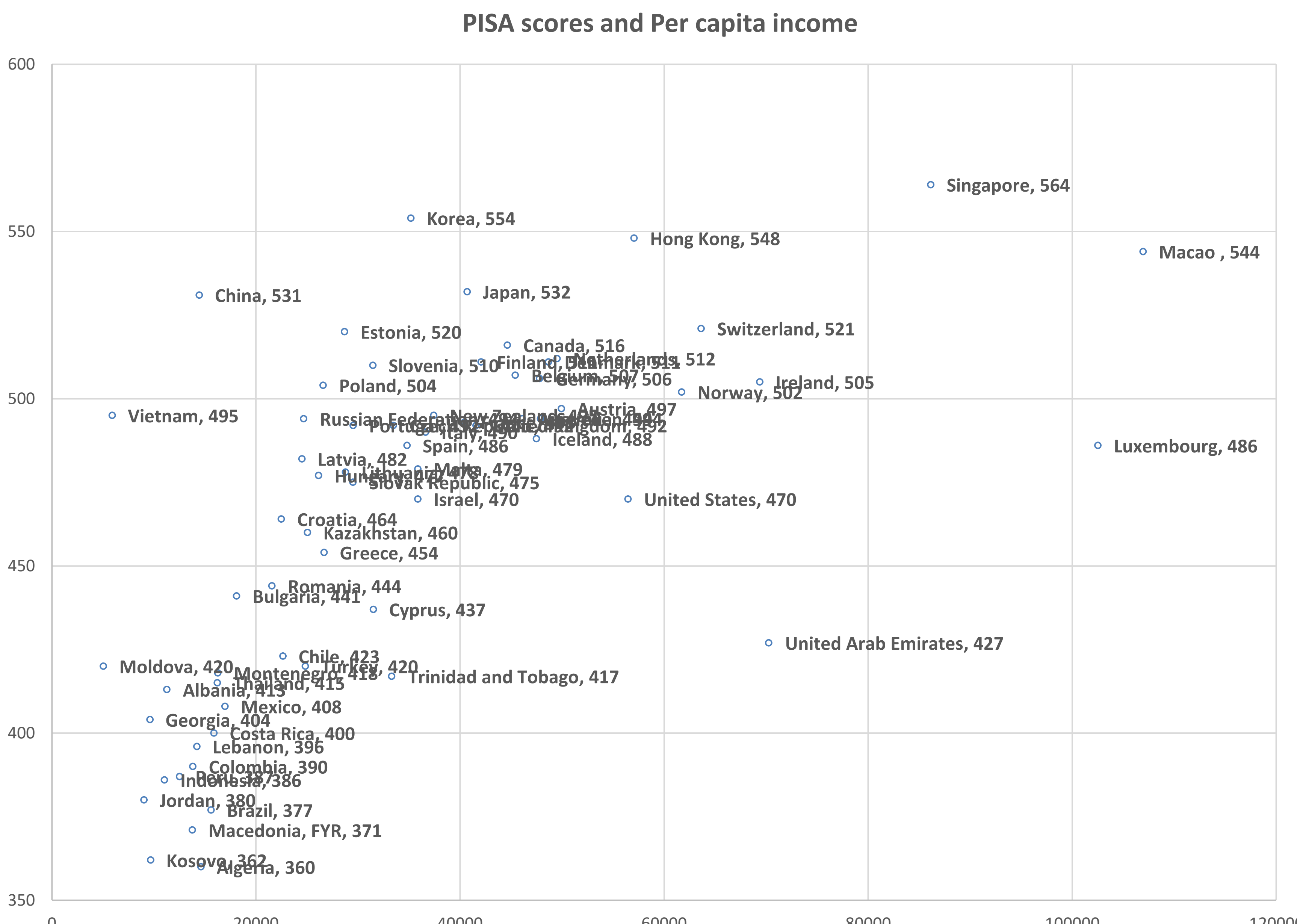
4. Asian Education Model

- Asian students at the top of the league table *spend almost twice* as much time studying as children in other countries.
- The Program for International Student Assessment (PISA) is an international assessment that measures 15-year-old students' reading, mathematics, and science literacy every three years.


2015 PISA AVERAGE SCORES
Math
Singapore 564
Hong Kong 548
Macao 544
Taiwan 542
Japan 532
China* 531
Korea 524
Switzerland 521
Estonia 520
Canada 516
Netherlands 512
Denmark 511
Finland 511
Slovenia 510
Belgium 507
Germany 506
Poland 504
Ireland 504
Norway 502
Austria 497
New Zealand 495
Viet Nam 495
Russia 494
Sweden 494
Australia 494
France 493
United Kingdom 492
Czech Republic 492
Portugal 492
OECD Average 490
Italy 490
Iceland 488
Spain 486
Luxembourg 486
Reading
Singapore 535
Hong Kong 527
Canada 527
Finland 526
Ireland 521
Estonia 519
Korea 517
Japan 516
Norway 513
New Zealand 509
Germany 509
Macao 509
Poland 506
Slovenia 505
Netherlands 503
Australia 503
Sweden 500
Denmark 500
France 499
Belgium 499
Portugal 498
United Kingdom 498
Taiwan 497
United States 497
Spain 496
Russia 495
China* 494
OECD Average 493
Switzerland 492
Latvia 488
Czech Republic 487
Croatia 487
Viet Nam 487
Austria 485
Science
Singapore 556
Japan 538
Estonia 534
Chinese Taipei 532
Finland 531
Macao 529
Canada 528
Viet Nam 525
Hong Kong 523
China* 518
Korea 516
New Zealand 513
Slovenia 513
Australia 510
United Kingdom 509
Germany 509
Netherlands 509
Switzerland 506
Ireland 503
Belgium 502
Denmark 502
Poland 501
Portugal 501
Norway 498
United States 496
Austria 495
France 495
Sweden 493
OECD Average 493
Czech Republic 493
Spain 493
Latvia 490
Russia 487
Luxembourg 483

The relationship between PISA scores and per capita income




PISA scores and Per capita income
600
550
500
450
400
350
0
20000
40000
60000
80000
100000
120000
Singapore, 564
Korea, 554
Hong Kong, 548
Macao , 544
China, 531
Japan, 532
Switzerland, 521
Estonia, 520
Canada, 516
Netherlands, 512
Slovenia, 510
Belgium, 507
Germany, 506
Ireland, 505
Poland, 504
Norway, 502
Vietnam, 495
Austria, 497
Italy, 490
Iceland, 488
Spain, 486
Luxembourg, 486
Latvia, 482
Malta, 479
Slovak Republic, 475
Israel, 470
United States, 470
Croatia, 464
Kazakhstan, 460
Greece, 454
Romania, 444
Bulgaria, 441
Cyprus, 437
United Arab Emirates, 427
Chile, 423
Moldova, 420
Turkey, 420
Montenegro, 418
Trinidad and Tobago, 417
Thailand, 415
Albania, 413
Mexico, 408
Georgia, 404
Costa Rica, 400
Lebanon, 396
Colombia, 390
Indonesia, 386
Jordan, 380
Brazil, 377
Macedonia, FYR, 371
Kosovo, 362
Algeria, 360

A cultural perspective

- Students' performance is affected by motivation
- Pleasure-oriented (intrinsic-related) and productivity-oriented (extrinsic-related) motivations.
- East Asian students may respond positively to both types of motivation, while students in other regions (Europe) may respond *negatively* to extrinsic-related motivation.

A high score can be achieved by different teaching methods (production functions)

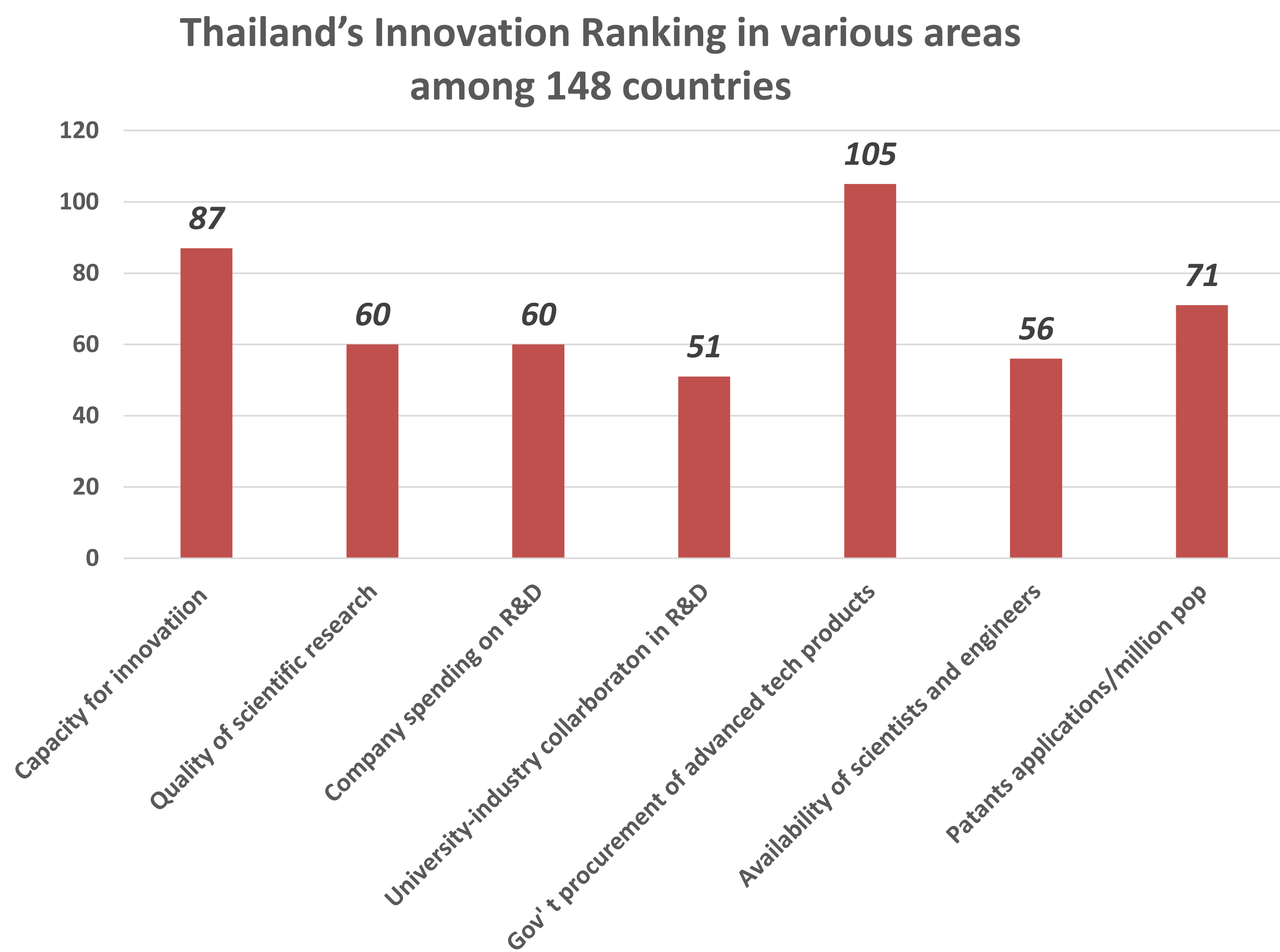
- Constant, decreasing, and increasing returns to scale produce different PISA scores
- Different inputs: students' study hours per day (15 hours in Korea)
- With different **capital inputs**: Dedication and working hours of teachers
- Capital or labor augmented technology
- Recall the Solow residuals..

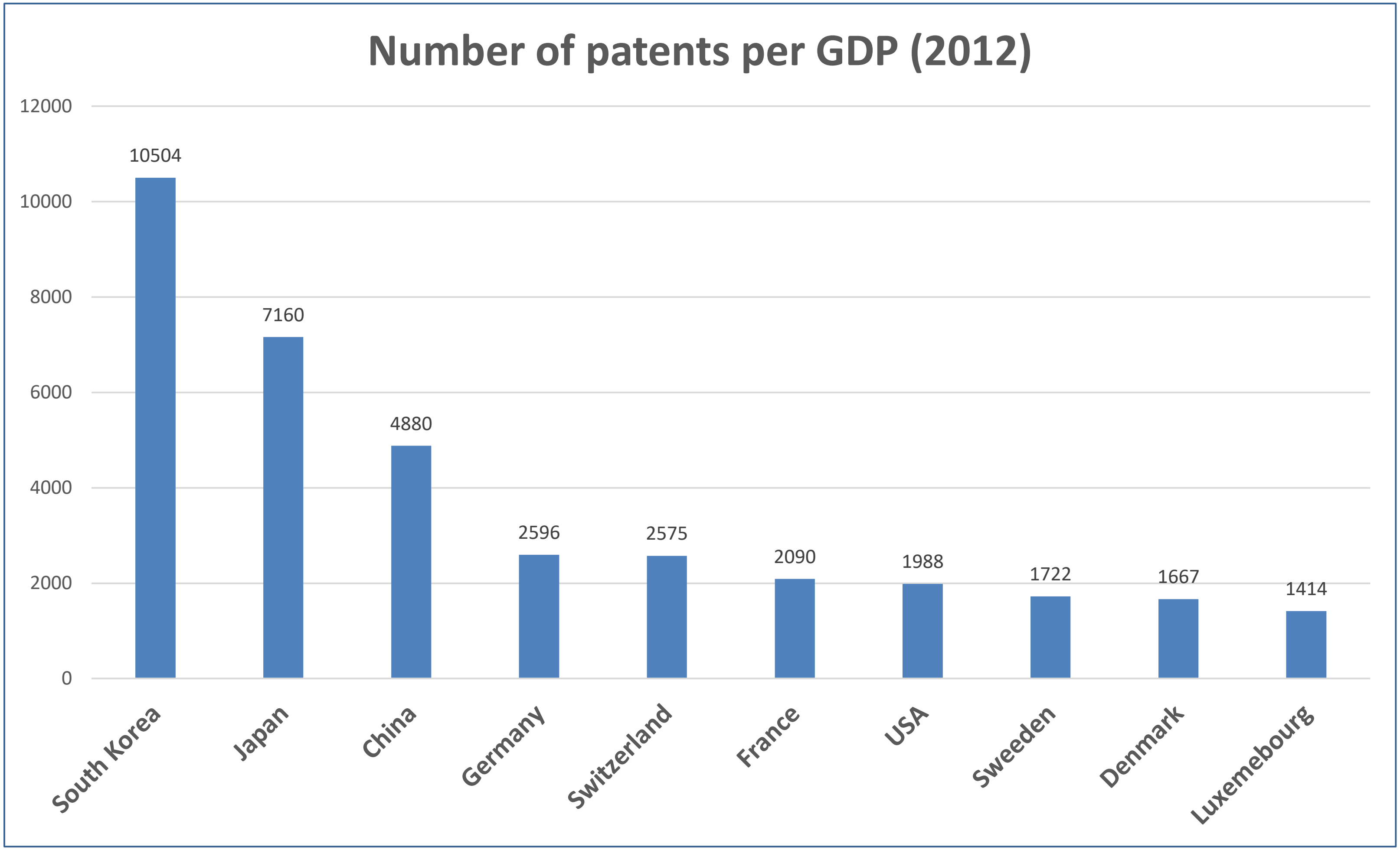
Determinants of Academic Performance

- Education: Curricular reform and standardized testing
- Cultural aspects : **Confucian** Thought
- Social factors exert impacts on student learning
- Economic aspects: rate of return on education induces students to work harder.
- **Asian cultural attitudes to education**:
- Greatest emphasis on competition, endurance, and pressure

Thailand’s PSA science score is only 415, Singapore 556. Does it matter?

- Are we comparing apples and oranges?
- What is good for the Korean may not be good for the Brits.
- It is like comparing coriander to kimchi, and fish sauce to ketchup.
- There are also costs to societies from being competitive and aggressive.


Thailand’s Innovation Ranking in various areas among 148 countries
120
100
80
60
40
20
0
87
60
60
51
105
56
71
Capacity for innovatiion
Quality of scientific research
Company spending on R&D
University-industry collarboraton in R&D
Gov' t procurement of advanced tech products
Availability of scientists and engineers
Patants applications/million pop


Number of patents per GDP (2012)
12000
10000
8000
6000
4000
2000
0
10504
7160
4880
2596
2575
2090
1988
1722
1667
1414
South Korea
Japan
China
Germany
Switzerland
France
USA
Sweeden
Denmark
Luxemebourg

5. Competitiveness of Thai Manufacturing sector

The BCG Model

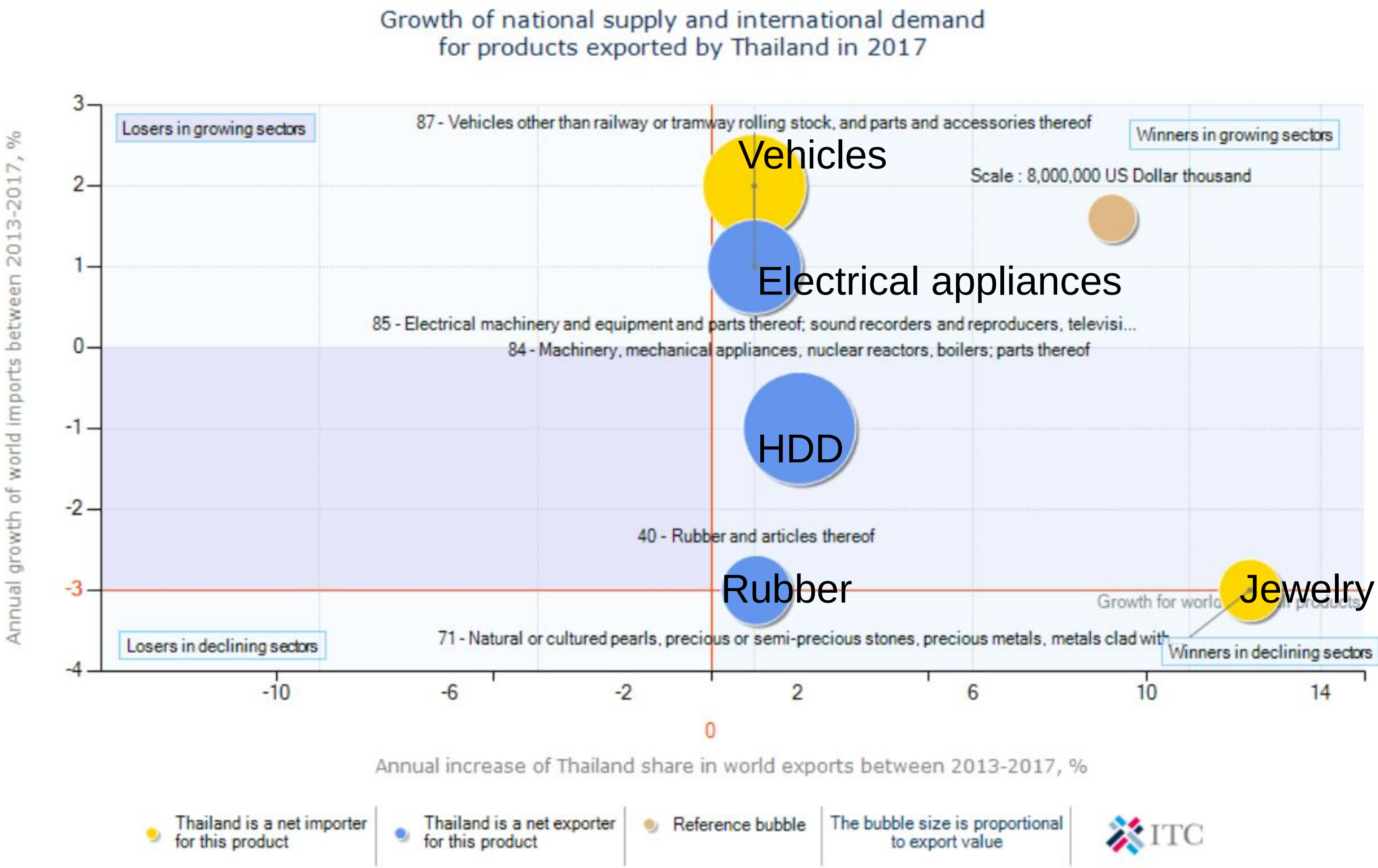
- Boston Consulting Group (BCG) model highlights two indicators:
- Commodities which are growing faster than world trade volume (high income elasticity of demand)
- Commodities which have gained the world market share (revealing their competitiveness)

Competitive Positioning

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

	The country is losing world market share Losers	The country is gaining world market share Winners
Growing sectors (High income elasticity of export demand)	Lost opportunity (Problem child)	Rising stars
Declining sectors Low elasticity	Retreat (dogs) time to move out	Falling stars (cash cows)

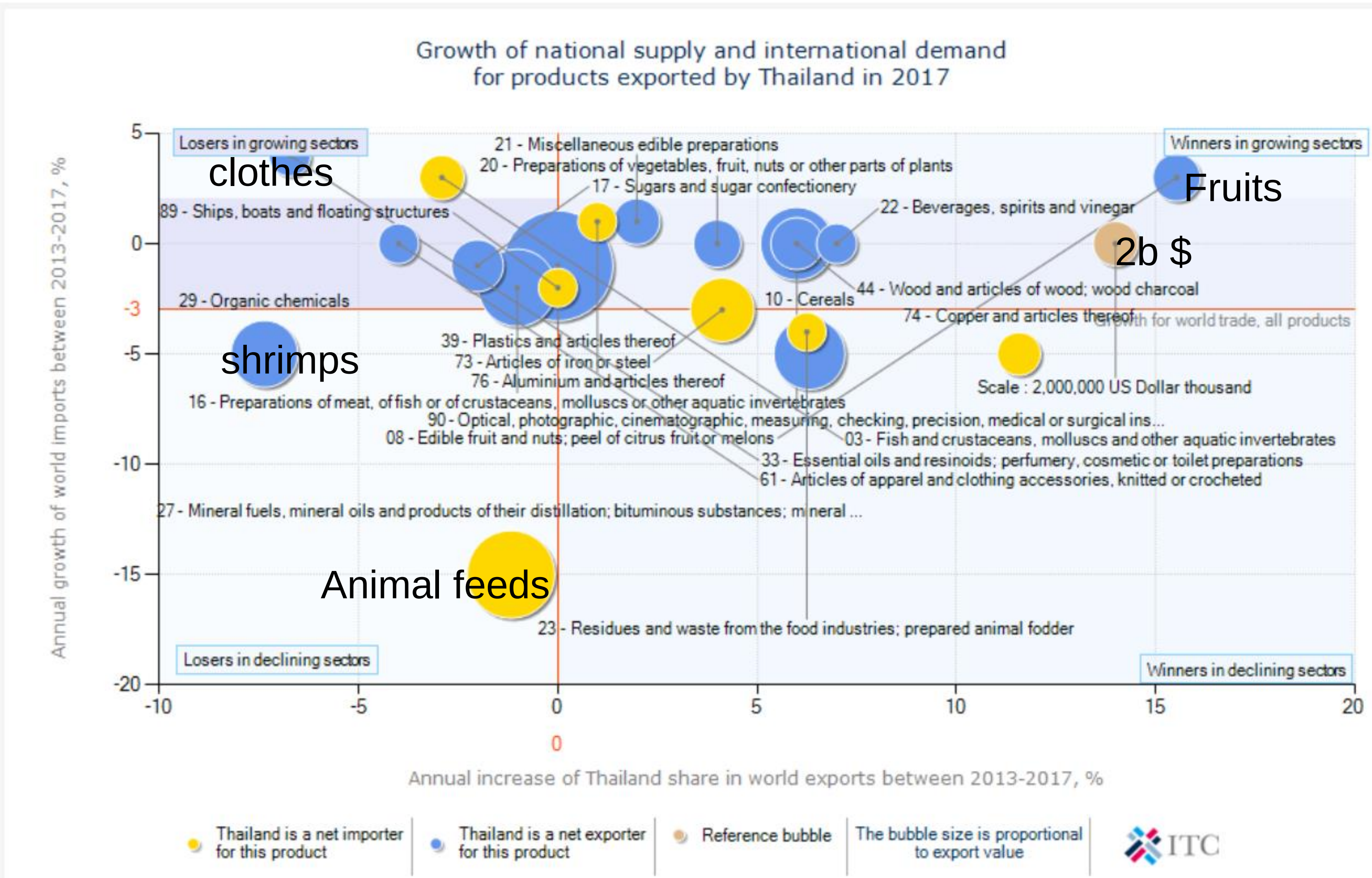
Thailand's top five exports: 2017



Blue: net exporters

Yellow: net importers

Other top 20 exports



Michael Porter (1990)
The Competitive Advantages of Nations

- There are two basic types of competitive advantages: lower production costs 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 of product differentiation

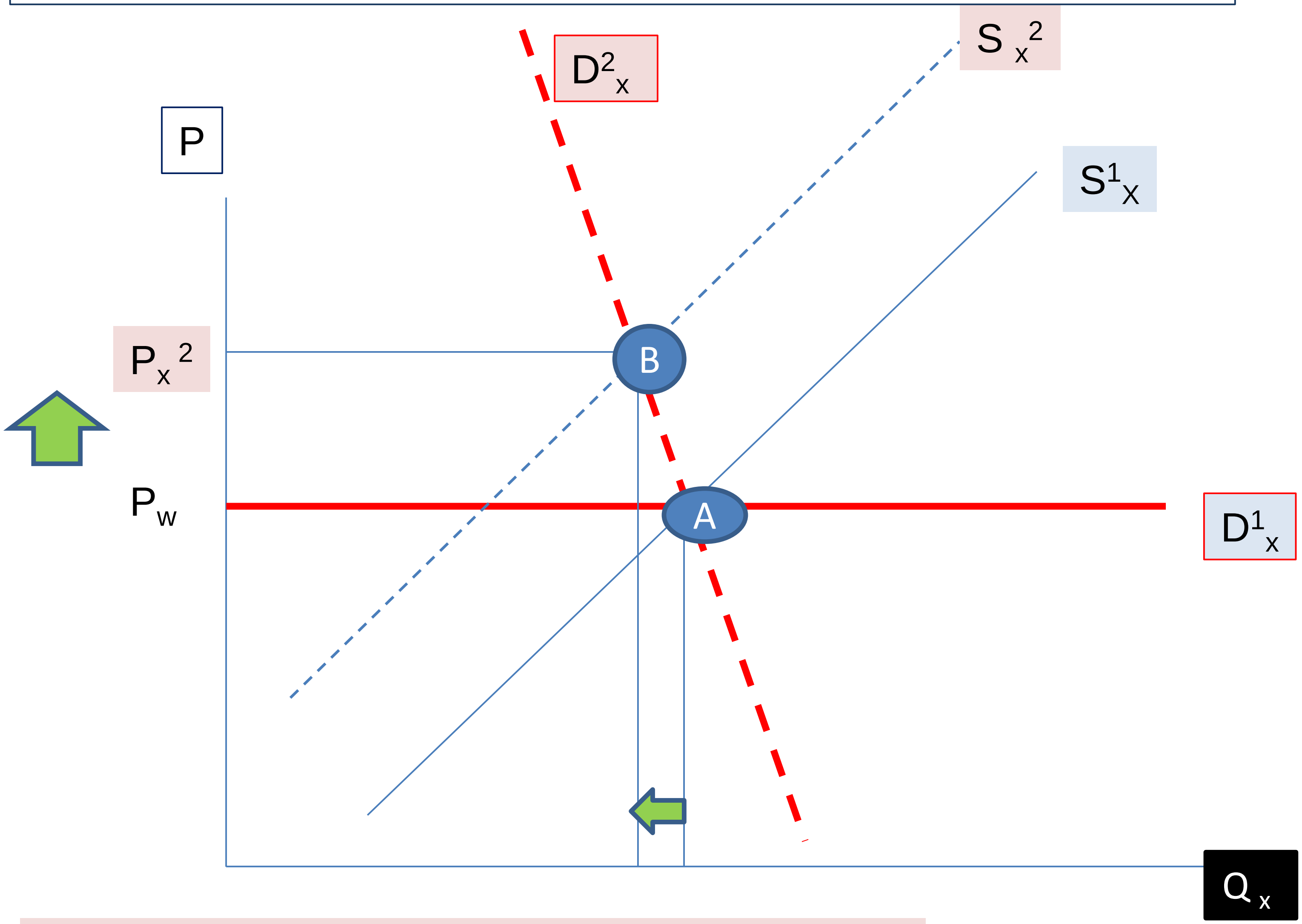
- Differentiation in services provided by banks, supermarkets, restaurants, and gasoline stations.
- **Product differentiation in education**
- EP programs in high schools
- “Twining program in engineering: TU and Nottingham University”
- “Thammasat Frontier School”
- “5 years degree program: study BA and get MBA”

Why differentiation matters

- 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.
- Product differential requires innovation, otherwise it is just a marketing gimmicks

Bladeless Fans

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

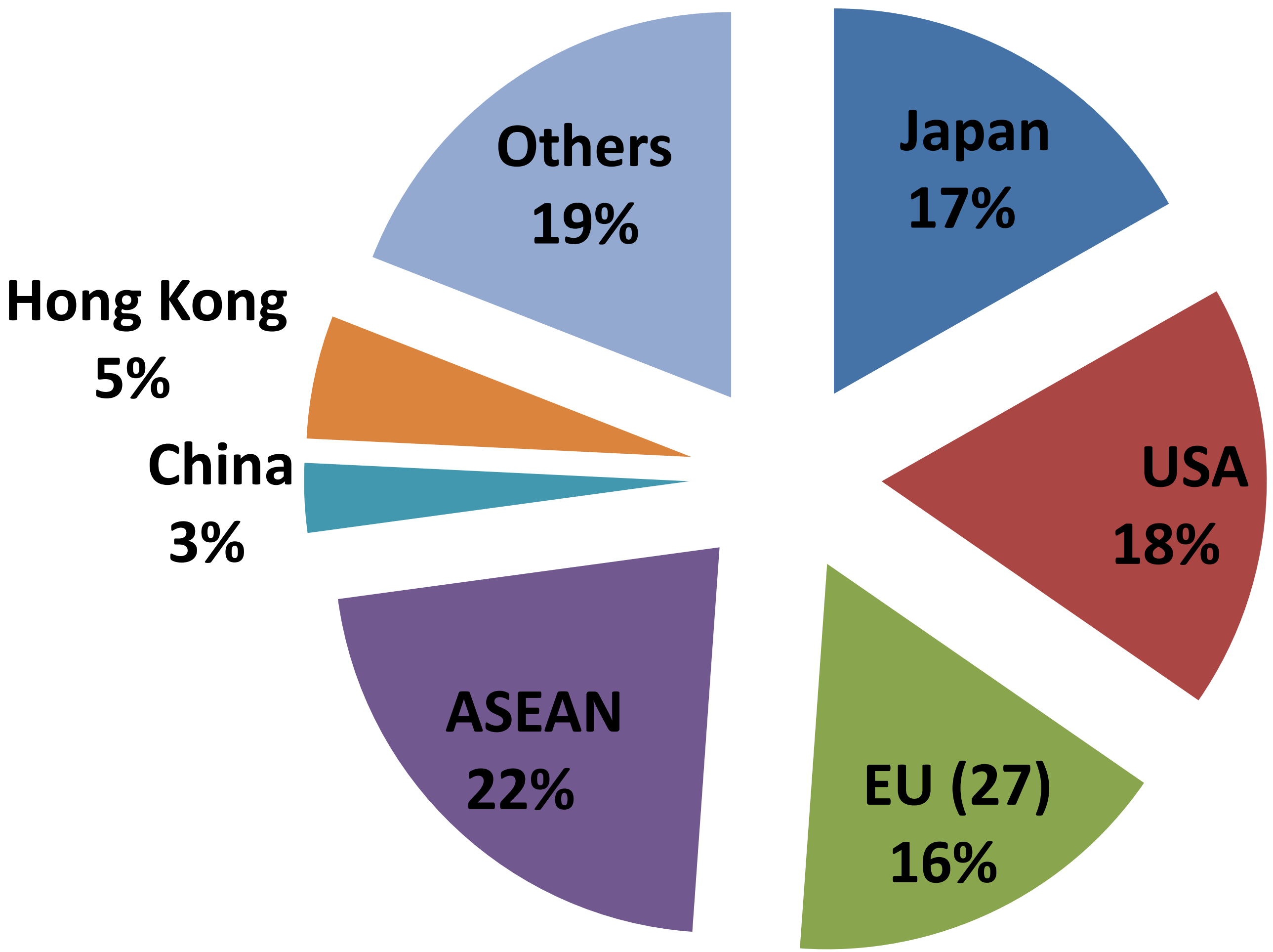


Despite lower quantity of sales, revenue rises due to product differentiation through innovation Grab, Uber, and Lineman services

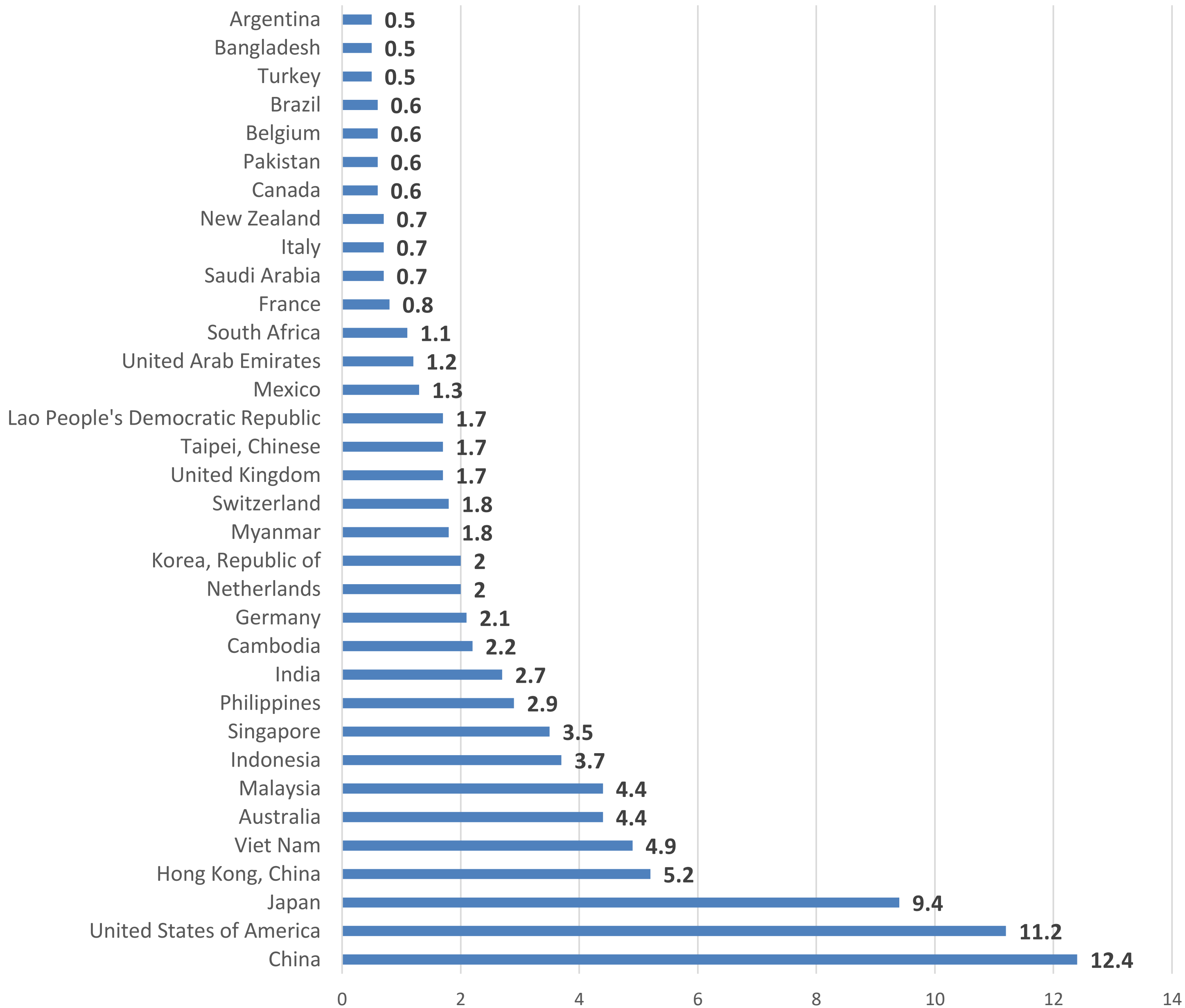
6. Diversification of Thai exports
Product and Market Diversification

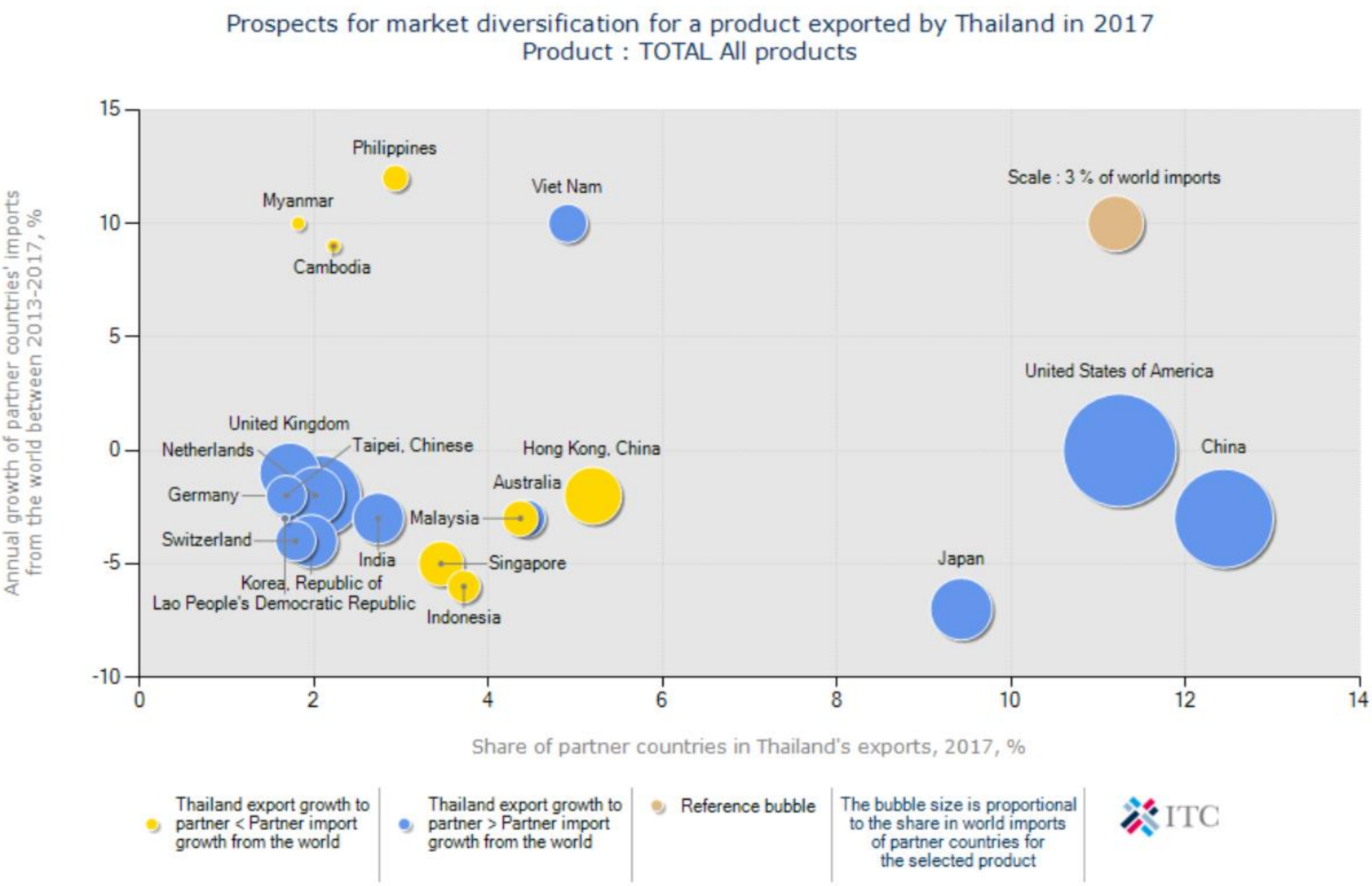
- A country is considered competitive in products in which it is increasing its world market share.
- An export product is considered dynamic in world trade if it is *growing faster* than the average for all products (either rising or falling stars).

Exports market diversification: 1995



Shares in Thailand’s total export values (2017)





Yellow: losing market share

Blue: gaining market share

Review Questions

- ***Discuss Thailand's exports geographically distribution in 2017.***
- ***How was the manufacturing sector affected by the 2009 global recession?***
- ***What went wrong with Thailand's exports between 2014 and 2016?***
- ***Has Thailand's exports resumed its growth path in 2018?***