

Competitiveness of the Thai Manufacturing Sector

Bhanupong

Lecture 13

Outline

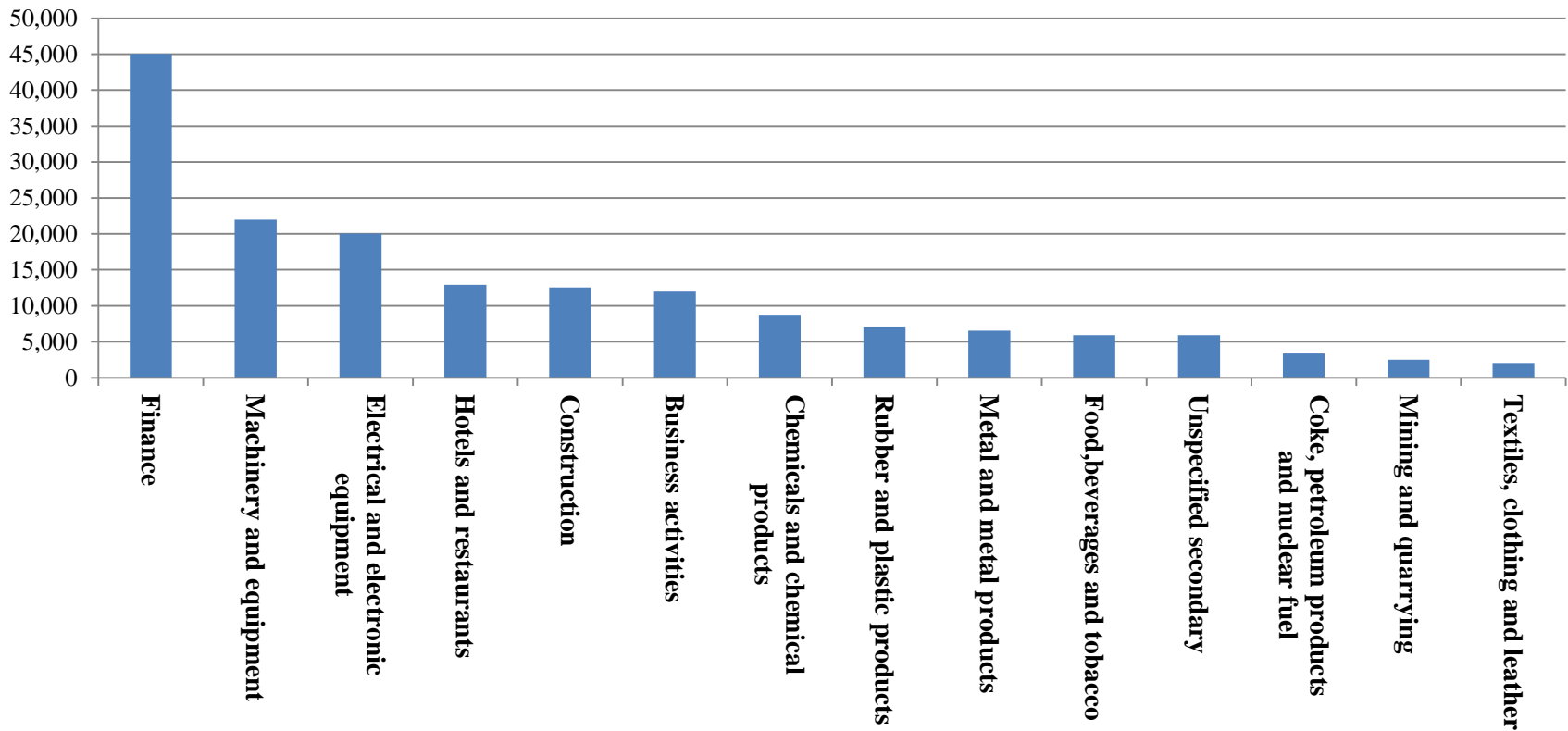
- The importance of FDI for industrial development
- Overview of Thailand's industry
- Global competitiveness
- Thailand's manufacturing sector
- Diversification of exports

The important role of FDI

- With strong value of the baht, rising wage rate, 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.
- FDI is the dominant factor determining the success of Thailand's manufactured exports

Manufacturing capital stock deepening through FDI

Thailand's Sectoral FDI stock in 2012
(USD million)

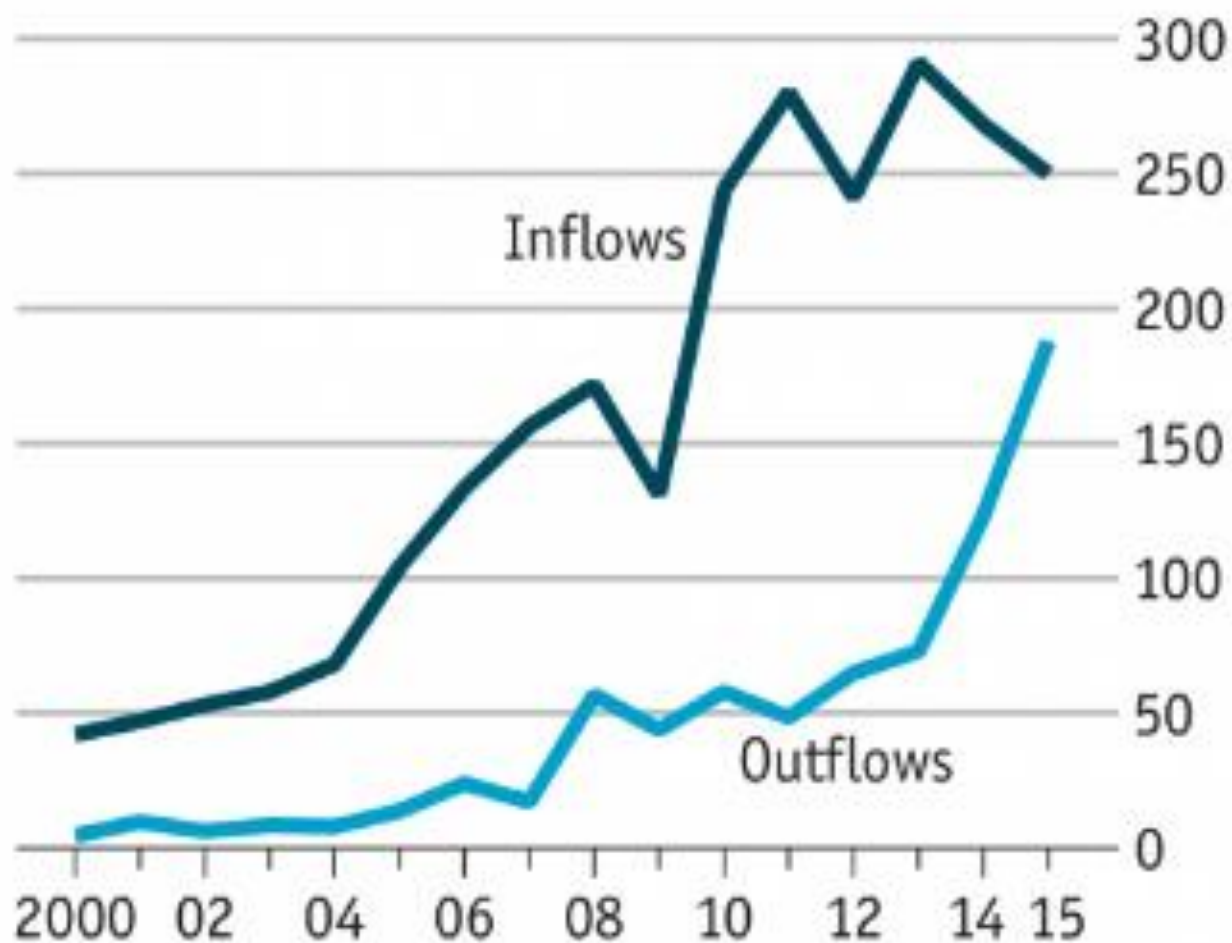


Damp squib: China's foreign investment

- For two decades, foreign direct investment 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 liberalise 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 politicised administrative approvals to a registration system involving just a short "negative list" of forbidden investments.

Not so hot

China, foreign direct investment, \$bn



Source: World Bank

Damp squib: China's foreign investment

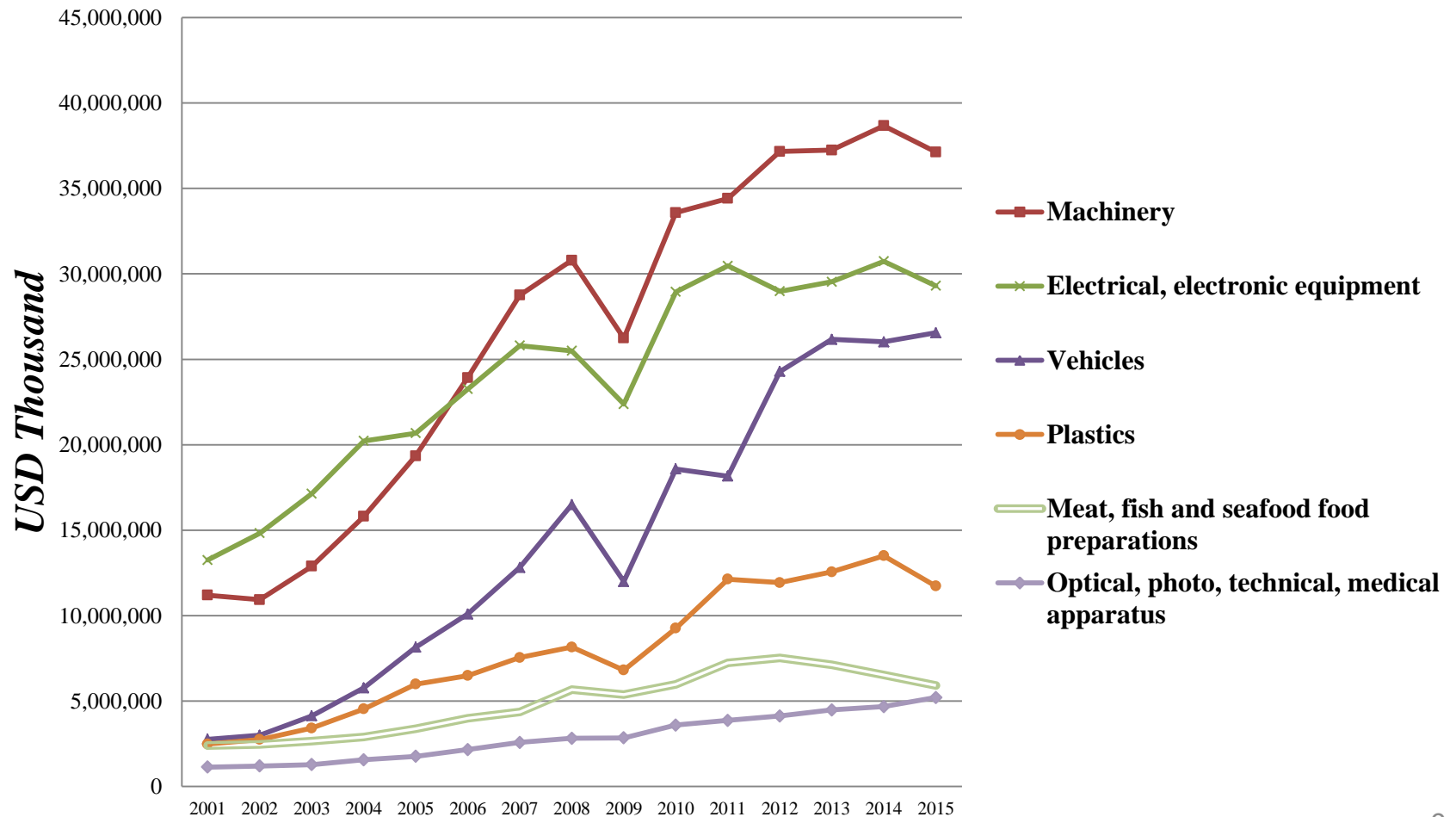
- Sadly there is less to the latest reforms than meets the eye. Nothing in them puts foreign firms on an equal legal footing with local ones, for example.
- Also, there are already signs of bureaucratic resistance to the shift to a registration system.
- Chinese leaders must do more if they want to persuade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

1. Overview of Thailand's industries

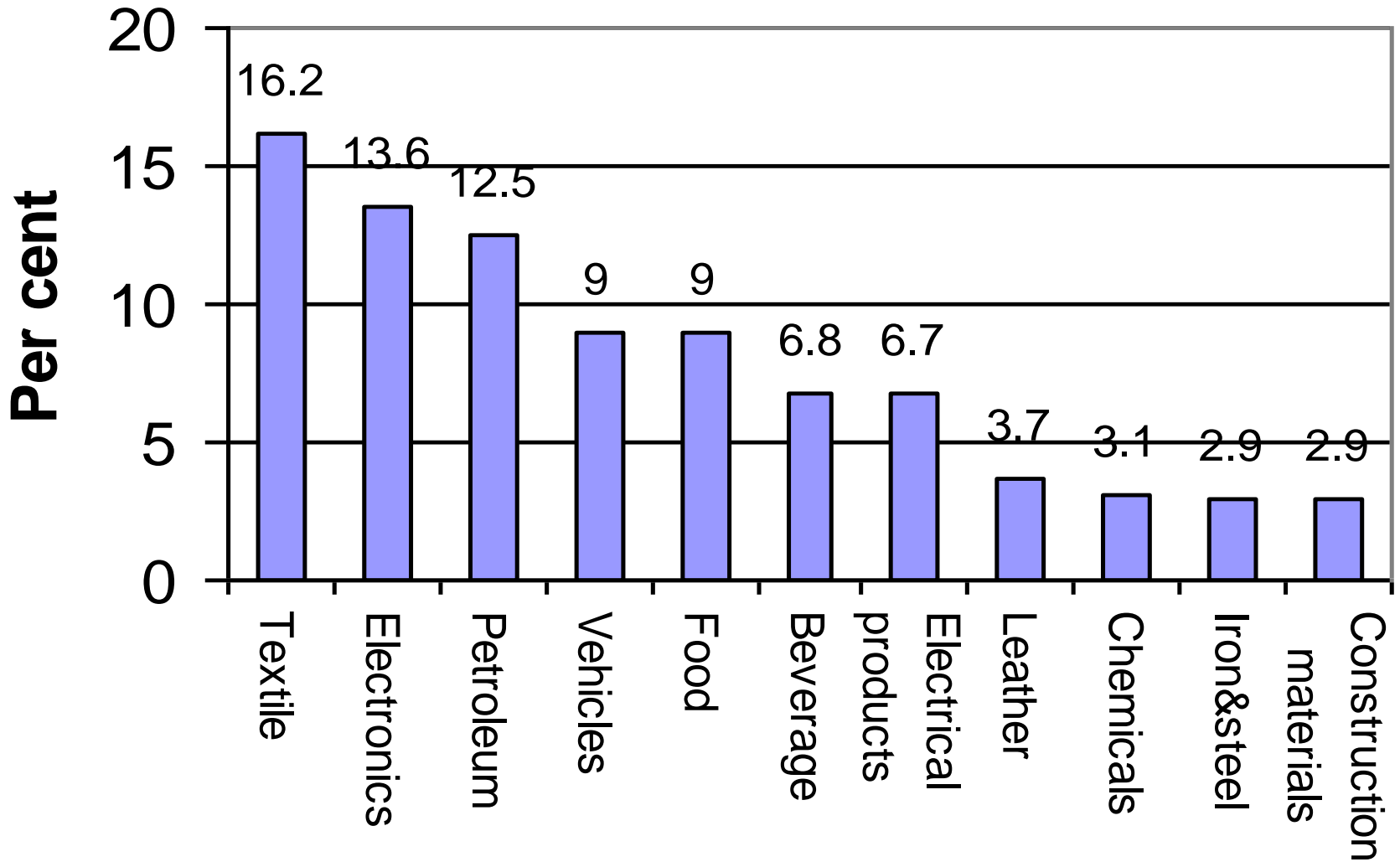
- The growth of Thailand's industry is largely determined by external demand. The world business cycles are responsible for fluctuations in Thailand's manufactured exports.
- Thailand is a price taker in the world markets.
- On the supply side, capital stock of the industry accumulated from substantial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

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

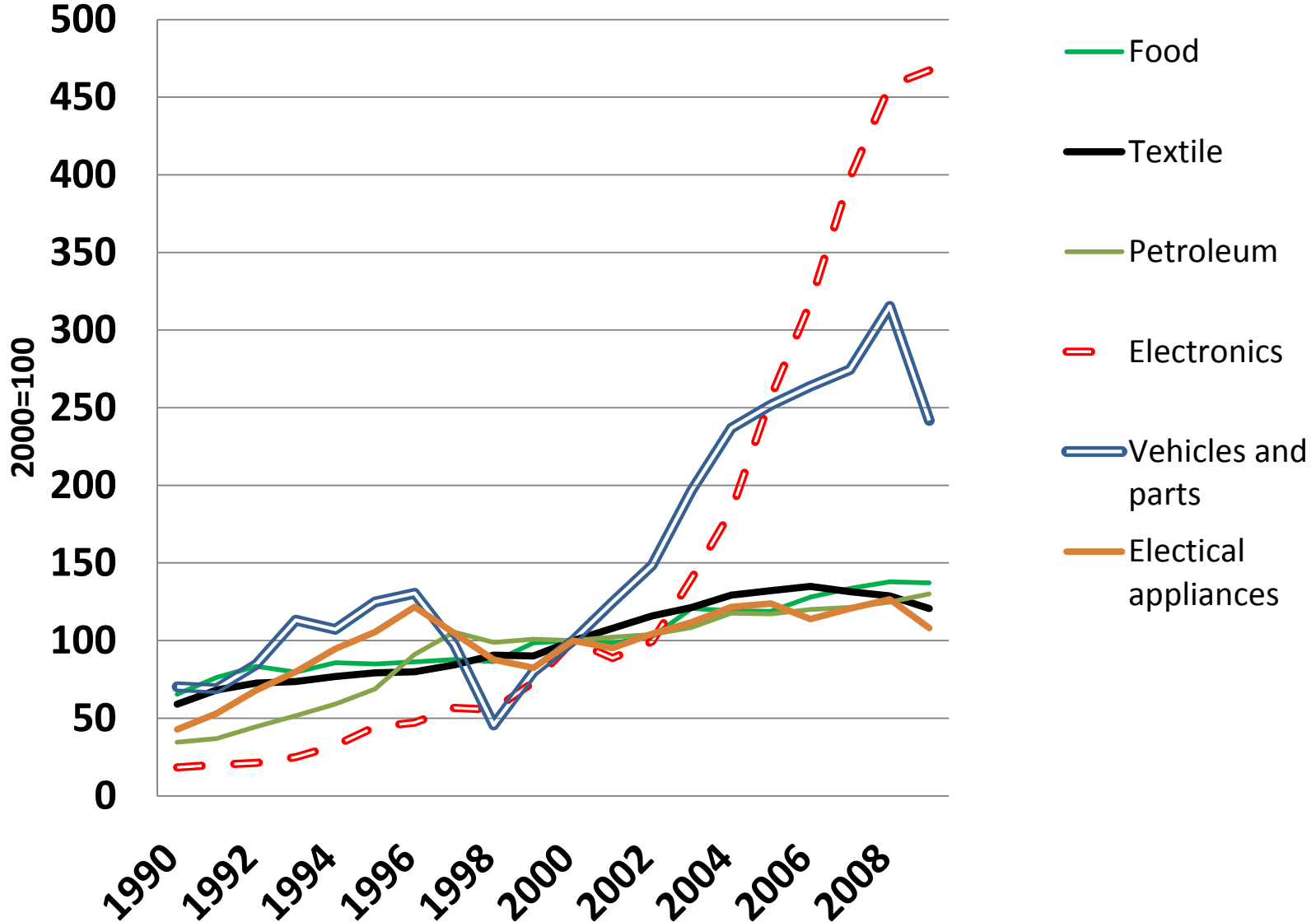
Thailand's major manufacturing exports



Weight in MPI



Manufacturing production index (MPI)



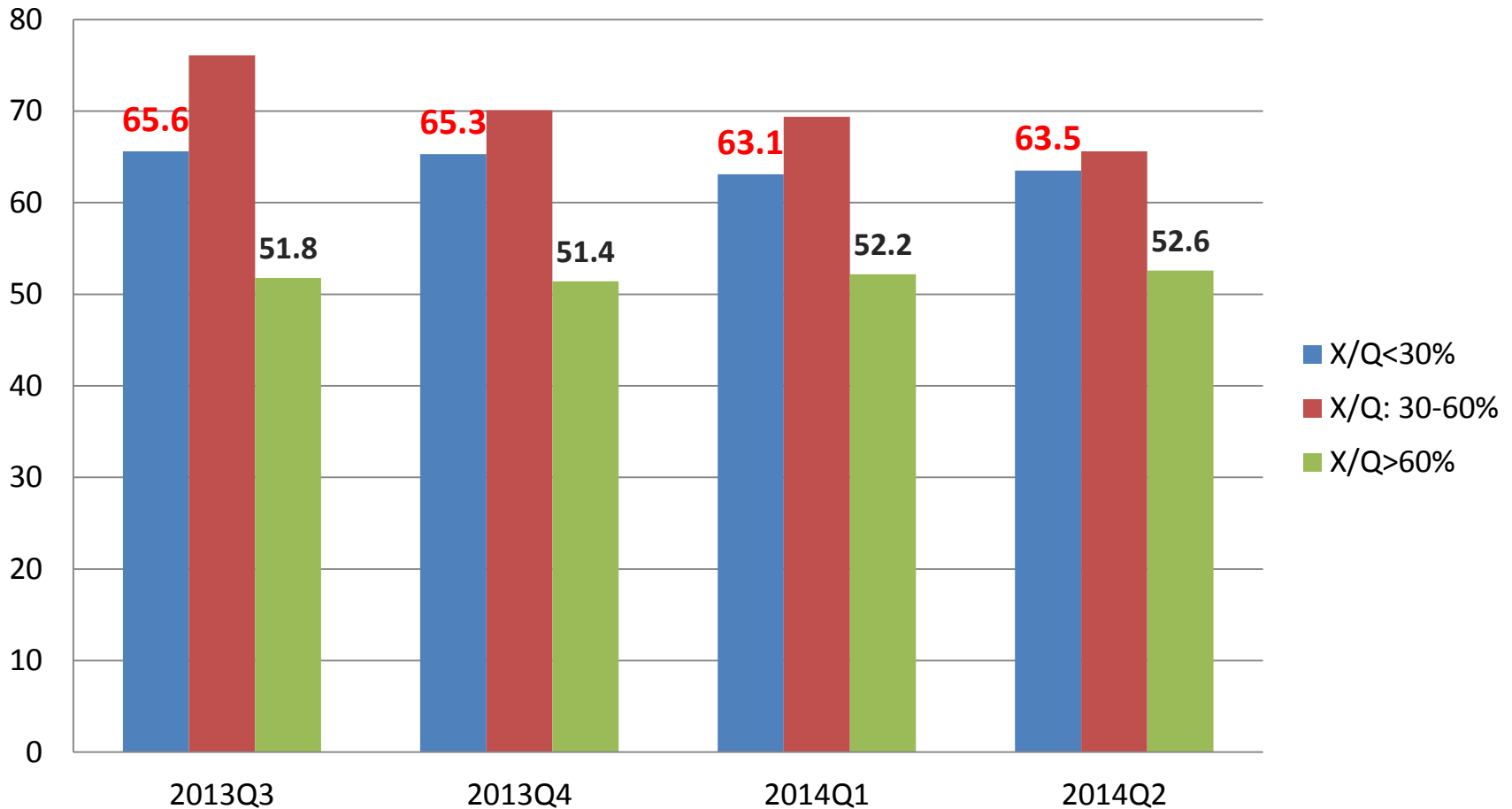
Rate of Capacity Utilization (%) : 2007-2014 level and seasonal adjusted



Source: The Office of Industrial Economics

General Economic Survey and Processing Team Tel. 0-2283-5145

Capacity utilization by type of market orientation



Exported oriented industries had lower capacity utilization than domestic oriented

Domestic Market oriented Products

(exported less than 30% of total production)

	Weight in MPI
Total weight	34.01
• Petroleum products	12.52
• Beer	5.08
• Passenger car	3.74
• Downstream Petrochemical	1.62
• Tobacco	1.58
• Clinker	0.96
• Motorcycle	0.87
• Craft paper	0.83
• Pulp	0.80
• Vegetable oil	0.68
• Carbonate water	0.56
• Energy drink	0.54

Export Oriented Products

(X/Q between 30% to 60%)

Total weight of the group 30.87 % in MPI

- **Garment 8.57**
- Weaving 3.16
- **Commercial car 2.74**
- Spinning 2.24
- **Sugar 1.95**
- **Hot & cold-rolled sheet 1.50**
- **Rice 1.19**
- Cement 1.14
- Tire 1.14
- Synthetic fiber 1.10

Ultra Export oriented products: (X/Q > 60%)

Total Weight in MPI of this group: 35.11%

- **Hard Disk Drive** 6.14
- **Integrated circuit** 4.96
- **T.V.** 4.48
- Products of Leather & Leather 3.68
- Setting jewelry 3.53
- **Frozen seafood** 2.18
- **Canned seafood** 1.72
- Printer 1.31
- Wood furniture 1.27
- **Air-conditioners** 1.12
- Leather Footwear 0.91
- Monitor 0.75
- **Block rubber** 0.60
- **Canned Pineapple** 0.58
- Glass Sheet 0.45
- Computer Keyboard 0.43
- Rubber glove 0.40

2. Global Competitiveness

- 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

- 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.
- Is “Competitiveness” a meaningless word?
- Not quite, said Jeffrey Sachs.

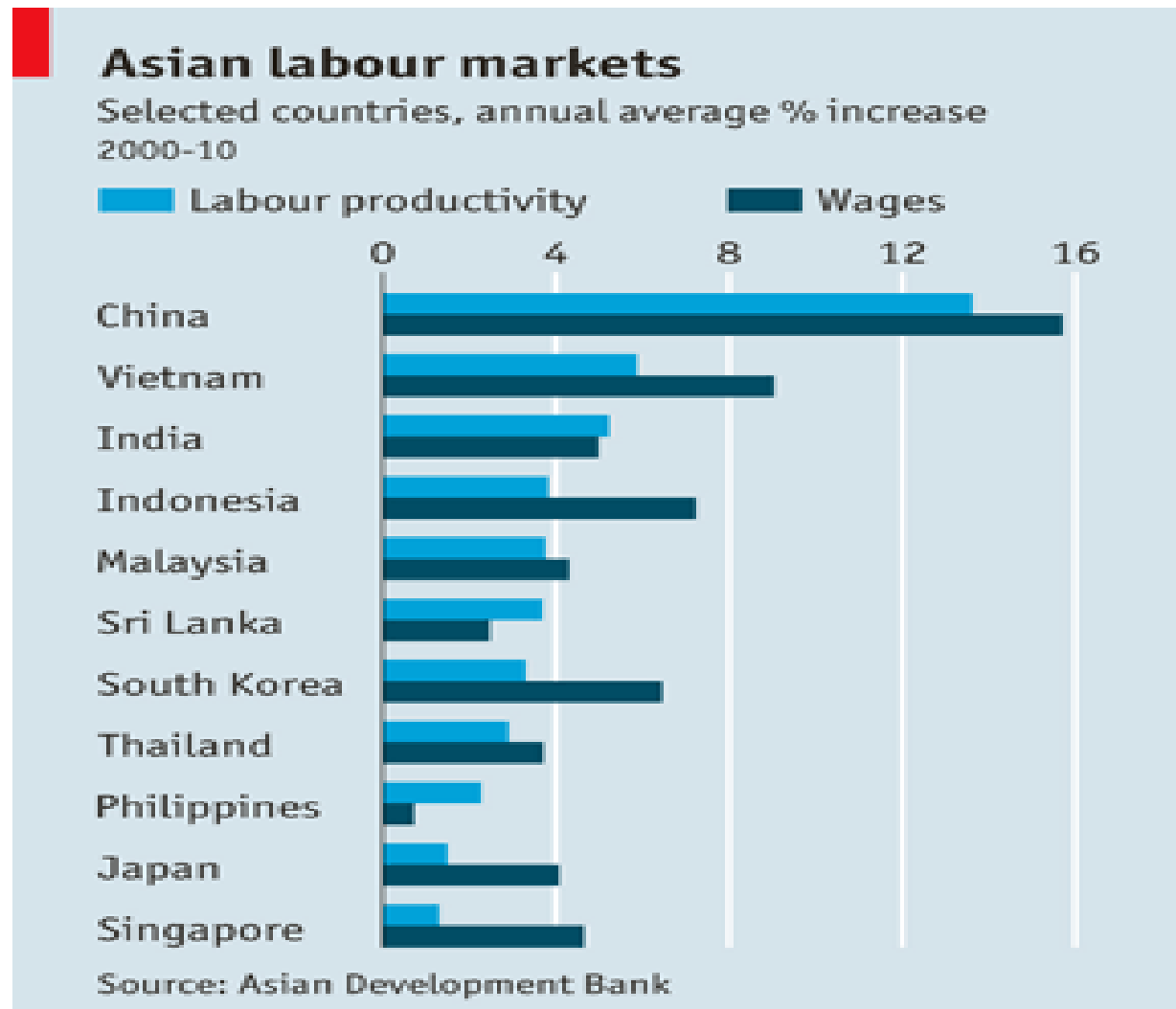
Trade and growth relationship

- Jeffrey Sachs (Columbia) 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.

Sachs' definition of competitiveness:

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

Productivity growth and competitiveness



World Economic Forum (WEF) Global Competitiveness Index

- The rankings are calculated from both publicly available data and the **Executive Opinion Survey**, a comprehensive annual survey conducted by the World Economic Forum together with its network of Partner Institutes (leading research institutes and business organizations) in the countries covered by the Report.
- Over **11,000** business leaders were polled in a record **131 countries**.

WEF Report on Thailand

- "In addition to urgently improving its institutional framework, the country needs to step up its effort to improve its health and educational systems and encourage wider adoption of new technologies for productivity enhancements.
- Such efforts will then buttress the country's innovation potential, which will become increasingly important as it moves towards the most advanced stage of economic development,"

Competitiveness among Asian countries

Leaders in Asia are:

Singapore

Japan

Republic of Korea

Hong Kong

What do these countries have in common?

Competitive characters of the leaders

high-quality infrastructure,
flexible and efficient markets,
healthy and well-educated workforces,
high levels of technological readiness,
innovative capacity

Countries are classified into five stages

1. *Factor driven*

2. Transition

3. *Efficiency driven (Thailand)*

4. Transition

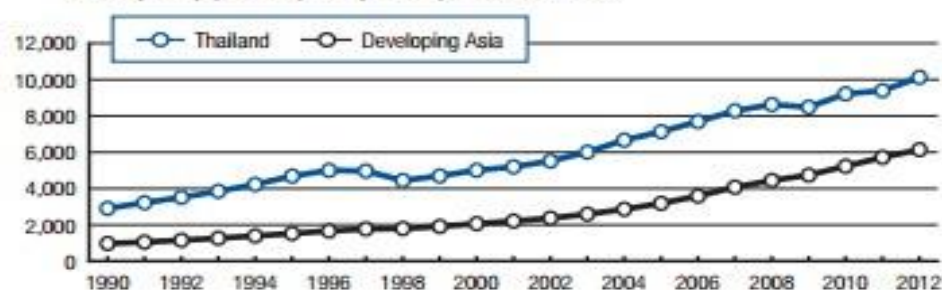
5. *Innovation driven*

Thailand

Key indicators, 2012

Population (millions).....	69.5
GDP (US\$ billions).....	365.6
GDP per capita (US\$).....	5,678
GDP (PPP) as share (%) of world total.....	0.78

GDP (PPP) per capita (int'l \$), 1990–2012



Global Competitiveness Index

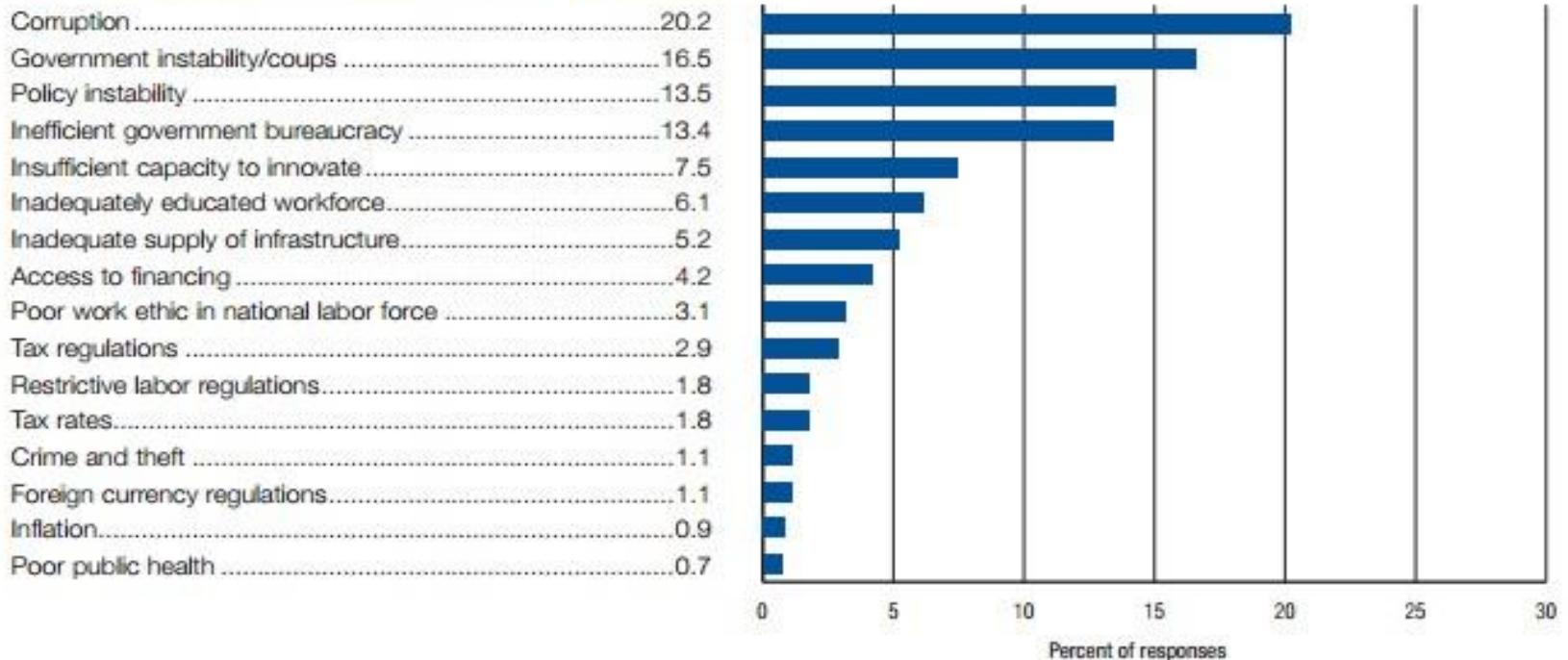
	Rank (out of 148)	Score (1–7)
GCI 2013–2014	37	4.5
GCI 2012–2013 (out of 144).....	38	4.5
GCI 2011–2012 (out of 142).....	39	4.5
Basic requirements (40.0%)	49	4.9
Institutions.....	78	3.8
Infrastructure.....	47	4.5
Macroeconomic environment.....	31	5.6
Health and primary education.....	81	5.5
Efficiency enhancers (50.0%)	40	4.4
Higher education and training.....	66	4.3
Goods market efficiency.....	34	4.7
Labor market efficiency.....	62	4.3
Financial market development.....	32	4.6
Technological readiness.....	78	3.6
Market size.....	22	5.1
Innovation and sophistication factors (10.0%)	52	3.8
Business sophistication.....	40	4.4
Innovation.....	66	3.2

Stage of development



Thailand's major problems: *Corruption, Government instability/Coups, Policy instability, inefficient government bureaucracy, capacity to innovate, education workforce, infrastructure, access to financing, poor work ethic*

The most problematic factors for doing business



Note: From the list of factors above, respondents were asked to select the five most problematic for doing business in their country and to rank them between 1 (most problematic) and 5. The bars in the figure show the responses weighted according to their rankings.

The Global Competitive Index is based on 12 Pillars

1. Institutions

The strength of public and private institutions in creating sound and fair environment to generate income and wealth in the economy.
Effectiveness of legal and political institutions (rule of law)

Thailand's judicial system ranks 9th from the total of 12 countries in Southeast Asia.

2. Infrastructure

3. Macroeconomic environment

4. Health and primary education

5. Higher education and training (two-thirds of the weight in the total index)

6. Goods market efficiency,

What are other factors?

7. Labor market efficiency,
8. Financial market development,
9. Technological readiness,
10. Market size,
11. Business sophistication,
12. innovation

The Global Competitiveness Index in detail

INDICATOR	VALUE	RANK/148
1st pillar: Institutions		
1.01 Property rights	4.1	78
1.02 Intellectual property protection	3.1	102
1.03 Diversion of public funds	2.7	101
1.04 Public trust in politicians	2.0	127
1.05 Irregular payments and bribes	3.8	77
1.06 Judicial independence	3.8	67
1.07 Favoritism in decisions of government officials	2.8	93
1.08 Wastefulness of government spending	2.7	107
1.09 Burden of government regulation	3.3	90
1.10 Efficiency of legal framework in settling disputes	3.9	60
1.11 Efficiency of legal framework in challenging regs.	3.5	62
1.12 Transparency of government policymaking	3.9	93
1.13 Business costs of terrorism	4.5	120
1.14 Business costs of crime and violence	4.6	73
1.15 Organized crime	4.8	82
1.16 Reliability of police services	3.5	109
1.17 Ethical behavior of firms	4.0	68
1.18 Strength of auditing and reporting standards	5.1	42
1.19 Efficacy of corporate boards	4.6	62
1.20 Protection of minority shareholders' interests	4.7	34
1.21 Strength of investor protection, 0–10 (best)*	7.7	13
2nd pillar: Infrastructure		
2.01 Quality of overall infrastructure	4.5	61
2.02 Quality of roads	4.9	42
2.03 Quality of railroad infrastructure	2.6	72
2.04 Quality of port infrastructure	4.5	56
2.05 Quality of air transport infrastructure	5.5	34
2.06 Available airline seat km/week, millions*	2,464.2	14
2.07 Quality of electricity supply	5.2	58
2.08 Mobile telephone subscriptions/100 pop.*	120.3	49
2.09 Fixed telephone lines/100 pop.*	9.1	96
3rd pillar: Macroeconomic environment		

INDICATOR	VALUE	RANK/148
6th pillar: Goods market efficiency (cont'd.)		
6.06 No. procedures to start a business*	4	20
6.07 No. days to start a business*	29	106
6.08 Agricultural policy costs	3.2	121
6.09 Prevalence of trade barriers	4.5	50
6.10 Trade tariffs, % duty*	6.6	83
6.11 Prevalence of foreign ownership	4.7	69
6.12 Business impact of rules on FDI	5.2	21
6.13 Burden of customs procedures	3.9	80
6.14 Imports as a percentage of GDP*	82.1	22
6.15 Degree of customer orientation	5.4	15
6.16 Buyer sophistication	4.2	25
7th pillar: Labor market efficiency		
7.01 Cooperation in labor-employer relations	4.8	37
7.02 Flexibility of wage determination	4.5	111
7.03 Hiring and firing practices	4.4	31
7.04 Redundancy costs, weeks of salary*	36.0	135
7.05 Effect of taxation on incentives to work	4.0	44
7.06 Pay and productivity	4.4	31
7.07 Reliance on professional management	4.4	57
7.08 Country capacity to retain talent	4.3	27
7.09 Country capacity to attract talent	4.1	32
7.10 Women in labor force, ratio to men*	0.82	65
8th pillar: Financial market development		
8.01 Availability of financial services	5.4	26
8.02 Affordability of financial services	5.0	32
8.03 Financing through local equity market	4.7	14
8.04 Ease of access to loans	3.6	23
8.05 Venture capital availability	3.1	41
8.06 Soundness of banks	5.7	39
8.07 Regulation of securities exchanges	5.0	31
8.08 Legal rights index, 0–10 (best)*	5	89

3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-1.7 54
3.02	Gross national savings, % GDP*	30.6 24
3.03	Inflation, annual % change*	3.0 52
3.04	General government debt, % GDP*	44.3 78
3.05	Country credit rating, 0–100 (best)*	61.2 44
4th pillar: Health and primary education		
4.01	Business impact of malaria	5.8 89
4.02	Malaria cases/100,000 pop.*	202.6 106
4.03	Business impact of tuberculosis	5.1 88
4.04	Tuberculosis cases/100,000 pop.*	124.0 102
4.05	Business impact of HIV/AIDS	4.8 95
4.06	HIV prevalence, % adult pop.*	1.20 116
4.07	Infant mortality, deaths/1,000 live births*	10.6 60
4.08	Life expectancy, years*	74.1 65
4.09	Quality of primary education	3.6 86
4.10	Primary education enrollment, net %*	89.7 101
5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	78.2 94
5.02	Tertiary education enrollment, gross %*	46.4 55
5.03	Quality of the educational system	3.6 78
5.04	Quality of math and science education	4.0 80
5.05	Quality of management schools	4.5 53
5.06	Internet access in schools	4.4 65
5.07	Availability of research and training services	4.3 64
5.08	Extent of staff training	4.2 50
6th pillar: Goods market efficiency		
6.01	Intensity of local competition	5.3 41
6.02	Extent of market dominance	3.7 76
6.03	Effectiveness of anti-monopoly policy	4.1 69
6.04	Effect of taxation on incentives to invest	3.9 57
6.05	Total tax rate, % profits*	37.6 73

0.00 Legal rights index, 0–10 (best) 69

9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.9 75
9.02	Firm-level technology absorption	5.0 50
9.03	FDI and technology transfer	5.0 36
9.04	Individuals using Internet, %*	26.5 97
9.05	Fixed broadband Internet subscriptions/100 pop.*	6.2 75
9.06	Int'l Internet bandwidth, kb/s per user*	25.0 62
9.07	Mobile broadband subscriptions/100 pop.*	0.1 131

10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	4.8 22
10.02	Foreign market size index, 1–7 (best)*	5.9 16
10.03	GDP (PPP\$ billions)*	651.9 24
10.04	Exports as a percentage of GDP*	76.1 21

11th pillar: Business sophistication		
11.01	Local supplier quantity	5.2 23
11.02	Local supplier quality	4.9 42
11.03	State of cluster development	4.3 33
11.04	Nature of competitive advantage	3.9 43
11.05	Value chain breadth	4.4 30
11.06	Control of international distribution	4.3 43
11.07	Production process sophistication	4.2 47
11.08	Extent of marketing	4.5 44
11.09	Willingness to delegate authority	4.0 45

12th pillar: Innovation		
12.01	Capacity for innovation	3.4 87
12.02	Quality of scientific research institutions	3.8 60
12.03	Company spending on R&D	3.2 60
12.04	University-industry collaboration in R&D	3.9 51
12.05	Gov't procurement of advanced tech products	3.1 105
12.06	Availability of scientists and engineers	4.4 56
12.07	PCT patents, applications/million pop.*	1.0 71

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Country/Economy Profiles" on page 97.



Which country is this? (2nd rank in the world)

Global Competitiveness Index

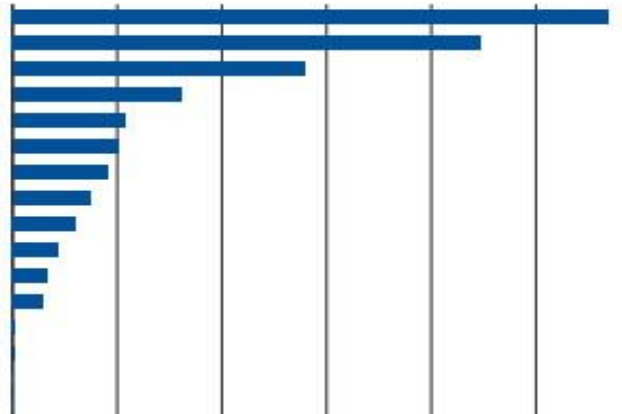
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GCI 2012–2013 (out of 144).....	2	5.7
GCI 2011–2012 (out of 142).....	2	5.6
Basic requirements (20.0%)	1	6.3
Institutions	3	6.0
Infrastructure	2	6.4
Macroeconomic environment	18	6.0
Health and primary education.....	2	6.7
Efficiency enhancers (50.0%)	2	5.6
Higher education and training.....	2	5.9
Goods market efficiency	1	5.6
Labor market efficiency	1	5.8
Financial market development.....	2	5.8
Technological readiness.....	7	6.0
Market size.....	34	4.7
Innovation and sophistication factors (30.0%)	13	5.1
Business sophistication	17	5.1
Innovation.....	9	5.2

Stage of development



The most problematic factors for doing business

Restrictive labor regulations	28.5
Inflation.....	22.4
Insufficient capacity to innovate	13.9
Inadequately educated workforce.....	8.1
Tax rates.....	5.4
Inadequate supply of infrastructure.....	5.1
Poor work ethic in national labor force	4.5
Access to financing	3.7
Tax regulations	3.0
Inefficient government bureaucracy	2.2
Foreign currency regulations.....	1.7
Policy instability	1.5
Government instability/coups	0.1
Crime and theft	0.1
Corruption	0.0
Poor public health	0.0



Top 10 most competitive countries

	GCI 2012-2013		GCI 2011-2012
Country/Economy	Rank	Score	Rank
Switzerland	1	5.72	1
Singapore	2	5.67	2
Finland	3	5.55	4
Sweden	4	5.53	3
Netherlands	5	5.50	7
Germany	6	5.48	6
United States	7	5.47	5
United Kingdom	8	5.45	10
Hong Kong SAR	9	5.41	11
Japan	10	5.40	9

	GCI 2012-2013		GCI 2011-2012
Country	Rank	Score	Rank
Denmark	12	5.29	8
Korea, Rep.	19	5.12	24
Australia	20	5.12	20
Malaysia	25	5.06	21
China	29	4.83	26
Spain	36	4.60	36
Kuwait	37	4.56	34
Thailand	38	4.52	39
Czech Republic	39	4.51	38
Panama	40	4.49	49
Poland	41	4.46	41
Italy	42	4.46	43

Thailand's competitiveness in 2016 declined from 2015

- "Global Competitiveness Index 2016" report covering 138 nations, which showed that Thailand had slid two places in the rankings, from 32nd to 34th, despite its overall score being unchanged from last year.
- The ranking of Thailand - and that of other Asean countries, except Cambodia, whose ranking is up this year
- The decline was due to the fact that the Kingdom is caught in the middle-income trap, according to the Dean of Faculty of Commerce (CU).

WEF's recommendations

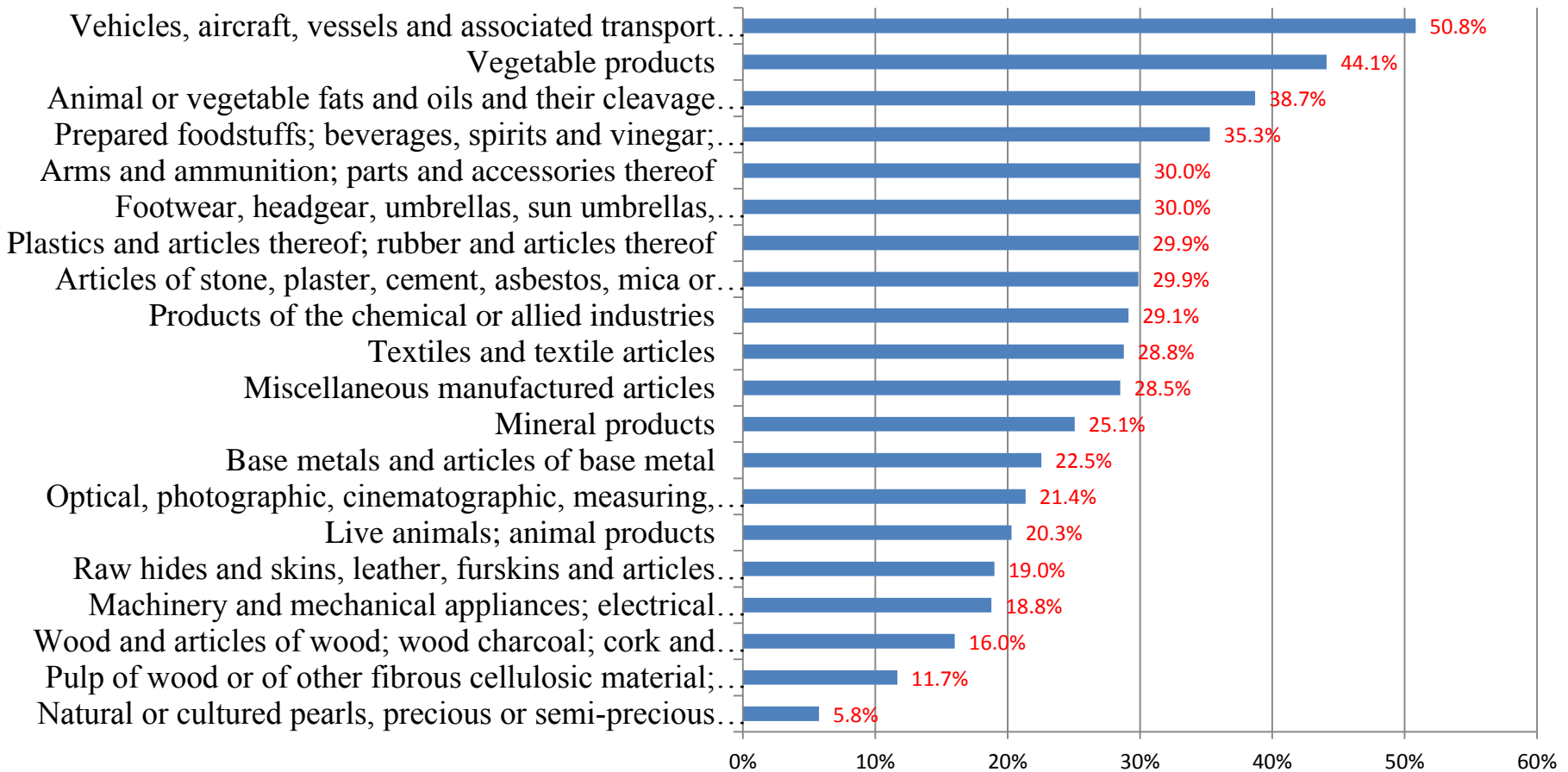
- The country needs to be concerned about sustained growth, and pay attention to more complex areas of competitiveness, where the shortcomings are.
- Despite having come up with the "**Thailand 4.0**" policy in order to focus more on innovation and technology, it would take some time for the necessary 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*.

Should we be concerned about the declining GCI?

- As to business and innovation dynamism, Thailand should concern itself more with private participation, the building of international brands, intellectual property protection, opportunity for new enterprises, and bankruptcy costs, the report suggested.
- Among Asean+3 (China, Japan and South Korea), Thailand was ranked sixth for overall competitiveness, after Singapore, Japan, Malaysia, South Korea and China, respectively.
- However, Thailand's education and skills ranking is lower than that for all other Asean countries, except Vietnam.
- Deputy Commerce Minister was not concerned about the rank dropping because there are many things that the government had done during the past year had not yet been added into the WEF's evaluation.

Outward-orientation development strategy? Still need protection from high tariff

Thailand's average tariff rates



3. Competitiveness of Thai Manufacturing sector

- Characteristics of manufactured products
- Export growth in each product group
- Boston Consulting Group (BCG) model

Competitive Positioning

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

Export the right commodity

	Rising share of that product in world trade ($\eta > 1$)	Declining share that product in world trade ($\eta < 1$)
Gaining world market share ($\dot{Z} > 0$)	Rising stars (Stars)	Falling stars (Cash Cows)
Losing world market share ($\dot{Z} < 0$)	Lost Opportunity (Problem Child)	Retreat (Dog)

Export the commodity right

The 2004 OIE Study

Office of Industrial Economics (OIE) employed the Boston Consulting Group (BCG) Model

RISING STARS: air conditioners

FALLING STARS: garments

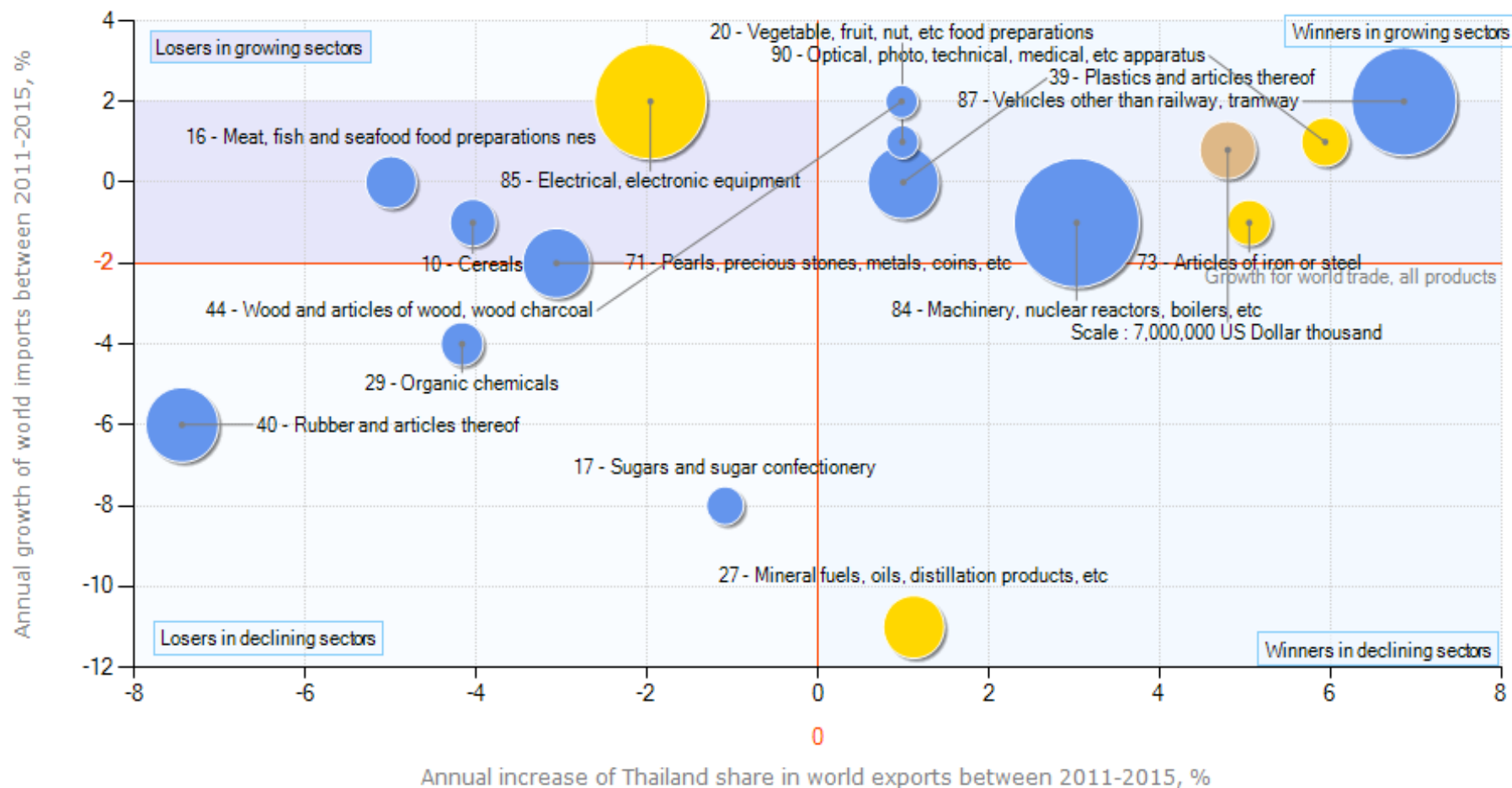
LOST OPPORTUNITY: plastic, cargo transportation vehicles, pulp and paper, primary petrochemicals

RETREAT: medicine, artificial fiber, chicken

Which industries were rising stars in 2016?

BCG Analysis: rising and falling stars

Growth of national supply and international demand for products exported by Thailand in 2015



● 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)

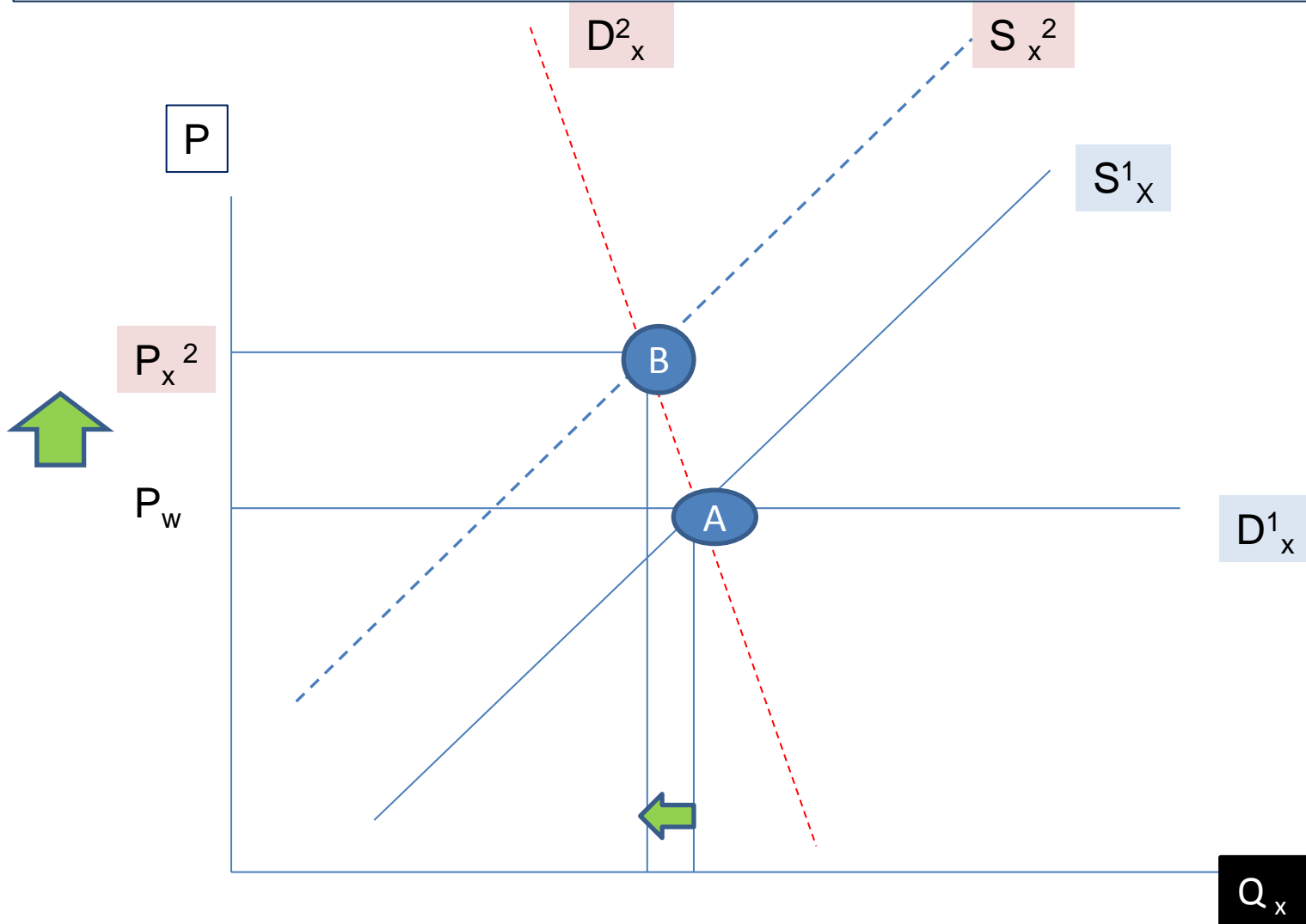
The Competitive Advantages of Nations

- There are two basic types of competitive advantages: **lower cost** and **product differentiation**.
- **Pure cost advantages** are less sustainable than **differentiation**: Any new source of 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.

More advice 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 other forms of **differentiation *can eliminate*** cost advantage.
- The government can raise the odds of gaining competitive advantage but lacks the power to create advantage itself.

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

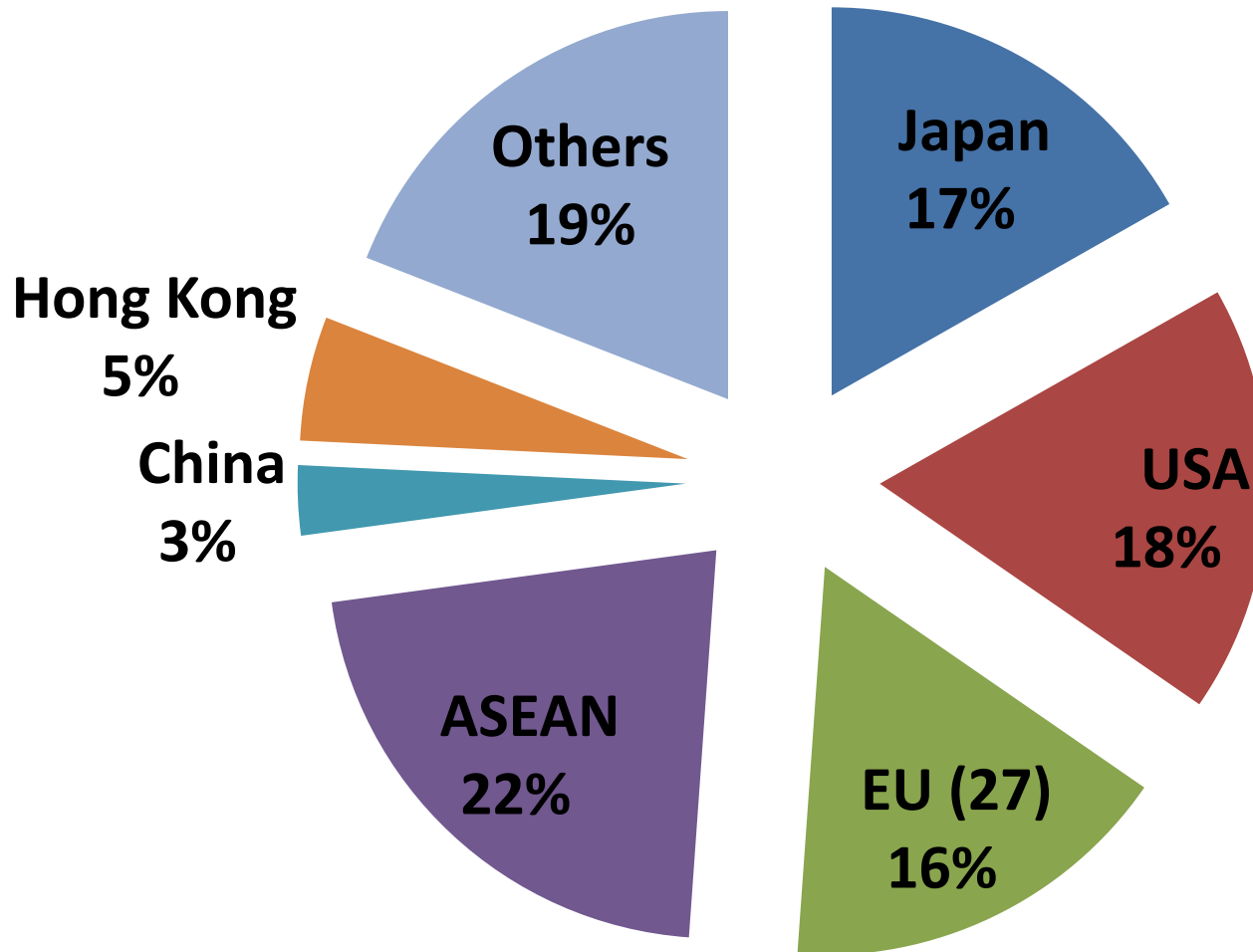


Higher export values, despite lower quantity of exports
Due to product differentiation through innovation

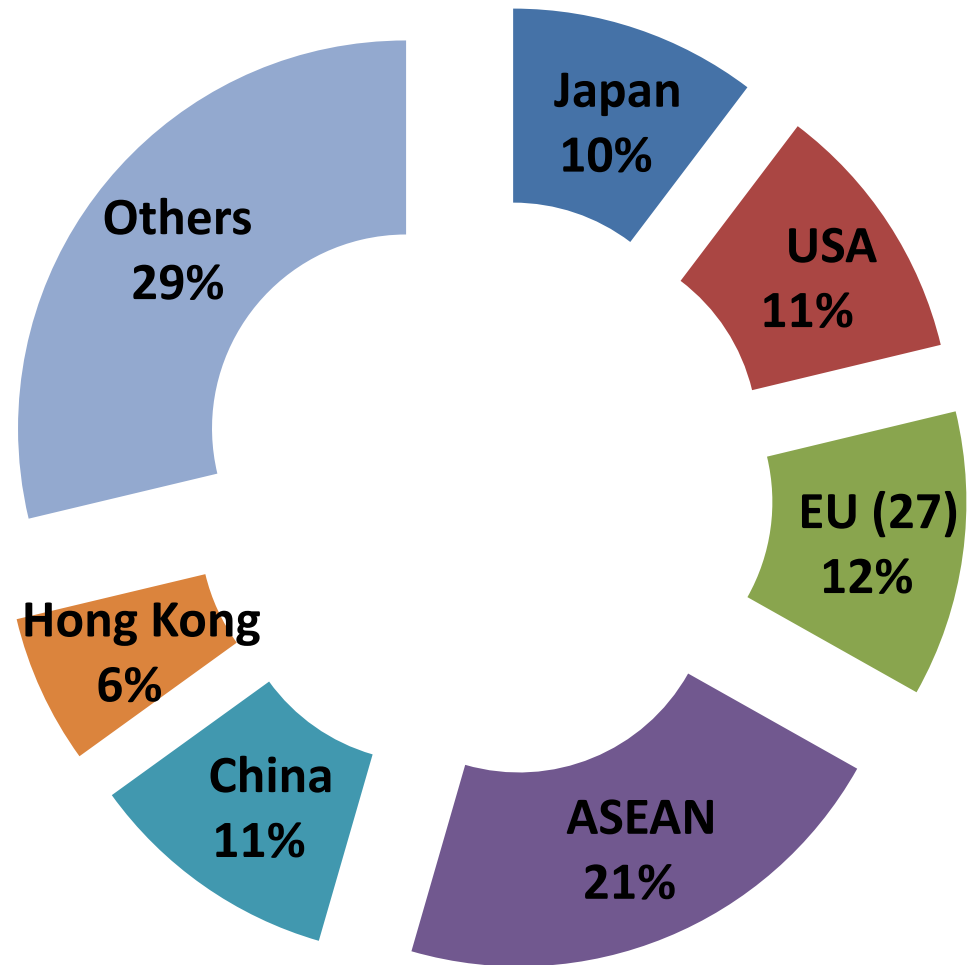
4. Diversification of Thai exports

- 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.

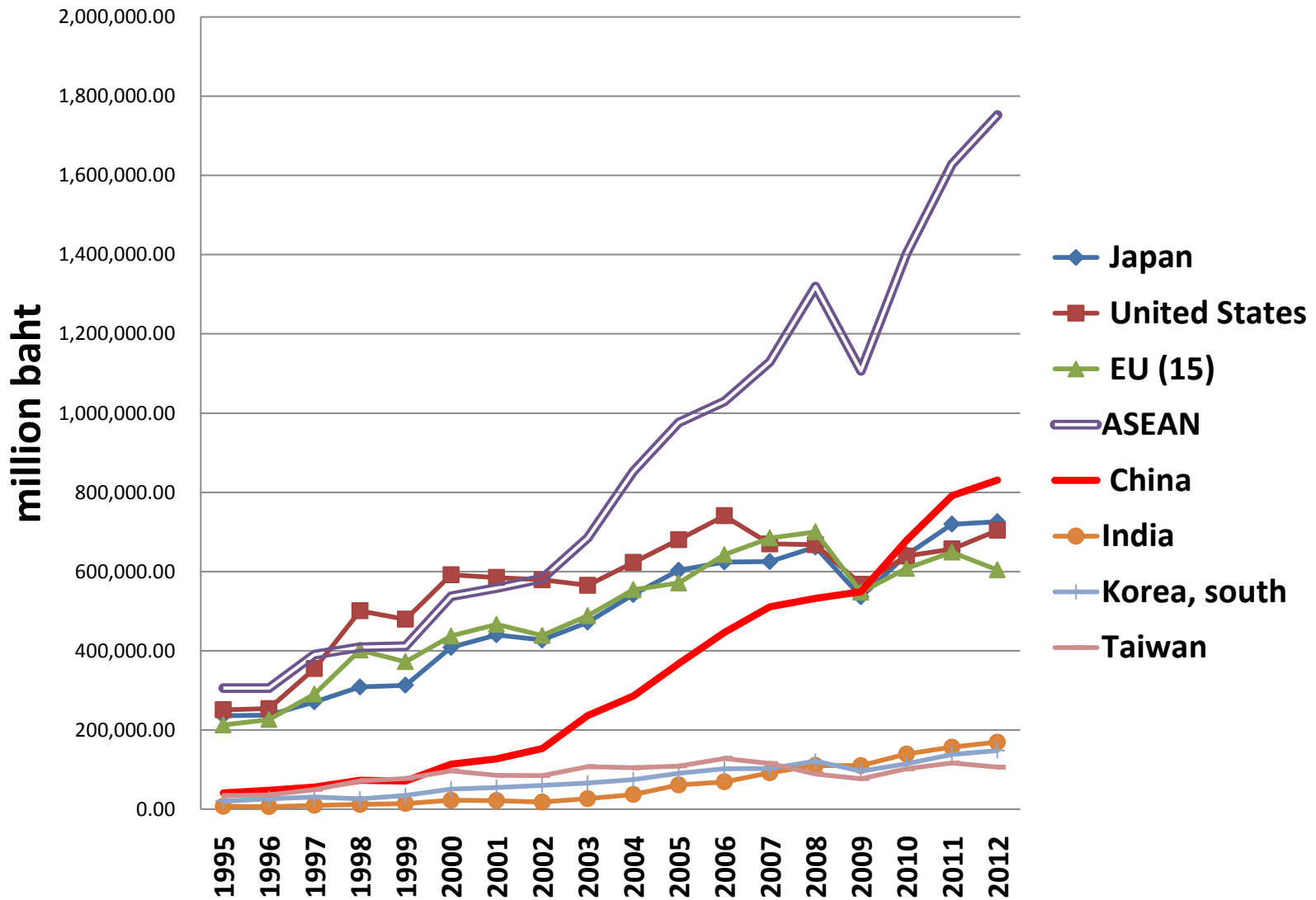
Exports market diversification: 1995



Export market diversification in 2009



Thailand's Changing Export Destinations 1995-2012



Questions

- *What was the geographical diversification of Thai exports in 2015?*
- *How was the manufacturing sector affected by the 2009 global recession and global growth slowdown in 2016?*
- *What went wrong with Thailand's exports in between 2014 and 2016?*