

# Thailand's Textile and Garment Industry

Lecture 14  
bhanupong

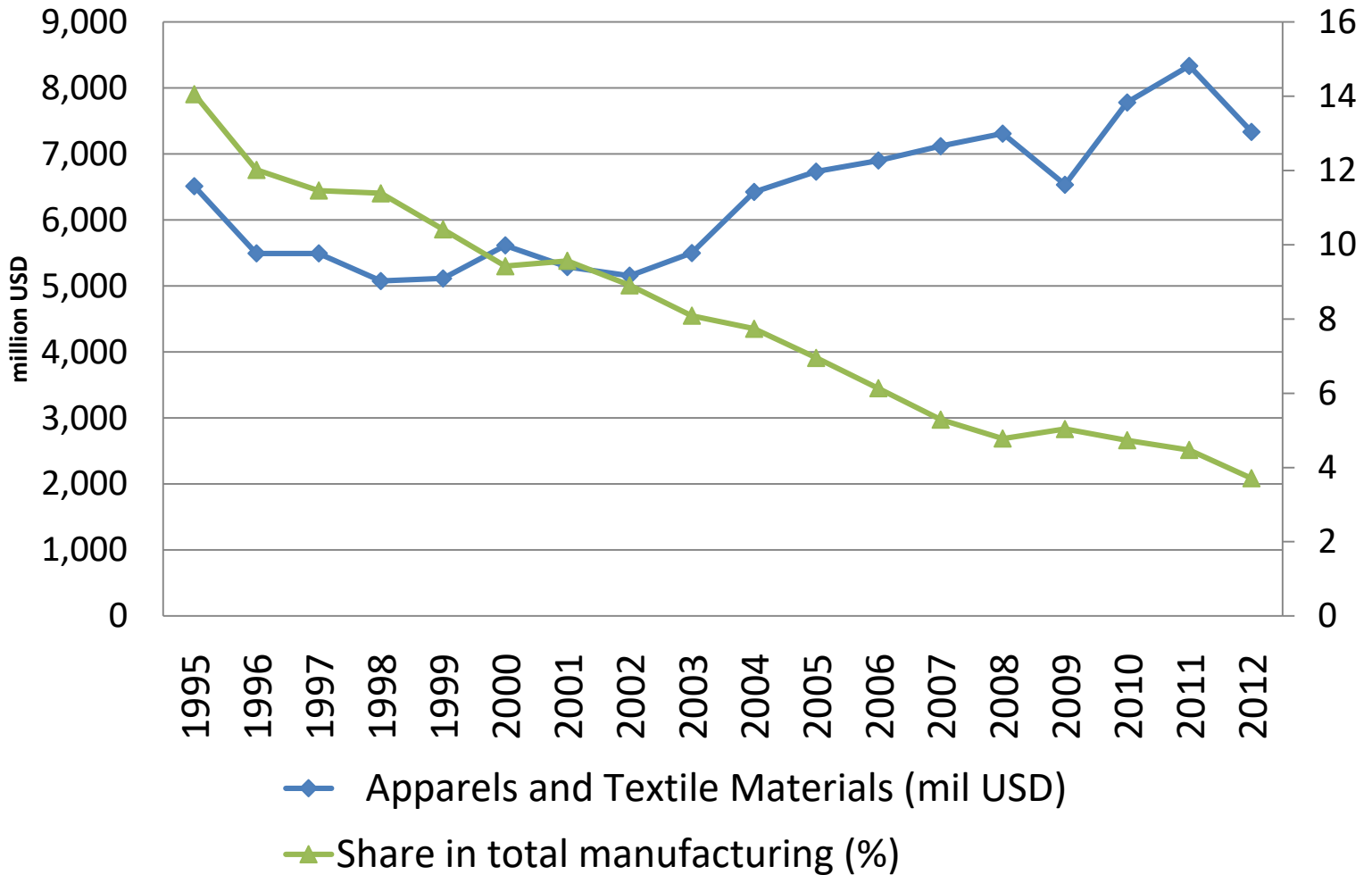
# Outline

- The importance of textiles and clothing industry
- Reliance on international trade
- The role of FDI inflows and outflows
- Revealed Comparative Advantage

# An overview of the industry

- As a labor-intensive industry, it employed about one million workers and generated US\$3.16 billion (Bt119 billion) in foreign-exchange income in 2007
- Thailand's garment and textile exports make up 1.04% of the world market in 2009.
- A small country assumption can be applied to this labor-intensive industry, which cannot have influence on world prices and its profitability is subject to wage cost.

# Exports of clothes and textile products



In 2009, the industry employed more than 1 million workers, or 1 of 5 of the workers for the whole industrial sector.

<b>Workers</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<i>Industrial sector</i>	5,504,000	5,619,000	5,453,000	5,374,000
<i>Textile and Garment Industry</i>	1,063,000	1,057,000	1,049,000	1,045,000
<i>Share in industrial sector</i>	19.3%	18.8%	19.2%	19.4%

Note the declining trend in employment

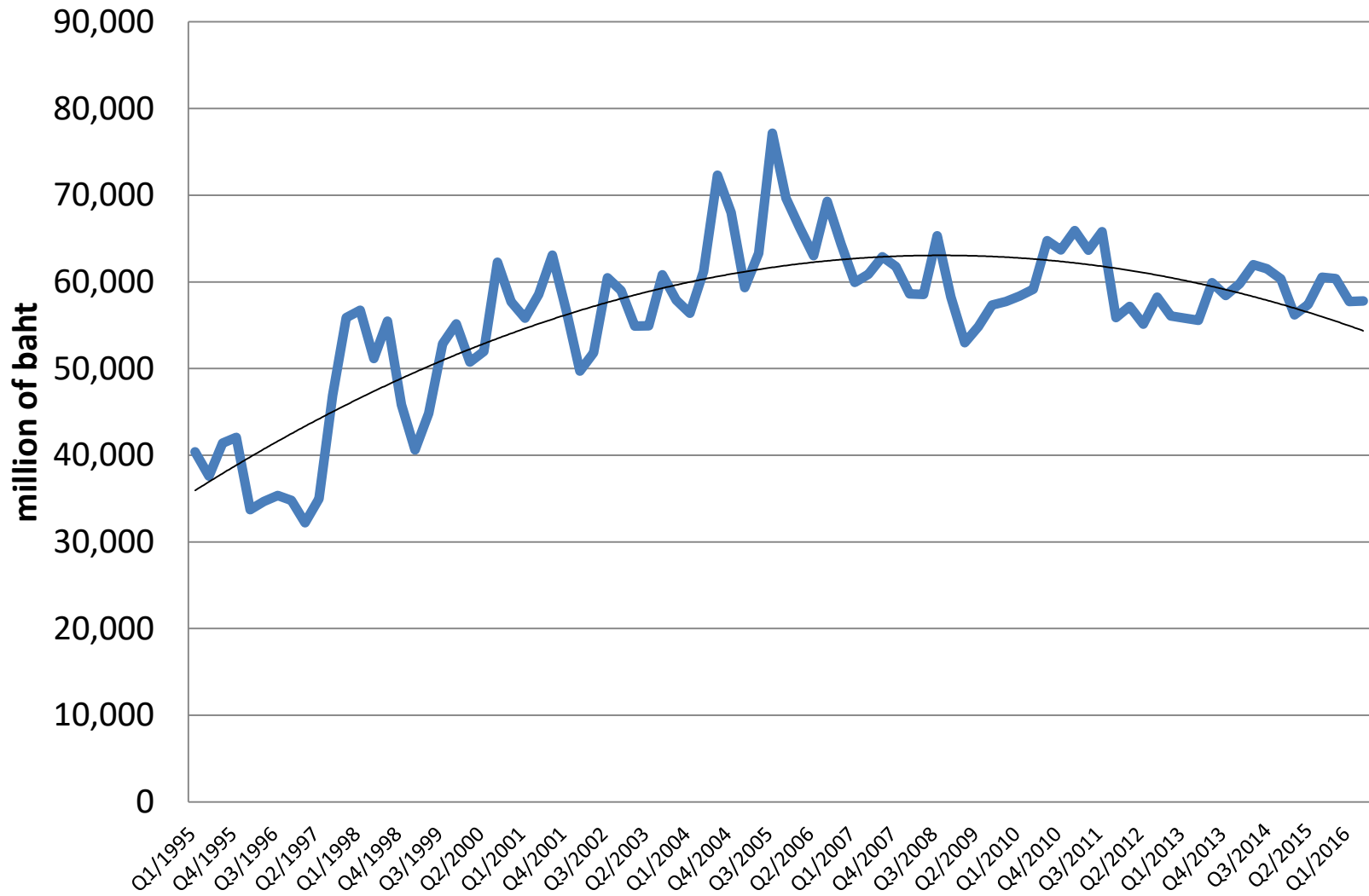
# By 2013

- Employment declined to 824,5002 employees in garment industry and around 200,000 in the textile industry.
- Value of garment exports (2013): 6 billion USD annually (4.7 billion EUR);

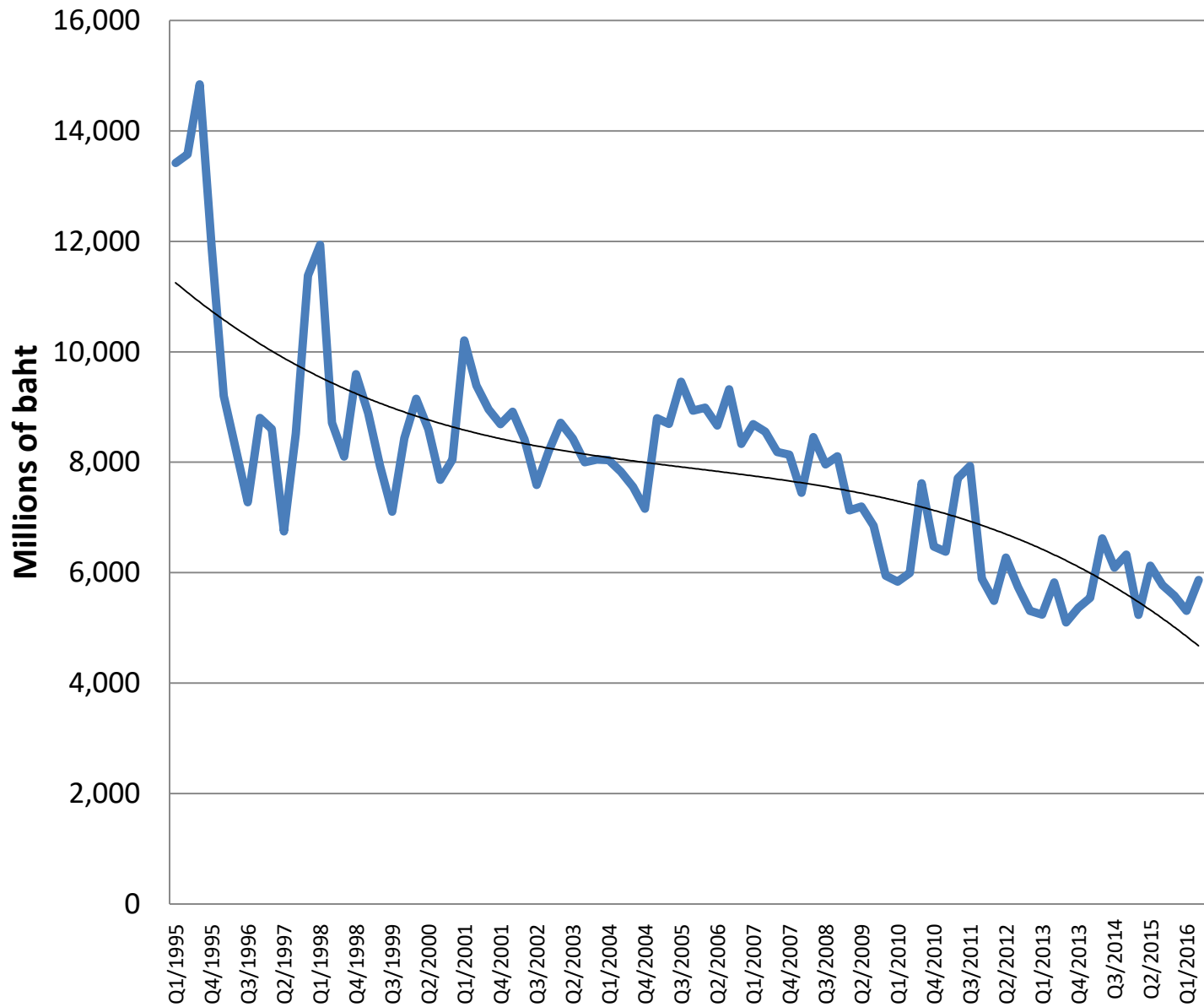
# Producing factories, traders and retailers

- Production: More than 2000 companies for garment and around 2000 for textile;
- Most factories are located around Bangkok and in Eastern Thailand
- There are 82 registered garment export companies
- Retailers: Fruit of the Loom, Nike, Puma and others

# Thailand's Exports of Apparels and Textile Materials: 1995-2016



## Exports of footwear and parts 1995-2016



# Where did Thailand import textiles from?

source: Office of Industrial Economics (OIE)

## ***1. Fibers used in Textile Production***

USA (31.8%), Australia (14.8%) and **India (9.3%)**.

## ***2. Yarn***

China (19.9%) , Japan (16.5%), Taiwan (12.3%) and **Indonesia (11.6%)**.

*Extensive activities of **intra-industry trade***

# Sources of imported textile products and machinery

## **3. *Fabrics:***

China (39.7%) , Taiwan (16.3%) , Japan (8%), and Hong Kong (8%).

## **4. *Ready-made Apparel:***

China (48%), Hong Kong (12.9%), Spain (6.1%) and Italy (5.8%).

## **5. *Textile Machinery:***

Germany (21.2%), Japan (18.8%), Taiwan (13.8%), China (12.9%).

# Imported inputs: cotton, yarn, and fabric

- Thailand relies on importing cotton, yarn and fabric in order to produce garments and textiles.
- This has impact on the returns from garment exports.
- Thailand's textile industry requires much more **cotton** than the country produces itself: 500,000 tons are needed per year, but only 10,000 tons are annually produced in Thailand.
- Thus, Thailand only provides for 2% of the raw cotton used in its textile industry.
- There are 60,000 workers directly involving in producing textiles and 100,000 are occupied with the tasks relating to the textile industry such as spinning, knitting, dyeing, etc.

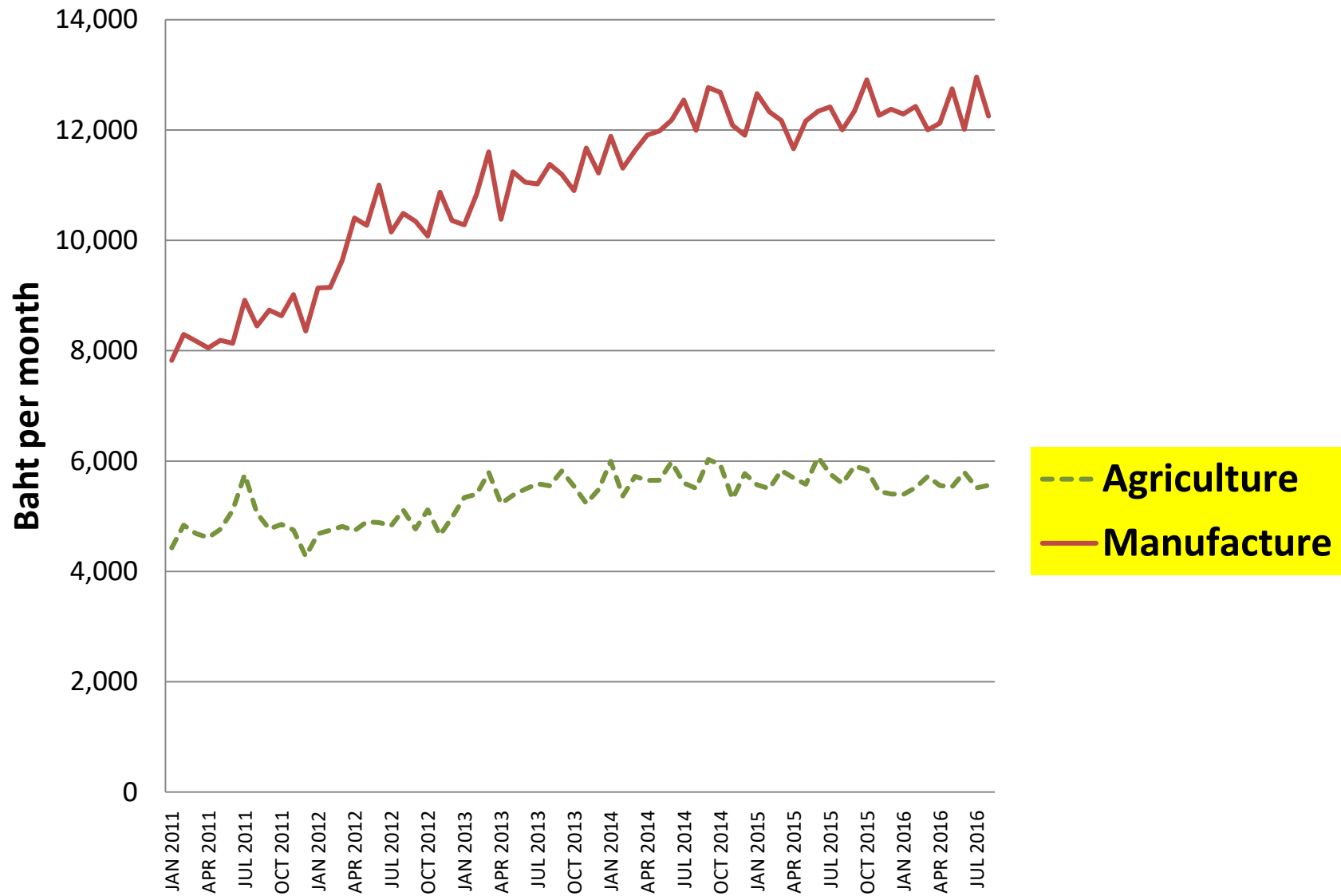
# GSP withdrawal

- GSP (General Systems of Preferences) is a system of tariff reductions for developing countries exporting to the EU.
- Thailand lost its GSP benefits in **2013** as a result of the World Bank's classification of the country in the past three years.

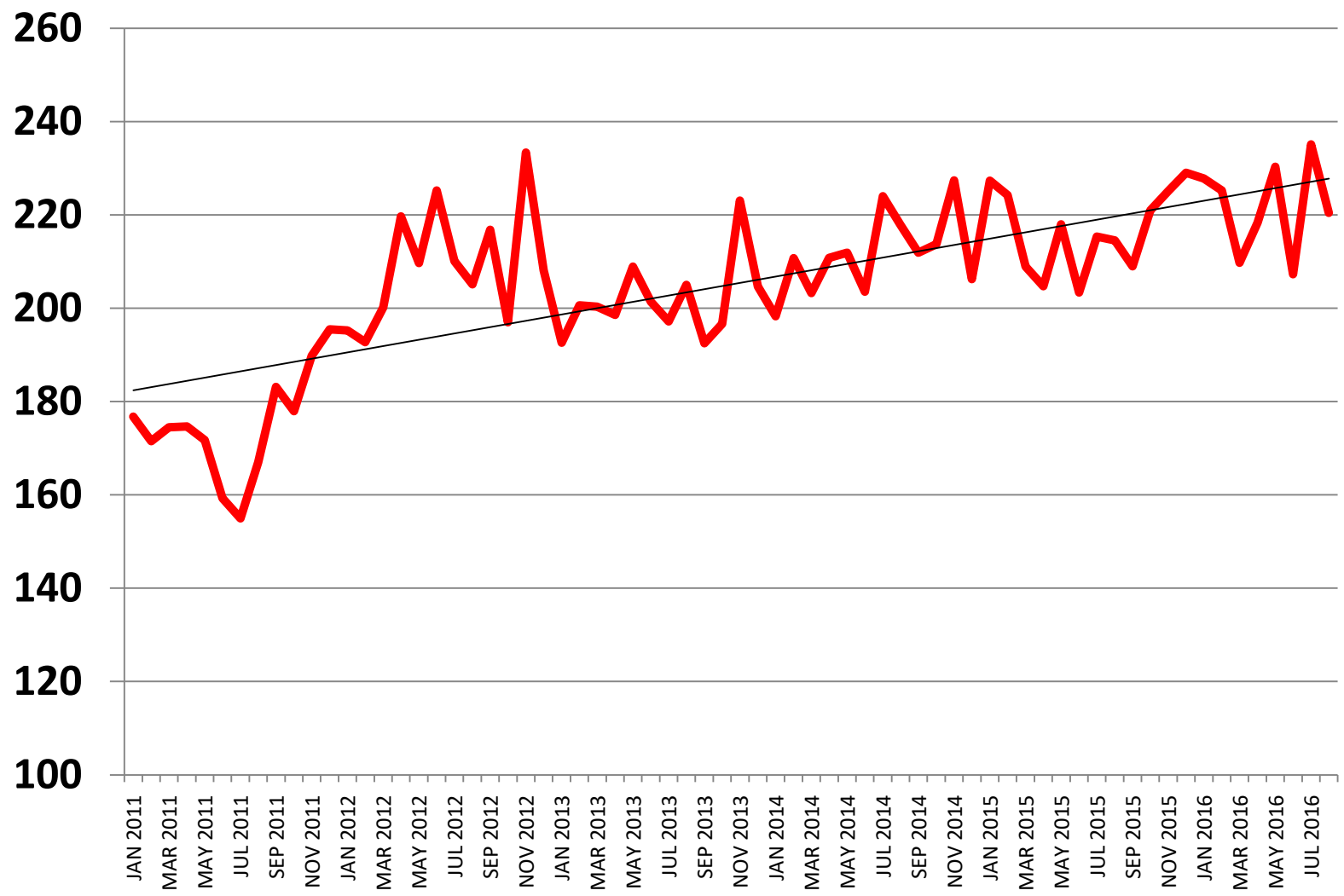
# Living Wage vs Minimum Wage

- Minimum Wage per day in Bangkok: 300 Baht (9.8 USD; 7 EUR)
- Monthly wage per month: 7600 Baht (234 USD; 185 EUR).
- In reality, wages for **Thai** workers are often a little above the minimum wage, whilst **migrant** workers often get much less.
- Food: 120 baht (per day)
- Transportation: 20 baht (to the factory)
- Rent: 800 baht (per month)
- Around 10,000 Baht per month (308 USD; 243 EUR), so 2400 Baht more than the current minimum wage.

# Wage rates in Agriculture and Manufacturing Sectors



### Relative Wage Rate ( $W_M/W_A$ ) Manufacturing vs Agriculture (%)



# Thailand's exports of apparels and clothing accessories: *knitted or crocheted* (Product 61)

## *Losers in growing sectors*

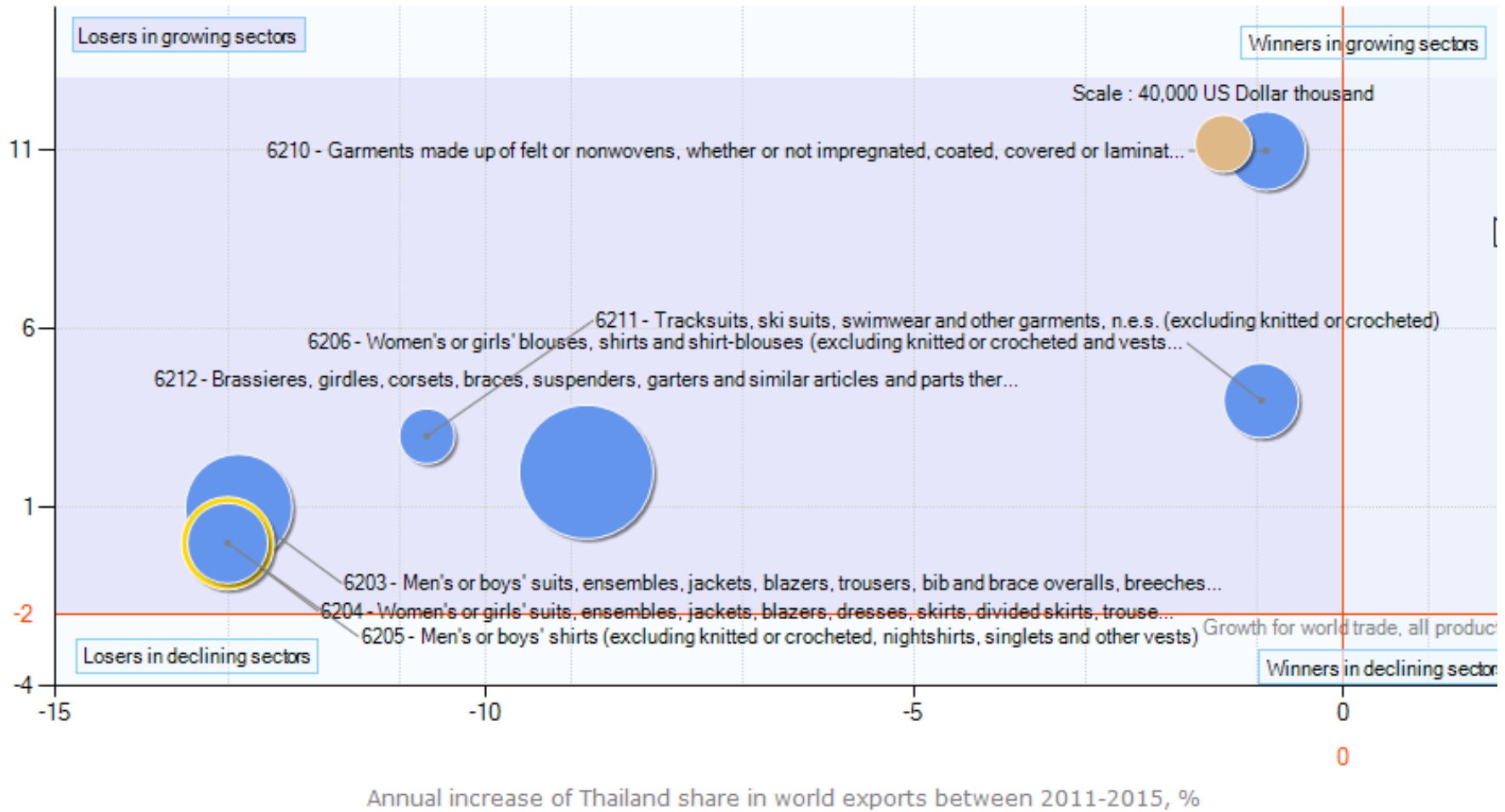
Growth of national supply and international demand  
for products exported by Thailand in 2015



# Thailand's exports of apparels and clothing accessories *Not knitted or crocheted* (Product 62)

## *Losers in growing sectors*

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

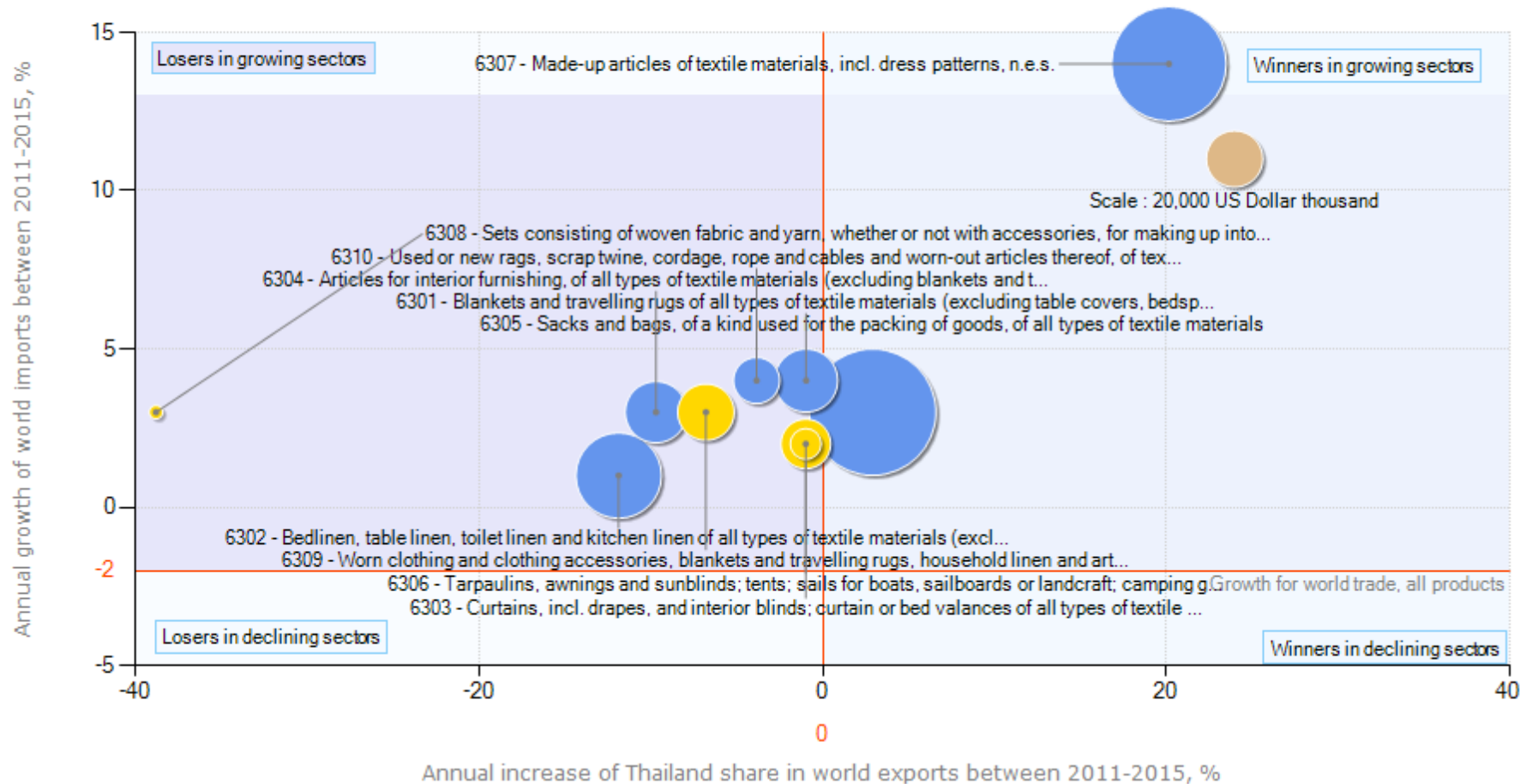


# Thailand's exports: Other made-up textile articles

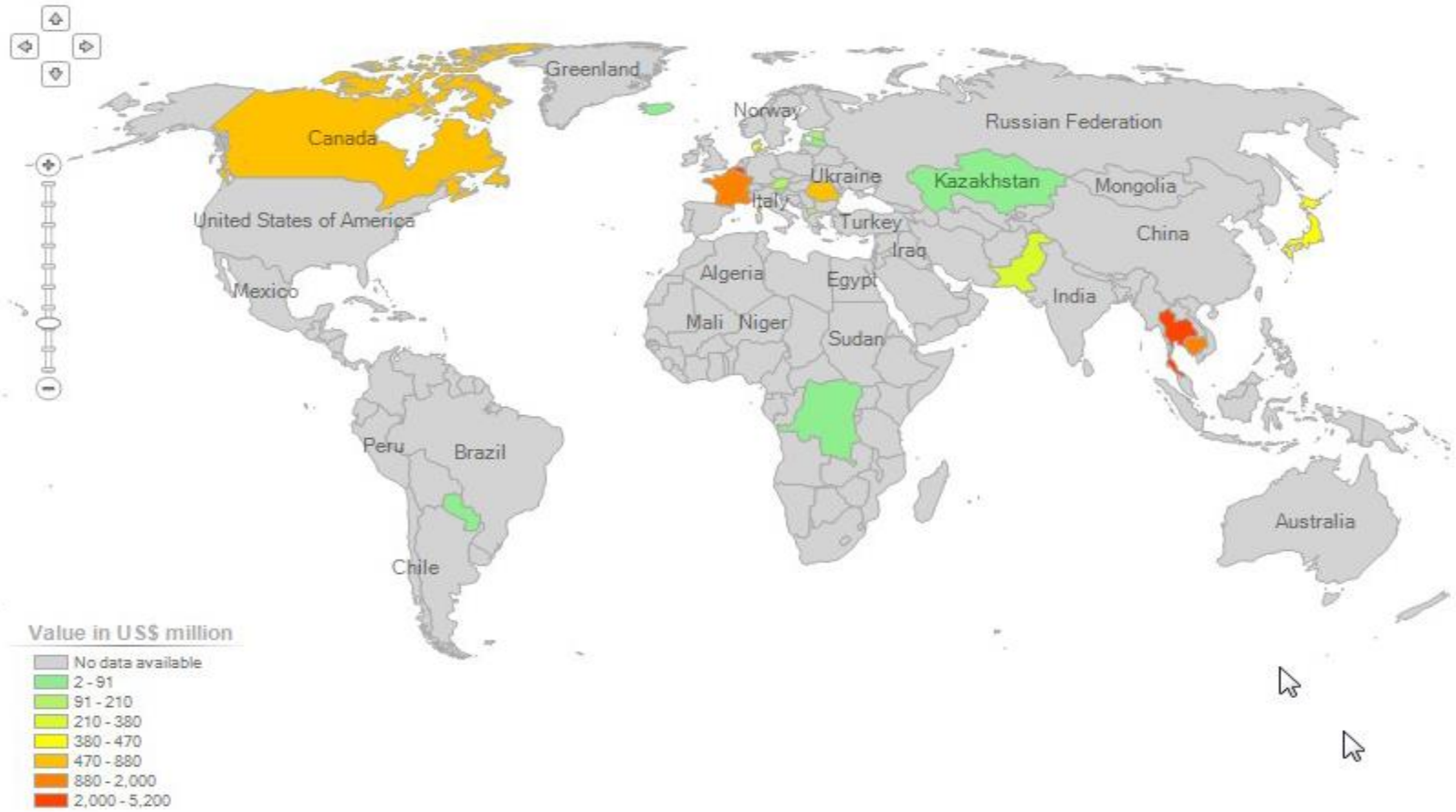
## Product 63

### *losers in growing sectors*

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

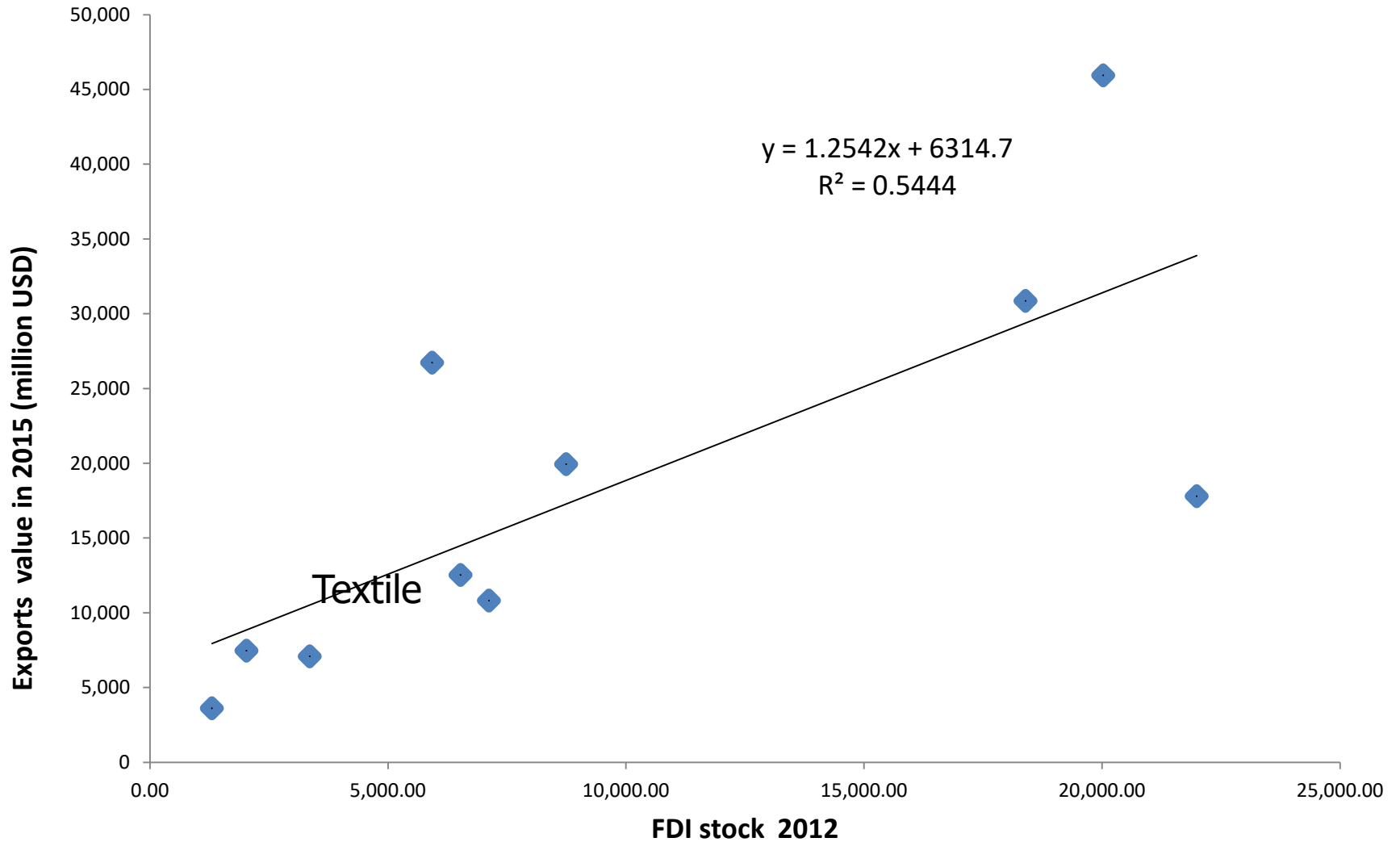


# Inward FDI stock: Textiles and clothing

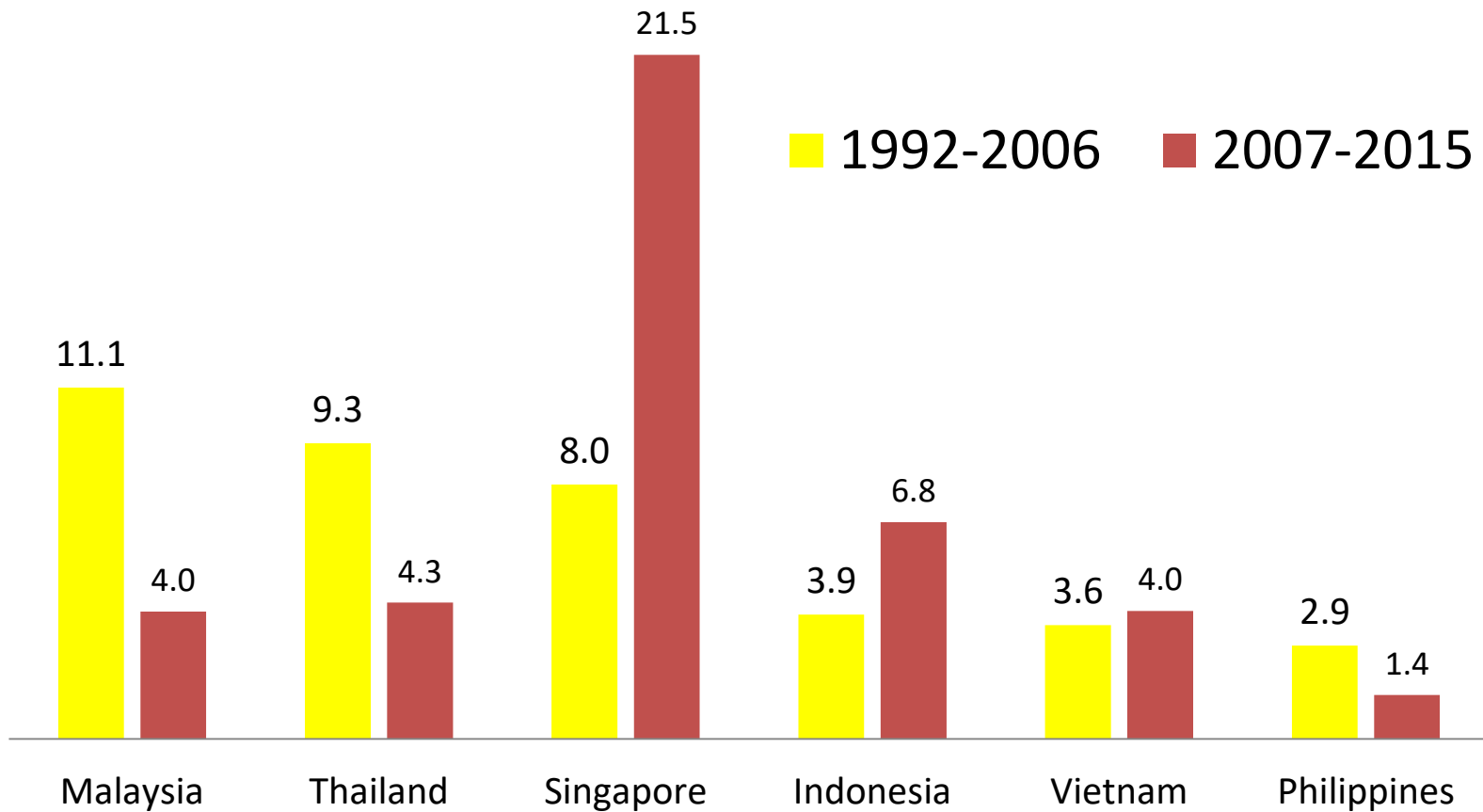


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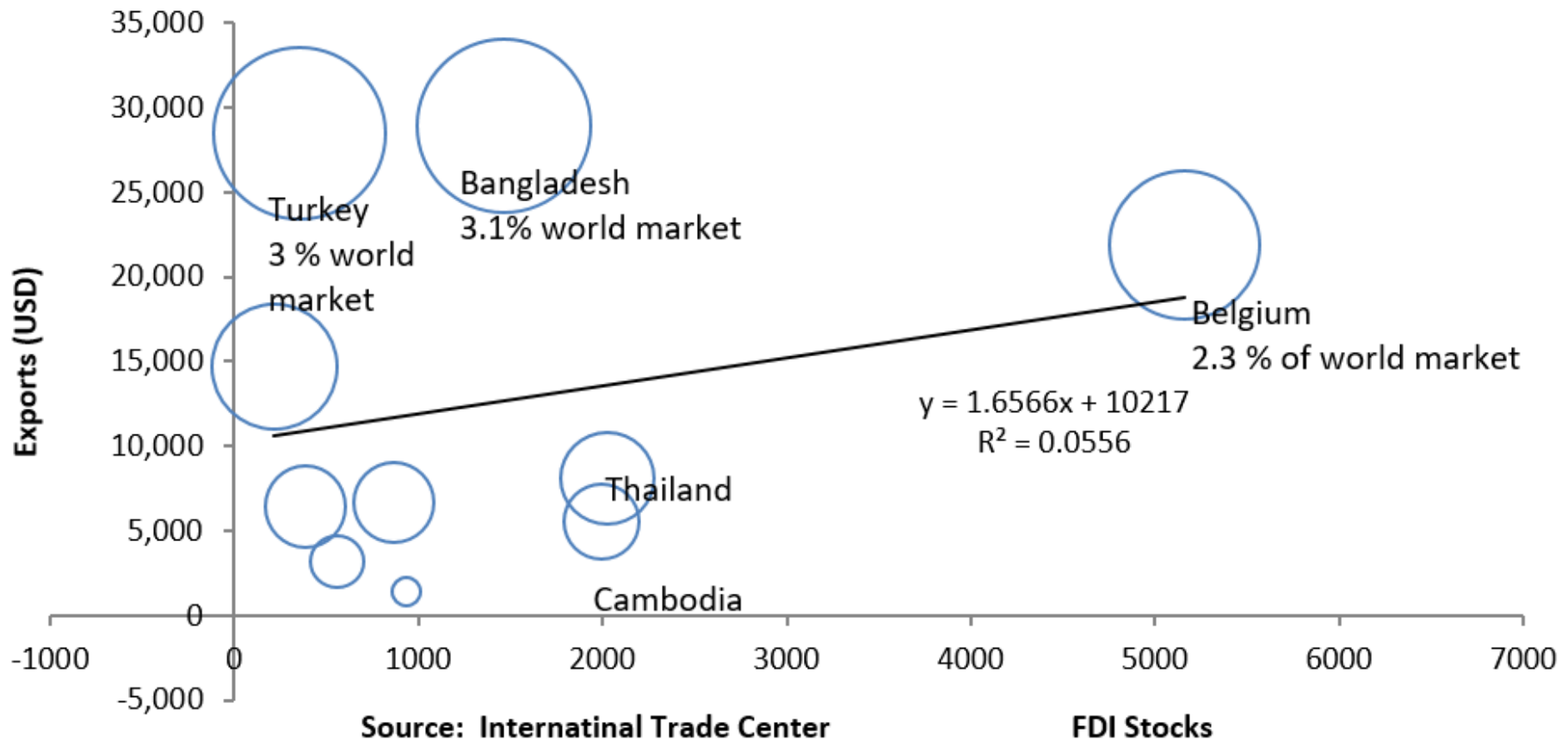
## Thailand's Sectoral FDI Stock and Exports



# ASEAN's FDI Inflows (% China's FDI inflows)



## FDI stock (2012) and Exports of textile and clothing (2013)

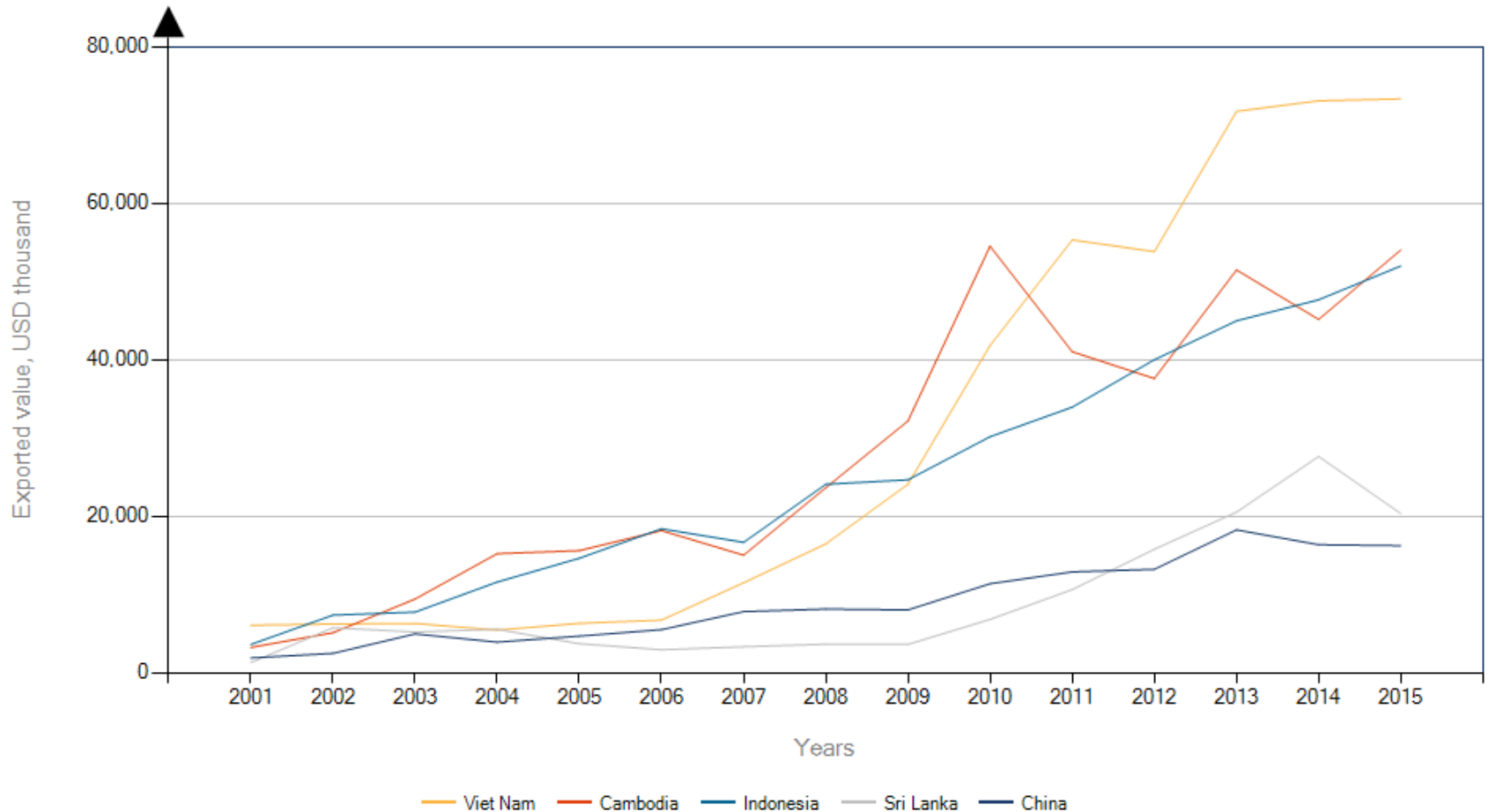


# Thailand's export markets

product 60: Knitted or crocheted fabrics

***Why export fabrics to low income countries?***

List of importing markets for a product exported by Thailand  
Product: 60 Knitted or crocheted fabrics



# Export markets of apparel and clothing (product 61)

## Why export to high income countries?

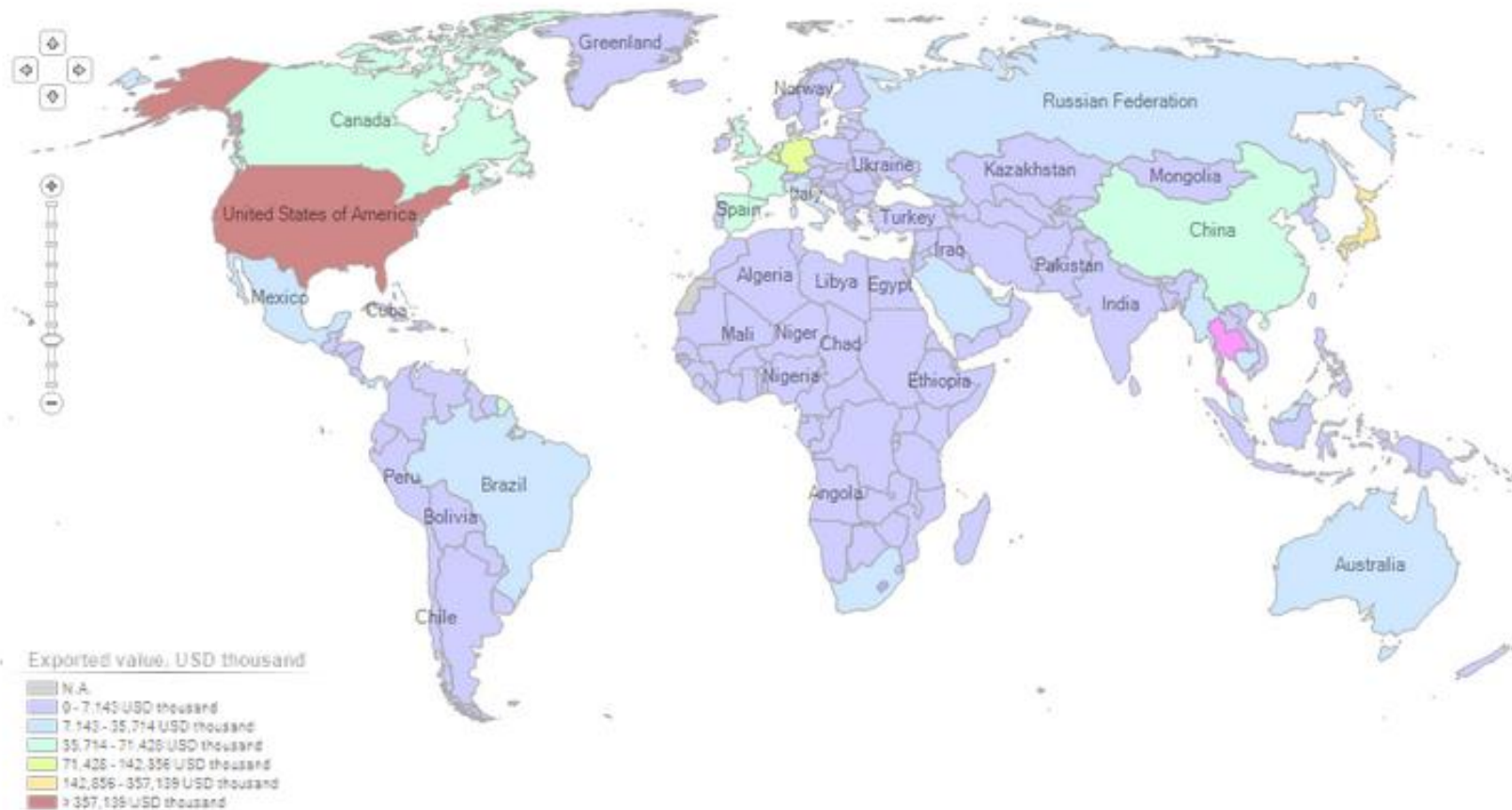
List of importing markets for a product exported by Thailand  
Product: 61 Articles of apparel and clothing accessories, knitted or crocheted



# Thailand's market for product 62: Apparel

List of importing markets for a product exported by Thailand in 2013

Product : 61 Articles of apparel, accessories, knit or crochet

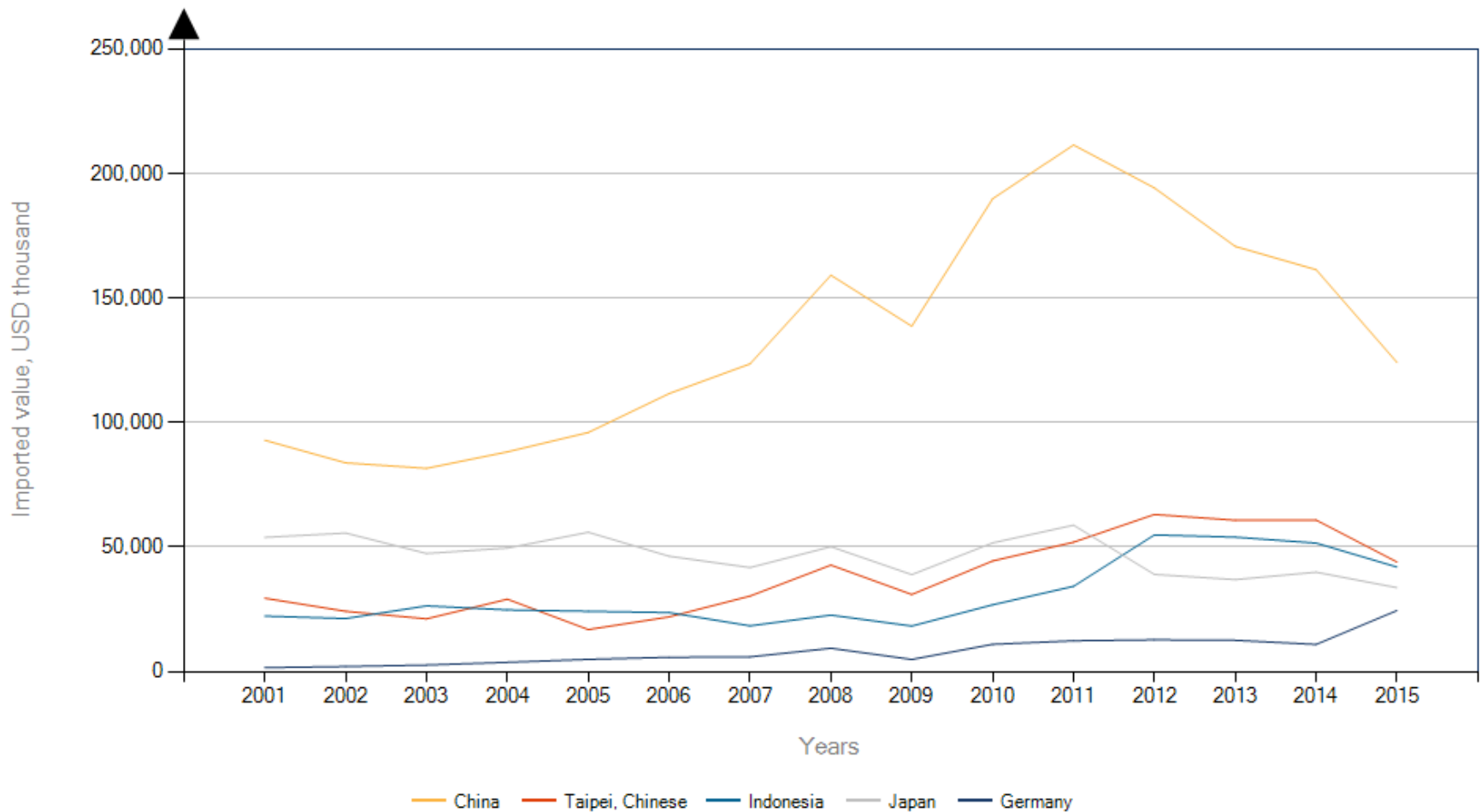


# Thailand's sources of imports (product 55)

## Man-made staple fibers

### *Why importing from high income countries?*

List of supplying markets for a product imported by Thailand  
Product: 55 Man-made staple fibres



# Top importers of Thailand's Product 55

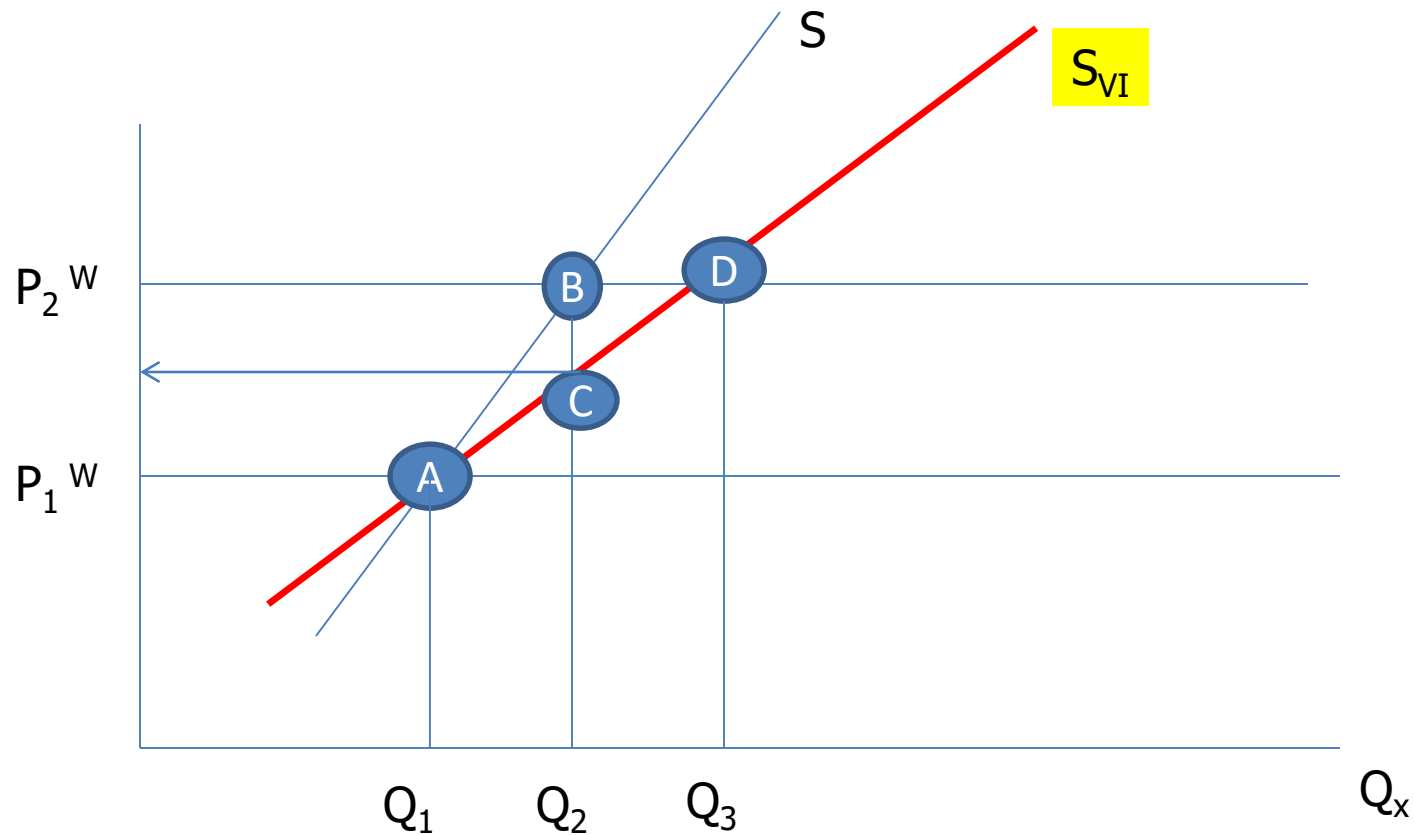
List of importing markets for a product exported by Thailand  
Product: 55 Man-made staple fibres



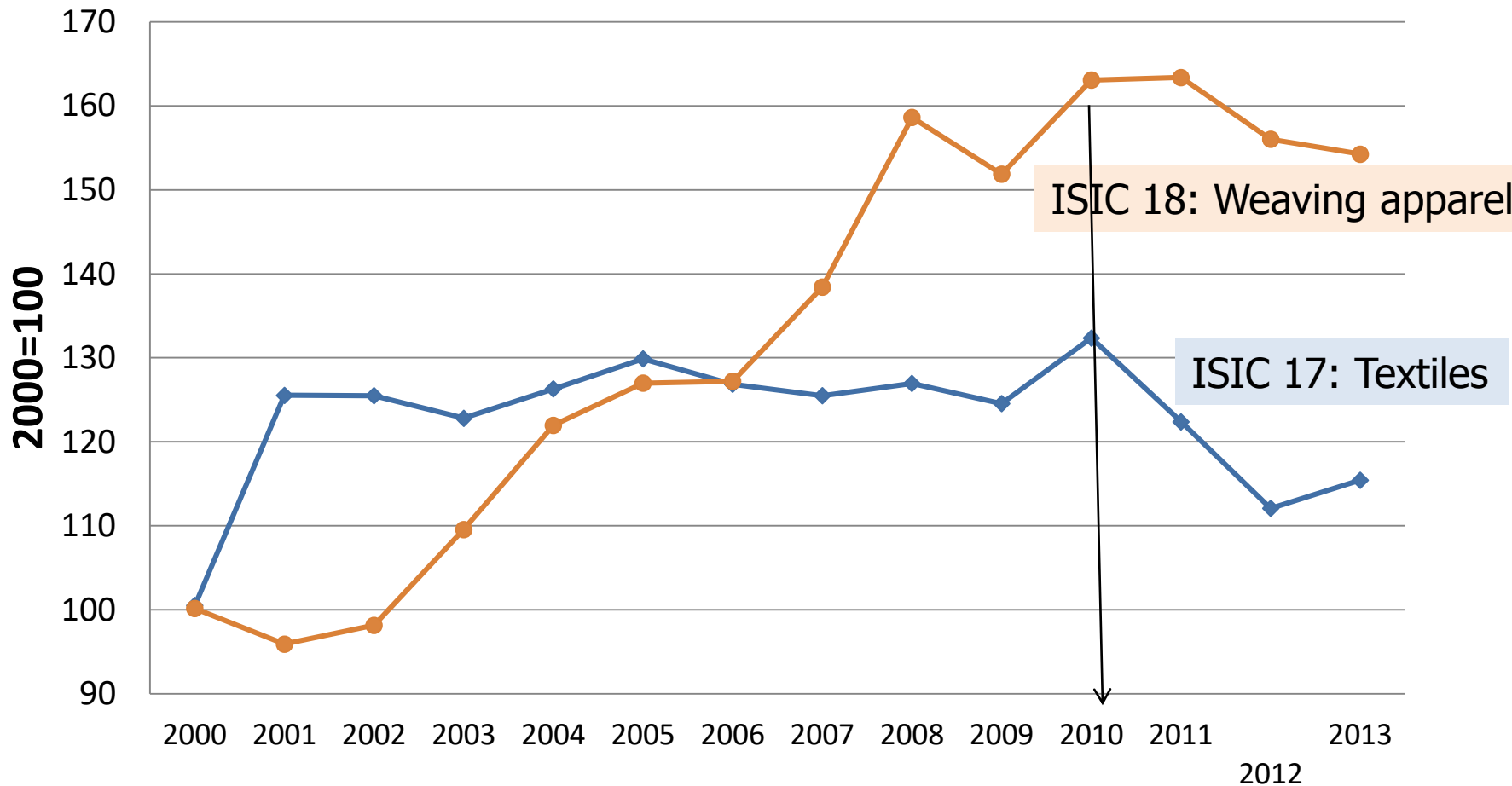
## ***Vertical integration and logistics cost***

- From spinning to fabrics, from fabrics to garments:  
integrated textile business
- The Thai factories spin, weave, dye, finish and fabricate units for consumers in Thailand and abroad in the US and Europe such as Wal-Mart and Calvin Klein.
- By integrating production from spinning to fabrics, Thai firms are able to cut ***logistics cost and inventories***.
- It can ***react quickly*** to any change in customer needs.

# Vertical integration (lower logistic and inventory costs) and higher degree of supply responses



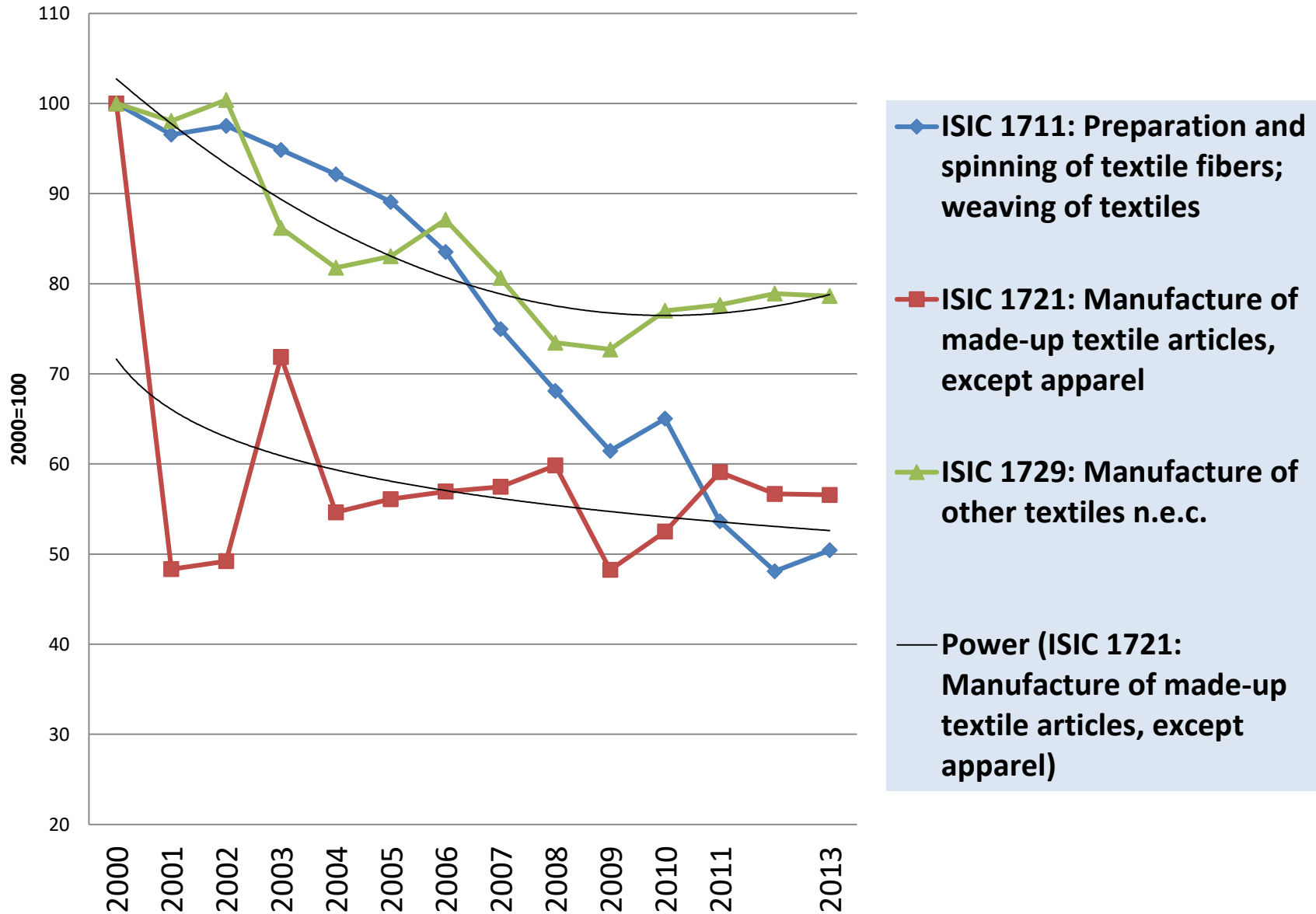
**Labor productivity in textile and apparels industry  
International Standard of Industrial Classification (ISIC)**



◆ ISIC : 17 Manufacture of textiles

● ISIC : 18 Manufacture of wearing apparel, dressing and dyeing of fur

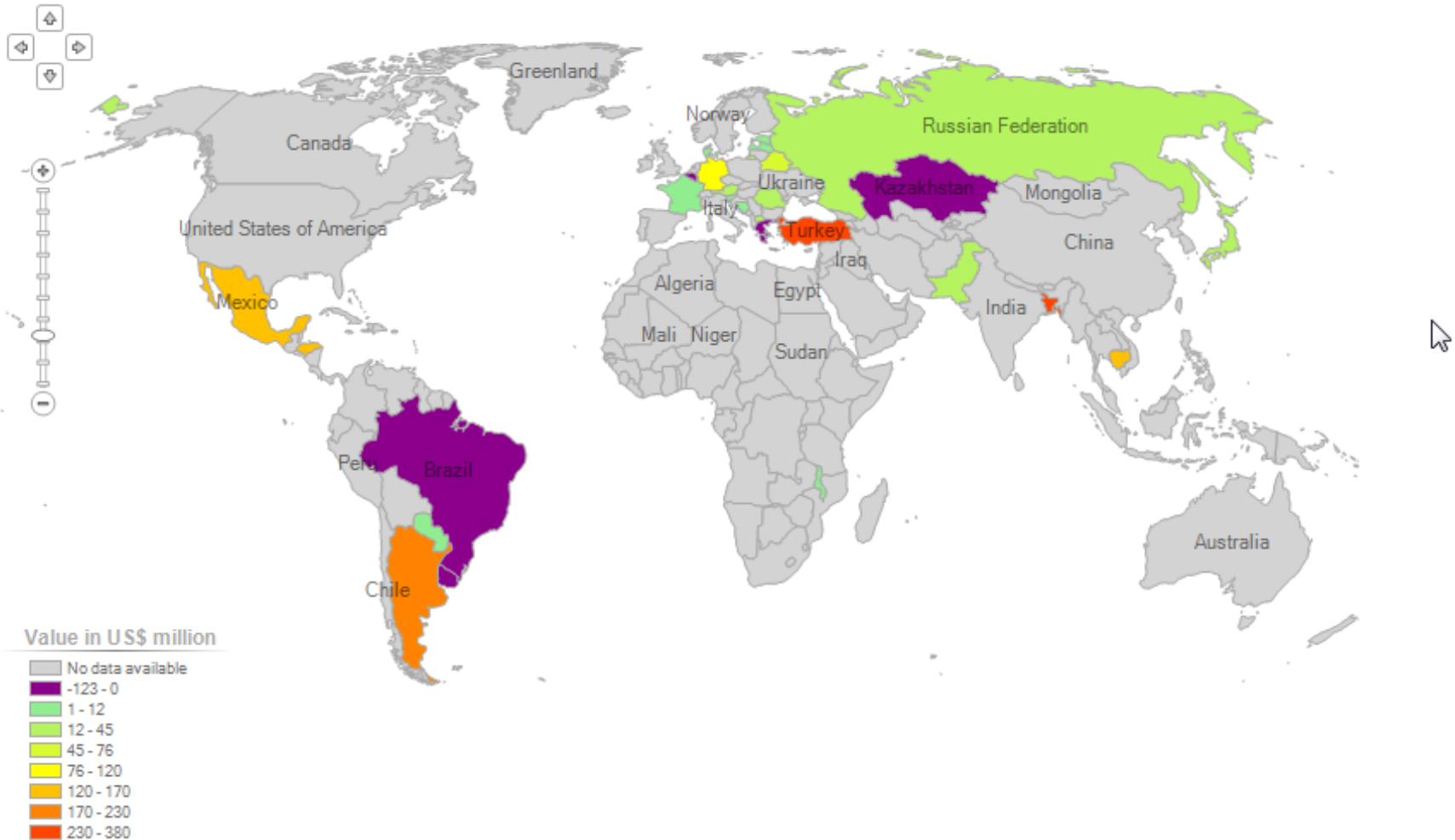
## Production Index (ISIC 17): Domestic market orientation



# Surviving strategy

- The industry faces rising wage rates, losing its low cost advantage to other labor abundant economies.
- The textile and garment industry has lowered manufacturing costs by **moving labor-intensive** operations to neighboring countries in order to enjoy tax privileges for exporting to US and European markets.
- In case of car industry, Nissan production plants in Japan use higher K/L than its' plants in India. There is a certain degree of elasticity of substitution between labor and capital goods.
- With high wages, the technology must be different at home factory.

# Countries attracting FDI in textiles, clothing, and leather ( in 2013)



# The next production stage: value-added products

- Thailand is already the production base of upstream and downstream textile industry and what the industry must do is develop **value-added textile** and garment products.
- Should Thailand build up its brand name if it wants greater world recognition like Italian-made products?

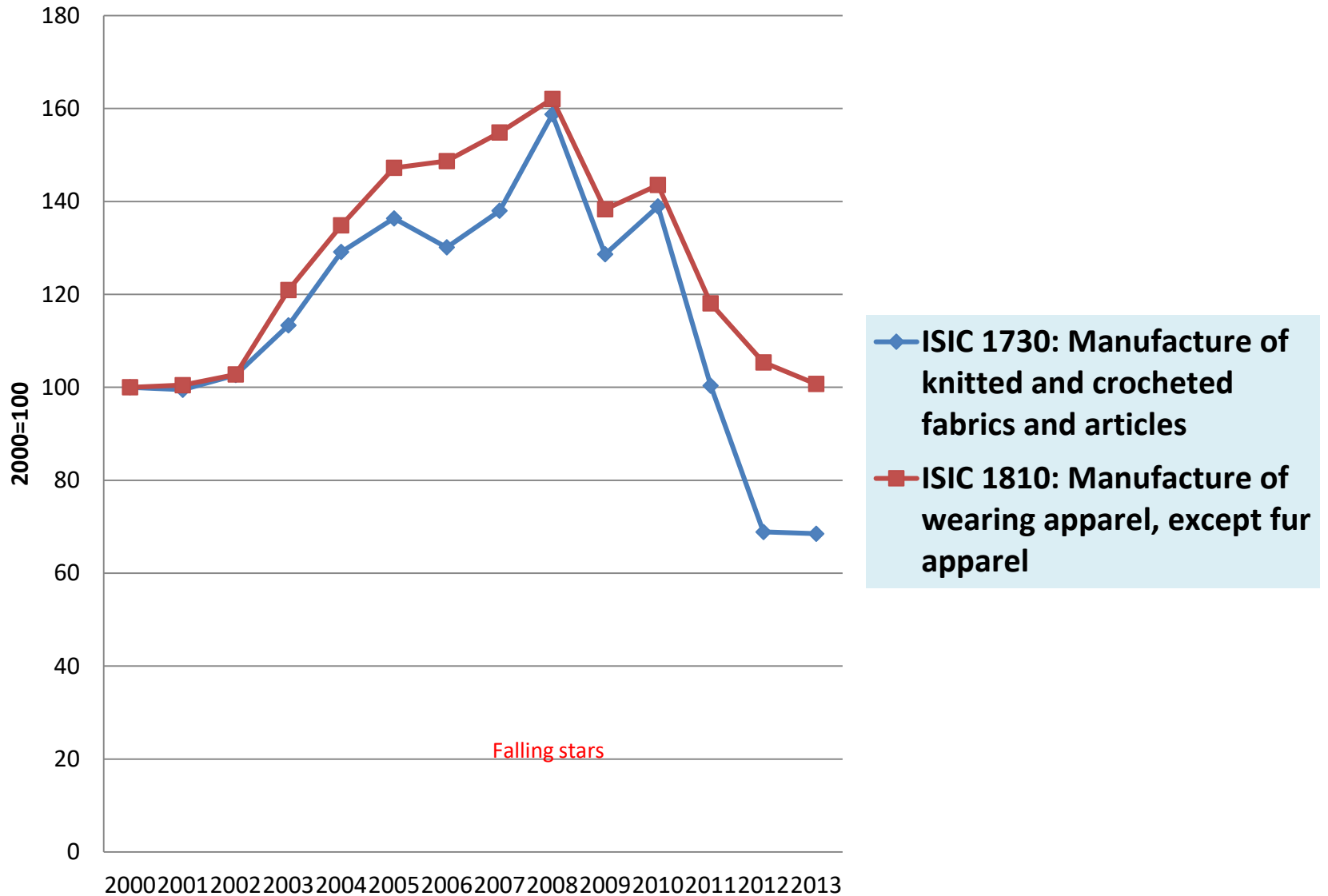
The industry has already encountered problems since 2007

- Textile and wearing apparel industries were severely affected by the baht appreciation
- Domestic market was threatened by an influx of inferior quality products from China.
- Local producers tried to adjust by cutting costs and focusing more on export markets.
- Thai textile and garment exporters are committed to raising export revenue to 20 billion USD in 2016 and *shifting* their focus on producing more fashion and design products.

# Product diversification

- **Ready-made apparel exports** declined due to the continued baht appreciation and exchange rate volatility, causing exporters reluctance to accept export orders.
- However, **other textile products** grew in 2007: brassieres, girdles and accessories, fabric, yarn and synthetic fiber, household and furnishing textiles, synthetic fiber and embroidered and lace fabrics.

## Production Index: Ultra export orientation



# Moving production base to neighboring countries: seeking new export platforms

- In Laos, Cambodia, Myanmar, and Vietnam, factories are **exempt from taxes**, so they can export to Europe with cost advantages compared to manufacturers in China, where they have to pay **15%** tariff.
- The Japan-Thailand Economic Partnership Agreement (JTEPA) has allowed Thai manufacturers to export to **Japan** with a 15% handicap against Chinese manufacturers.
- But it did not help much: income effect is stronger than the substitution effect.

# Trade preferences and competition

- Those tariff preferences help strengthen price competitiveness of Thai products against rivals from China in the key export markets.
- China is the world's biggest exporter, facing increases in production costs.
- China's exports this year will fall short of last year's level, because of quota restrictions, poor quality, rising export prices, and lower demand.
- China, Bangladesh and India are the world's top textile producers and are also major consumers.
- Pakistan and Southeast Asia are important and growing players.
- **Given a shortage of labor in Thailand, more investment expansion by Thai producers is likely in Myanmar, Lao PDR, and Cambodia.**
- ***Check statistics of Thailand's FDI outflows if the above statements are just a wishful thinking***

# Expanding export markets

Major exports products for USA, EU and Japan are ready-made apparel, brassieres, girdles and accessories, **household and furnishing textiles**, fabric, as well as yarn and synthetic fiber.

These items have been steadily increasing, while garment exports are declining.

# A tiny exporter: Thailand

- **China is the market leader commanding 33% of the world's market share.**
- **Thailand's textile and garment exports account for only 1.4% of the world's market currently.**
- A small country assumption fits well with the industry.

# Chemicals and textile dyes: Why imports?

- The global textile dyes and chemicals market was worth \$16 billion, and Asia accounts for some 45 percent of total consumption, much of it destined for export markets.
- ***Stricter environmental standards*** required by Western countries are prompting consolidation and innovation in the industry, which requires imported textile **dyes** and **chemicals**.

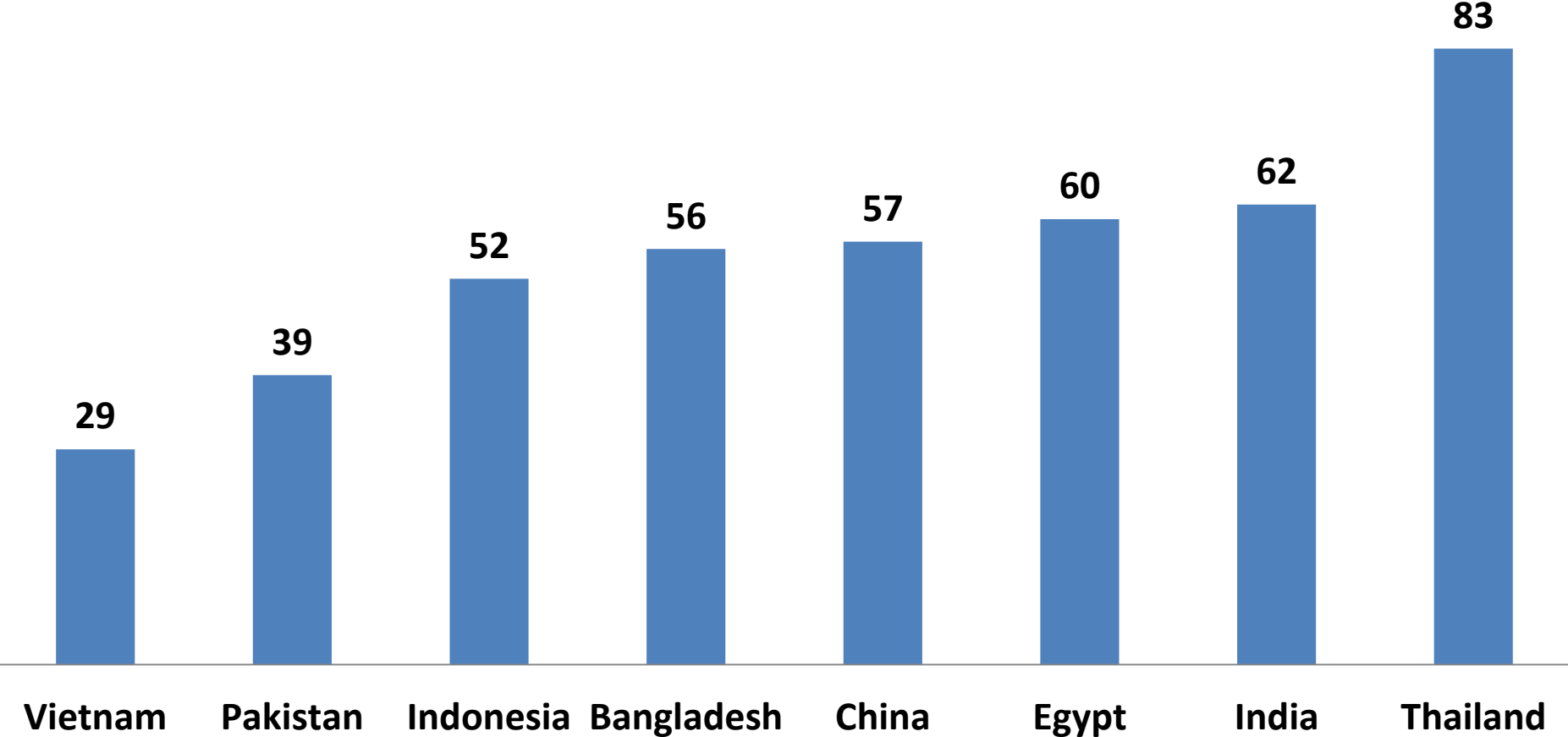
# Technical textiles: Other textiles (ISIC 1729)

- Apart from apparel, a major driver for the industry is demand for “**technical textiles**” or fabrics used in cars, mattress covers, bags, tents and parachutes, among others.
- In the medical field, chemicals are incorporated in surgeons’ gowns to repel blood and dirt, raising the hygiene level.
- As Asia’s spending power rises, “people want different products and that’s going to lead to the development of a whole new market for technical textiles which didn’t exist before”
- The market for **technical textiles** is likely to grow by 20 percent per year over the next decade.
- Thai companies must ride the growth by moving up to higher value-added products.

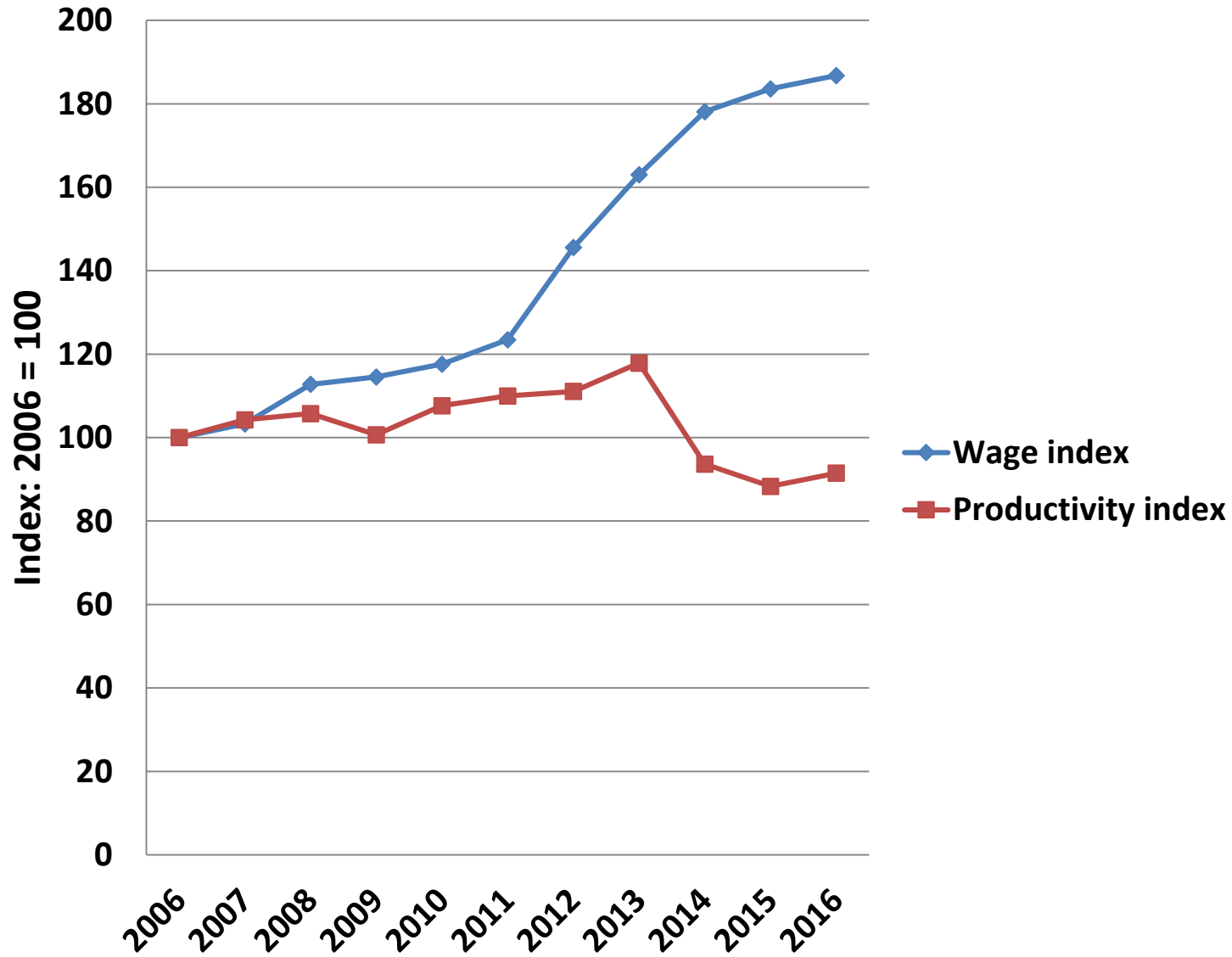
# Textile industry in the US

- Innovation in the industry has led to **two new growth categories** — nonwovens and technical textiles.
- **Nonwovens** are fiber-based products made of fabric that is compressed, heated or tangled, like felt. Envelopes, facial wipes, mops and medical scrubs are nonwovens. In the last decade, North Carolina has gained 1,945 jobs in the nonwoven products business.
- **Technical textiles** are manufactured for **non-aesthetic purposes**, where *function* is the primary criterion.
- Products include protective clothing for firefighters, welders and astronauts; medical applications such as implants; and geotextiles that include reinforcements for embankments.
- Technical textiles have become one of the hottest growth categories for the industry, with a 34.9 percent increase in exports from 2007 to 2014.

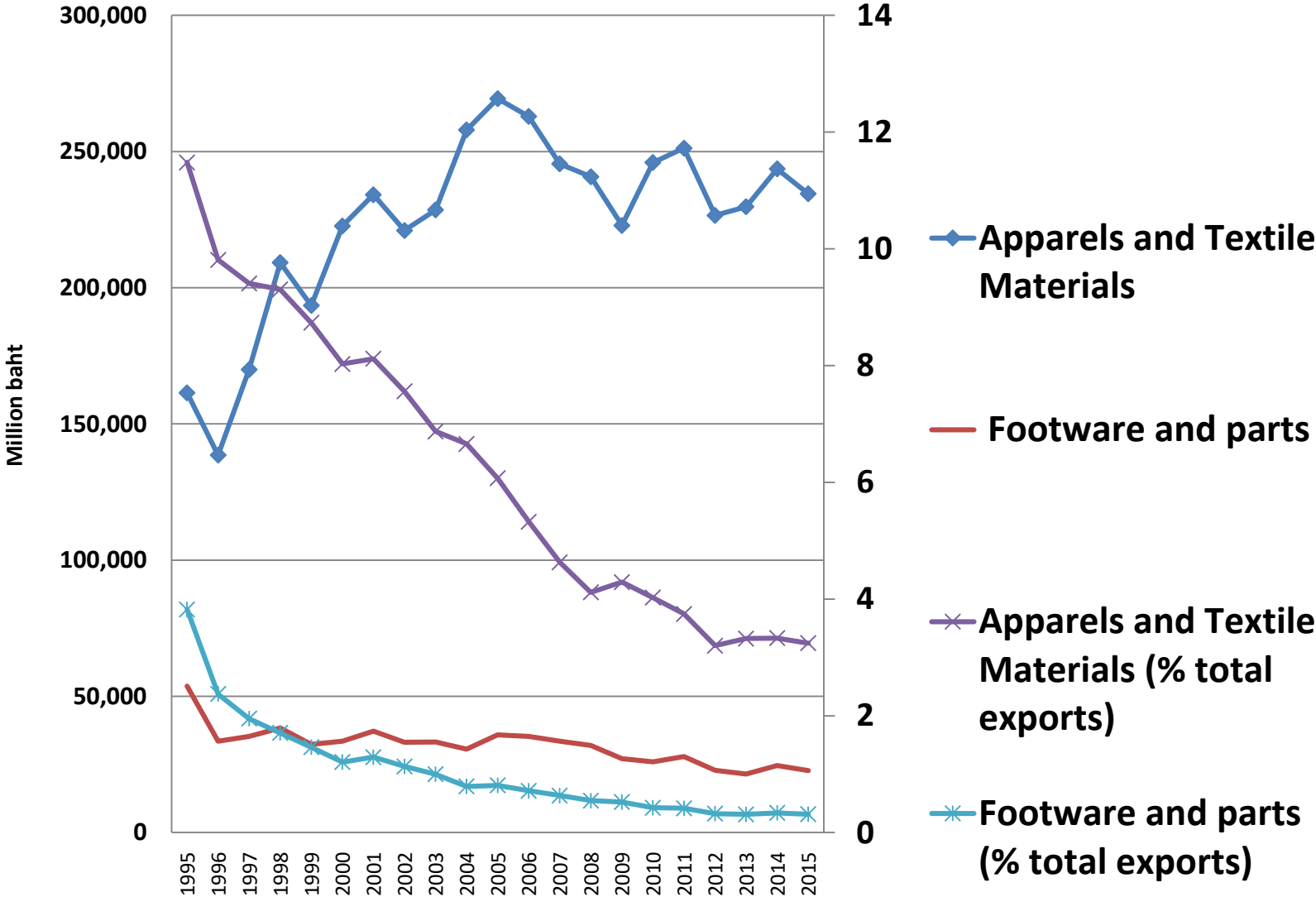
wage rate per hour (US cents)



## Thailand's wage and Productivity



# Exports of Labor-intensive Products



Source: Bank of Thailand

# Revealed Comparative Advantage

- **Balassa** (1965) measure of relative export performance by country and industry, defined as a country's share of world exports of a good divided by its share of total world exports.
- The Balassa index measures the degree of specialisation of export products.
- If the Balassa index for a product is more than 1, it means that product involves specialisation.
- ***If it is less than 1 it means that no specialisation is involved in the product.***
- The index for country  $i$  good  $j$  is  $RCA_{ij} = 100(X_{ij}/X_{wj})/(X_{it}/X_{wt})$  where  $X_{ij}$  is exports by country  $i$  ( $w$ =world) of good  $j$  ( $t$ =total for all goods).

# Specialization index (RCA)

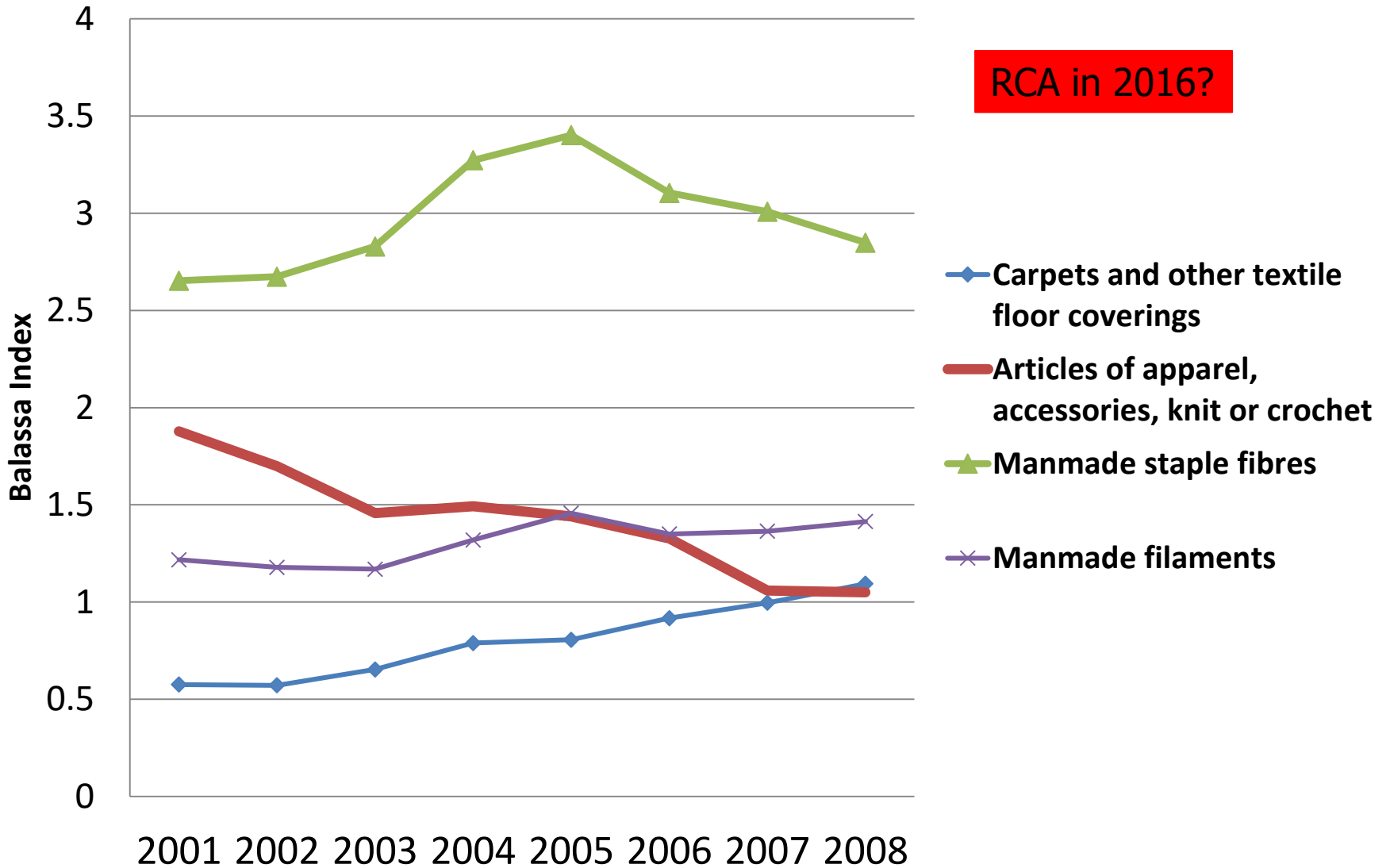
$$RCA = \frac{\text{Share of textile in total exports of Thailand}}{\text{Share of textile trade in total world trade values of all commodities}}$$

If  $RCA_j > 1$ , the country is said to have a *revealed* comparative advantage in industry  $j$ , since this industry is more important the country's exports than for the exports of the world.

One should compare the share of textile exports in Thailand's total exports with the share of textile exports in the world's total exports.

The Balassa index is therefore essentially an export share of the commodity in the country's total export normalized by that commodity's share in total world trade.

# Revealed Comparative Advantage 2001-2008

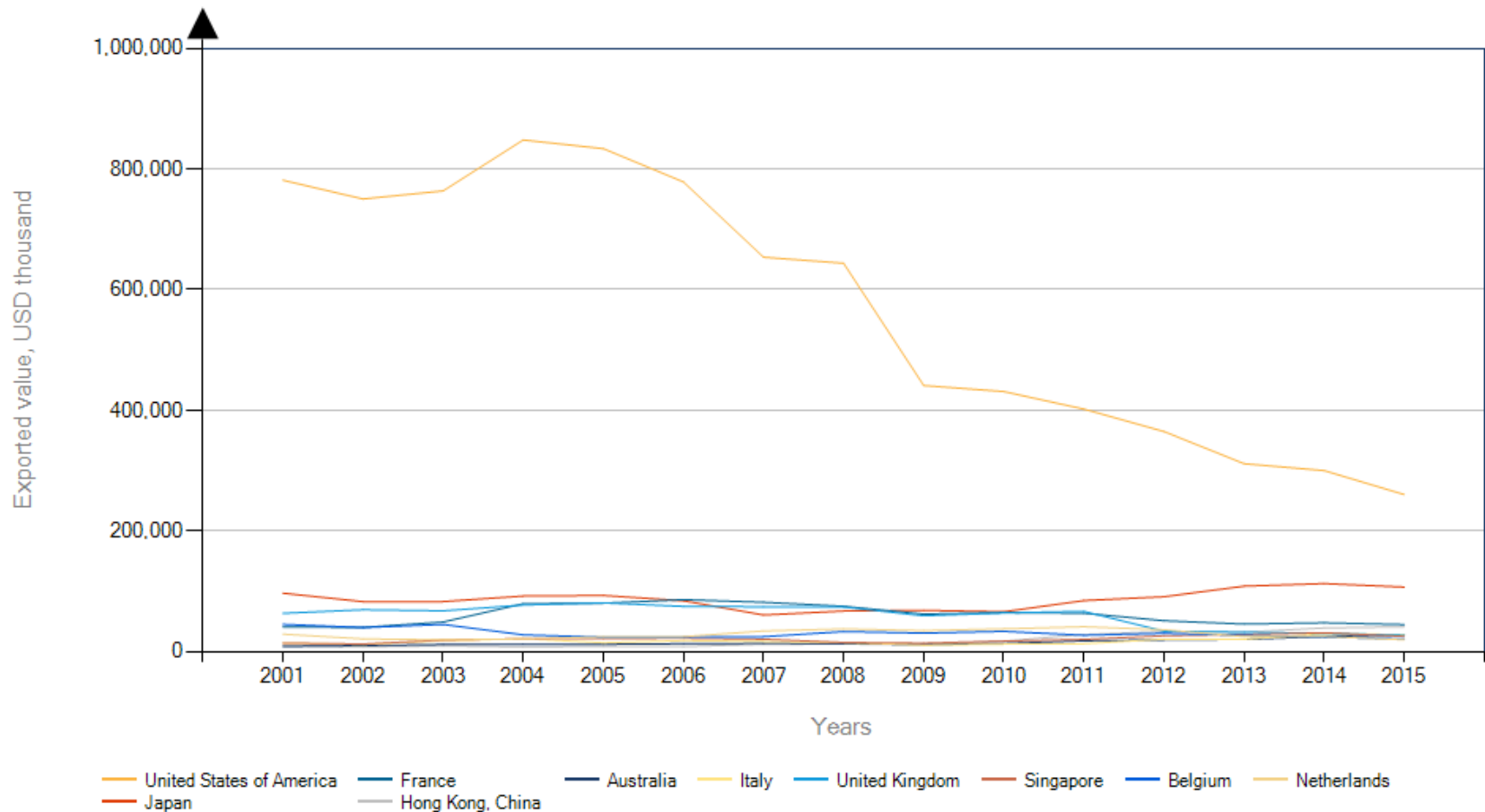


# Textile: A falling star

- **The booming garment industry in China had led Chinese producers to focus more on their home market, which would create opportunities for Thai businesses.**
- More than 90% of Japan's garment imports come from China, leaving the Japanese market open if China switches focus away from Japan.

# Thailand's exports of apparel and clothing (Product 62 not knitted) 2001-2015

List of importing markets for a product exported by Thailand  
Product: 62 Articles of apparel and clothing accessories, not knitted or crocheted



# How to attract FDI

- Textile production costs in Vietnam were **19.5** per-cent lower than those in Thailand, because of import-duty exemptions for raw materials, cheaper labor and lower energy costs.
- Thai workers in **all sectors** earn average wages of US\$**14** (Bt479) per day
- Workers in Vietnam and Pakistan earn the least: \$**3.7** a day.
- From 2004 to 2006, Vietnam's GDP expanded 8.2 per cent, India's 8.9 per cent and China's 10.2 per cent

# Where to invest

- Expanding foreign markets encourage outflow of Thai FDI.
- A study by the Industrial Economics Office (2007) shows that operators in the textile and clothing industries should **shift to invest** in Vietnam, China and India, to reduce their production costs and boost their competitiveness in international markets.
- Besides investing in Vietnam, the study indicated that Thai operators could reduce their production costs **10.6** per cent if they made their products **in China** and **5.1** per cent in **India**.

# More than tax incentives

- China and India, despite having higher production costs and fewer tax privileges than Vietnam, are more attractive in terms of larger-sized markets and infrastructure.
- What are other factors attracting foreign direct investment?

# Research subsidy yields product differentiation

- Board of Investment (BoI) has approved incentives for *Innovation Textile Research Co* for its 20-million-baht investment in a research and innovation factory in Samut Prakan.
- Innovation Textile Research will develop textiles and garments, with distinctive features such as *UV protection, freer air flow and a cotton-like ability to absorb perspiration* easily.
- Technical spillover effects deserve public subsidy.

# Research subsidy yields product differentiation

- In the first three years *the innovation textile research company* plans to develop garments using special materials that can reduce the wearer's urge to smoke.
- It also manufactures fabric used for wound bandages.
- In the future, a Thai company plans to develop and patent garments able to capture solar energy to serve travelers, and license the technology to other entrepreneurs.

# Retreat: Falling share in the US market

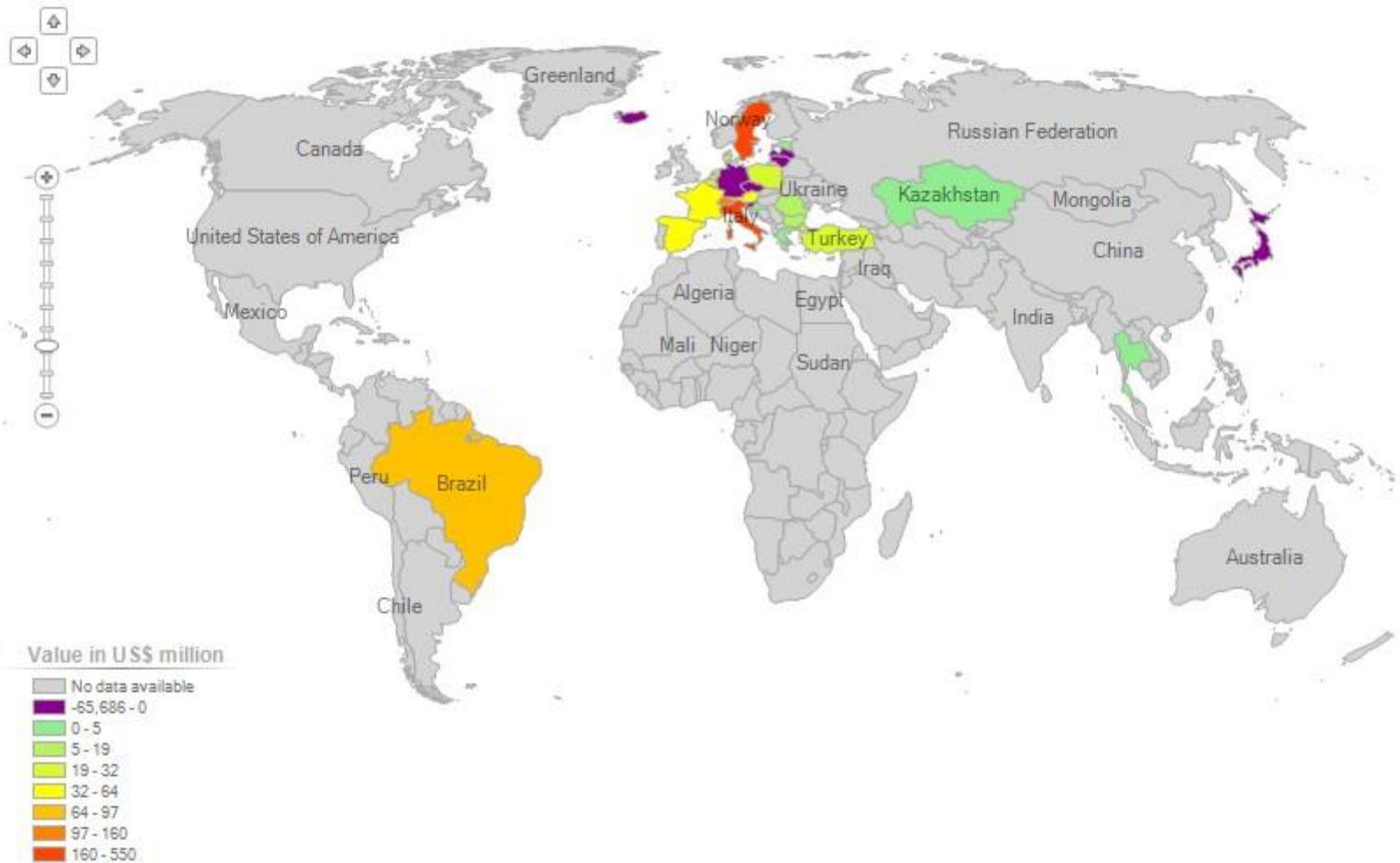
- According to the Thailand Textile Institute, the market share of Thai-made clothing in the US has been falling steadily and is now 3.4%, down from double digits several years ago, due to intensified price competition from products shipped from *China, Vietnam, Cambodia and Bangladesh.*

# Outflows of FDI

- Myanmar, Laos and Bangladesh are among the countries where the Thai Garment Manufacturers Association (TGMA) is encouraging members to invest
- Of the 1,600 factories in Thailand's garment industry, at least **five are moving to foreign countries**, where low-wage workforces are plentiful, with planned investments of 200 million baht each. Those five are among the 80 large-scale garment factories located in the country, including Cambodia.

# Countries investing abroad in sector: Textiles, clothing and leather

## Outward FDI flow 2011



# Thai Garment Manufacturers Association (TGMA): labor shortage crisis

- "We would call this period a labor crisis. Right now we have a shortage of 50,000 to 60,000 people in the industry, and it should definitely reach 60,000 by next year," said the TGMA president.
- A main contributor to the shortage is the fact that prices of agricultural products have been increasing, shifting labor from the garment sector to farming.
- Thailand has 400,000 people working in the garment industry.
- Can immigrant workers ease the labor shortage?

# Conclusion

- The importance of textiles and clothing industry  
reflects in mass employment, due to the nature of the industry: labor-intensive technology.
- Competitive characteristics (market and product diversification)

# Conclusion

- Specialization index (RCA Index) shows losing competitiveness and lesser degree of specialization.
- The role of FDI (Increasing outflows, and declining inflows).
- Cost disadvantages (labor shortage, high wage rate and labor productivity)