

# Thailand's Textile and Garment Industry

## Lecture 14 bhanupong

# Course Syllabus

## **Lecture 14-17**

### **The rise and fall of Thailand's export-oriented industries**

We explore four major industries: processed food, information technology, textile, and automobile.

While facing non-tariff barriers imposed by developed countries, some of these industries are still leading exports of Thailand.

Does the success of these industries bode well for the resilience and dynamism of the Thai manufacturing sector?

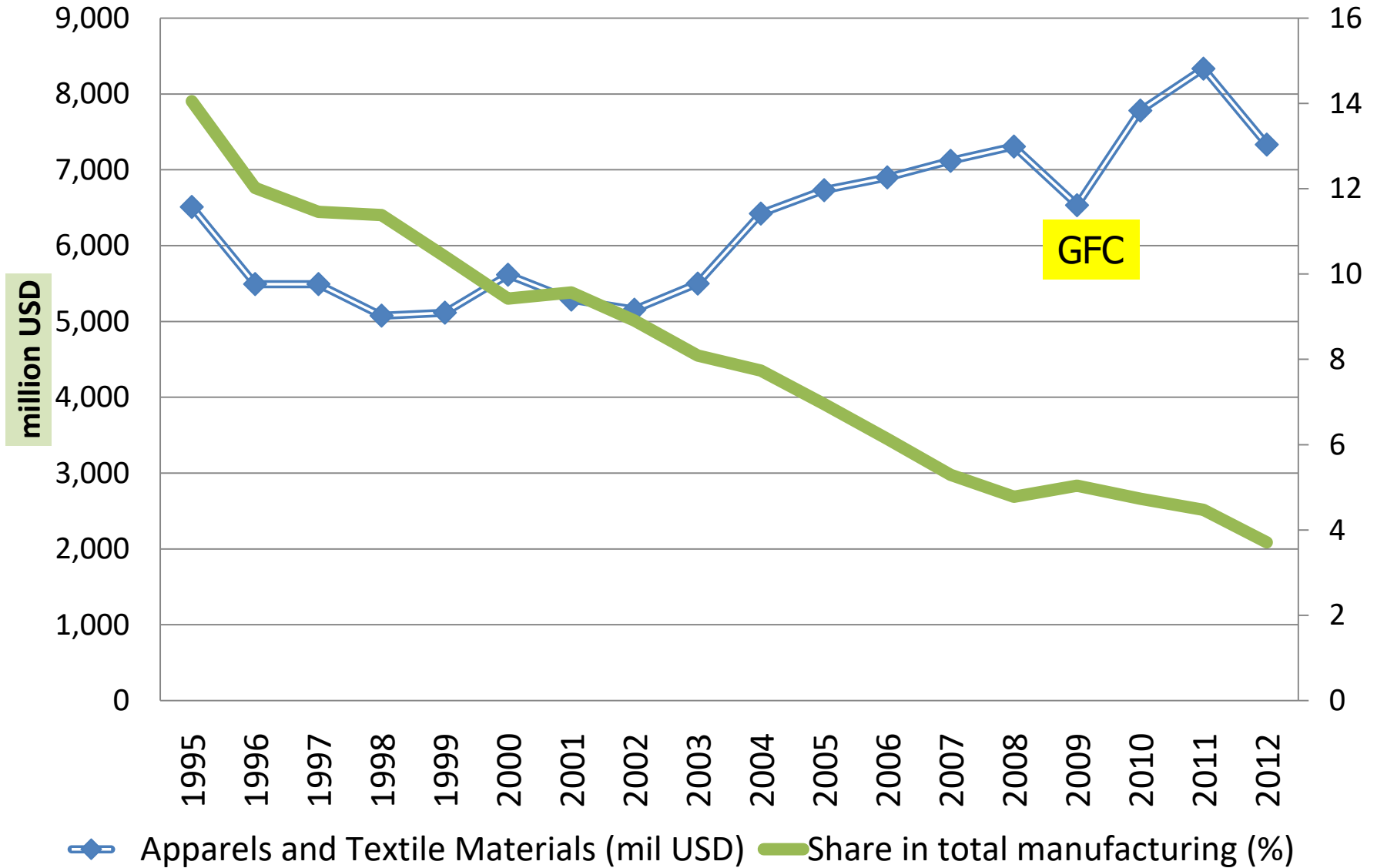
# Outline

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

## An overview of the industry prior to the GFC

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

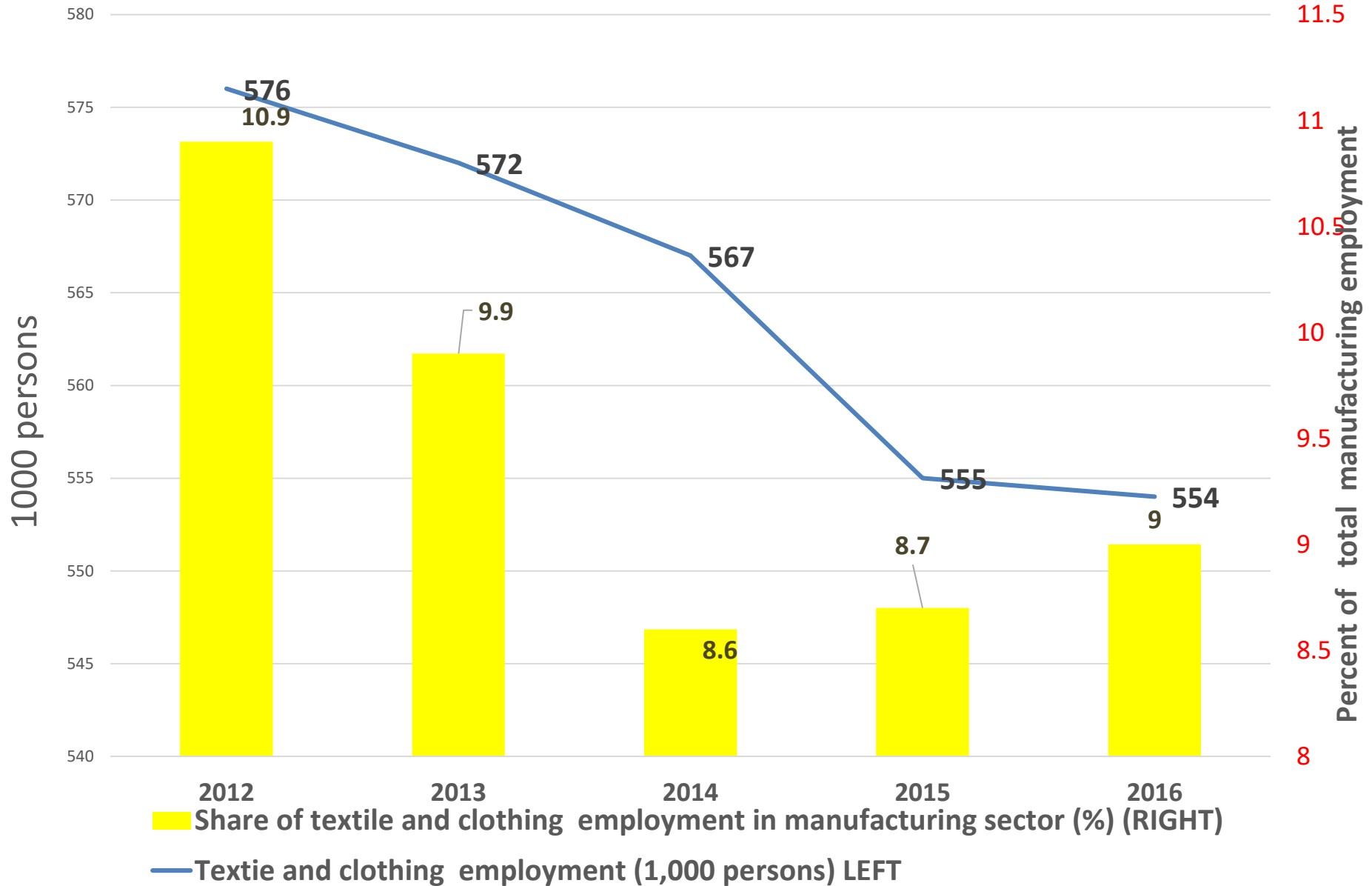
# Exports of clothing and textile products



# GSP withdrawal by the EU

- 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 Thailand's income level was in the middle income group.
- Too early to blame the hike of minimum wage (300 baht per day) for being the cause of losing world market shares in apparel.
- Manufacturers must learn to substitute capital for labor by exploiting the existing technology (ample elasticity of substitution between capital and labor).

# Shrinking Employment in Textile and Clothing Industry

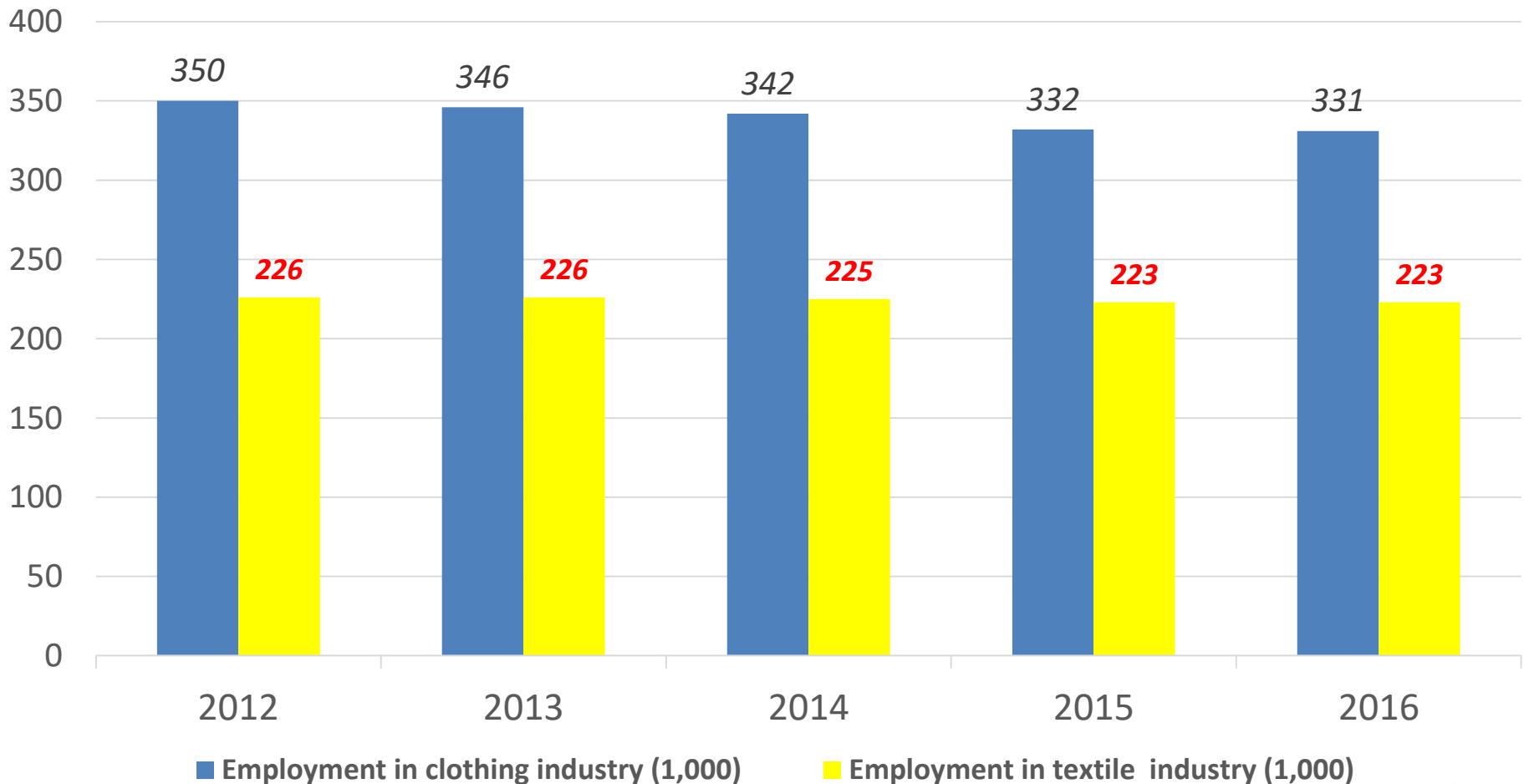


# Employment within in the Industry

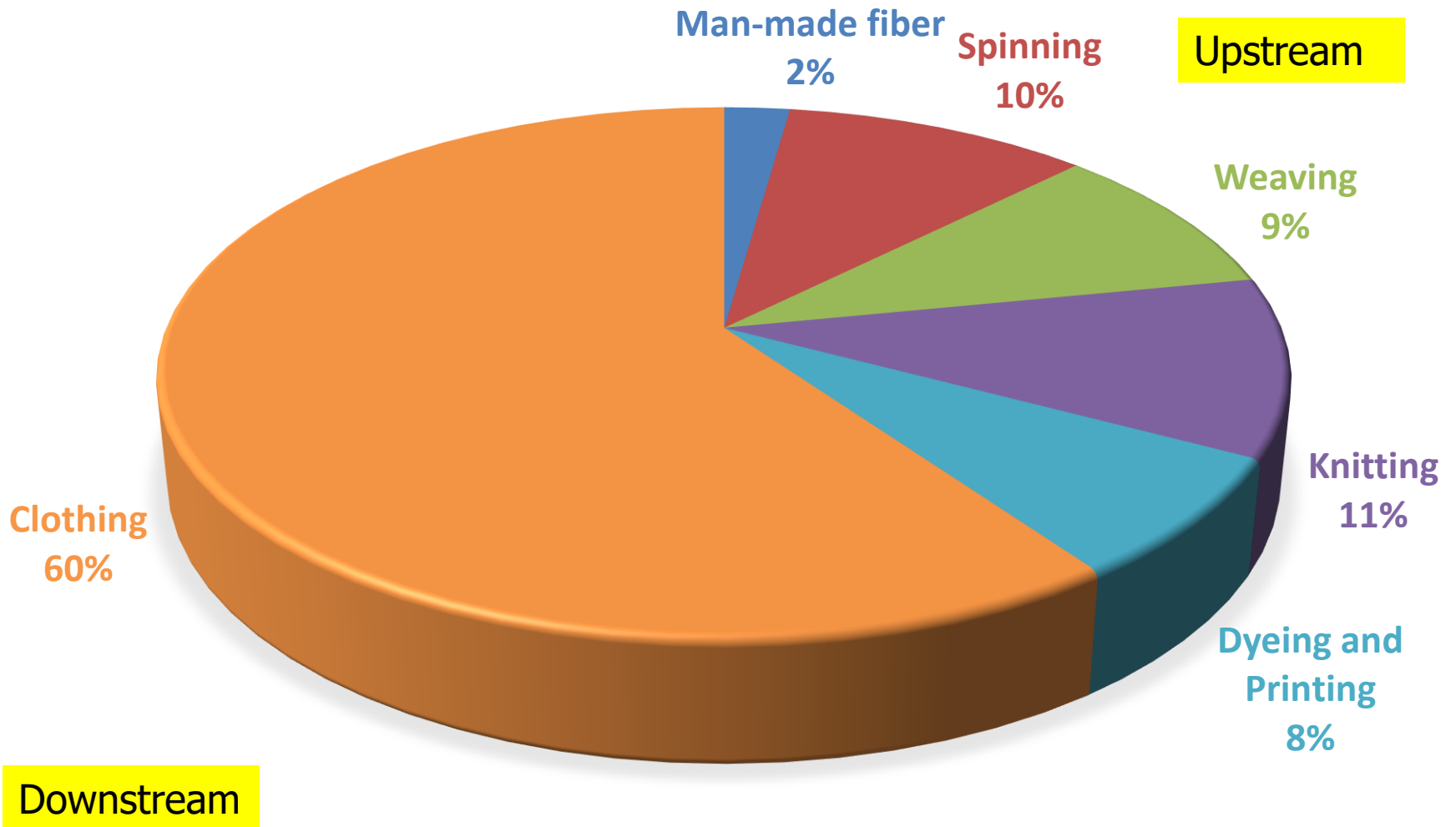
## Textile vs Apparel industries

(1,000 persons)

Source: Thailand Textile Institute



# DISTRIBUTION OF WORKERS IN CLOTHING AND TEXTILE INDUSTRY: 2016



# Where did Thailand import textiles from?

Source: Office of Industrial Economics (OIE)

## Upstream industry

### ***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%)**.

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

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

*Extensive activities of intra-industry trade*

# Sources of imported garments and machinery

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

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

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

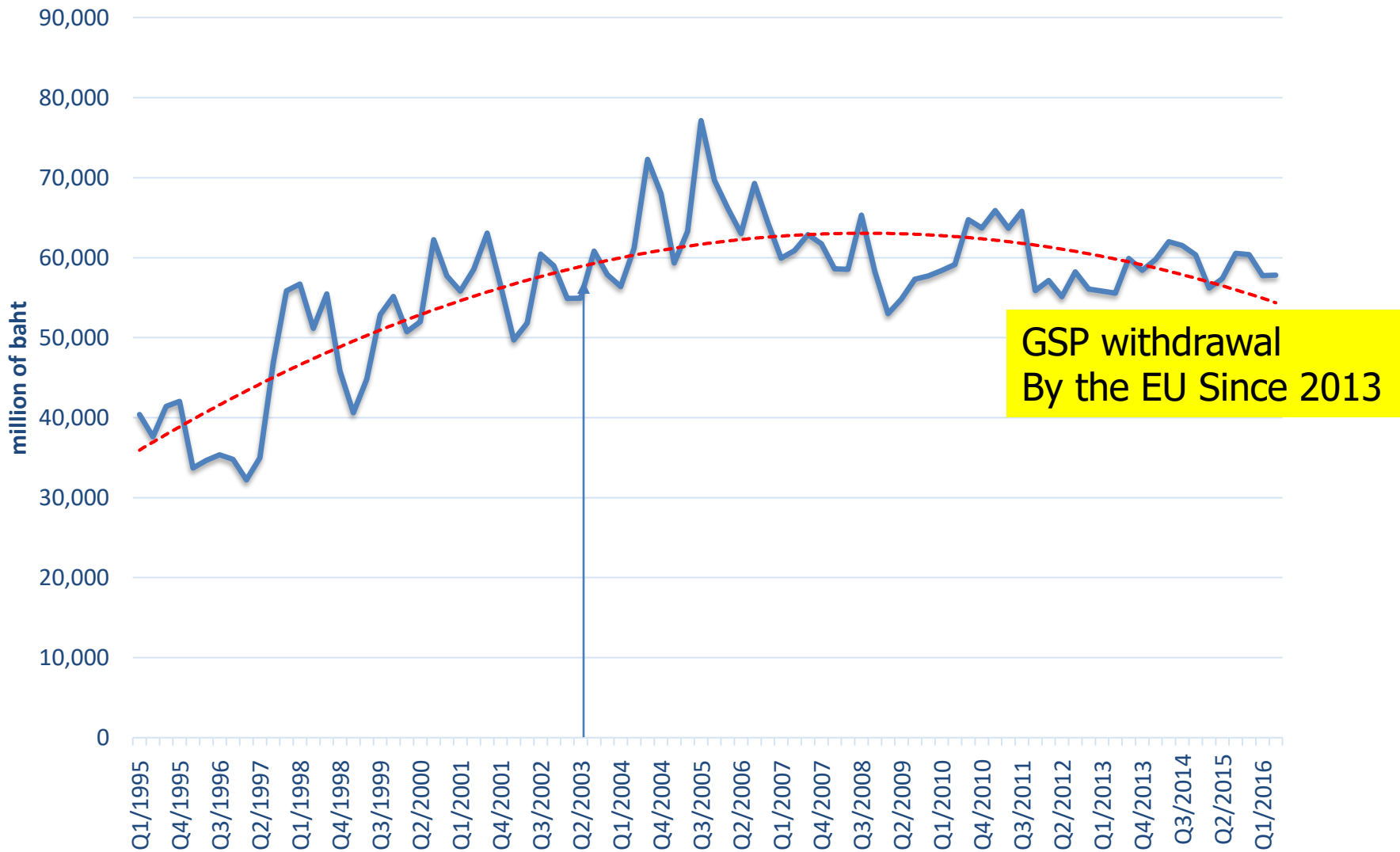
Germany (21.2%), Japan (18.8%), Taiwan (13.8%), China (12.9%).

Diversified sources of raw materials

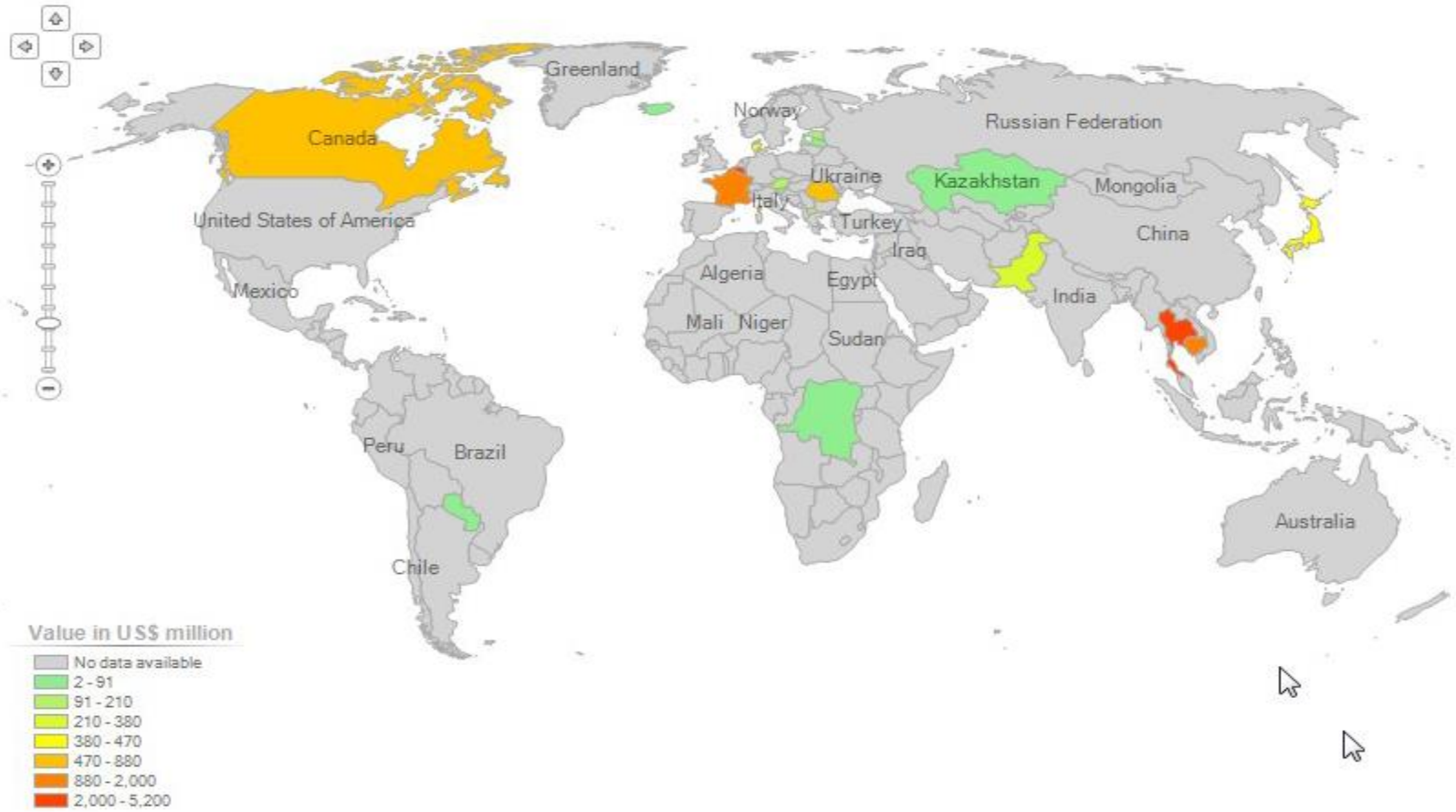
# 98% of cotton are imported

- 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.

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



# Inward FDI stock: Textiles and clothing

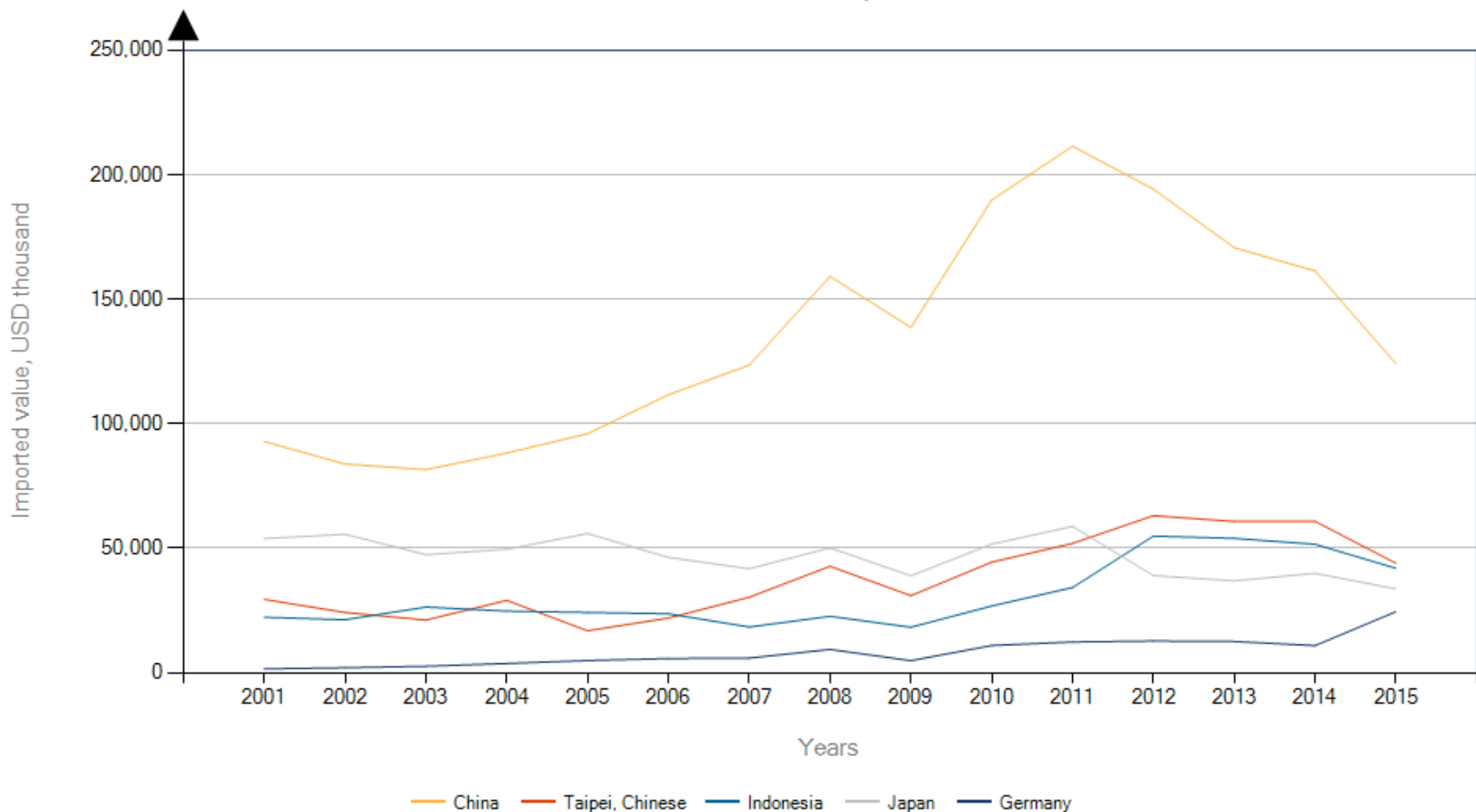


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# Thailand's sources of imports (product 55) Man-made staple fibers

## *Why importing from high income countries?*

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

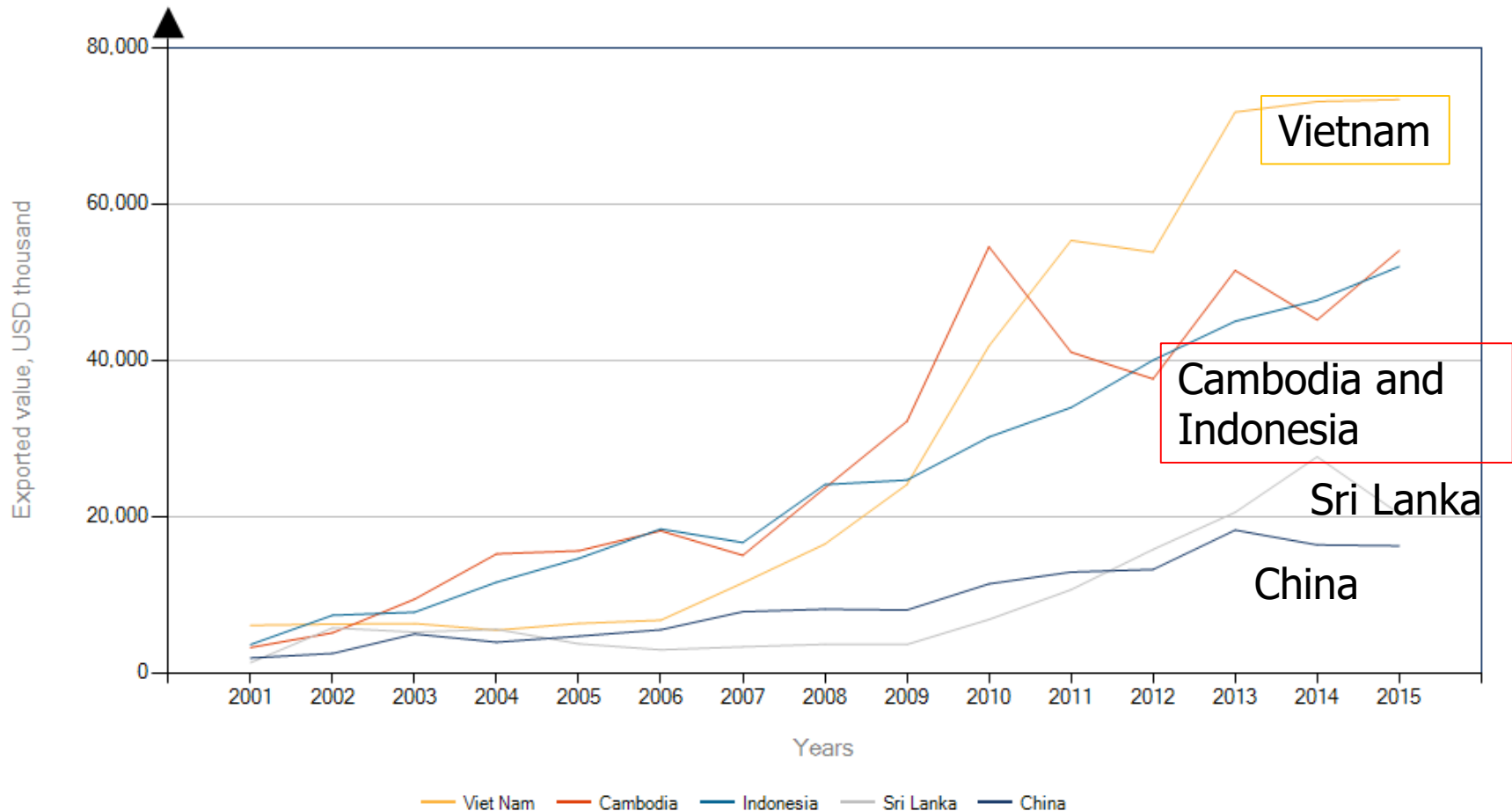


# Thailand's export markets

product 60: Knitted or crocheted *fabrics*

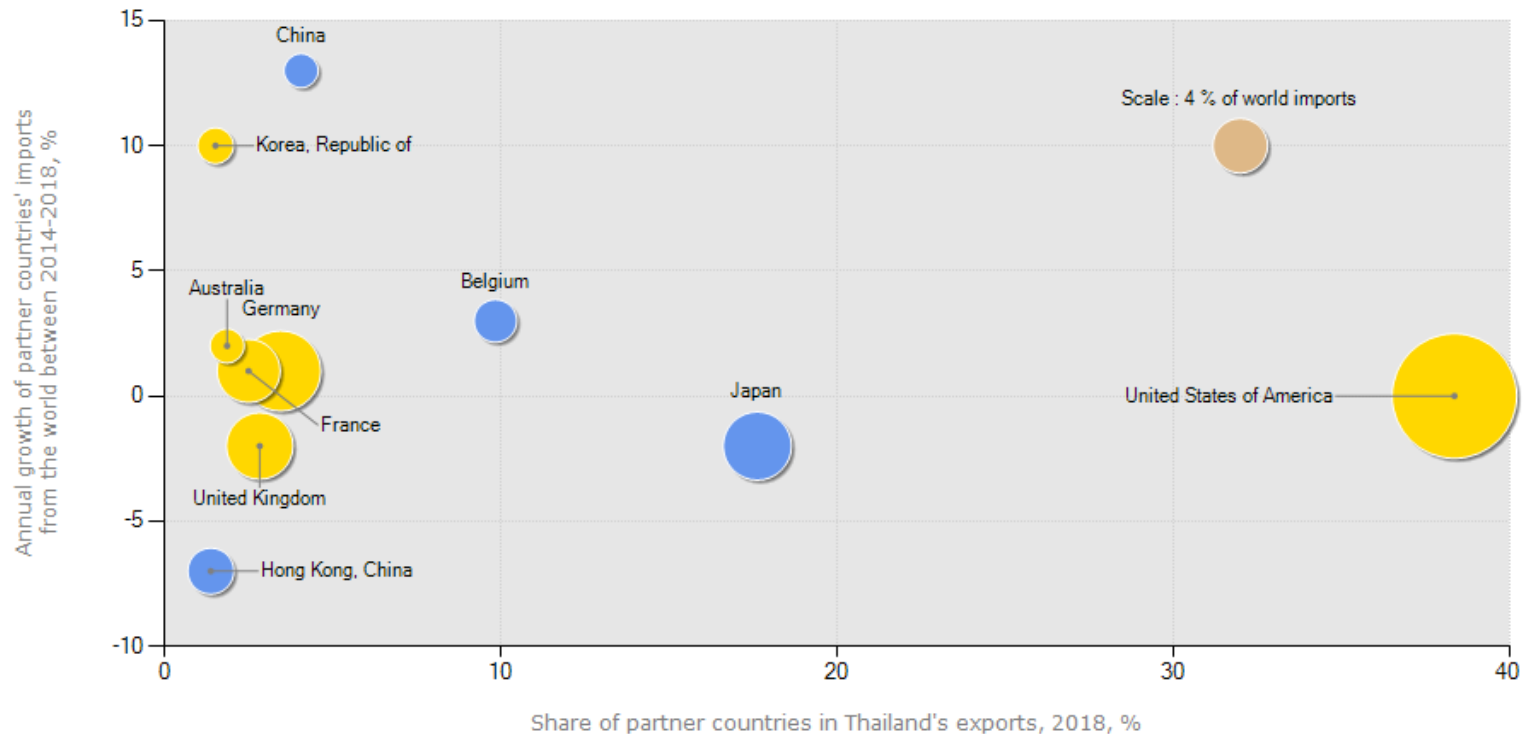
## ***Why exporting to low-income countries?***

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



# Market diversification of Thailand's apparel exports: product 61

Prospects for market diversification for a product exported by Thailand in 2018  
 Product : 61 Articles of apparel and clothing accessories, knitted or crocheted



● Thailand export growth to partner < Partner import growth from the world

● Thailand export growth to partner > Partner import growth from the world

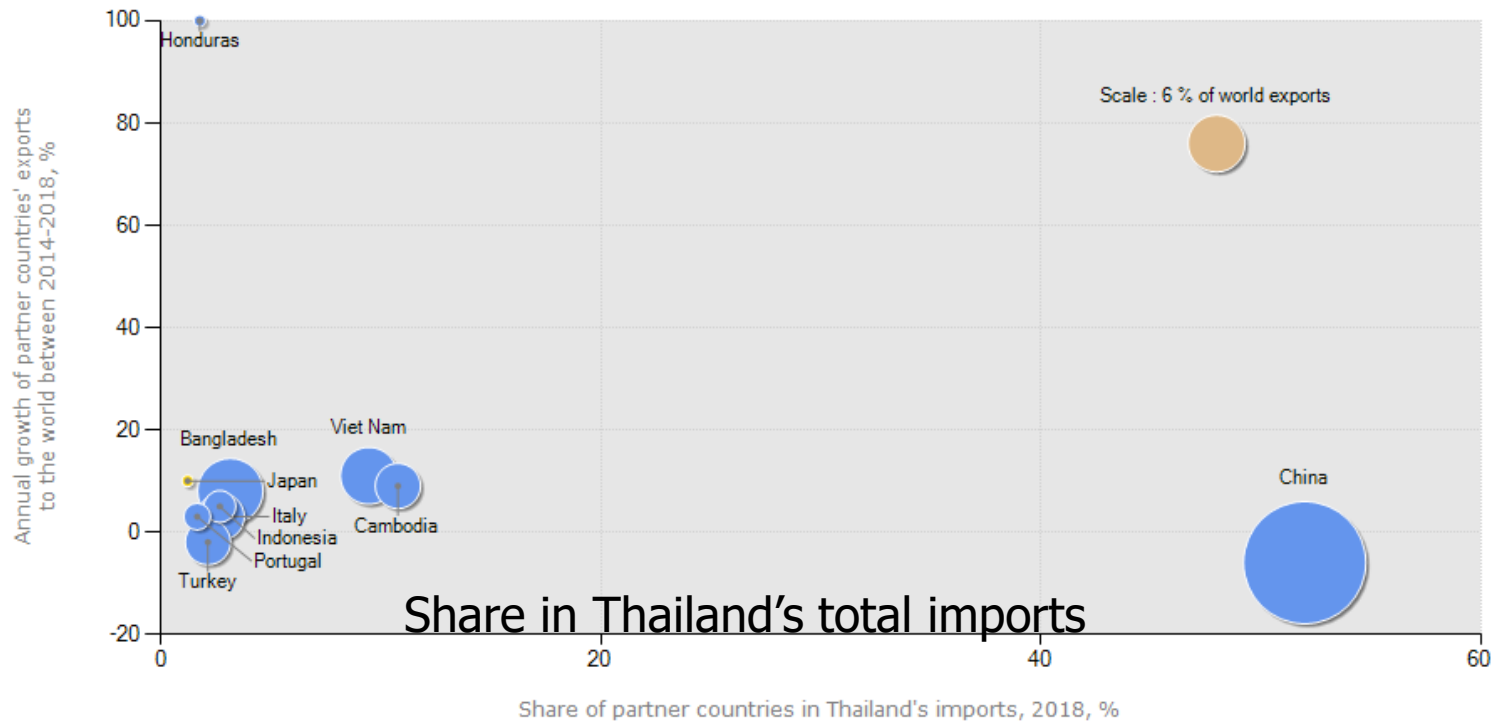
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The bubble size is proportional to the share in world imports of partner countries for the selected product



# Thailand's Import market diversification of product 61 *Dominated by China*

Prospects for diversification of suppliers for a product imported by Thailand in 2018  
Product : 61 Articles of apparel and clothing accessories, knitted or crocheted



Thailand import growth from partner < Partner export growth to the world

Thailand import growth from partner > Partner export growth to the world

Reference bubble

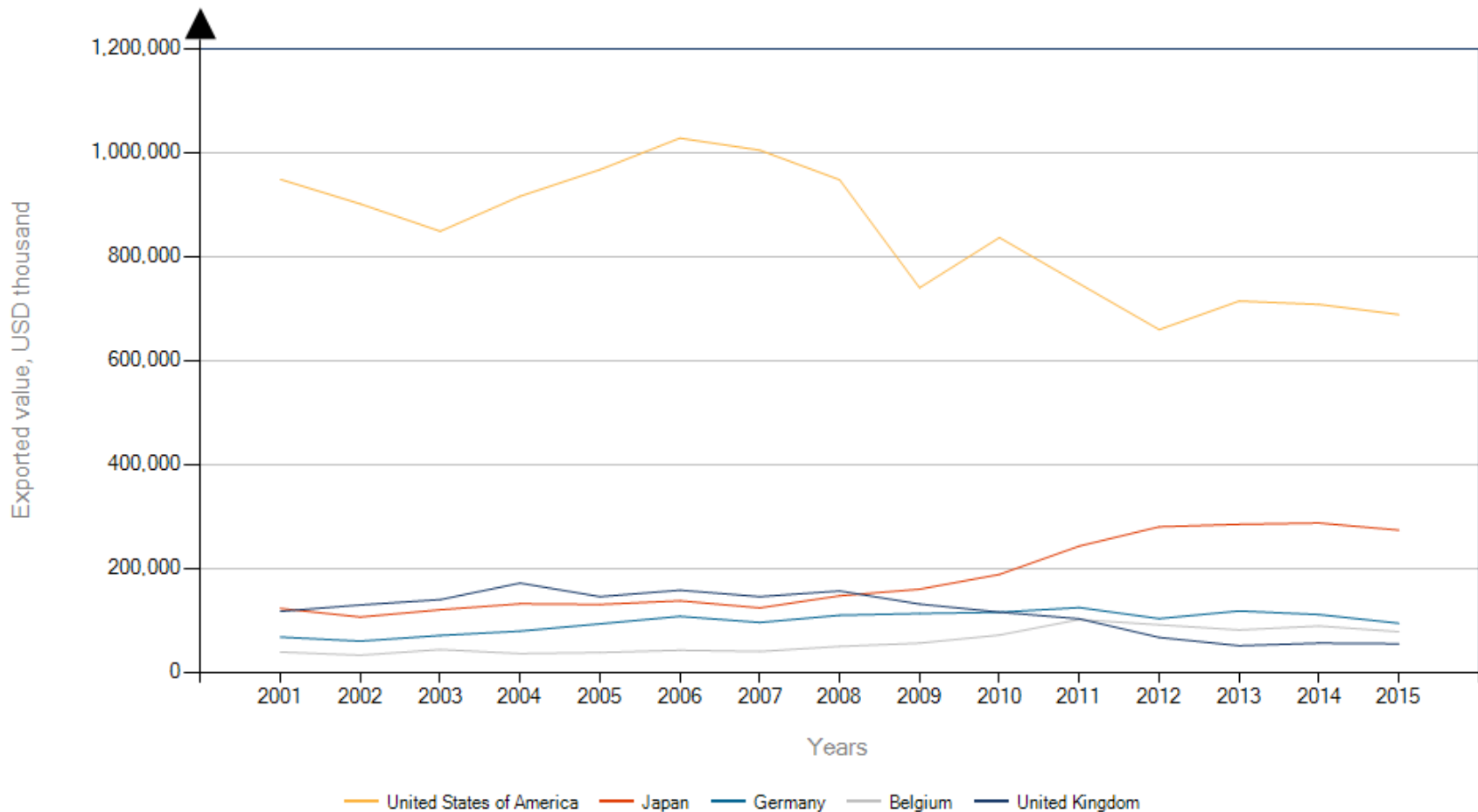
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# Export markets of apparel and clothing (product 61)

## Why exporting to high-income countries?

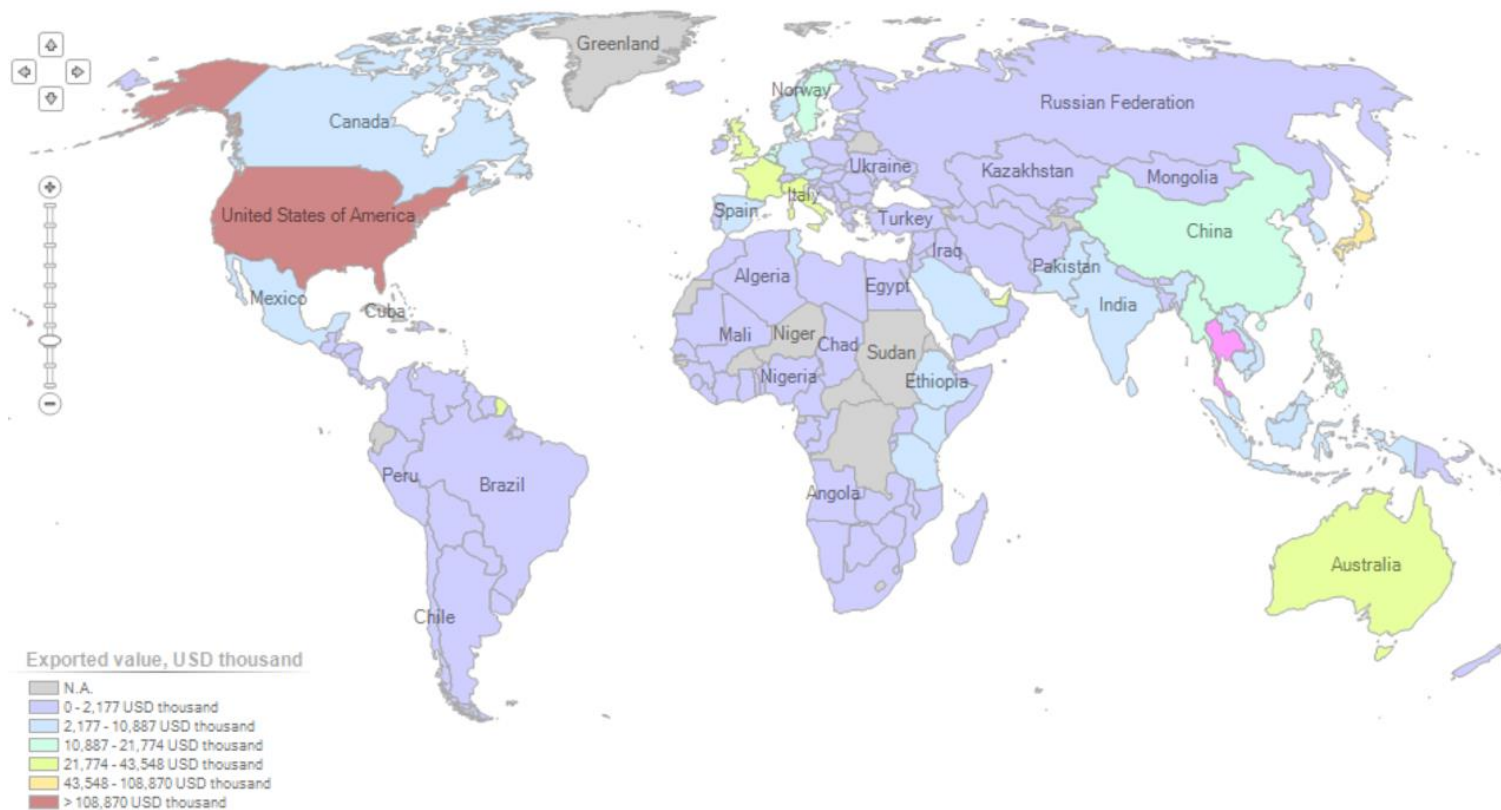
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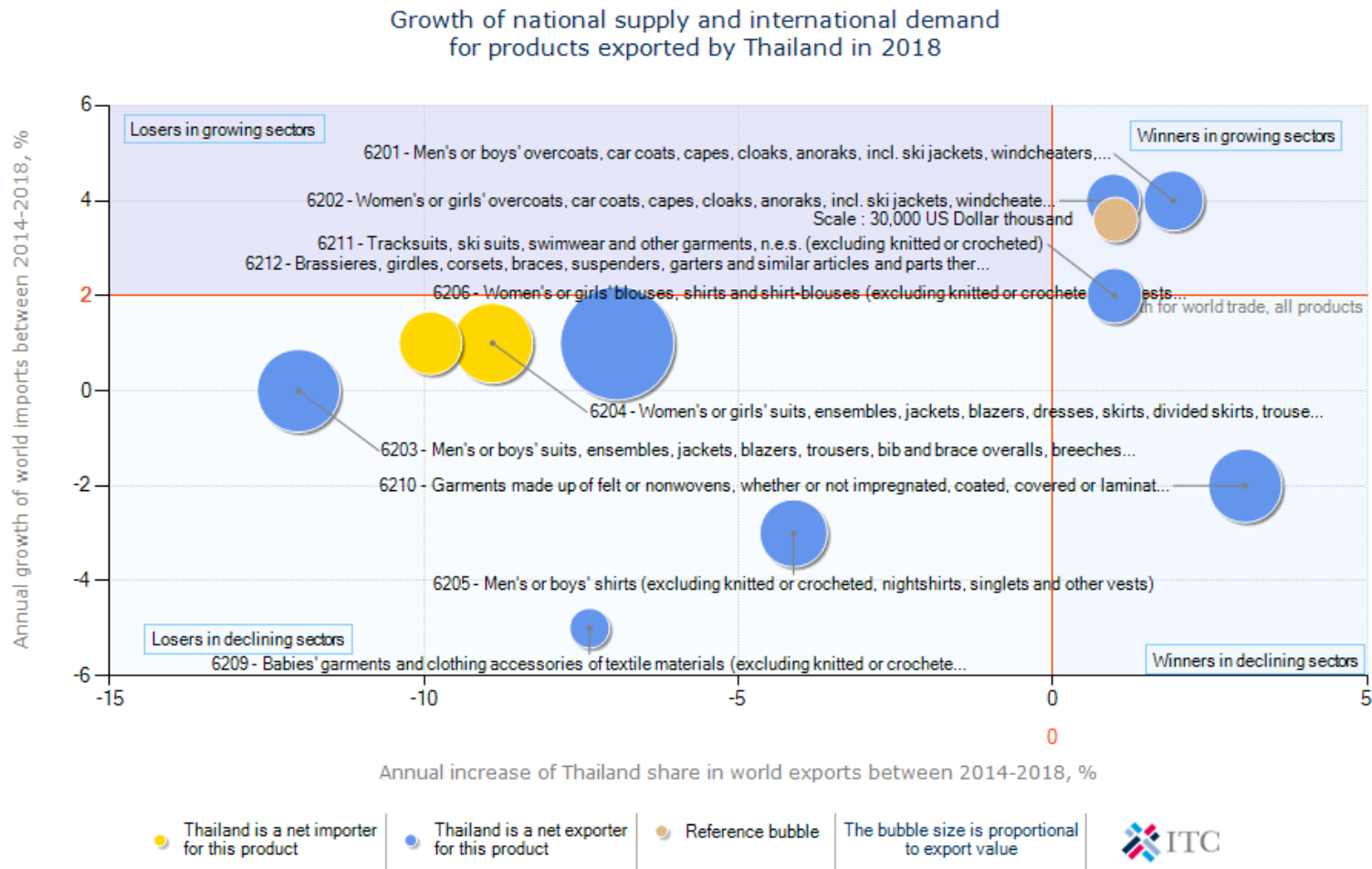
# Thailand's market for product 62: Apparel in 2016

List of importing markets for a product exported by Thailand in 2016

Product : 62 Articles of apparel and clothing accessories, not knitted or crocheted



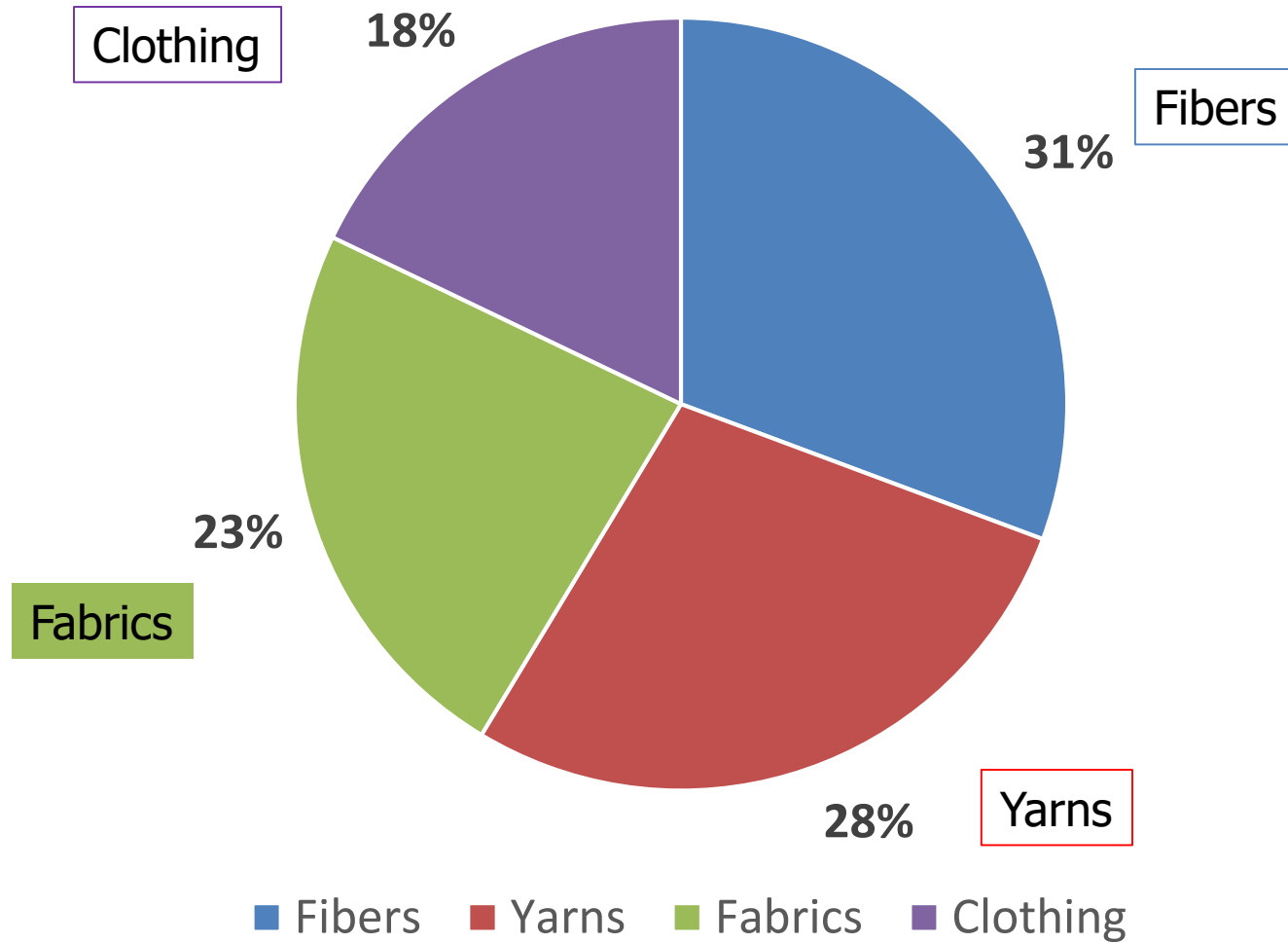
# Product 62: Thailand's exports of apparels and clothing accessories: *Retreating* (losers in declining industry)



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

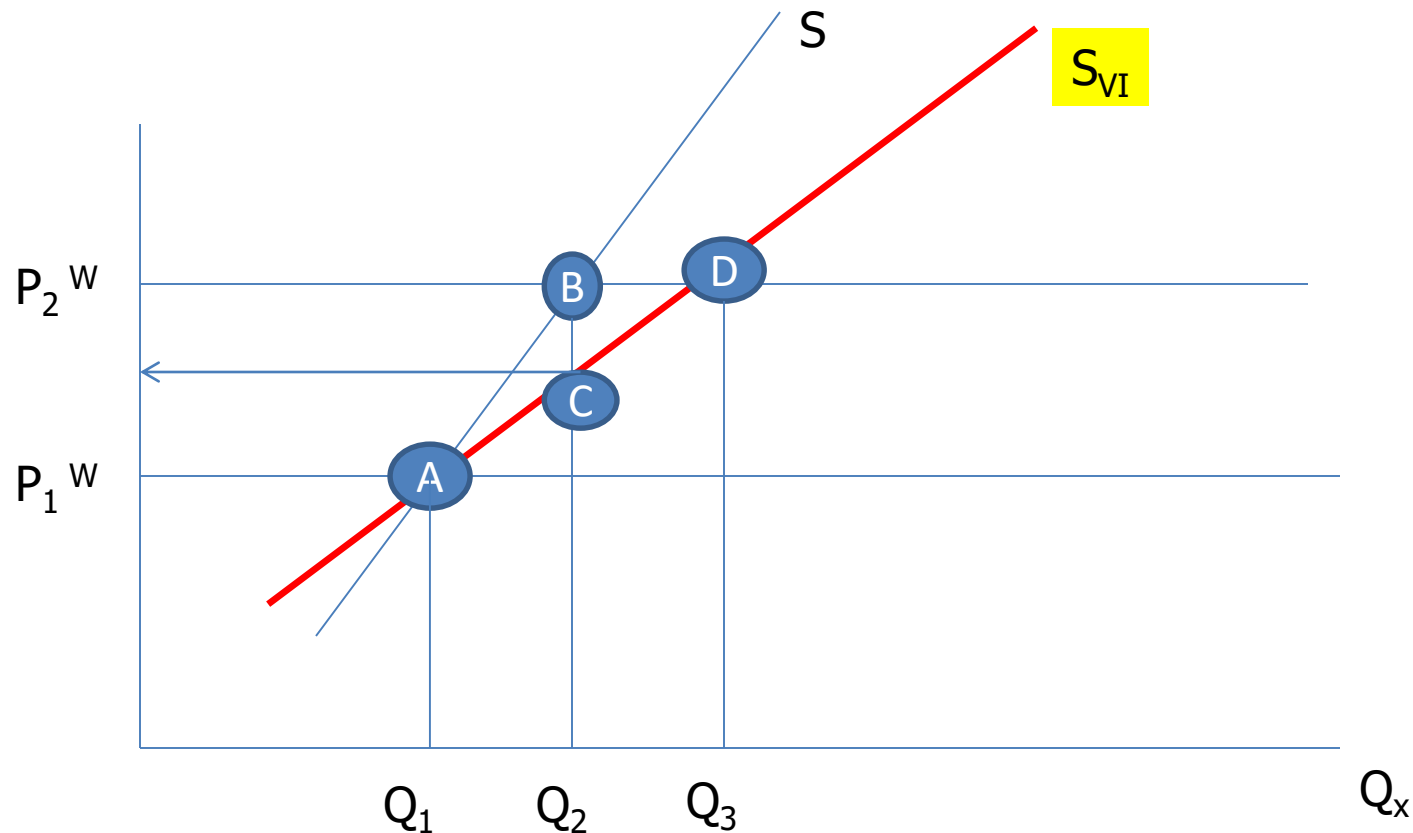
- From spinning to fabrics, from fabrics to garments: integrated textile business
- The Thai factories spin, weave, dye, finish and fabricate products for consumers in Thailand and abroad in the US and Europe, such as Wal-Mart and Calvin Klein.
- By integrating production from spinning to fabrics, Thai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

# Textile and Clothing Production in 2016 (1,000 tons)



Vertical integration (from textile to apparel) has lower logistic and inventory cost

It also provides rapid supply response (from textile to apparel)

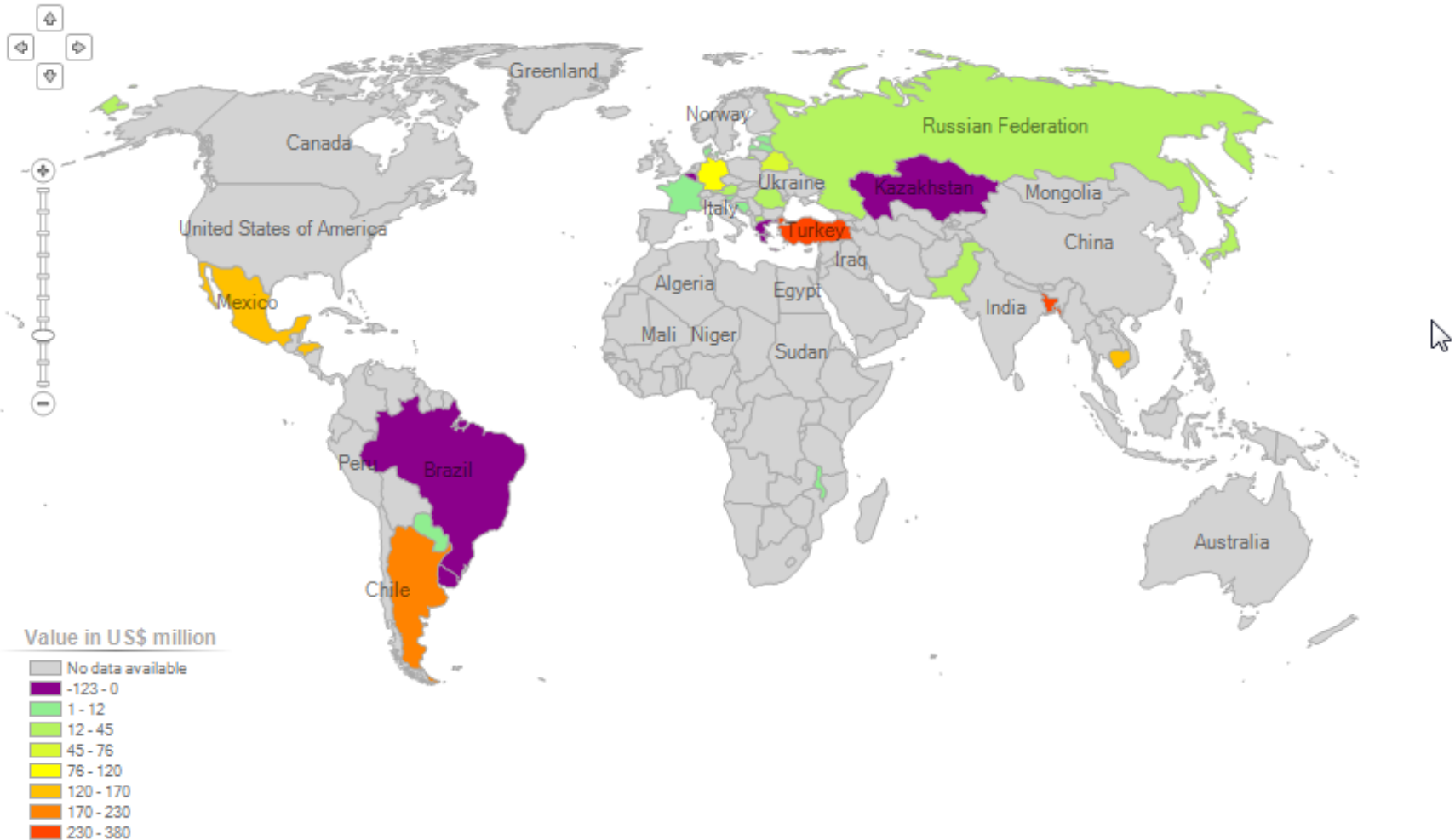


Dynamic supply response is good, but cost control is also important  
Otherwise supply  $S_v$  shifts upward. Hence Labor productivity must be raised

# 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.
- With high wages, the technology in **FDI host countries** must be different from home country's factory.
- 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.

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



# A new strategy for the industry

- 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?

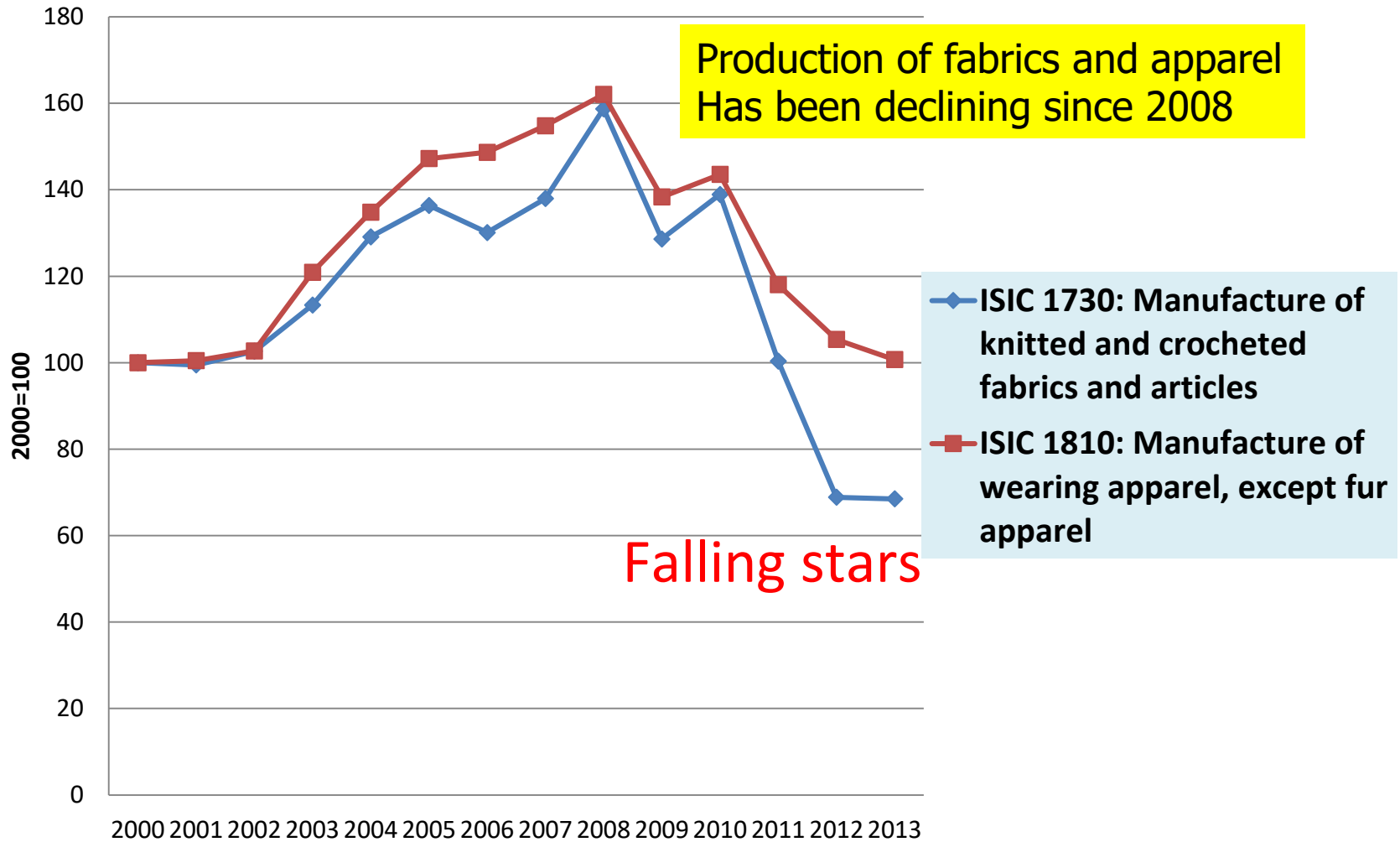
The industry has already encountered problems more than a decade

- 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 were committed to raising export revenue to 20 billion USD in 2016 and *shifting* their focus on producing more *fashion and design* products.<sub>28</sub>

# 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 clothing factories to neighboring countries: seeking new export platforms

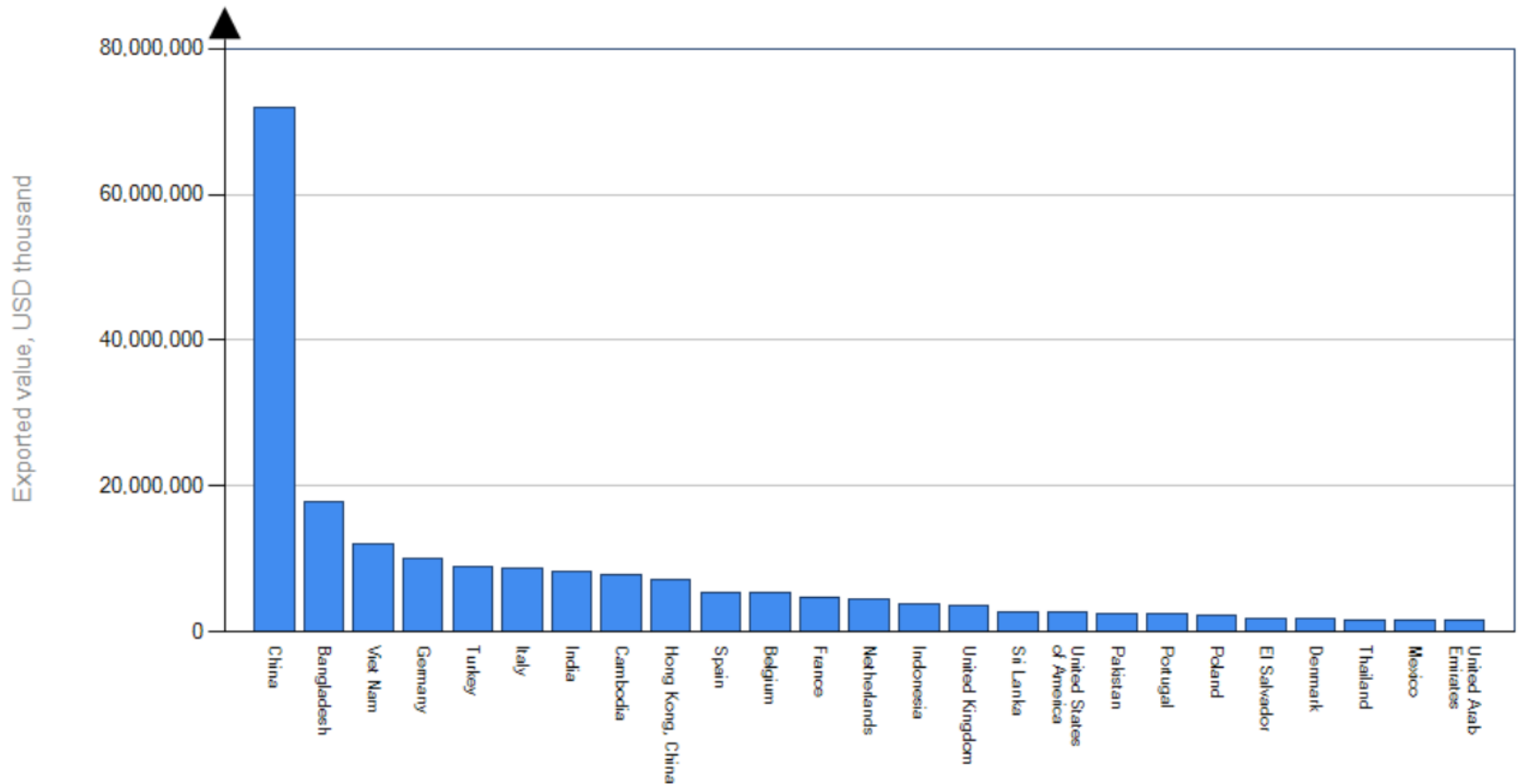
- In Laos, Cambodia, Myanmar, and Vietnam, factories are **exempt from taxes**, so they can export to Europe with cost advantages compared to manufacturers in China, where they have to pay **15%** tariff.
- The Japan-Thailand Economic Partnership Agreement (JTEPA) has allowed Thai manufacturers to export to **Japan** with a 15% handicap against Chinese manufacturers.

# 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, 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.**

# China, Bangladesh, Vietnam, Indonesia, *Product 61*

List of exporters for the selected product in 2017  
Product : 61 Articles of apparel and clothing accessories, knitted or crocheted



# Chemicals and textile dyes: Why imports?

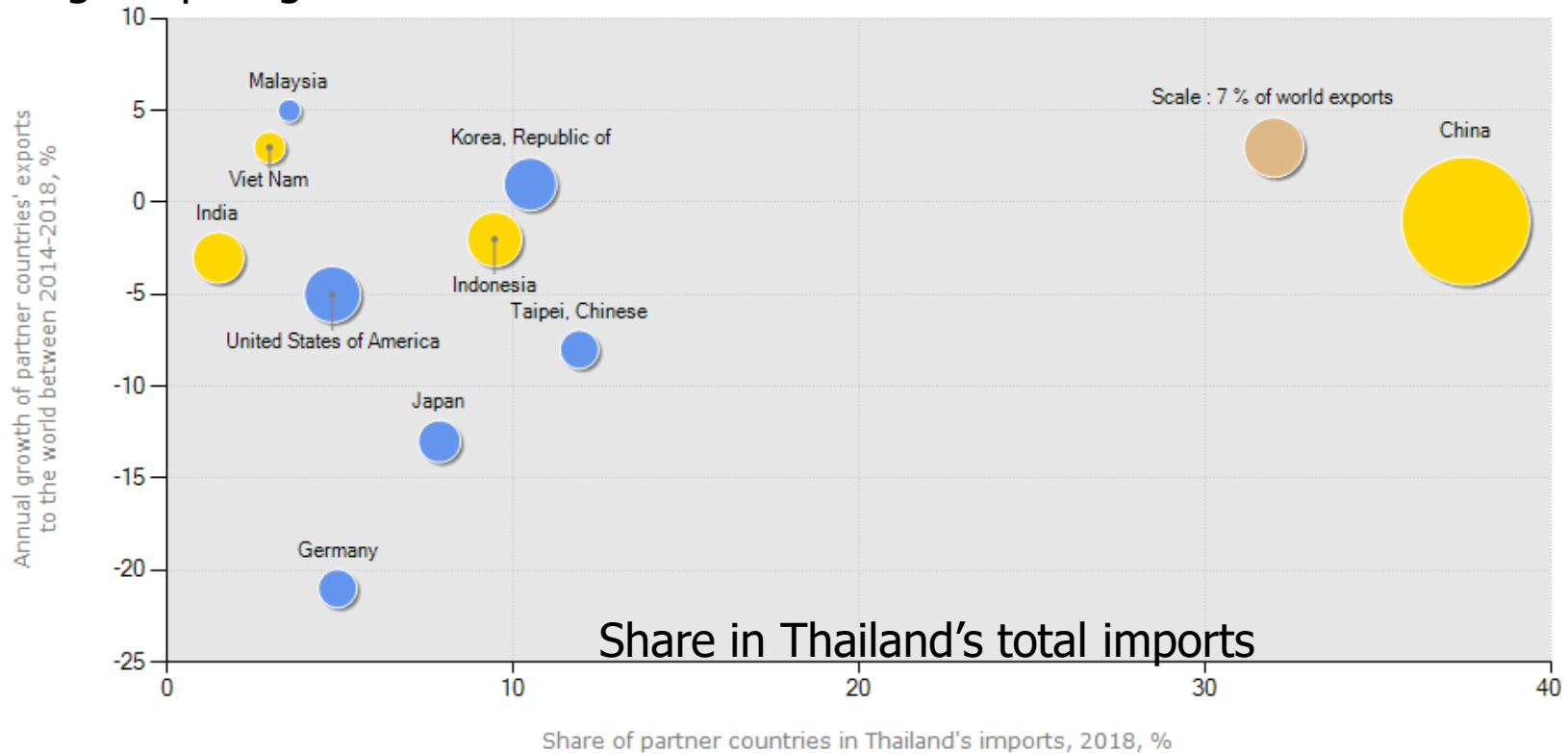
To avoid strict environment standards

- 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**.

# Diversification of Thailand's **imports** of man-made fibers: Product 55

Prospects for diversification of suppliers for a product imported by Thailand in 2018  
Product : 55 Man-made staple fibres

## Average import growth



● Thailand import growth from partner < Partner export growth to the world

● Thailand import growth from partner > Partner export growth to the world

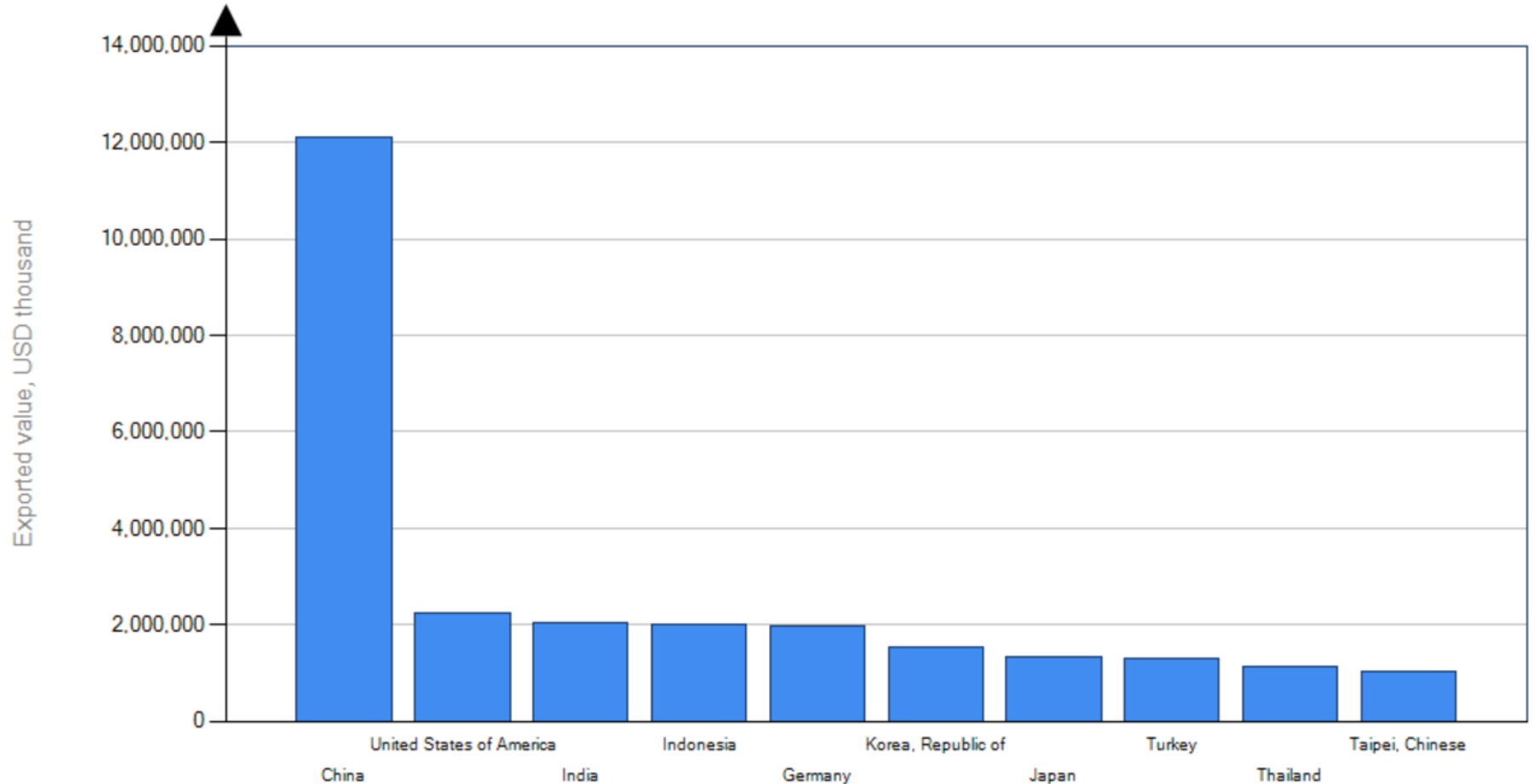
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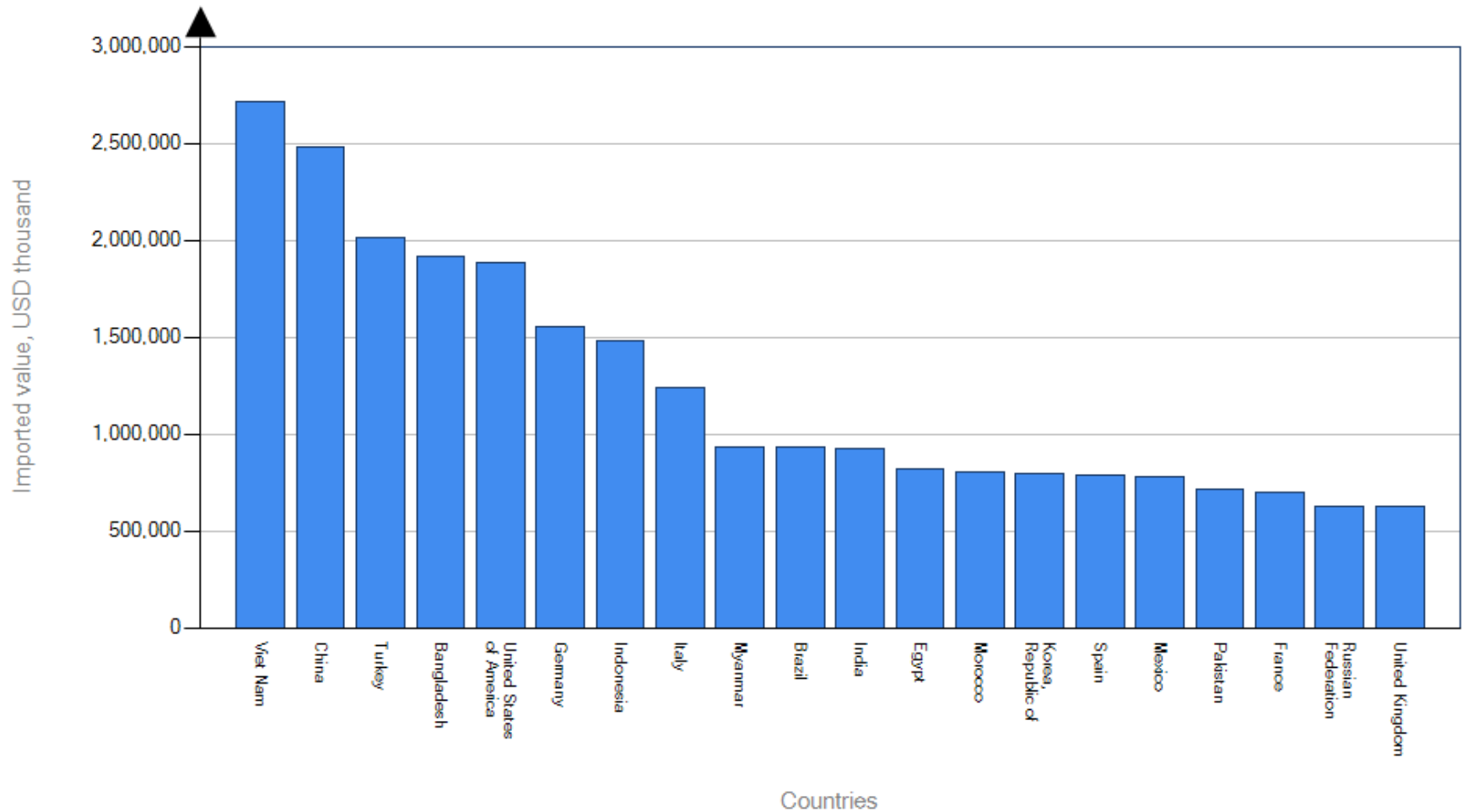
# Top-10 Exporters of Product 55: Man-made fibers

List of exporters for the selected product in 2016  
Product : 55 Man-made staple fibres



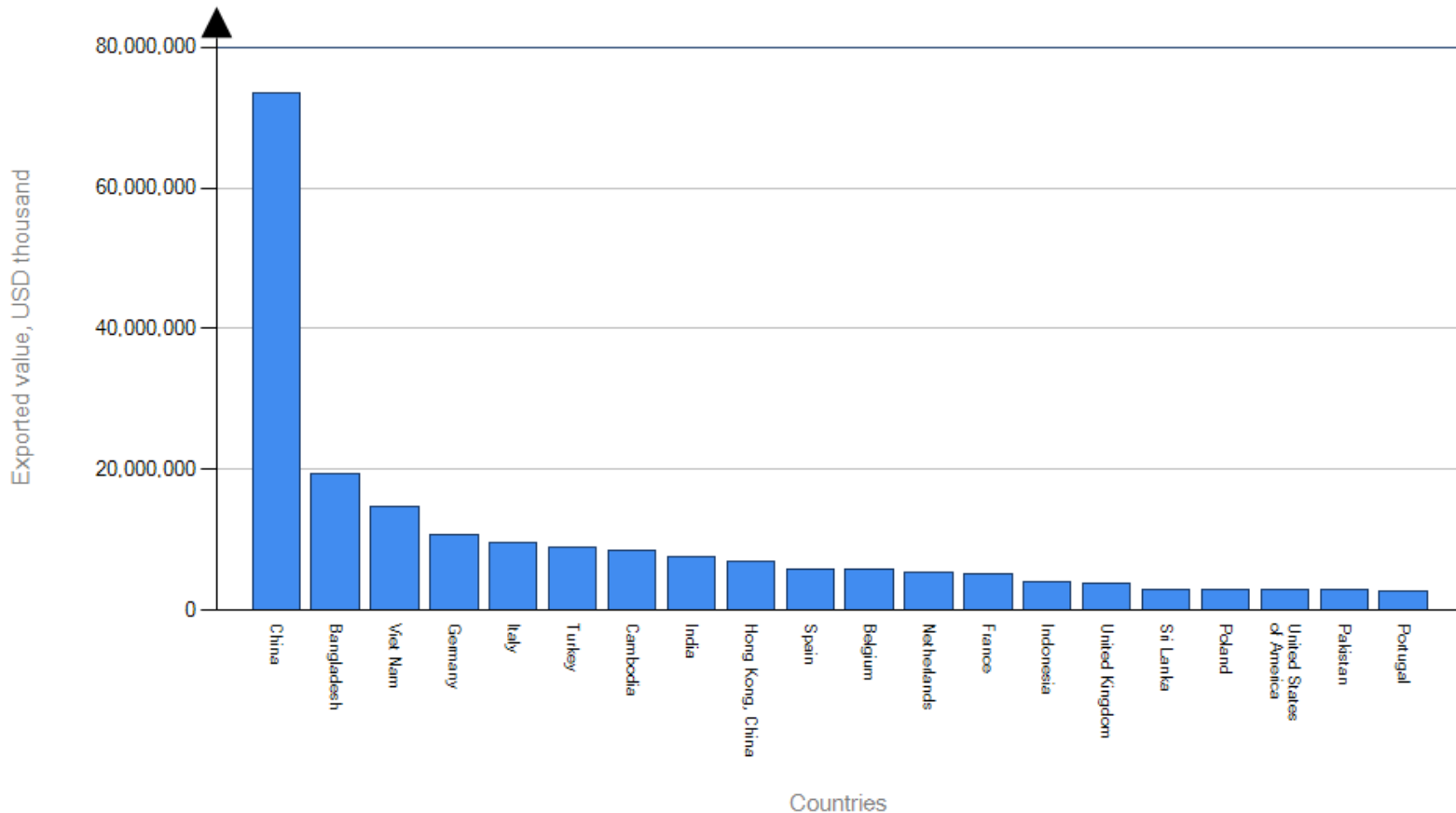
# Top importers of man-made fibers

List of importers for the selected product in 2018  
Product : 55 Man-made staple fibres



# World top exporters of product 61

List of exporters for the selected product in 2018  
Product : 61 Articles of apparel and clothing accessories, knitted or crocheted



# Technical textiles:

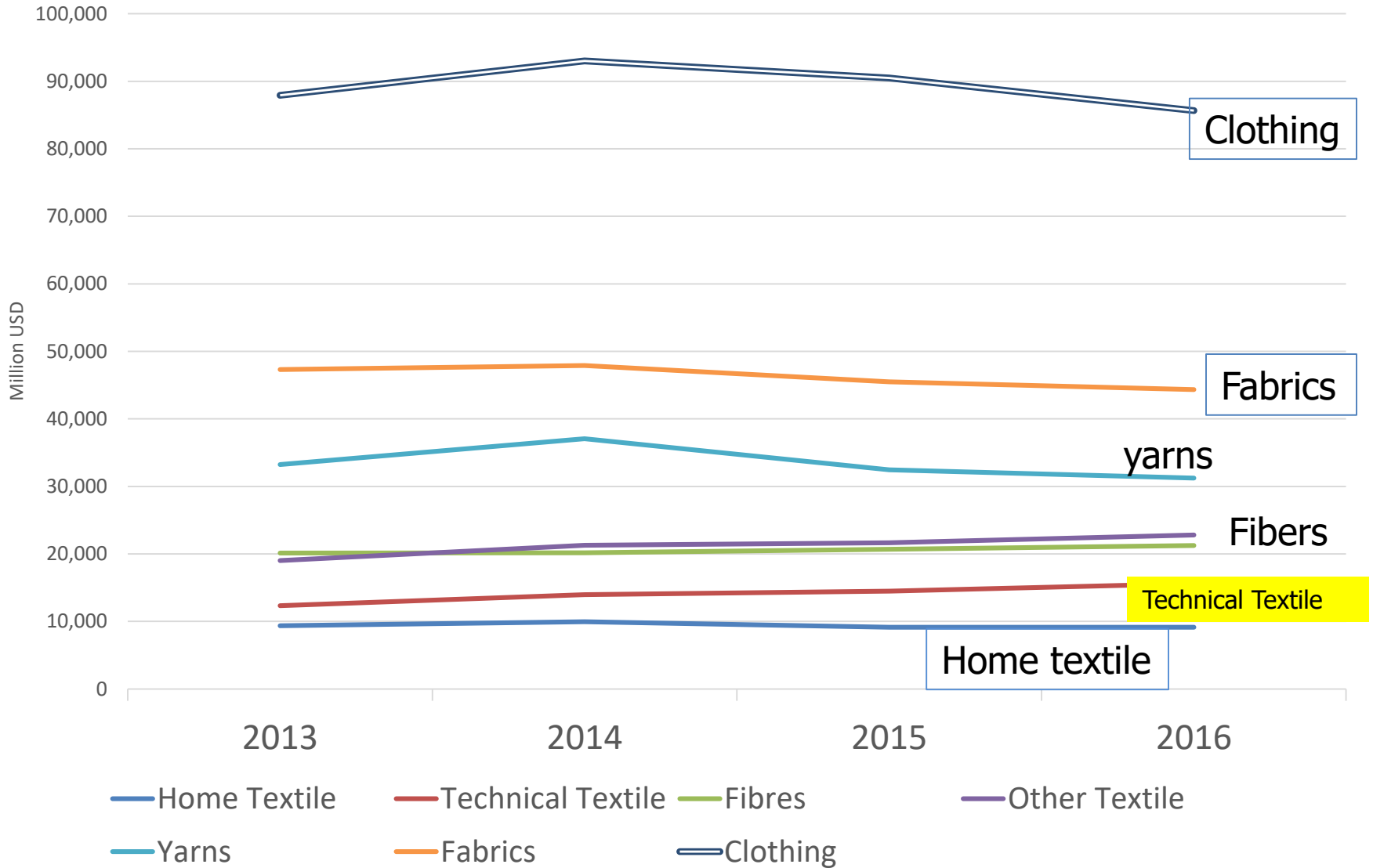
Other textiles  
(ISIC 1729)

- Apart from apparel, a major driver for the industry is the 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.

# Nonwovens

- Innovation in the textile 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*.
- For examples: Envelopes, facial wipes, mops and medical scrubs are nonwovens.

# Exports of Textile and Clothing



# Technical (functional) textiles

- **Technical textiles** are manufactured for **non-aesthetic purposes**, where **function is the primary criterion**.
- ***Protective clothing*** for firefighters, welders and astronauts;
- ***Medical applications*** such as implants;
- ***Geotextiles*** that include reinforcements for embankments.
- Technical textiles have become one of the hottest growth categories for the industry.

# Revealed Comparative Advantage (Specialization Index)

- **Balassa's** 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 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.***

# Specialization index (RCA) Greater or less than unity?

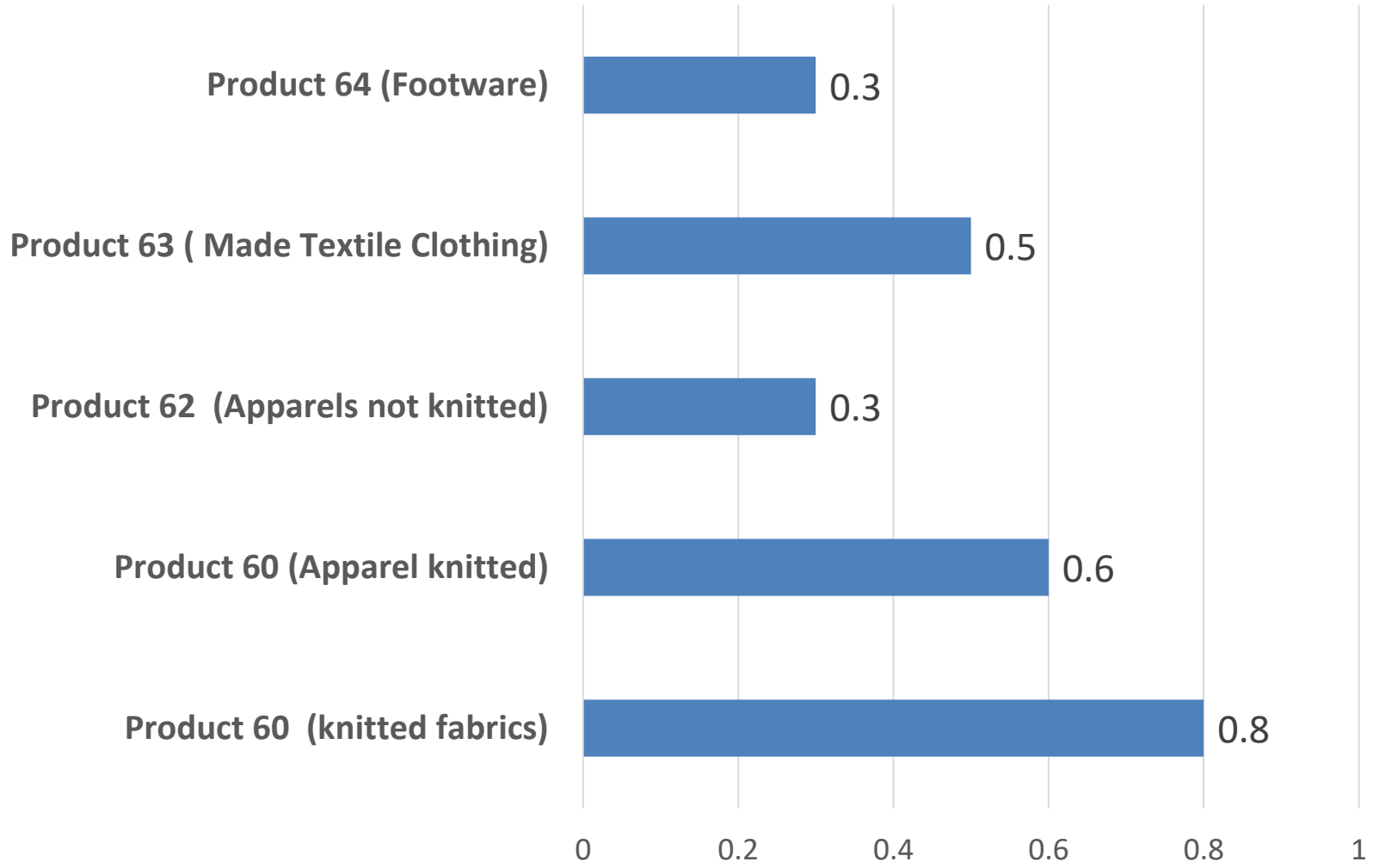
$$RCA = \frac{\text{Share of textile in total exports of Thailand}}{\text{Share of textile trade in total world trade values of all commodities}}$$

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.

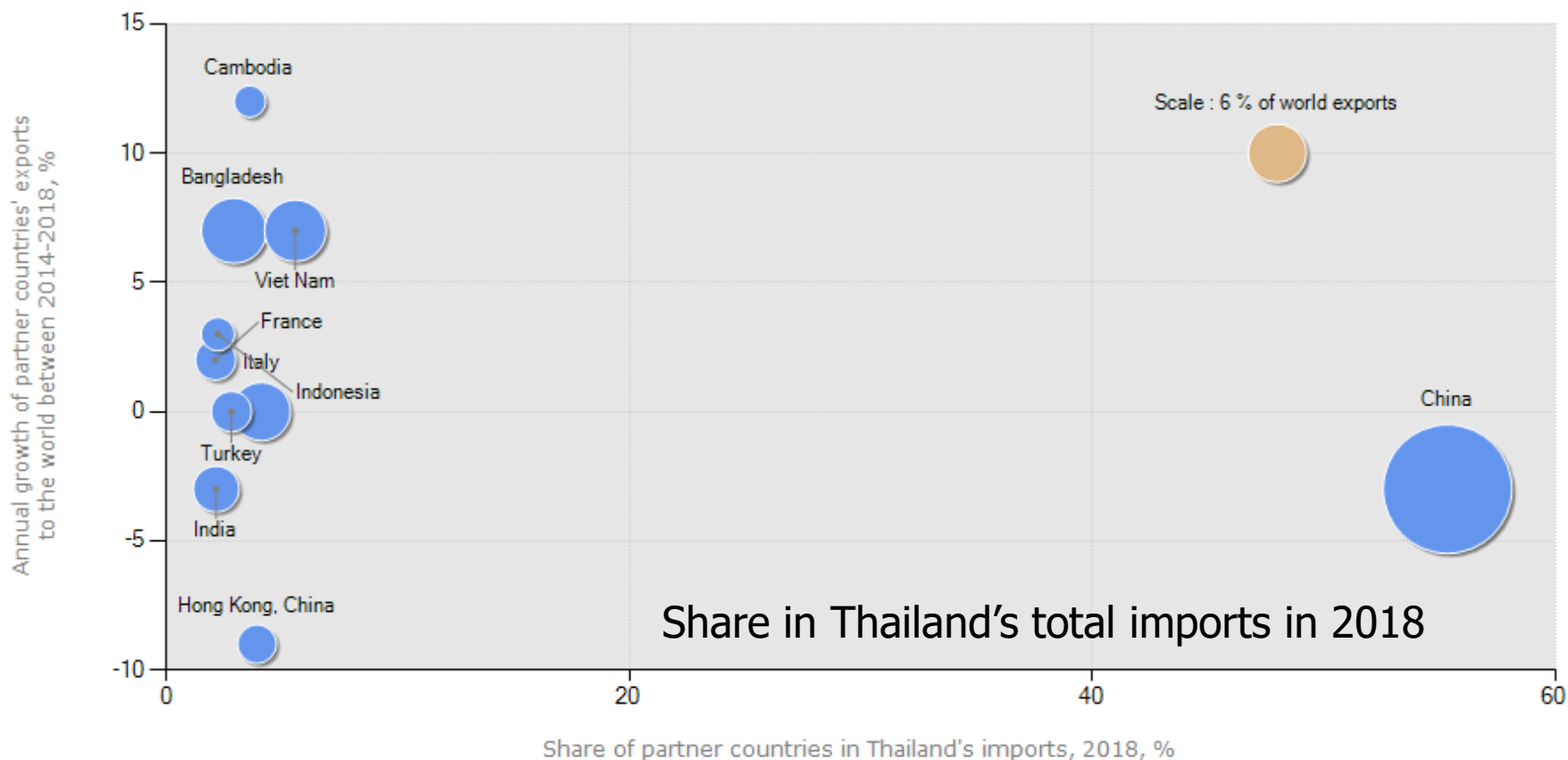
The Balassa index is therefore essentially an export share of the commodity in the country's total export normalized by that commodity's share in total world trade.

## Revealed Comparative Advantage Index: 2016



# Diversification of Thailand's imports in high and low growth markets

Prospects for diversification of suppliers for a product imported by Thailand in 2018  
 Product : 62 Articles of apparel and clothing accessories, not knitted or crocheted



● Thailand import growth from partner > Partner export growth to the world

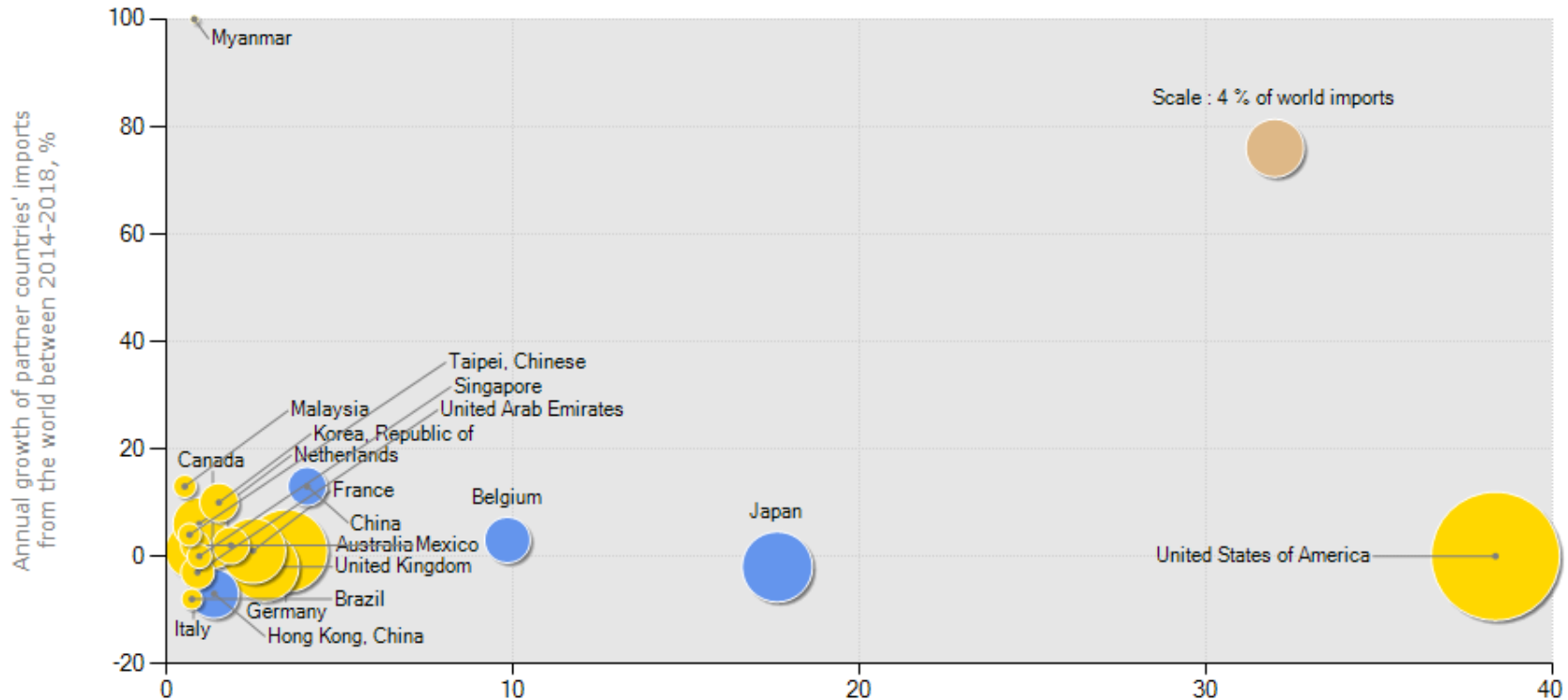
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# Diversification of Thailand's exports in high and low growth markets

Prospects for market diversification for a product exported by Thailand in 2018  
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Share in Thailand's total exports

● Thailand export growth to partner < Partner import growth from the world

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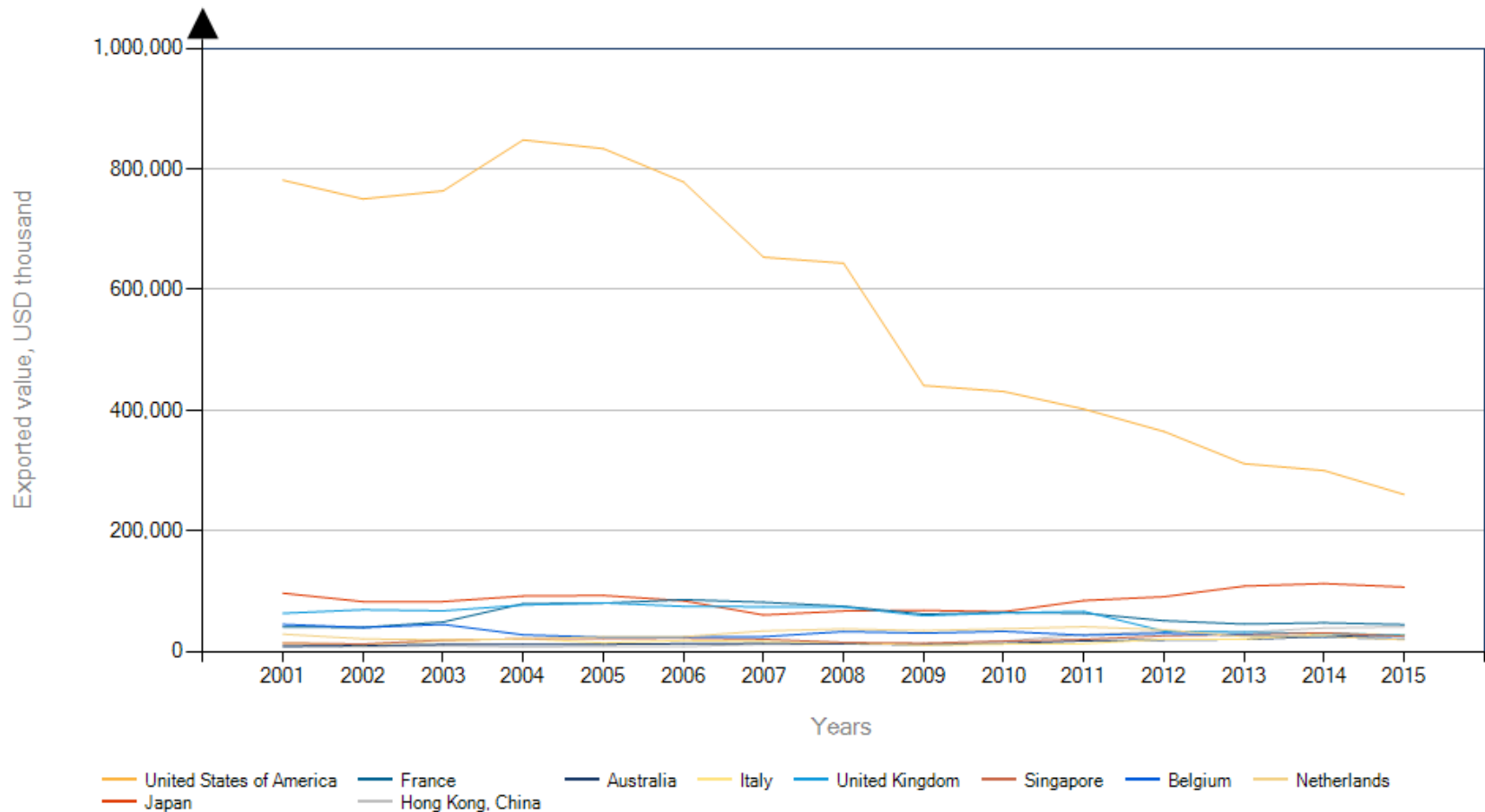
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# Thailand's exports of apparel and clothing (Product 62 not knitted) 2001-2015

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



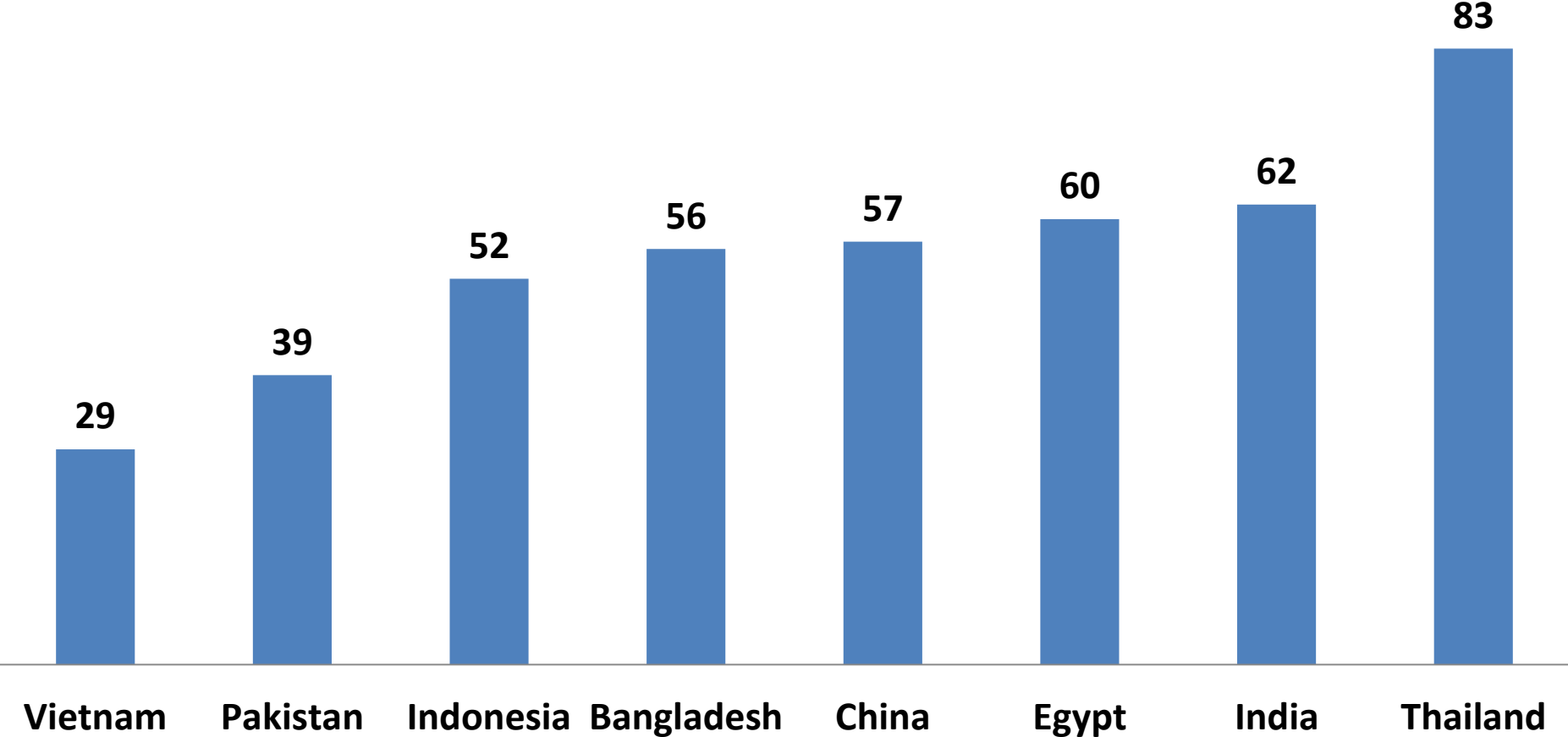
# How to attract FDI

- Textile production costs in Vietnam were **19.5** percent 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
- The hourly minimum wage in the US is 15 dollars.
- Workers in Vietnam and Pakistan earn the least: \$**3.7** a day.
- Depreciation of the dong and appreciation of the baht divert FDI from Thailand to Vietnam.

# 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 Thailand's labor shortage?

wage rate per hour (US cents)



# China's success story

- 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.
- Competitive exchange rates and GSP are other factors attracting FDI.

# Subsidized research can create product differentiation

- Board of Investment (BoI) approved incentives for *Innovation Textile Research Co* for its 20-million-baht investment in a research and innovation factory in Samut Prakarn.
- Innovation Textile Research will develop textiles and garments, with distinctive features such a *UV protection, Free air flow and a cotton-like ability to absorb perspiration easily.*
- Technical spillovers deserve public subsidies on research and development (positive externality rule).

# *Innovation Textile Research Company*

- 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, the 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 of garments in the US market

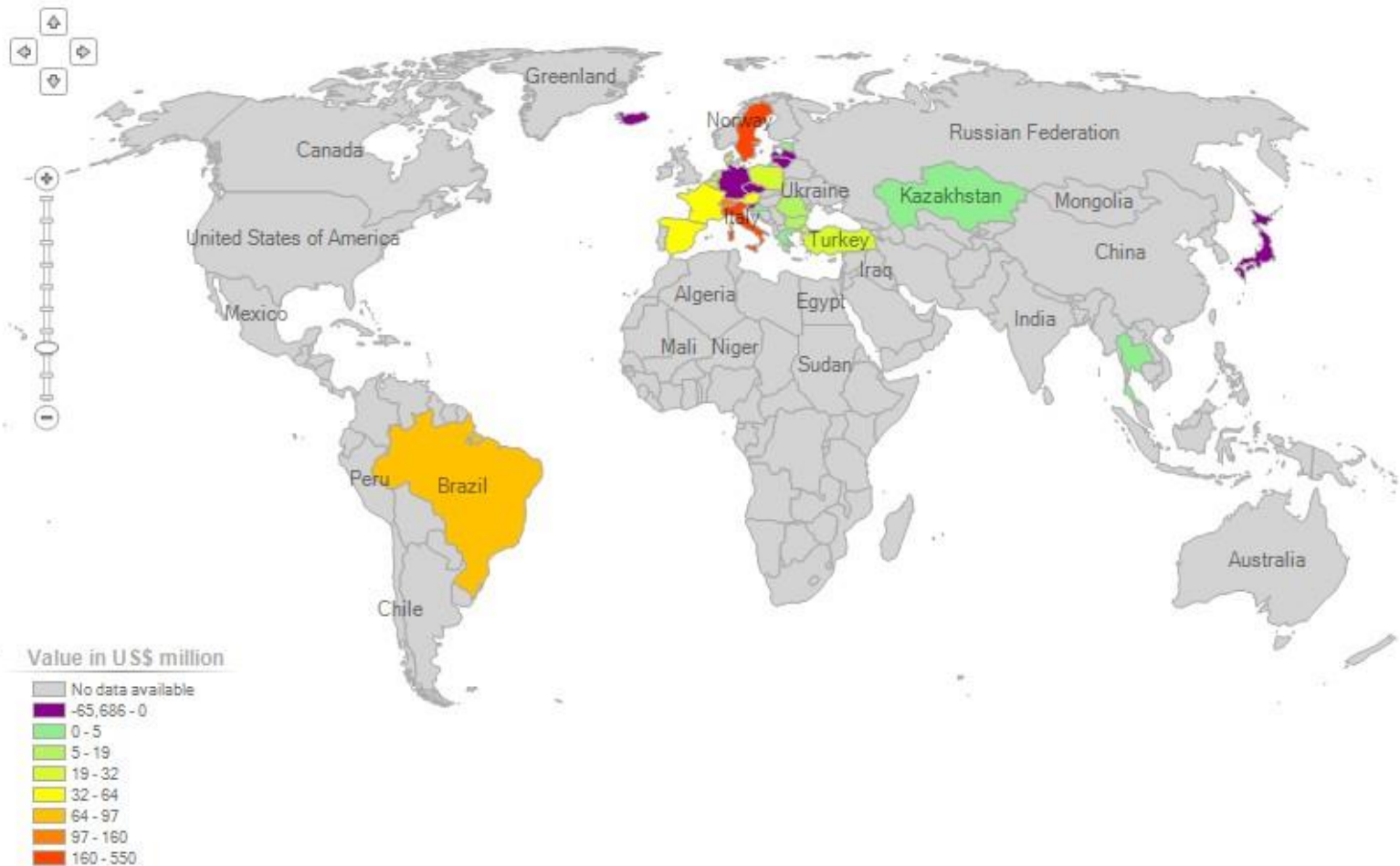
- According to the Thailand Textile Institute, the *market share of Thai-made clothing in the US* has been falling steadily and is now 3.4%, down from **double digits** several years ago, due to *intensified price competition* from products shipped from China, Vietnam, Cambodia and Bangladesh.
- Nominal wages rise faster than labor productivity growth in garment industry (labor-intensive product).

# 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.
- *But Cambodia will suffer from the Brexit, as the UK is its major market.*

# FDI outflows in textile and clothing

Countries investing abroad in sector: Textiles, clothing and leather  
Outward FDI flow 2011



# Conclusions

- The importance of textiles and clothing industry reflects in mass employment, due to the nature of the industry: labor-intensive technology.
- Competitive characteristics are ample market and product diversification.
- Specialization index (RCA Index) shows the industry's losing competitiveness and lesser degree of specialization.
- Declining FDI inflows and increasing FDI outflows.
- Cost disadvantages in the industry are labor shortages, high wages and the lack of labor productivity growth, caused by the slowdown of FDI.