

# **Thailand's Textile and Garment Industry**

EE460: Lecture 14  
Mr. bhanupong

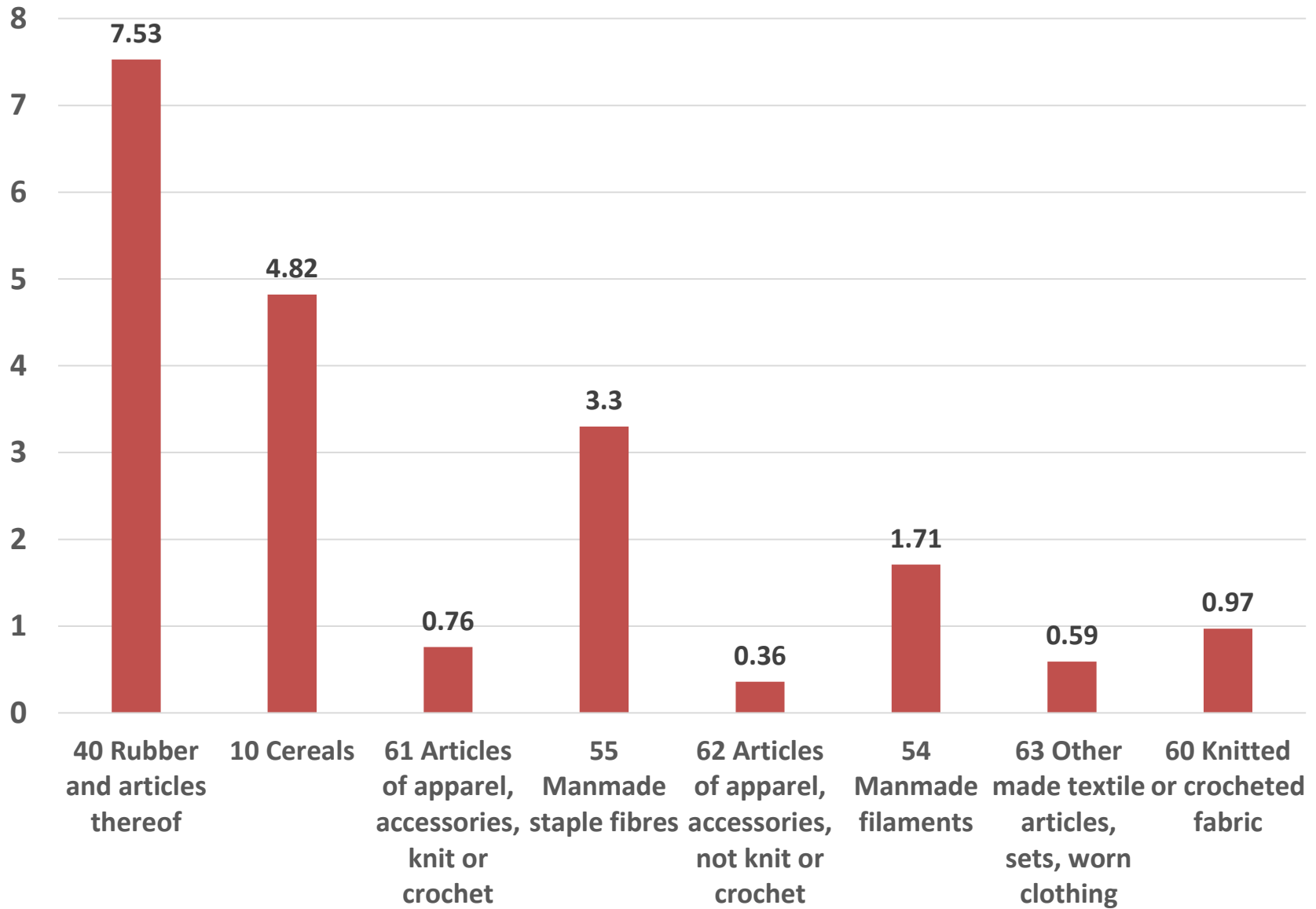
# Outline

- The importance of textiles and clothing industry
- Market and Product Diversification
- The role of FDI inflows and outflows
- Revealed Comparative Advantage (RCA)
- The way forward

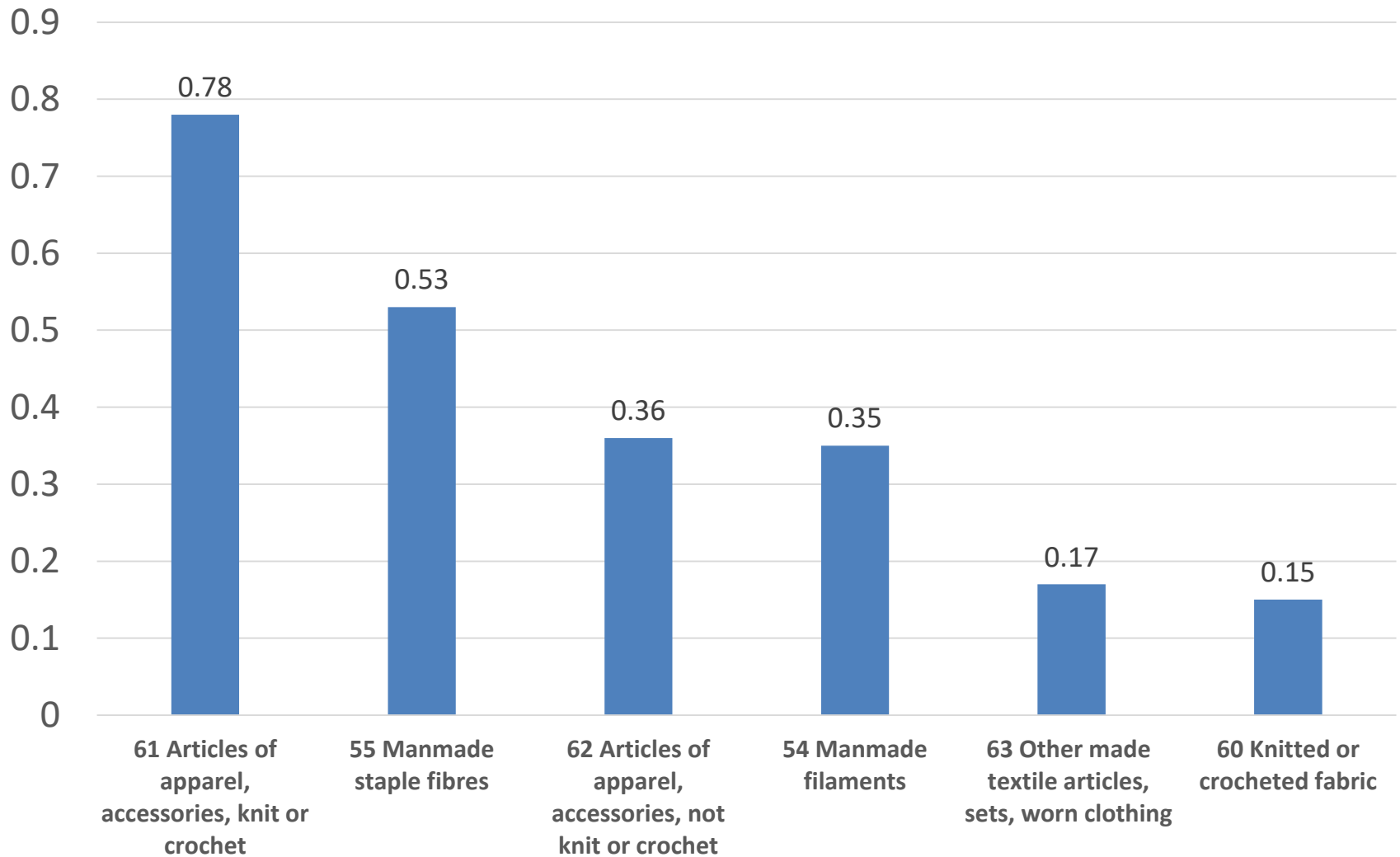
## An overview of the industry prior to the GFC

- 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 foreign exchanges.
- Thailand's garment and textile exports made up 1.04% of the world market in 2009.
- We can apply the small country assumption to this labor-intensive industry, which cannot influence world prices and its profitability is subject to labor cost.

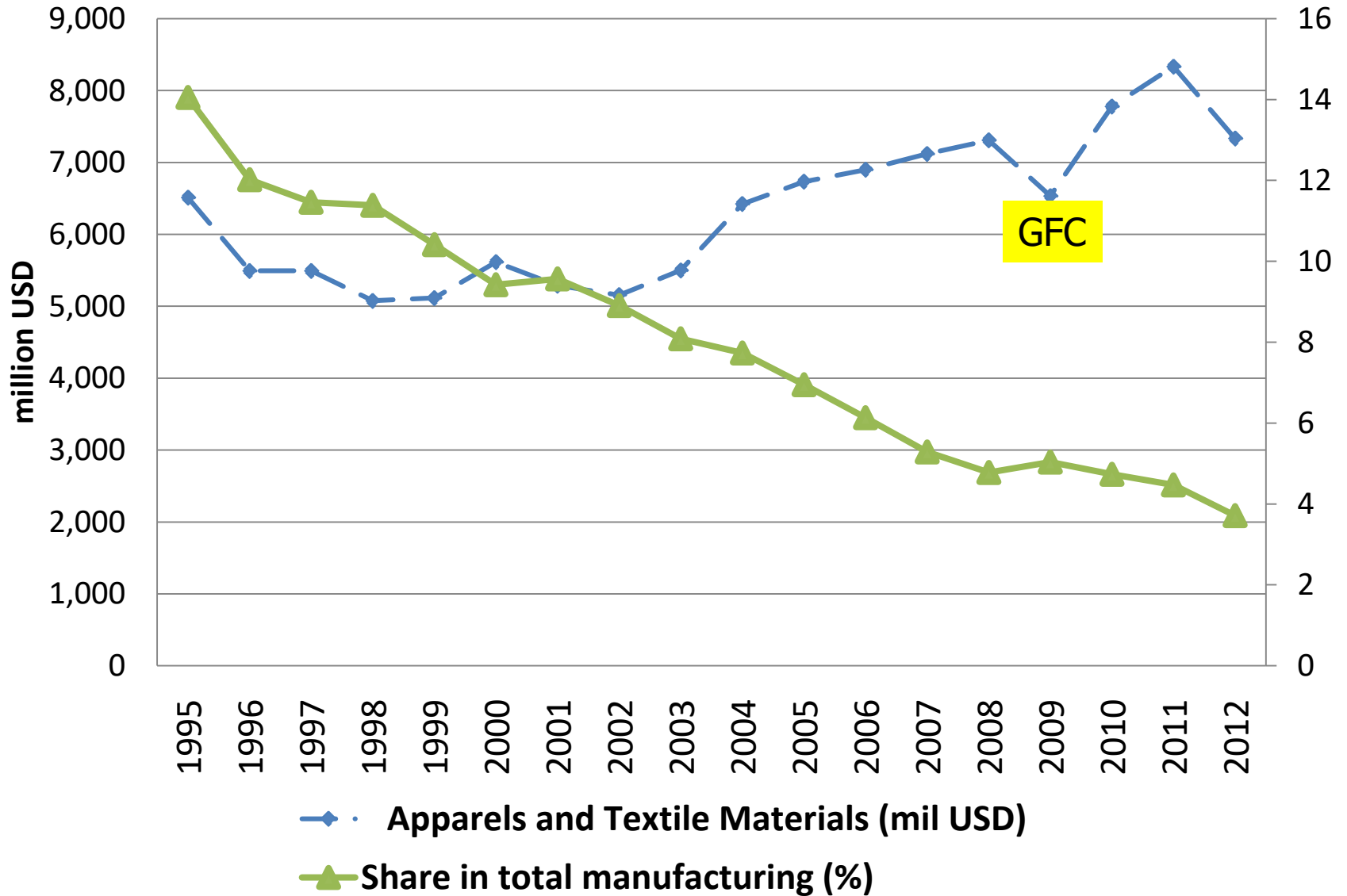
## Thailand's Exports as a share of world exports (%): 2016



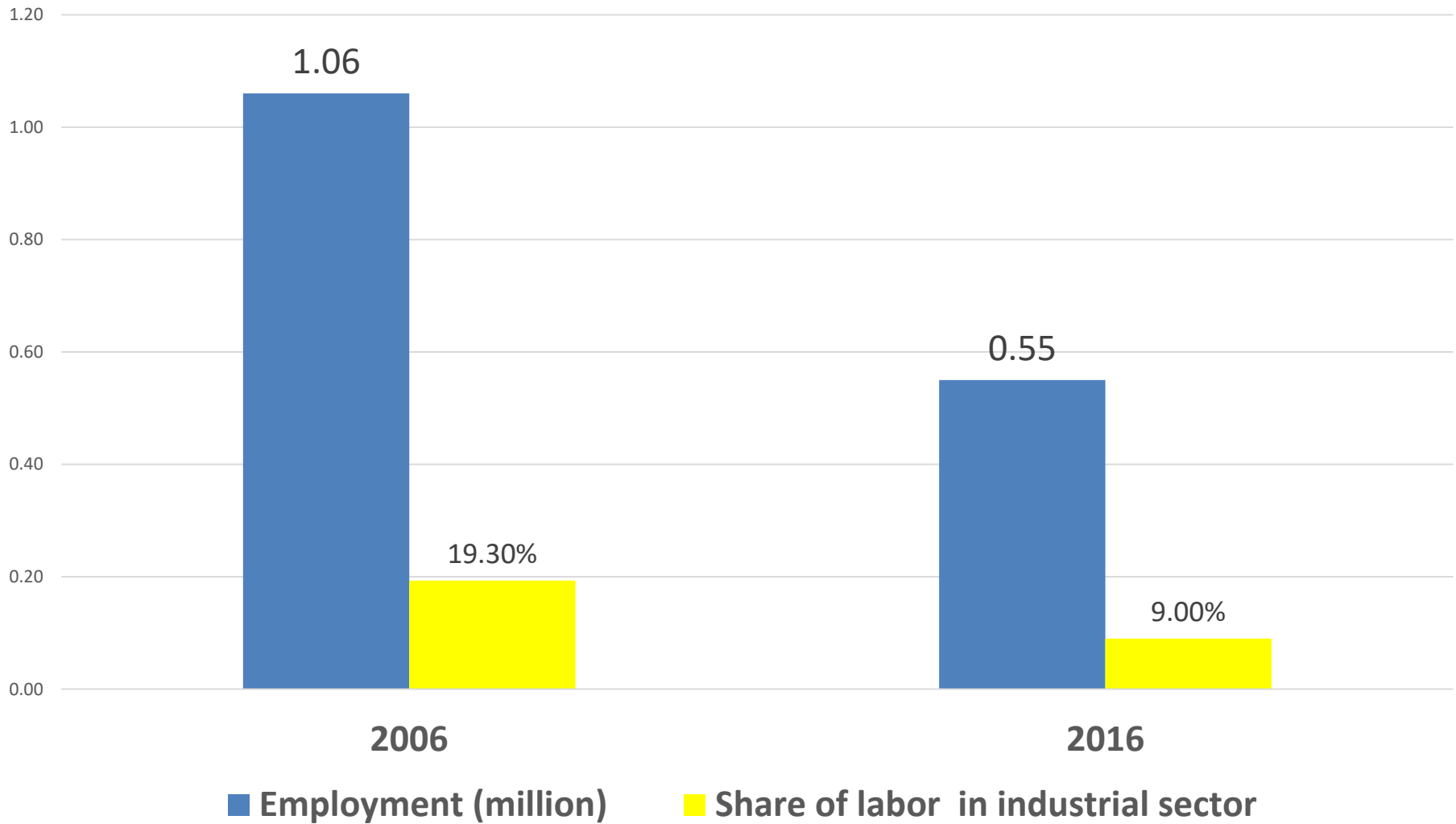
## Exports as a share of Thailand's total exports (%): 2016



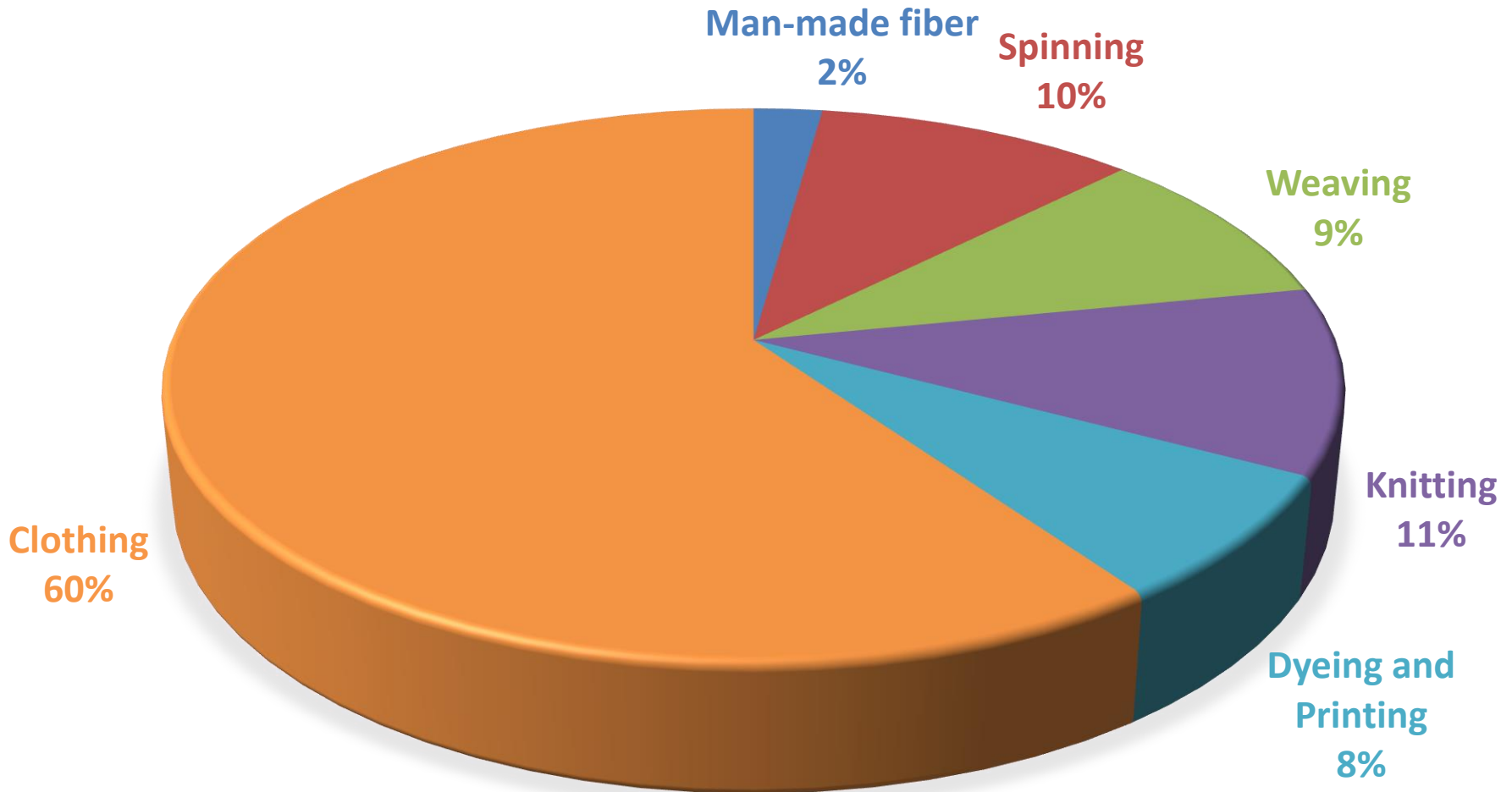
# Exports of clothing and textile products



## Employment in textile and garment industries



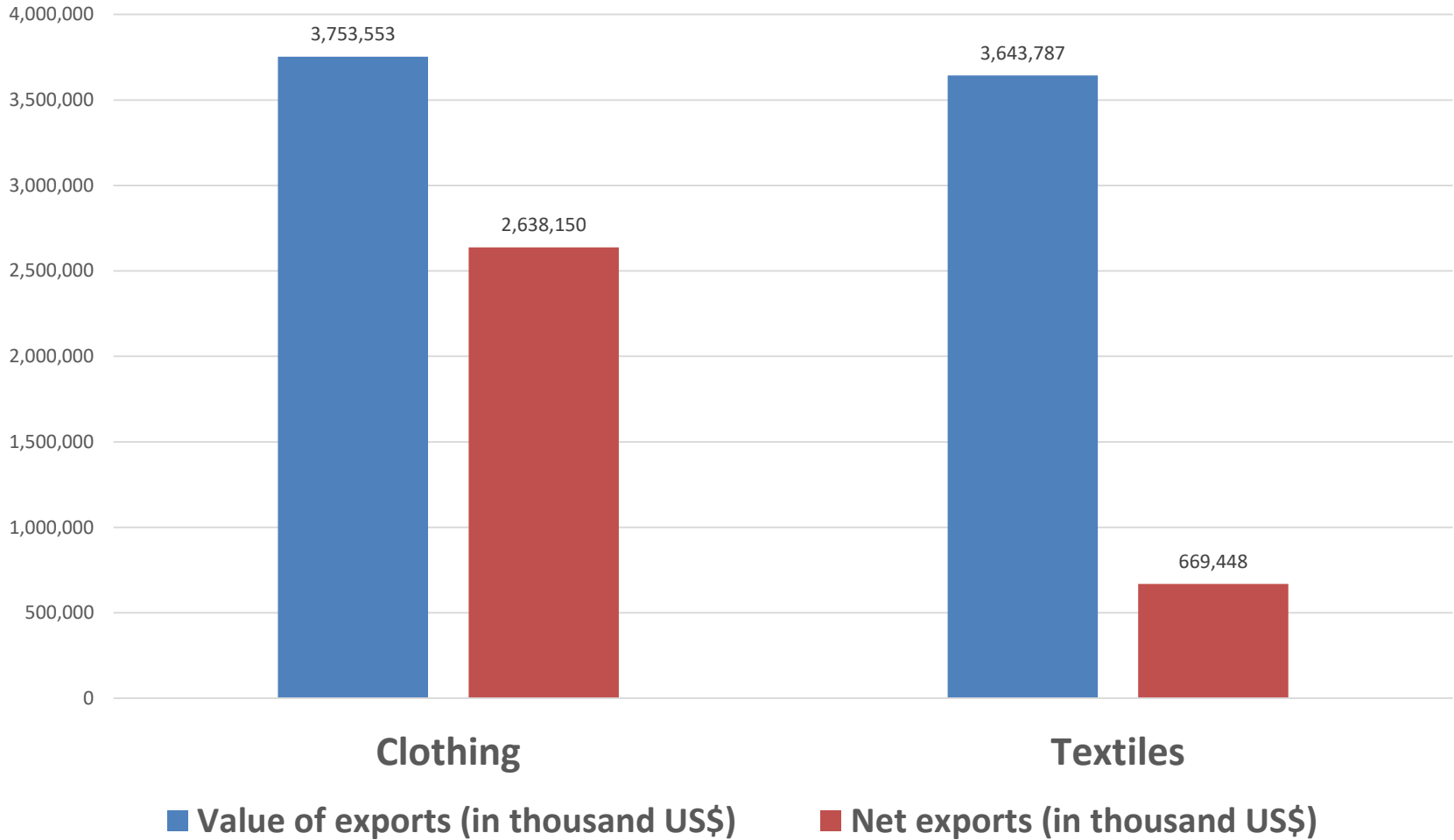
## DISTRIBUTION OF WORKERS IN TEXTILE INDUSTRY 2016



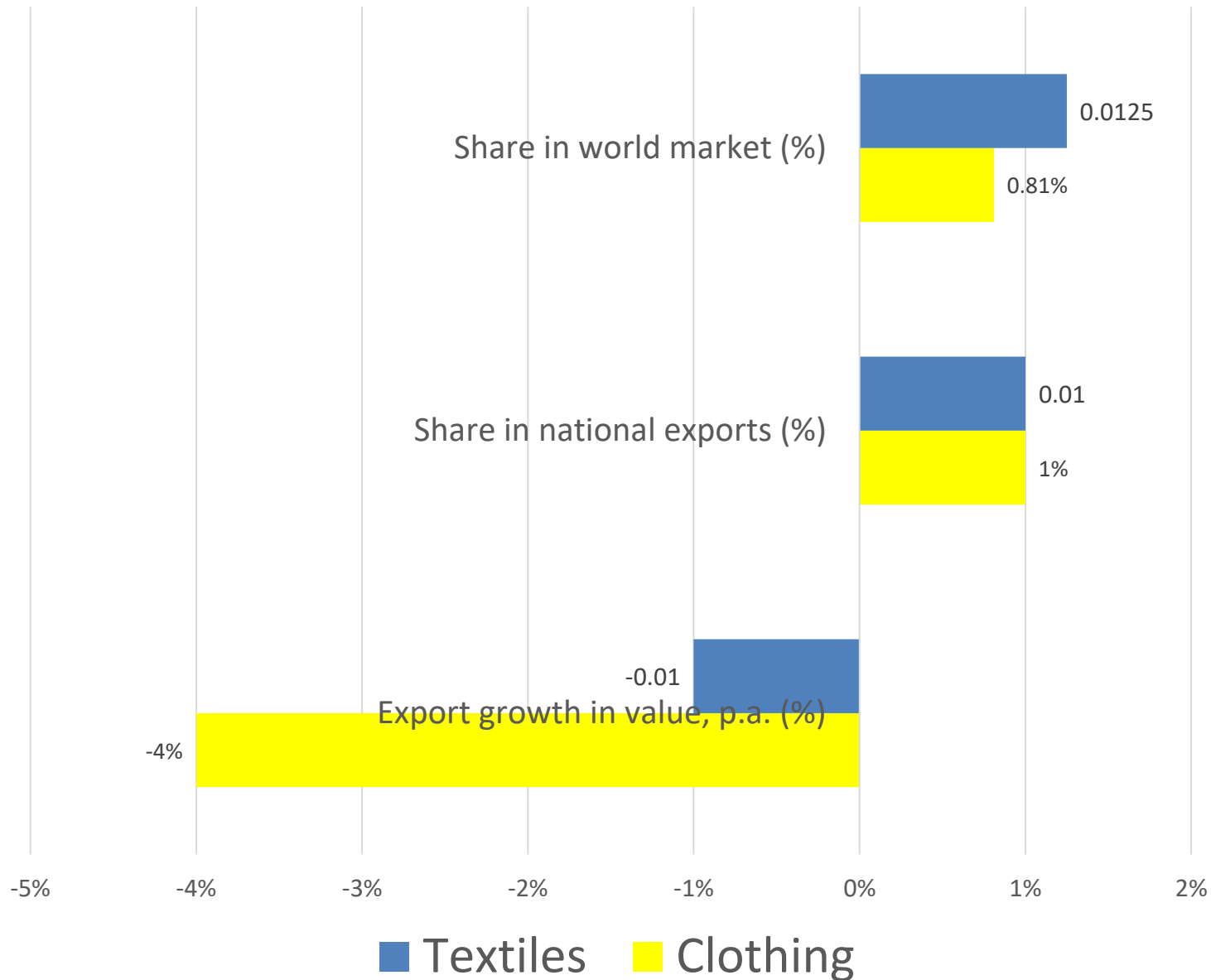
There are 60,000 workers directly involving in producing textiles and 100,000 are occupied with the tasks relating to the textile industry such as spinning, knitting, and dying

# Exports of clothing and textiles in 2016

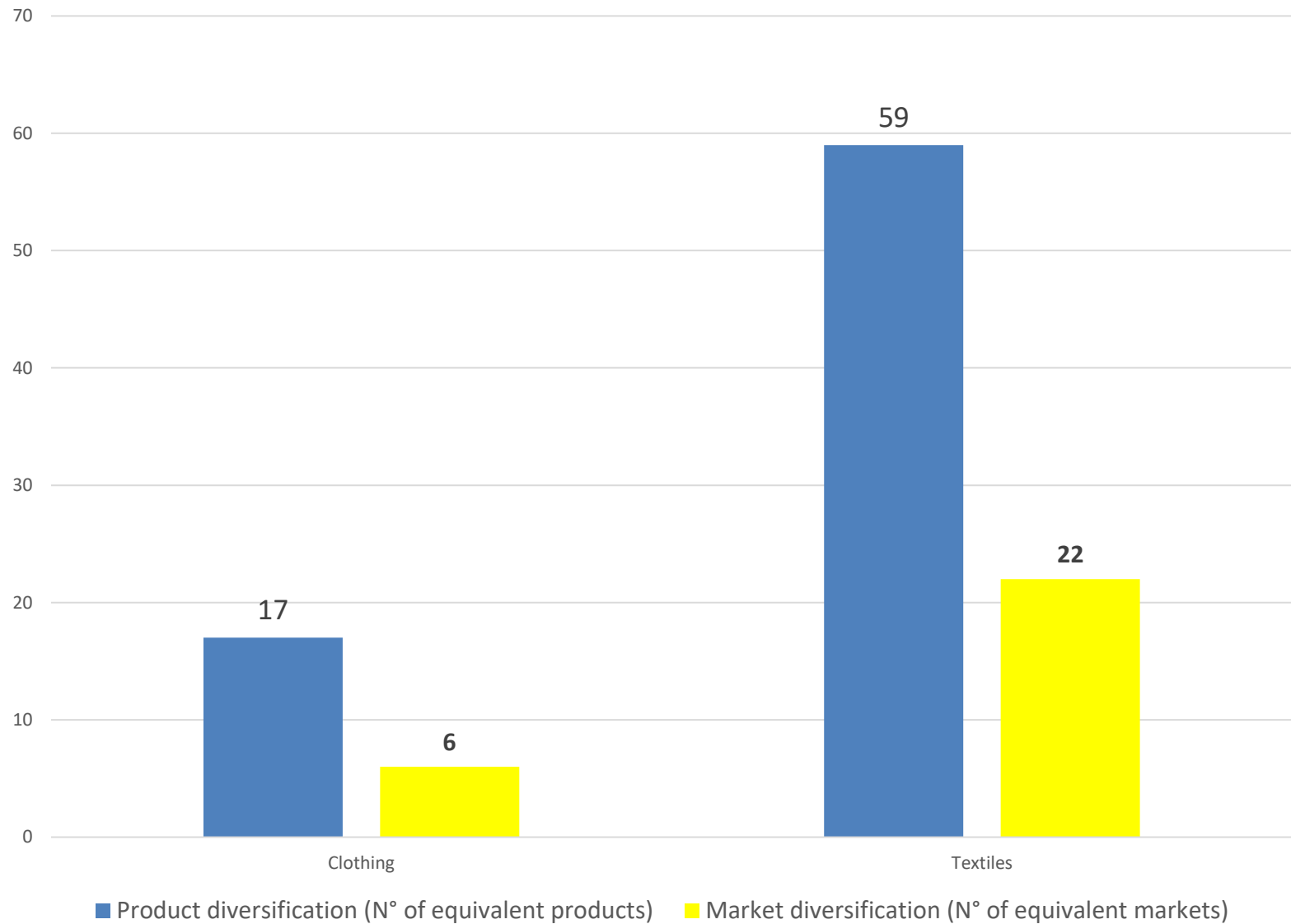
*Thousand US\$*



## Textiles and clothing exports: 2016



## Product and market diversification



# 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%).

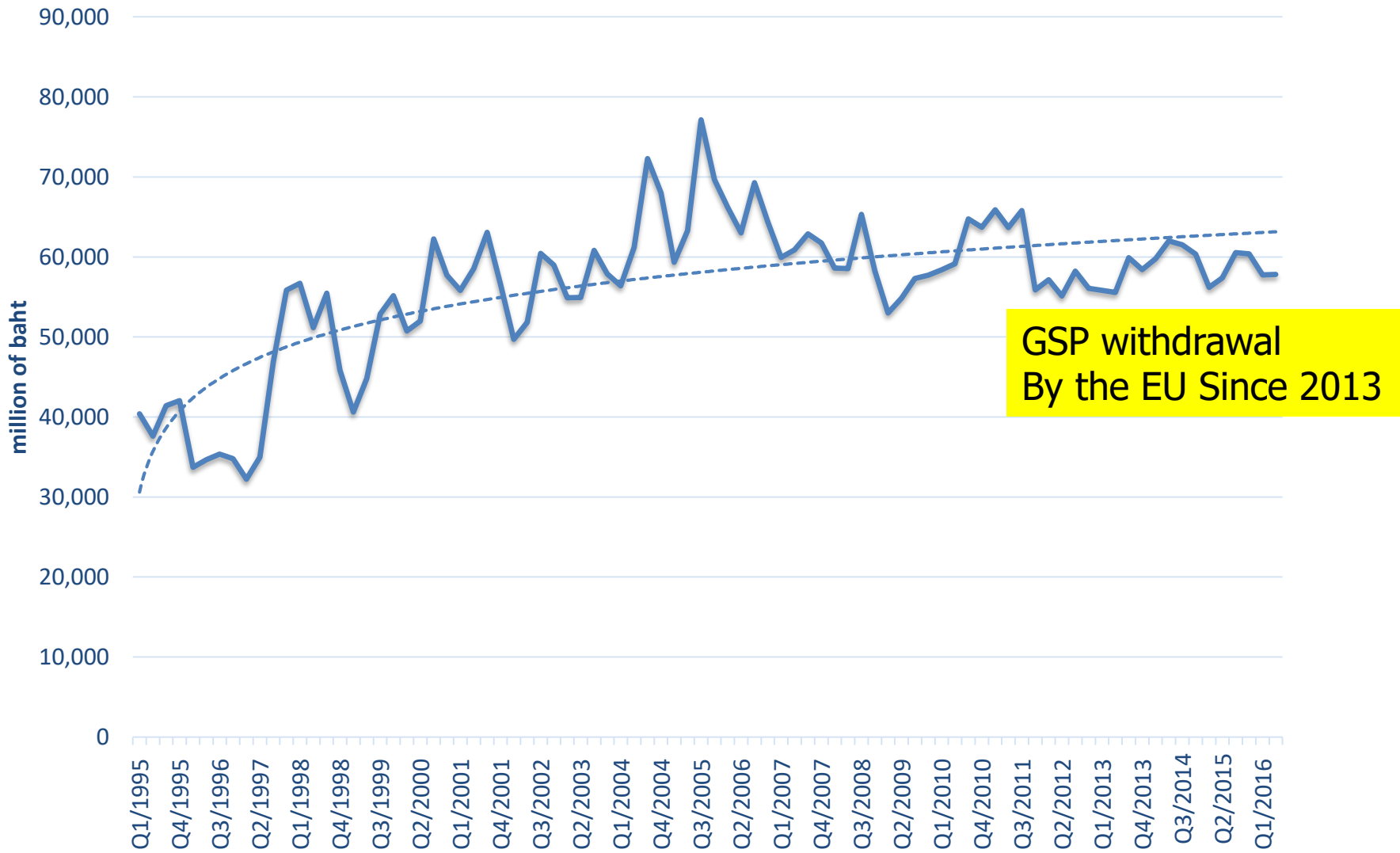
# Thailand imports 98 % of cotton

- Thailand relies on importing cotton, yarn, and fabric to produce garments and textiles.
- This import dependency has an impact on the returns from garment exports, in particular when the baht exchange rate fluctuates.
- Thailand's textile industry requires much more cotton than the country produces itself:
- The industry need 500,000 tons 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.

# When the EU withdrew the GSP in 2013

- 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 reached the level of the middle-income countries.
- It was too early to blame the hike of minimum wage to 300 baht for the loss of the textile's industry competitiveness.

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

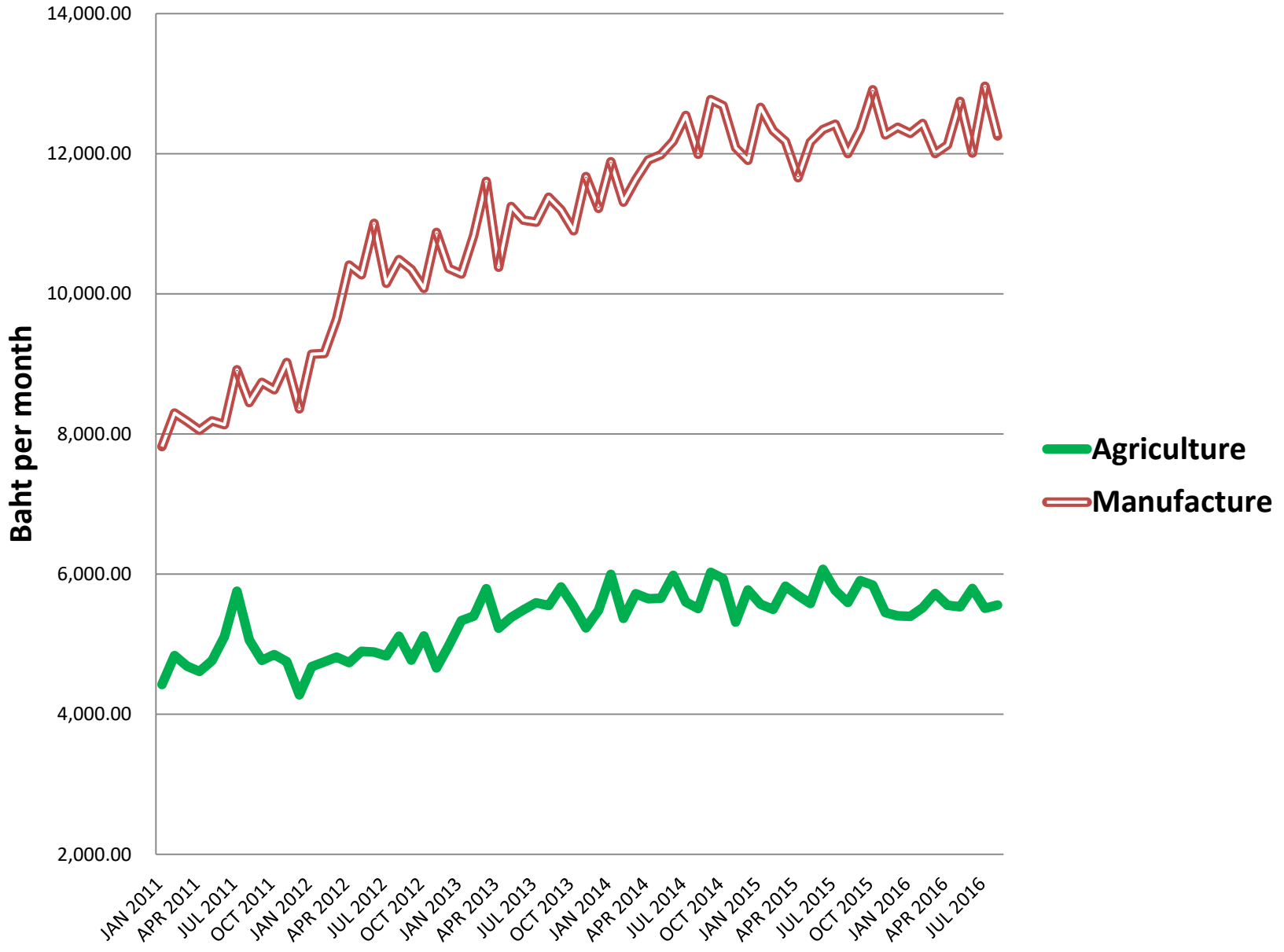


# Living Wage vs Minimum Wage

## Thai vs. migrant workers

- Minimum Wage per day: 300 Baht (9.8 USD; 7 EUR)
- Food: 120 baht (per day)
- Transportation: 20 baht (to the factory)
- Rent: 800 baht (per month)
  
- In reality, wages for Thai workers are often a little above the minimum wage, while migrant workers often get much less.
  
- Monthly wage per month: 7600 Baht (234 USD; 185 EUR).
- The living wage was around 10,000 Baht per month (308 USD; 243 EUR), so workers require at least additional 2,400 Baht above the current minimum wage

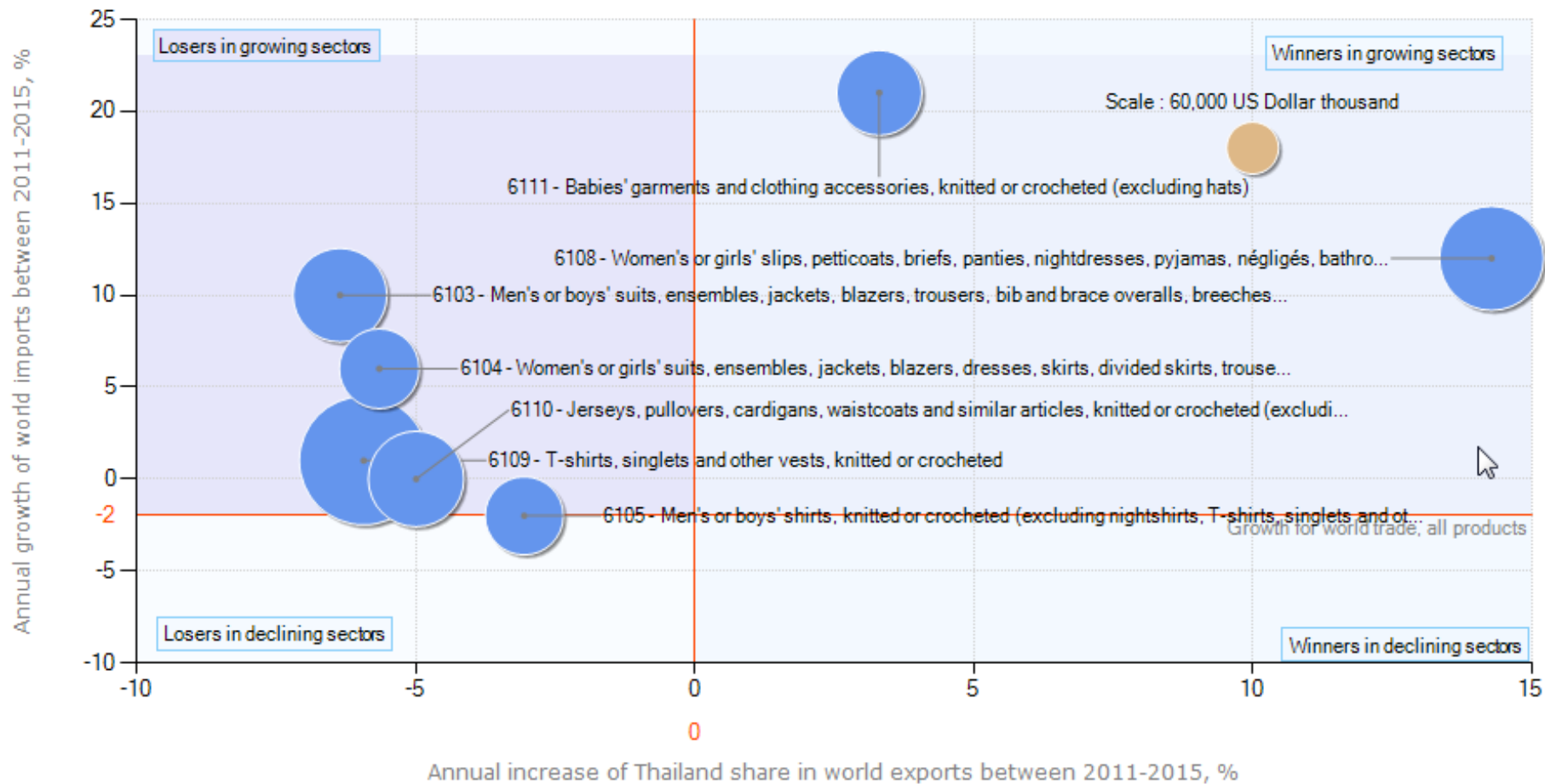
# Wage rates in Agriculture and Manufacturing



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

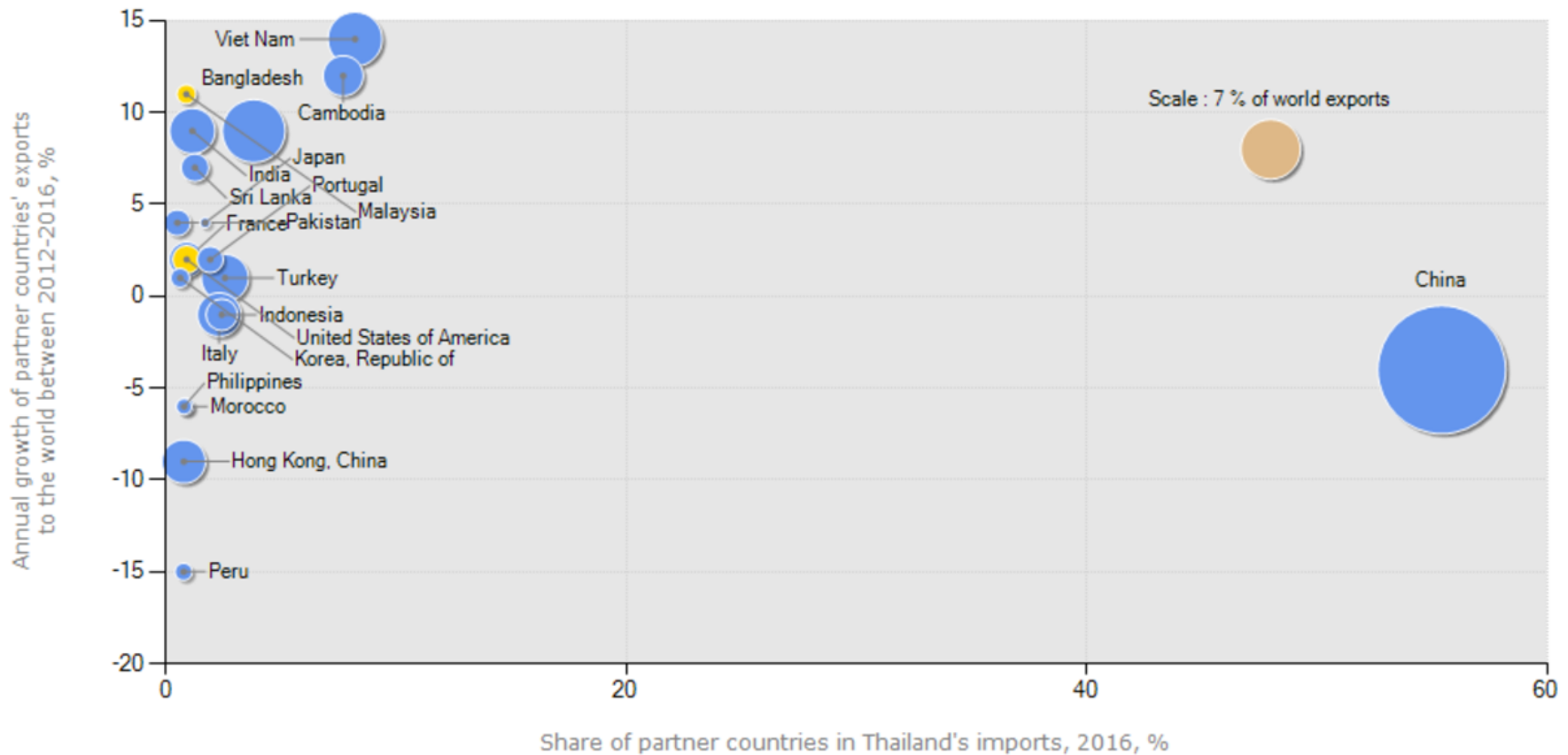
## *Losers in growing sectors*

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



# Dominance of China's Imports: product 61

Prospects for diversification of suppliers for a product imported by Thailand in 2016  
 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

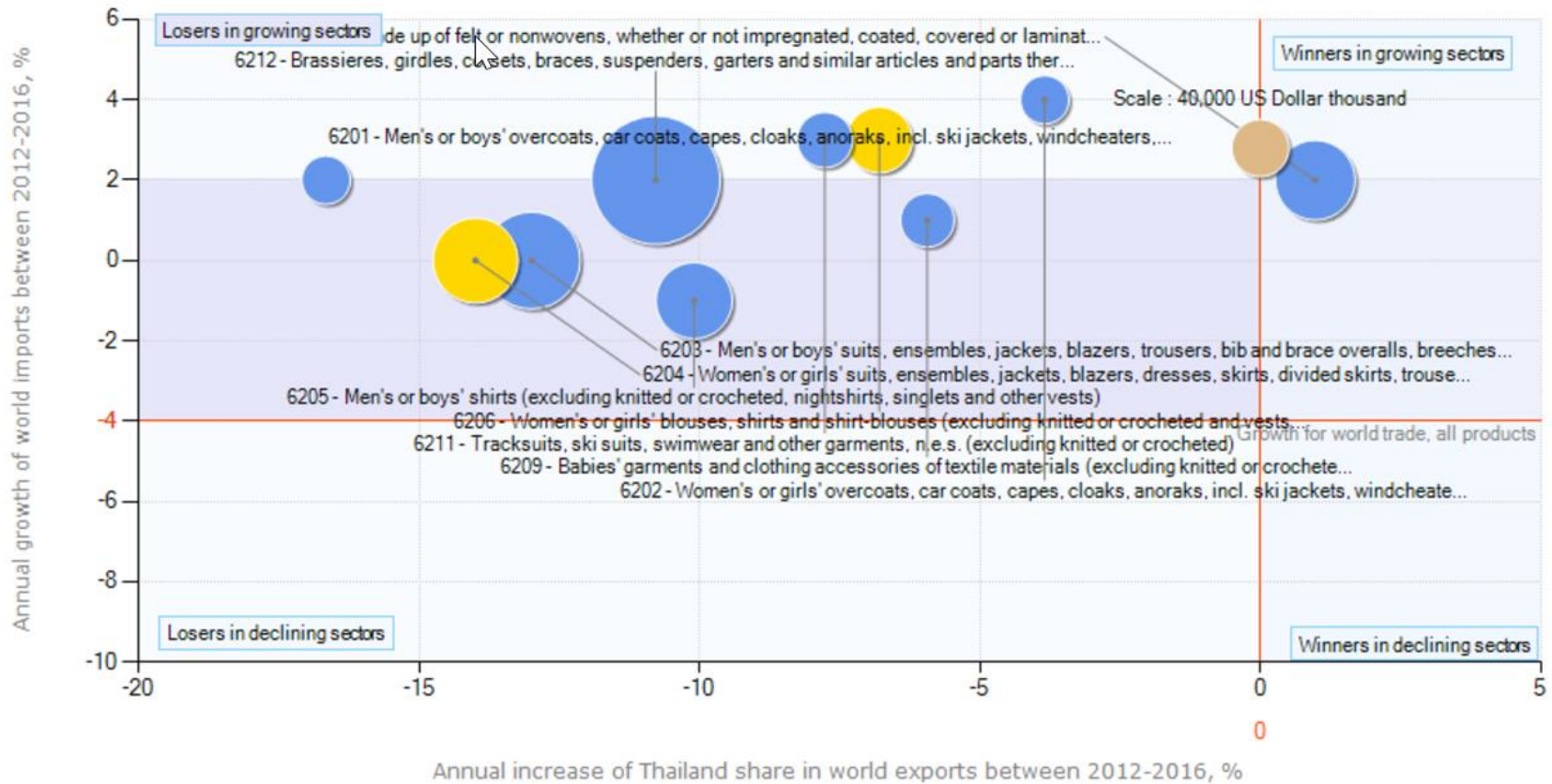
The bubble size is proportional to the share in world exports of partner countries for the selected product



# 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 2016



● Thailand is a net importer for this product

● Thailand is a net exporter for this product

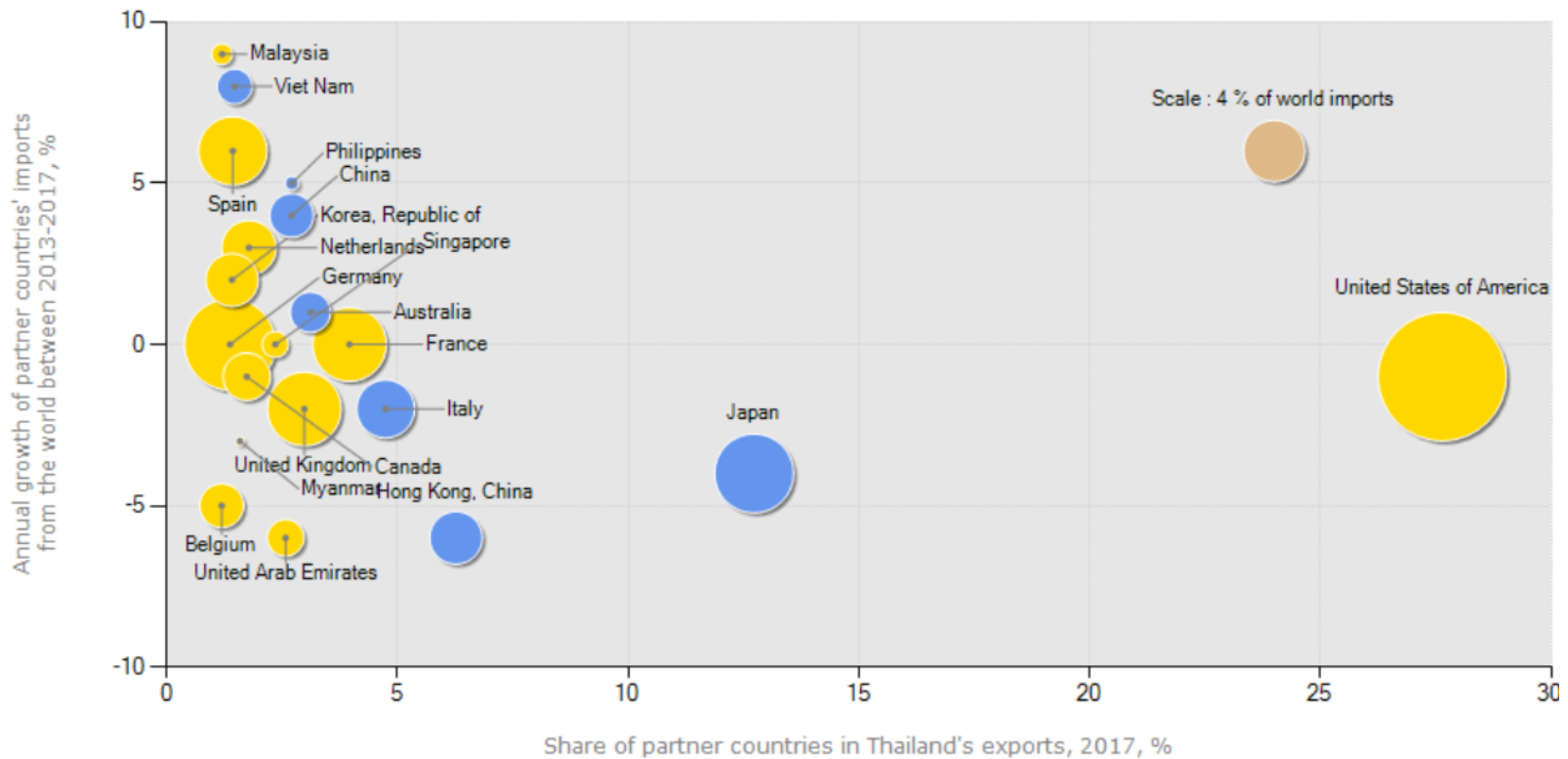
● Reference bubble

The bubble size is proportional to export value



# Thailand's Exports of product 62

Prospects for market diversification for a product exported by Thailand in 2017  
 Product : 62 Articles of apparel and clothing accessories, not 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

● Reference bubble

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

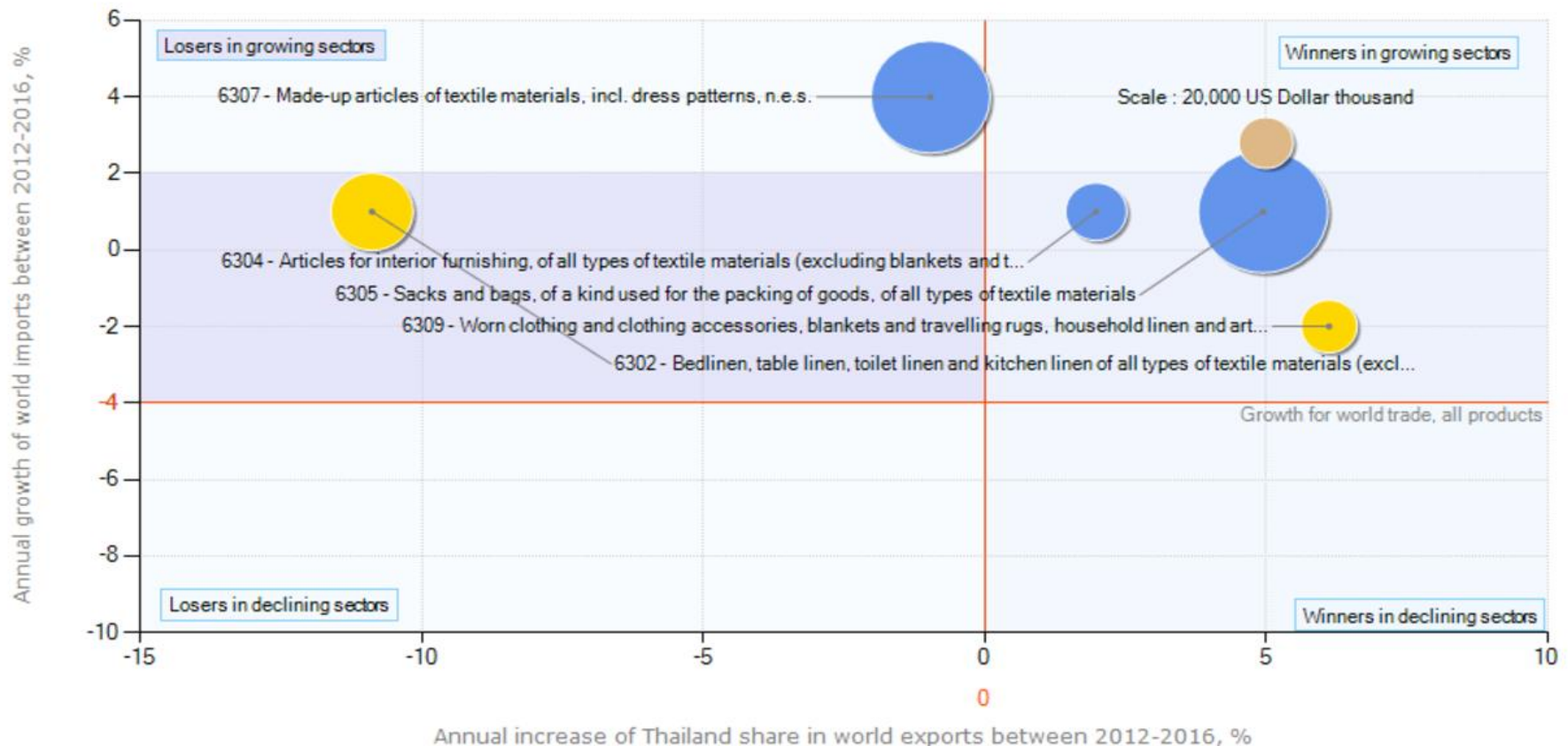


# Thailand's exports: Other made-up textile articles

## Product 63

### *Winners and losers in growing sectors*

Growth of national supply and international demand for products exported by Thailand in 2016



● Thailand is a net importer for this product

● Thailand is a net exporter for this product

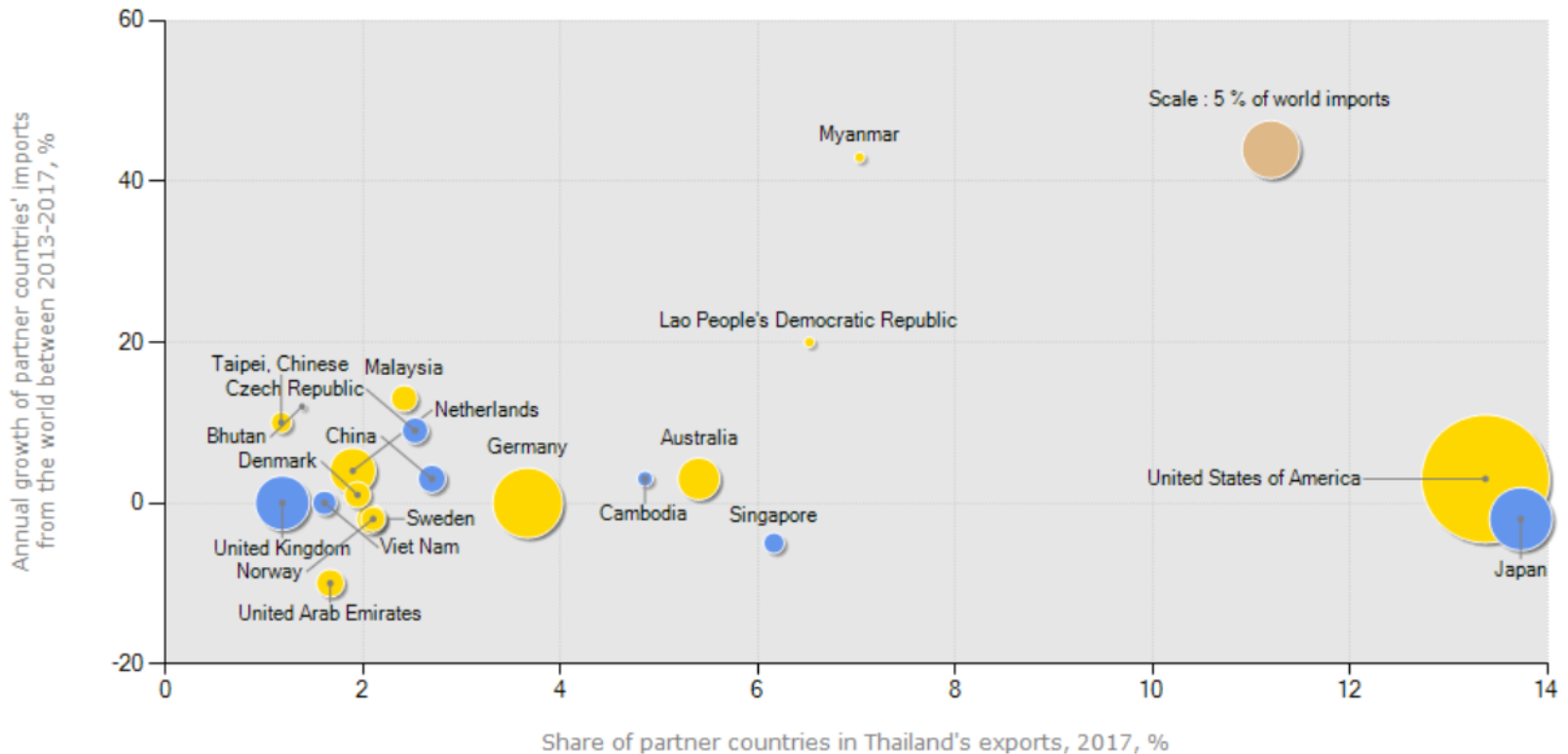
● Reference bubble

The bubble size is proportional to export value



# Market Diversification: Product 63

Prospects for market diversification for a product exported by Thailand in 2017  
 Product : 63 Other made-up textile articles; sets; worn clothing and worn textile articles; rags



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

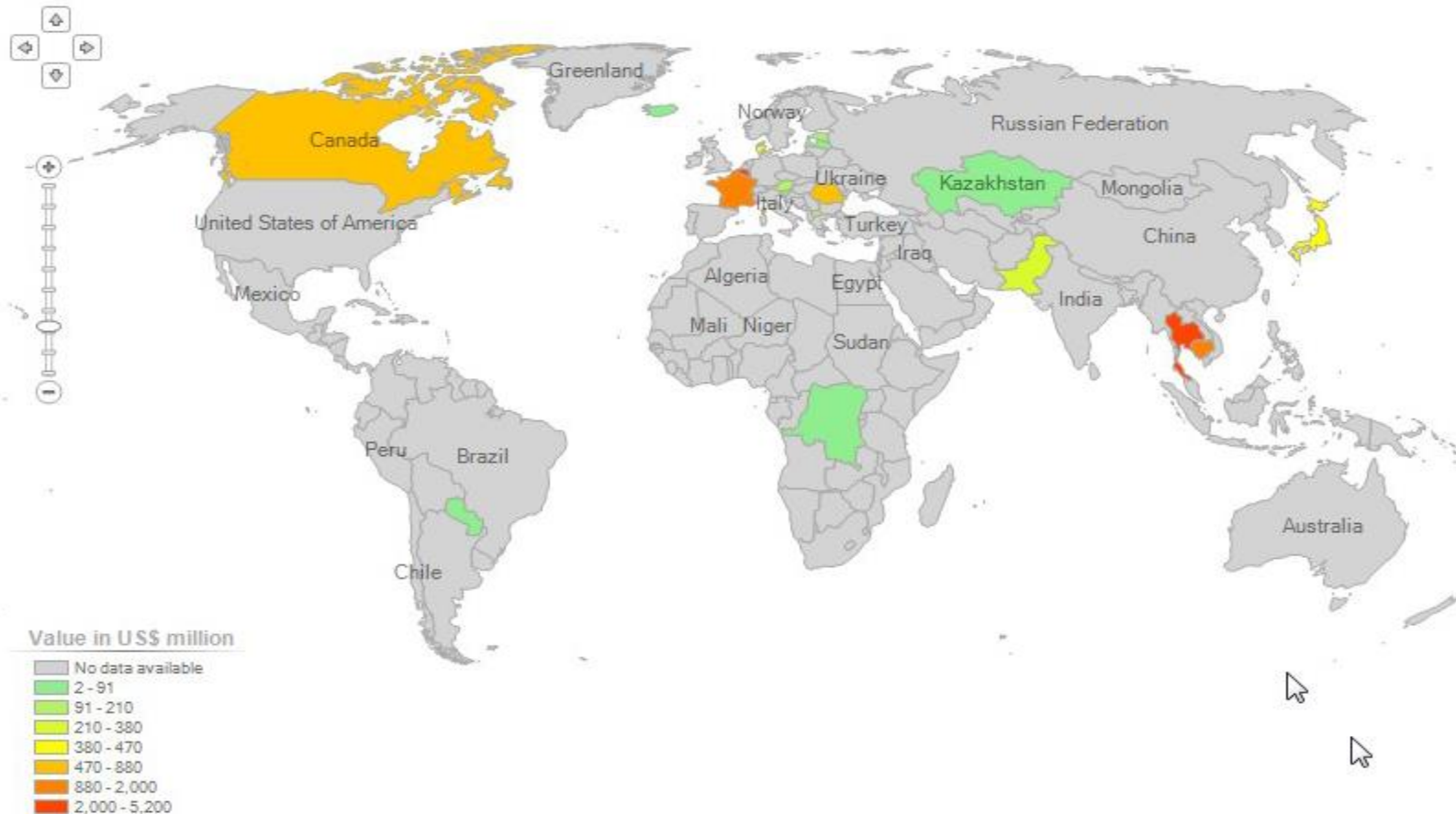
● Thailand export growth to partner > Partner import growth from the world

● Reference bubble

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

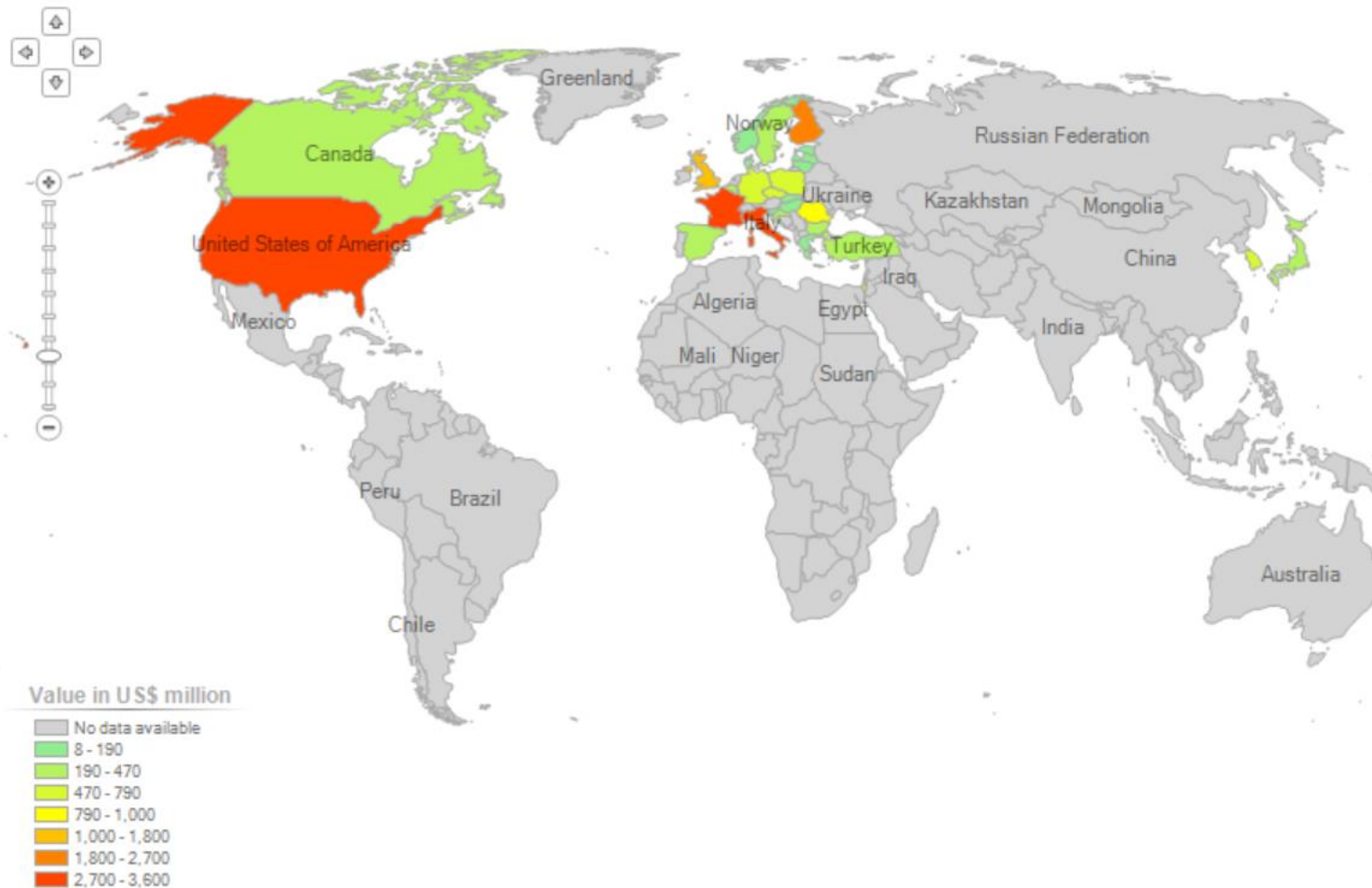


# Inward FDI stock: Textiles and clothing in 2012



# Inward FDI stocks in 2016

Countries attracting investment in sector: Textiles, clothing and leather  
Inward FDI stock Last available year

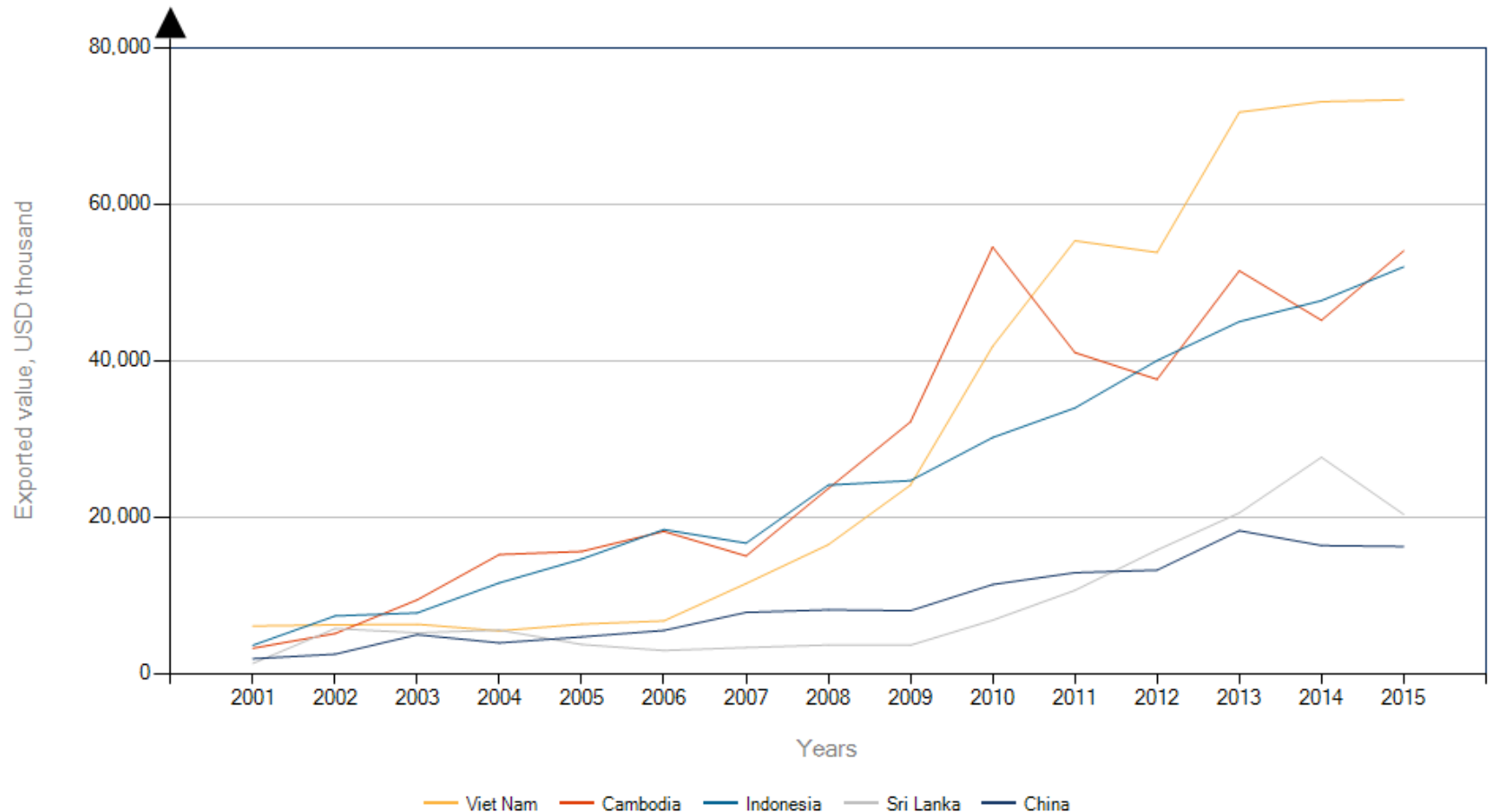


# Thailand's export markets

Product 60: Knitted or crocheted fabrics

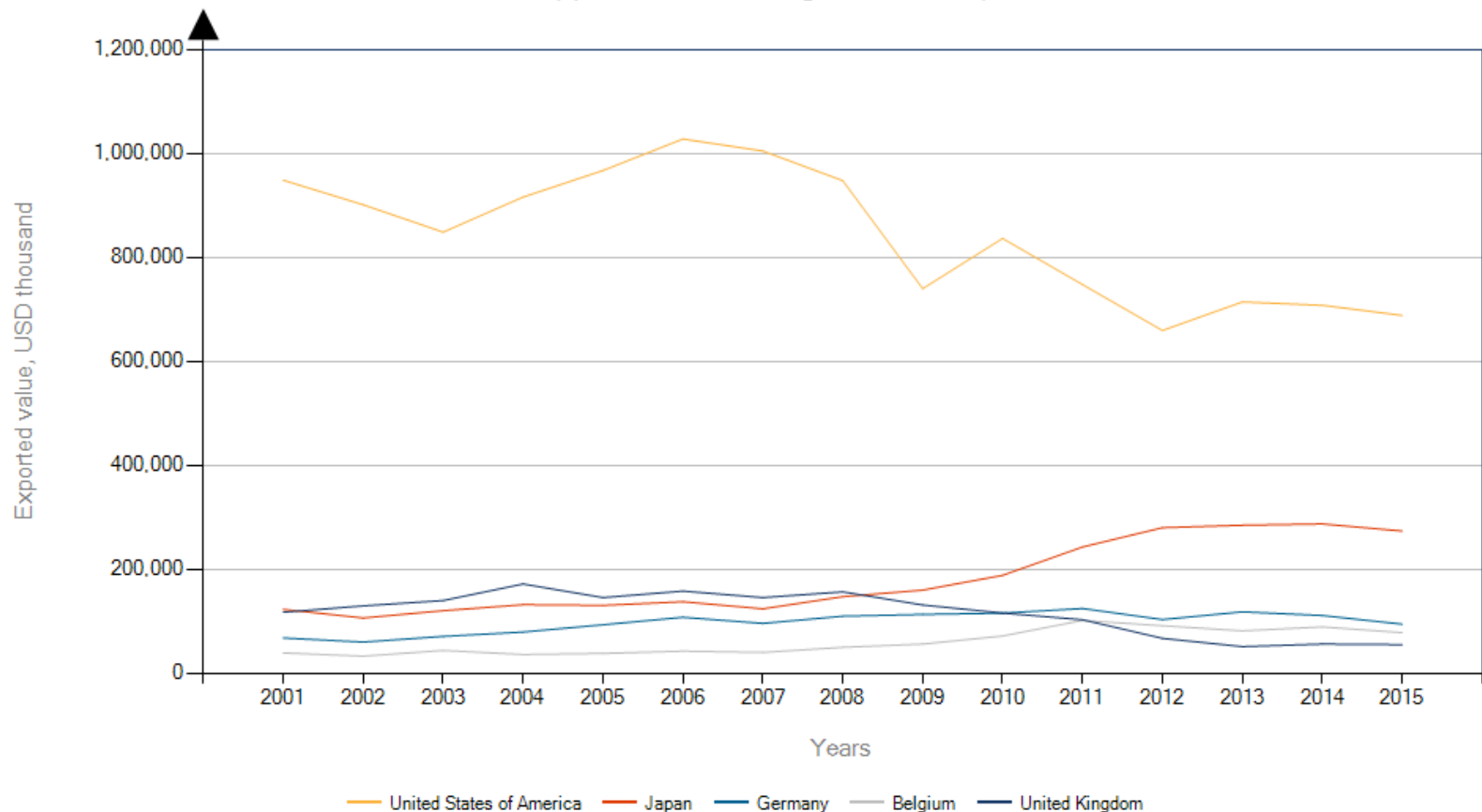
***Why exporting to low-income countries?***

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



# Thailand's export markets of apparel and clothing: Product 61 *Why high-income countries?*

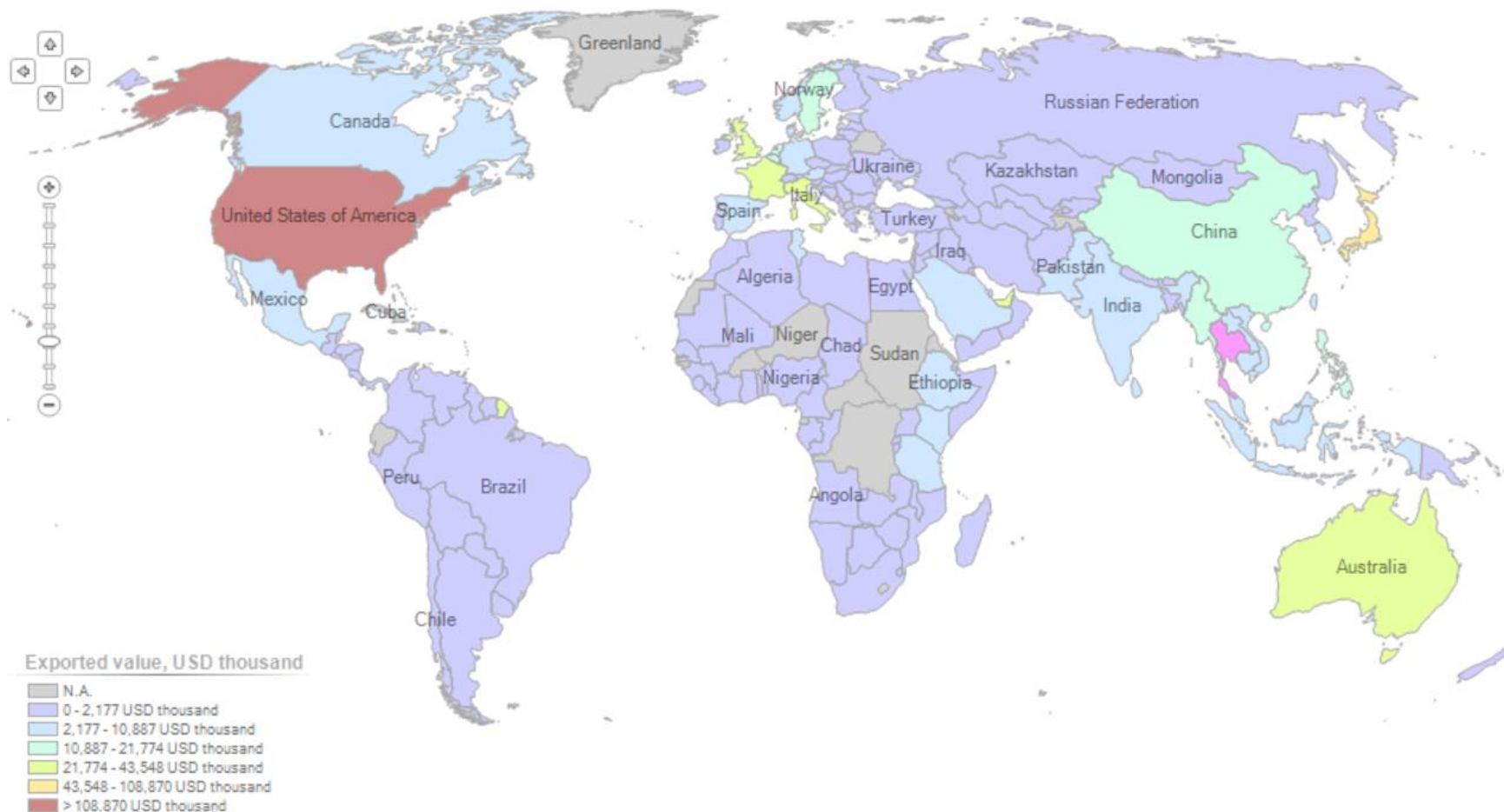
List of importing markets for a product exported by Thailand  
Product: 61 Articles of apparel and clothing accessories, knitted or crocheted



# Thailand's market for product 62: Apparel 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

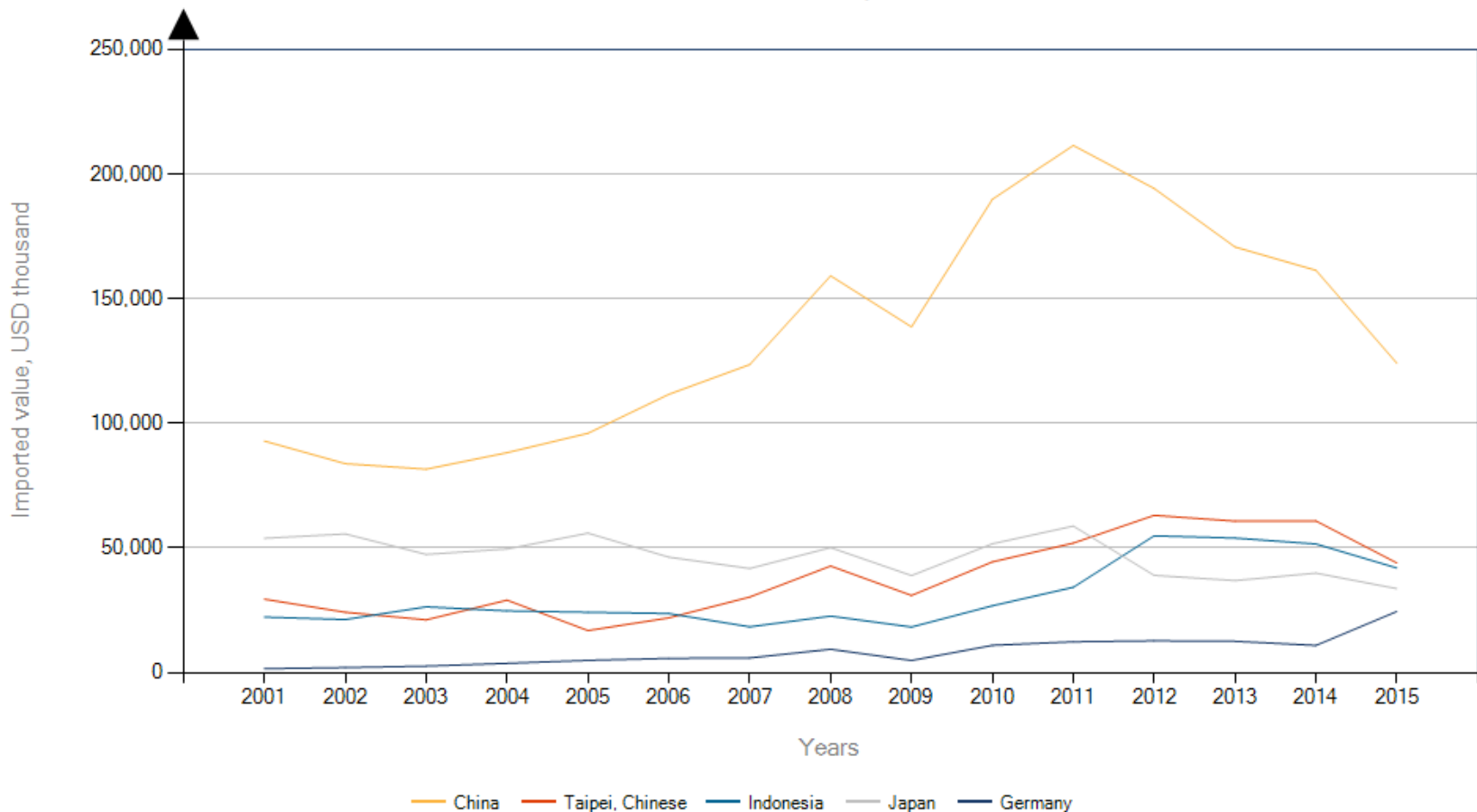


# Thailand's sources of imports (product 55)

## Man-made staple fibers

### *Why importing from Taiwan, Japan, and Germany?*

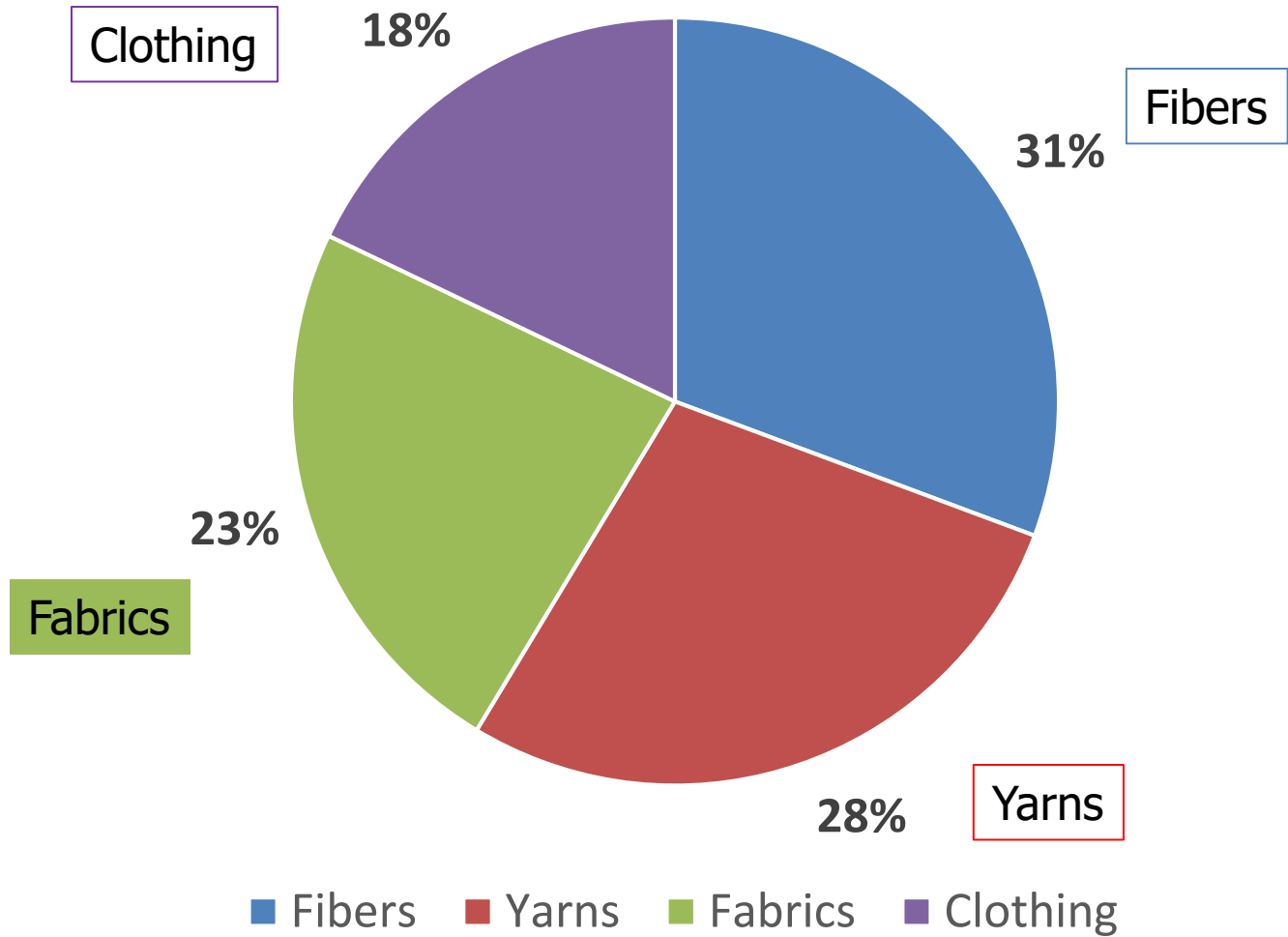
List of supplying markets for a product imported by Thailand  
Product: 55 Man-made staple fibres



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

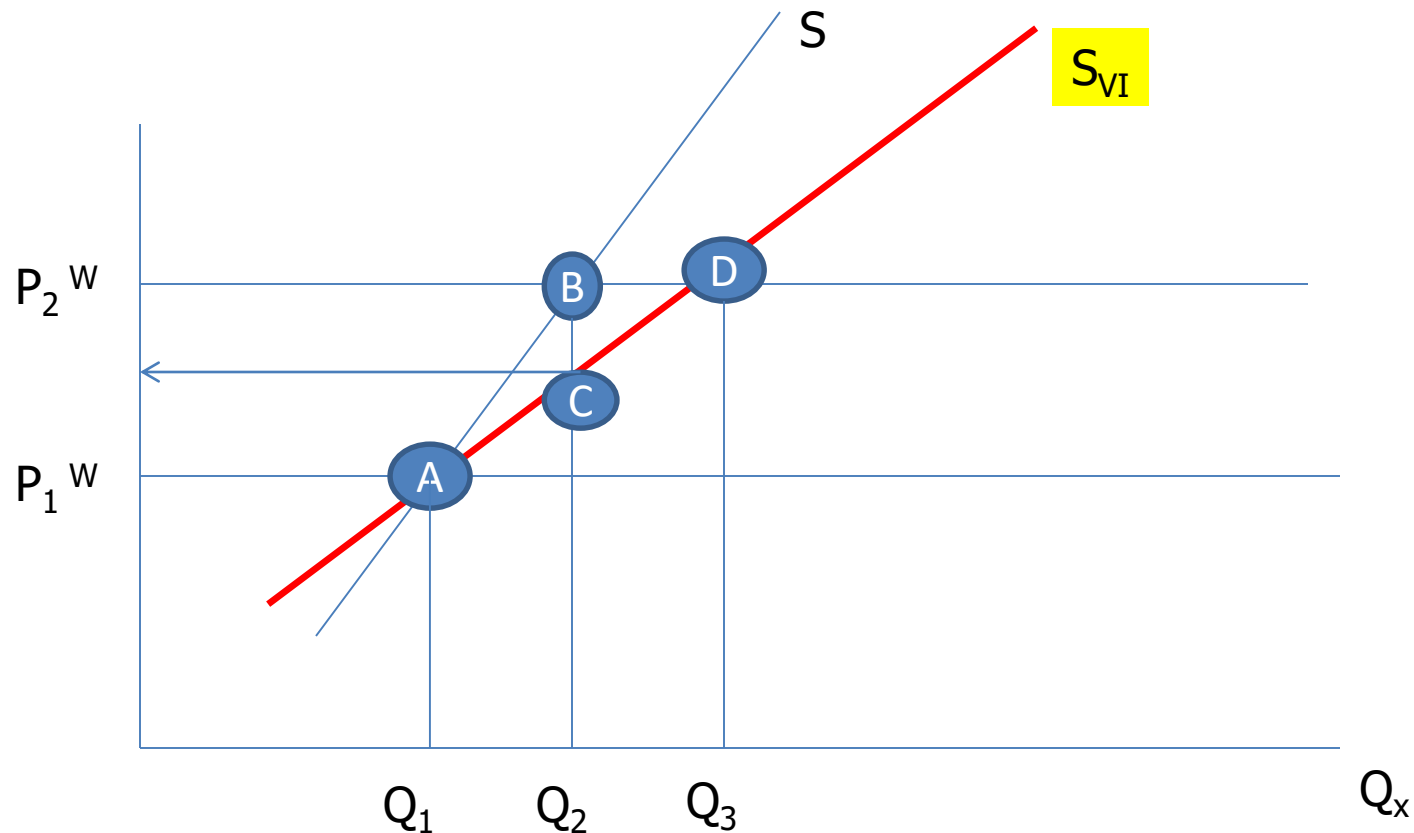
- From spinning to fabrics, from fabrics to garments: integrated textile business (Vertical integration)
- The Thai factories spin, weave, dye, finish and fabricate products for consumers in Thailand and abroad in the US and Europe, such as Wal-Mart and Calvin Klein.
- By integrating production from 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)



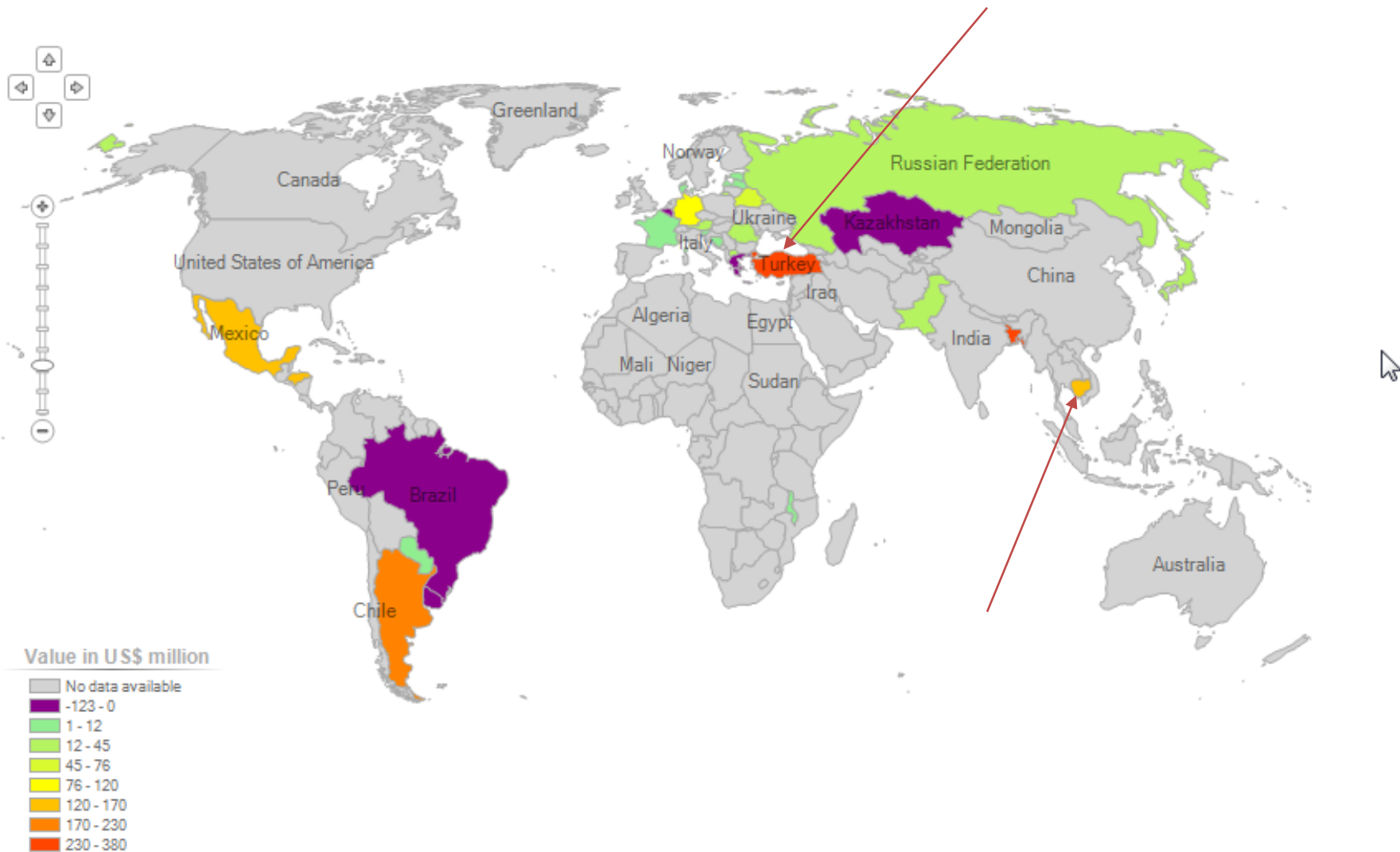
Vertical integration (from textile to apparel) has lower logistic and inventory costs

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



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

# 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.
- The 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.

# Surviving strategy: FDI outflows

- 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 to enjoy tax privileges for exporting to US and European markets.
- With high wages, the technology in FDI host countries must be different from the home country's factory.
- In the case of the car industry, Nissan production plants in Japan use higher K/L than Nissan India.
- There is a certain degree of elasticity of substitution between labor and capital goods.

# Relocating 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.

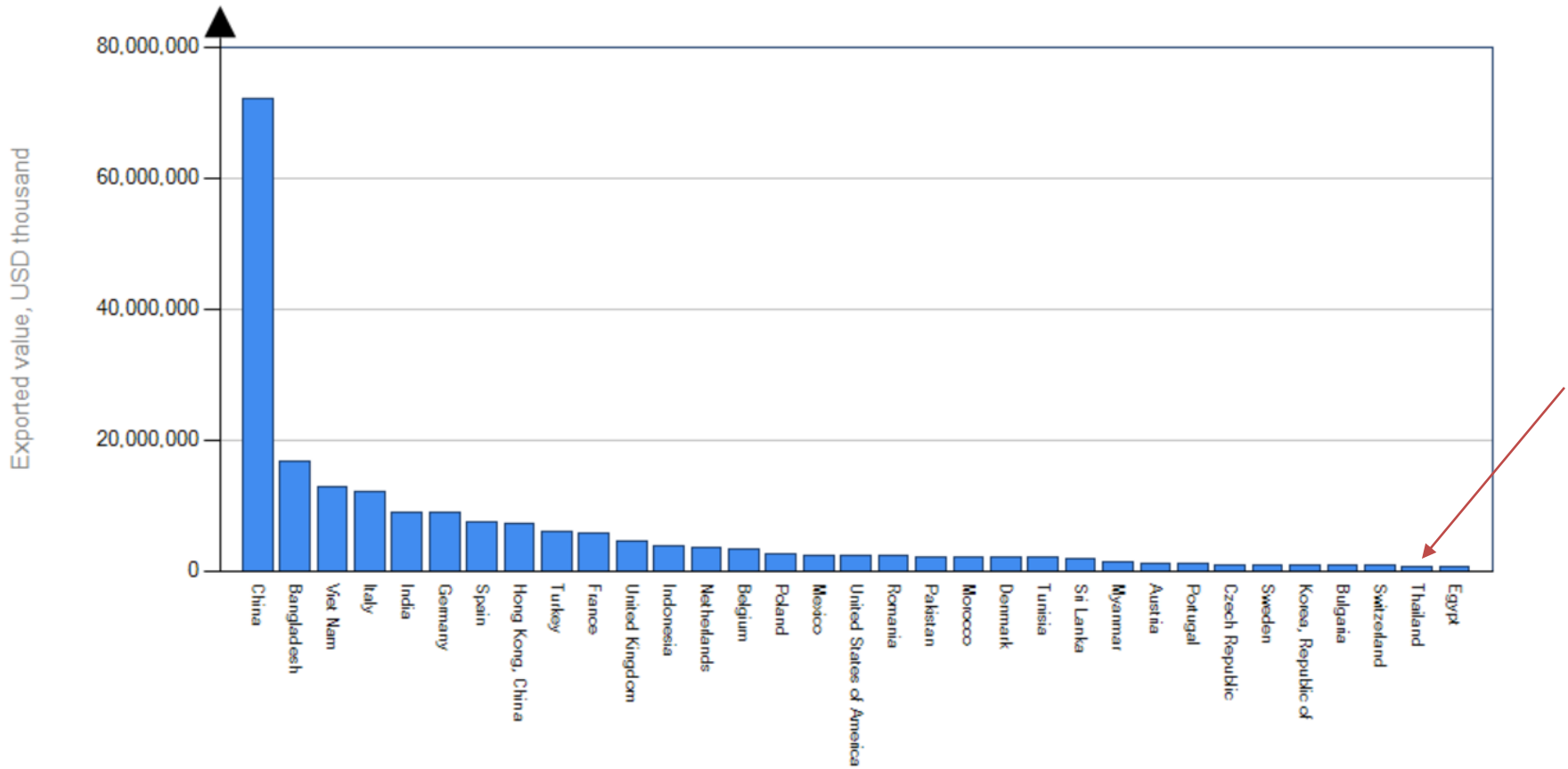
# Trade preferences and competition

- Those tariff preferences help strengthen the 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, and Myanmar are more competitive than Thailand

## Product 62: Apparel and clothing accessories

List of exporters for the selected product in 2016  
Product : 62 Articles of apparel and clothing accessories, not knitted or crocheted



# Expanding export markets

- Major exports products for the 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.

## Thailand is a tiny exporter

- 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.

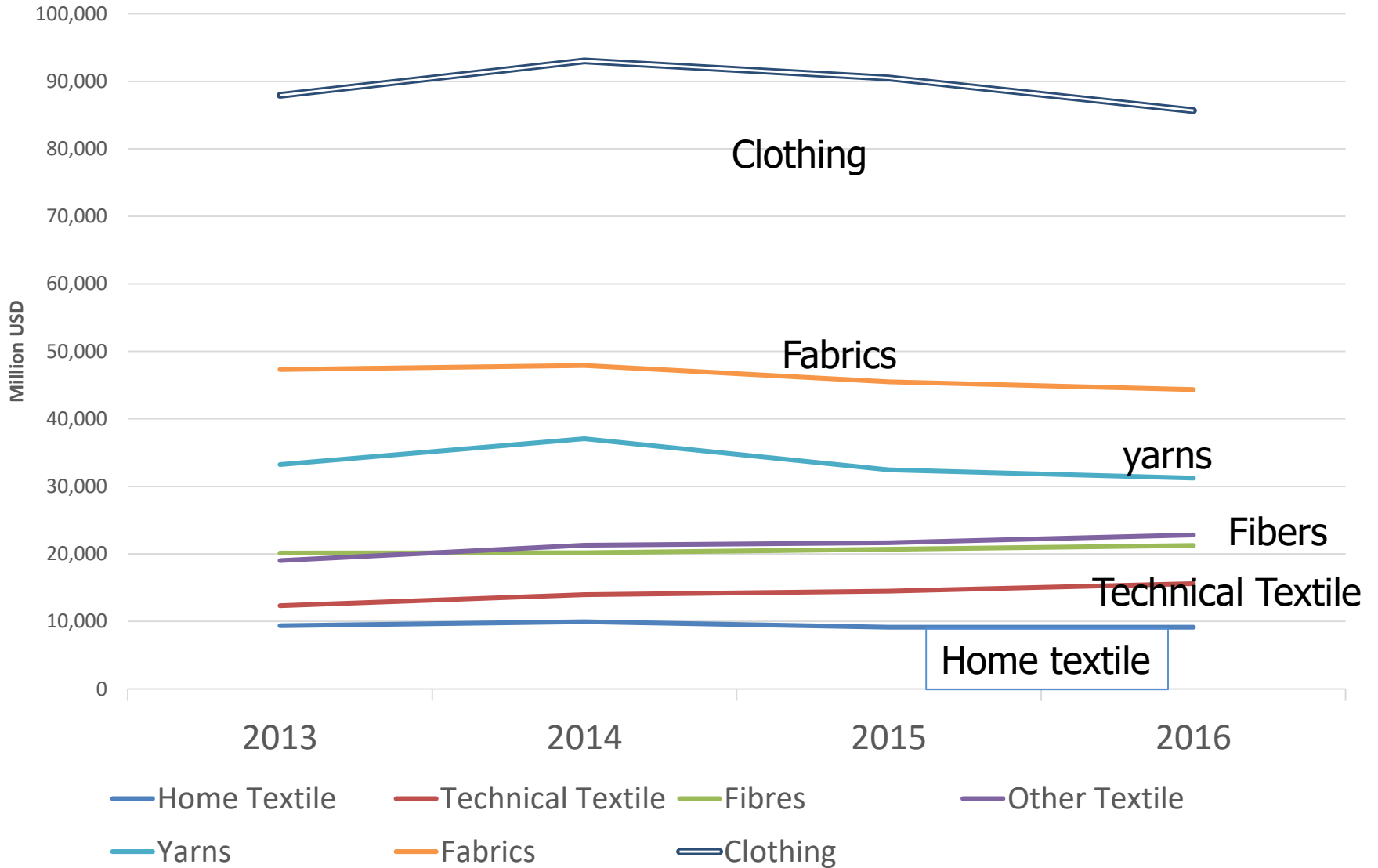
# Chemicals and textile dyes: Why imports?

- 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 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.

# Exports of Textile and Clothing: dismal growth



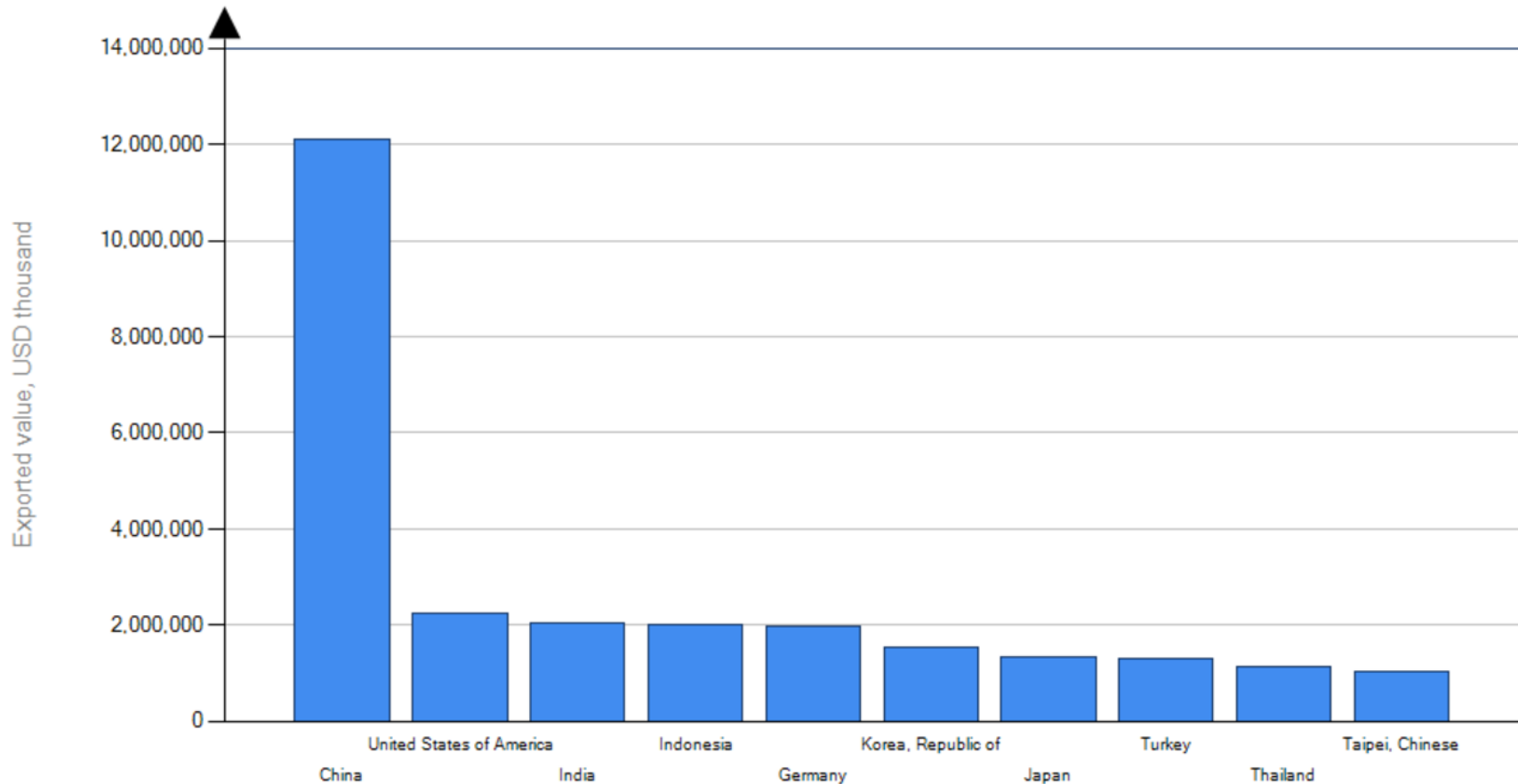
# Top importers of Thailand's product 55 Man-made fibers

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



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

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



# Textile industry in the US: nonwovens and technical textiles

- 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. 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.
- What does it imply?

# Technical textiles: non-aesthetic

- **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.

# Revealed Comparative Advantage

- **Balassa** (1965) provides a measure for relative export performance by country and industry, defined as a country's share of world exports of a good **divided** by the share of that product in total world exports.
- The Balassa index measures the degree of specialisation of export products.

# Revealed Comparative Advantage

- If the Balassa index for a product is greater than 1, it means that the country specializes in that product.
- If it is less than unity, no specialization is involved in the export product

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

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

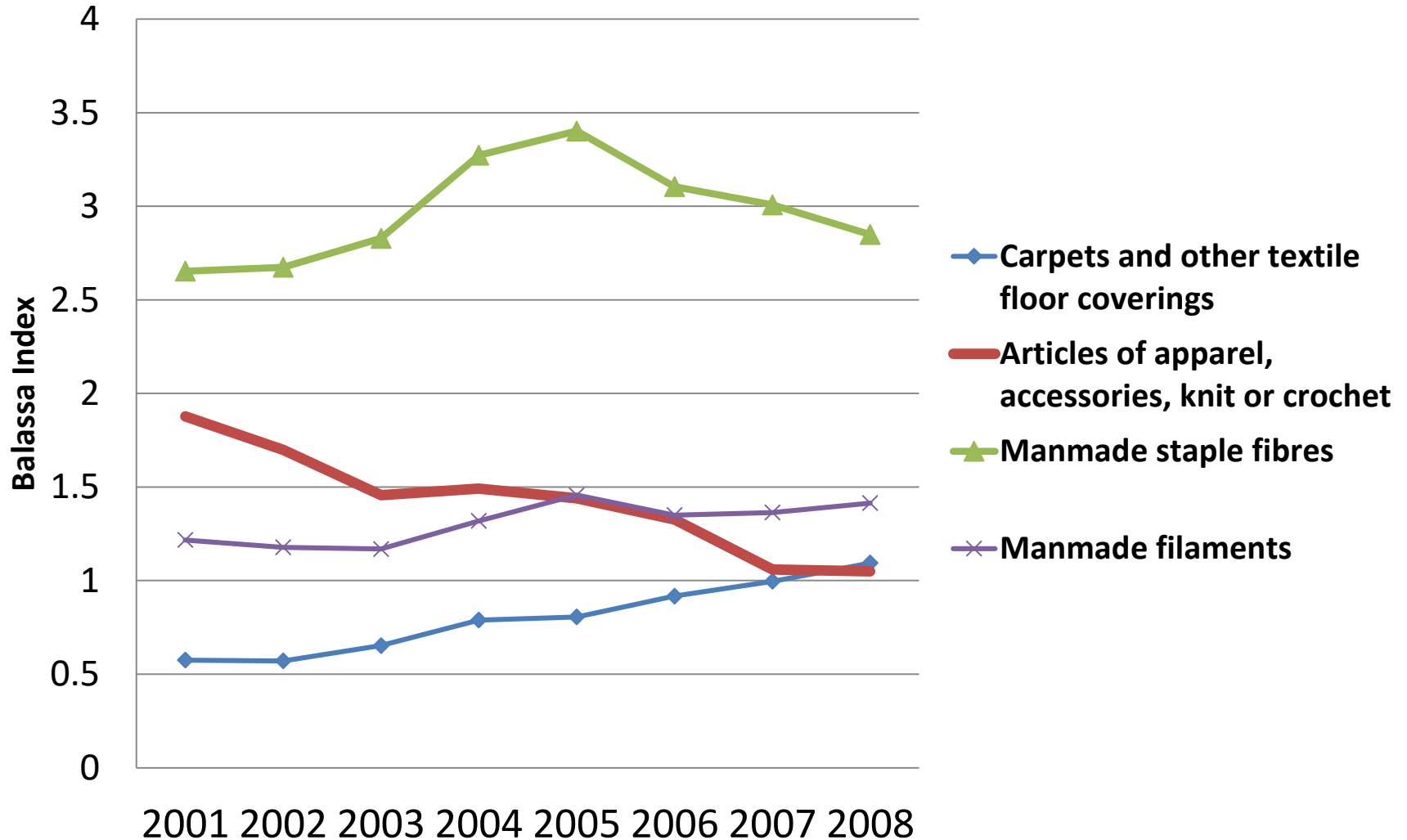
If  $RCA_j > 1$ , the country is said to have a revealed comparative advantage in industry  $j$ , since this industry is more important the country's exports than for the exports of the world.

One should compare the share of textile exports in Thailand's total exports (numerator) With the share of textile exports in the world's total exports (denominator).

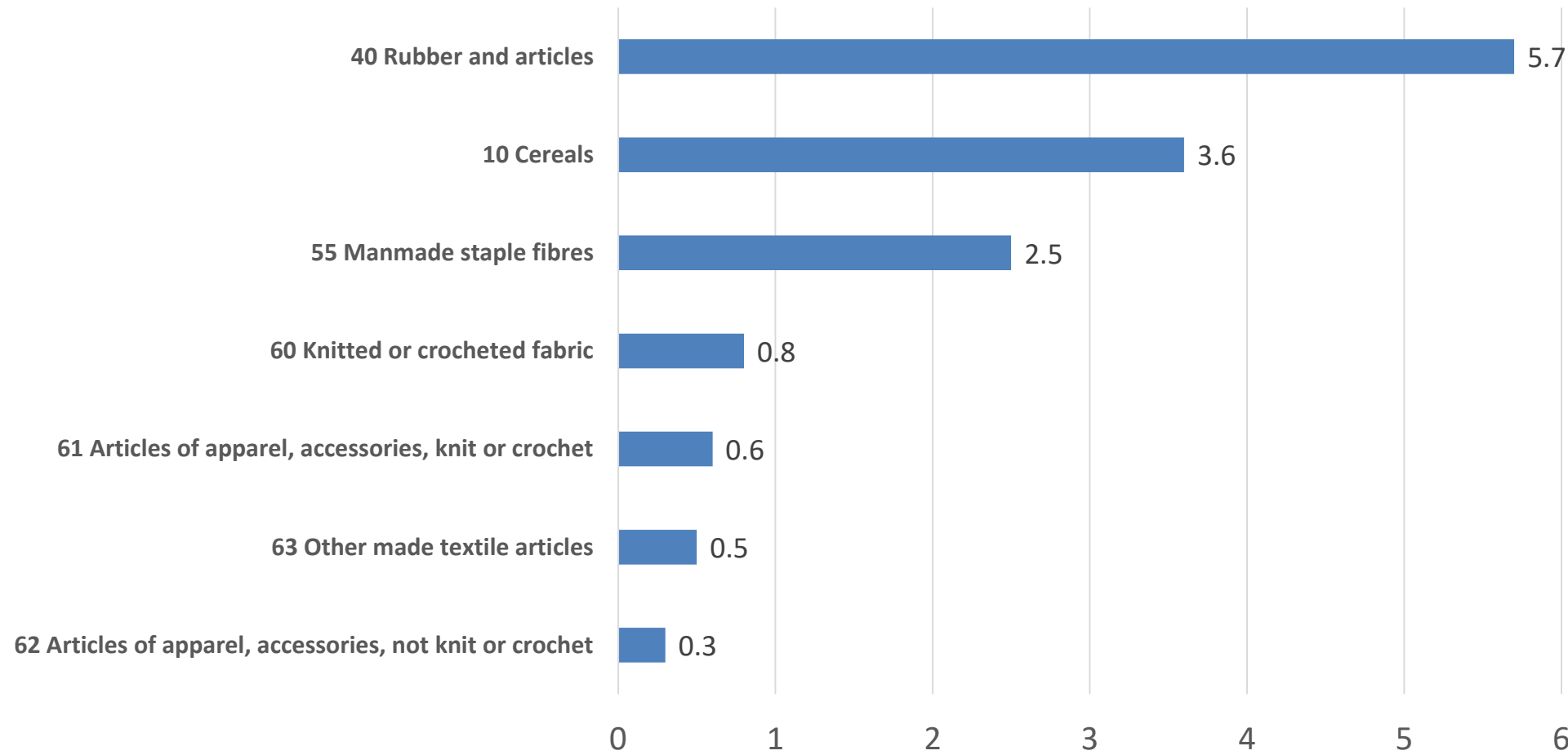
The Balassa index is therefore essentially an export share of the commodity in the country' total export normalized by that commodity's share in total world trade.

# Revealed Comparative Advantage

2001-2008

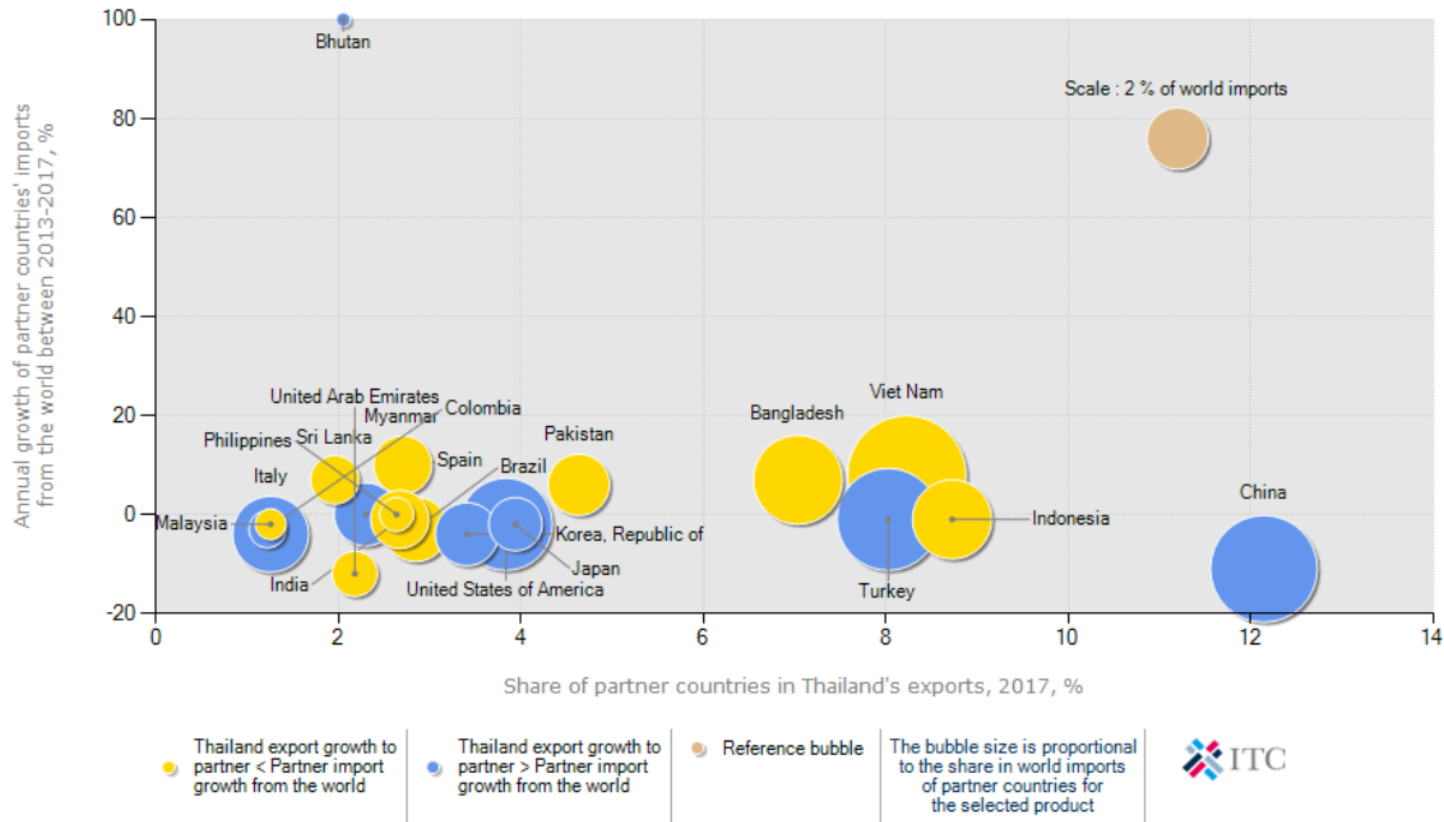


## Specialization (Balassa Index / RCA Index )



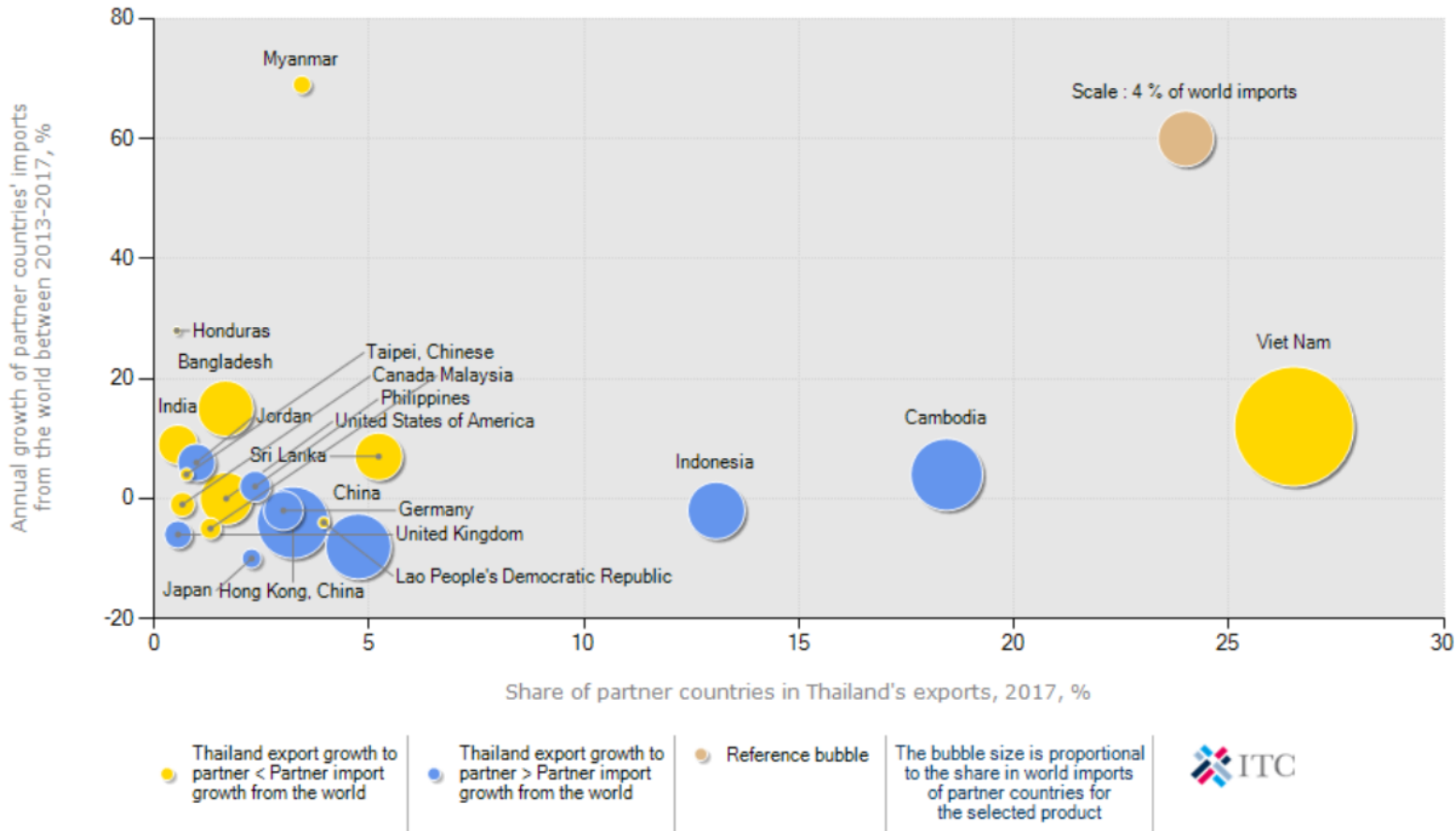
# Importers of Thailand's upstream product 55

Prospects for market diversification for a product exported by Thailand in 2017  
Product : 55 Man-made staple fibres



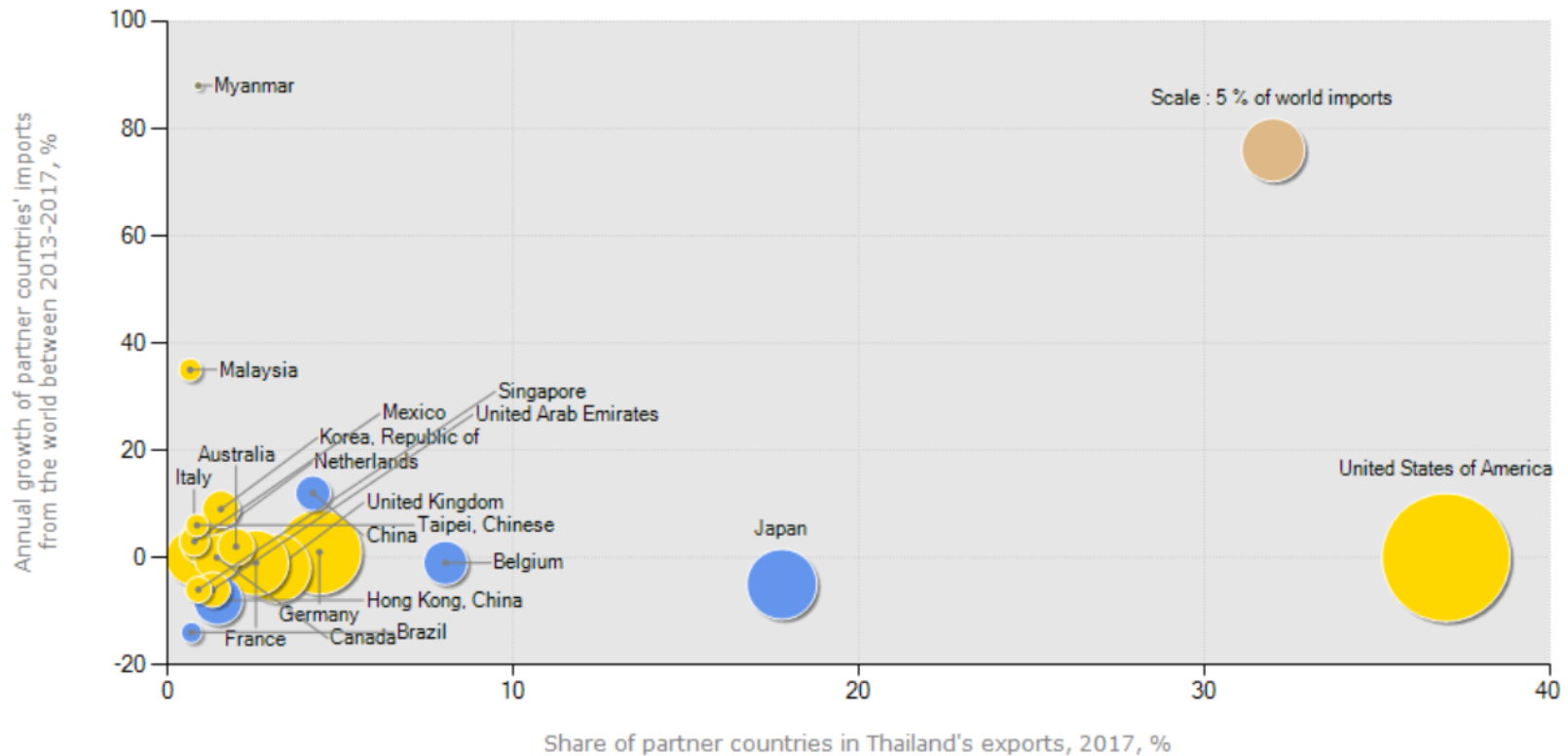
# Semi-upstream products: P60

Prospects for market diversification for a product exported by Thailand in 2017  
Product : 60 Knitted or crocheted fabrics



# Downstream product(P61)

Prospects for market diversification for a product exported by Thailand in 2017  
 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

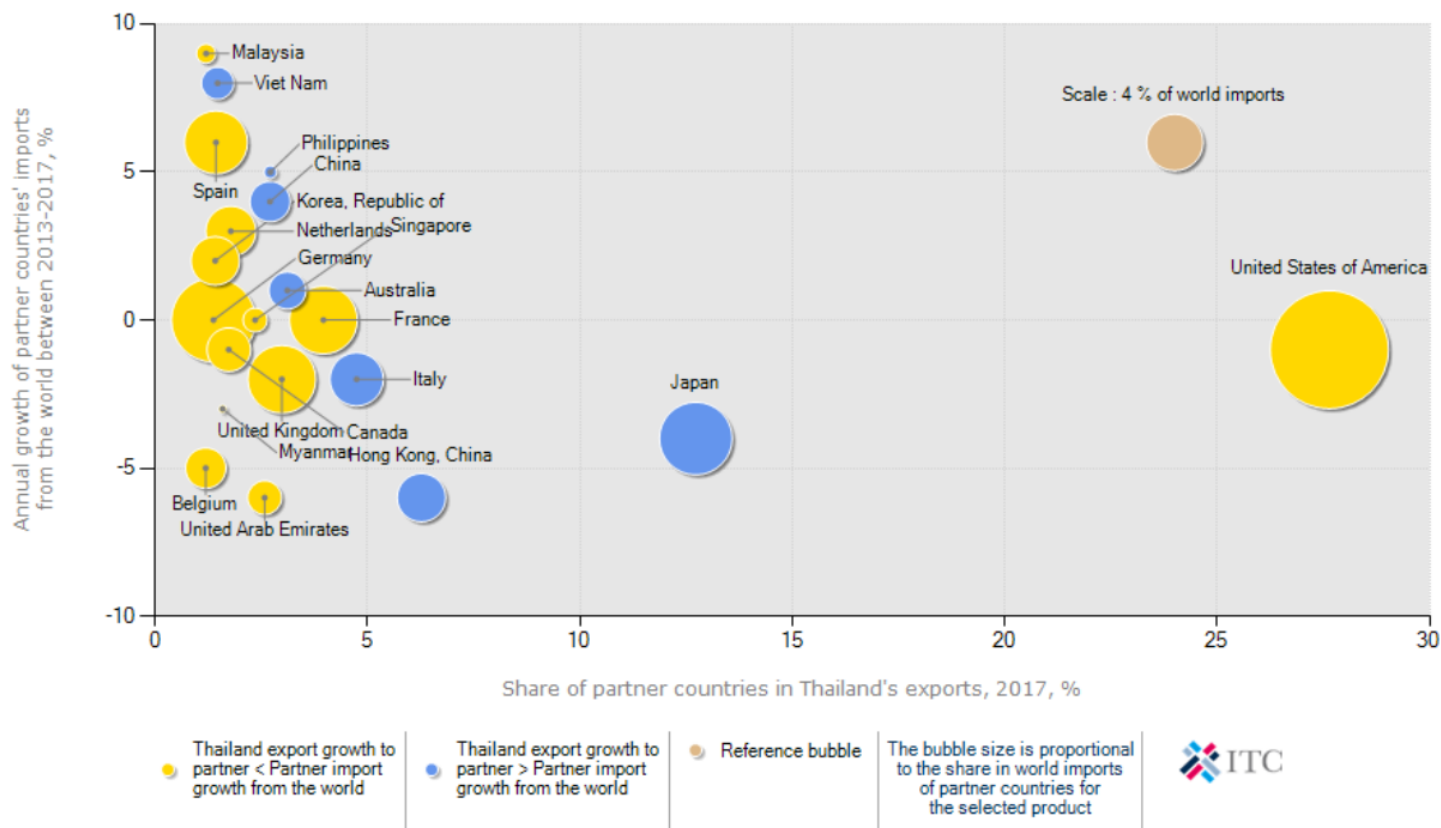
● Reference bubble

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



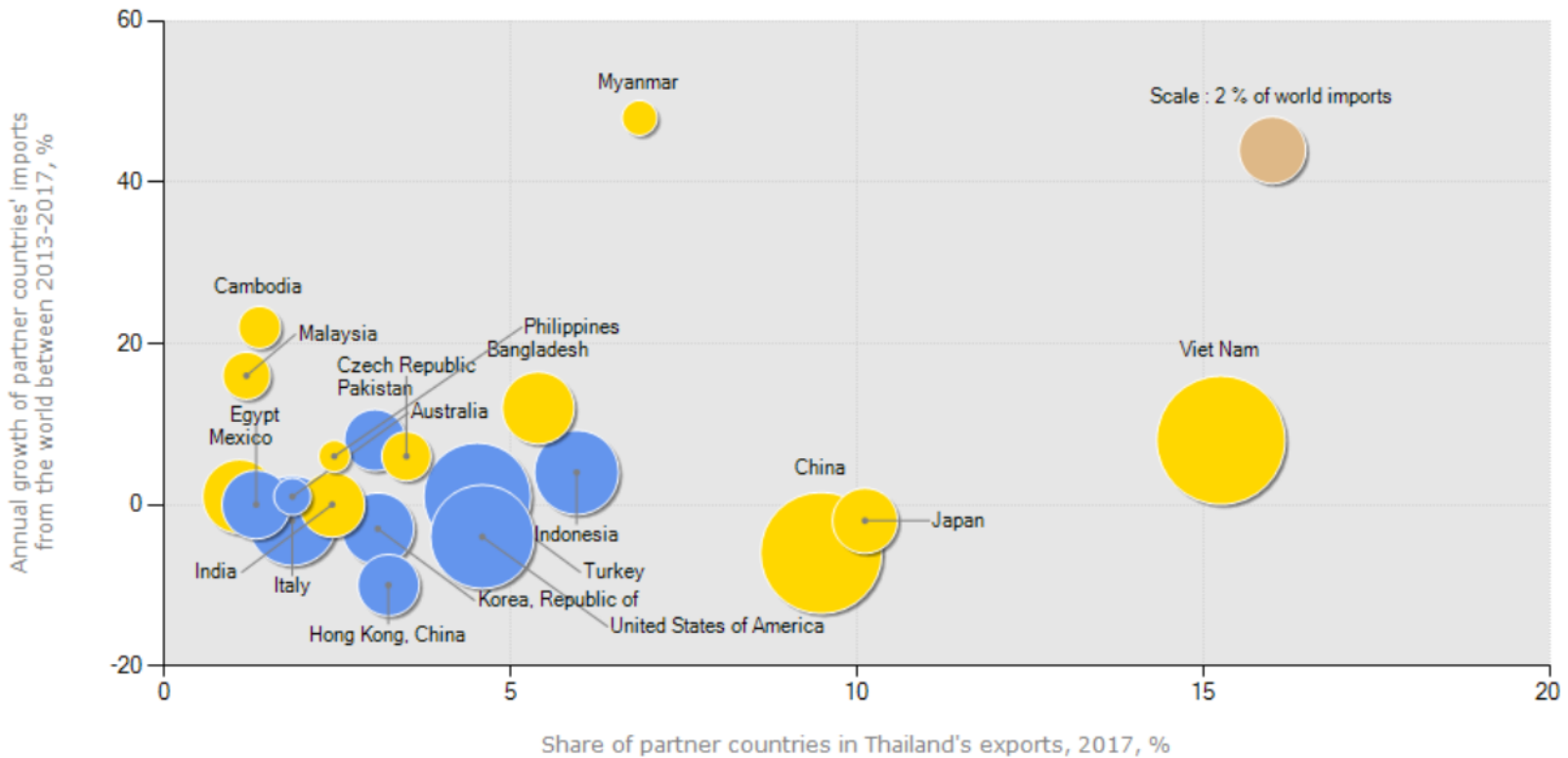
# Further downstream (P62)

Prospects for market diversification for a product exported by Thailand in 2017  
 Product : 62 Articles of apparel and clothing accessories, not knitted or crocheted



# Importers of Thailand's upstream products ( 54 )

Prospects for market diversification for a product exported by Thailand in 2017  
Product : 54 Man-made filaments; strip and the like of man-made textile materials



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

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

● Reference bubble

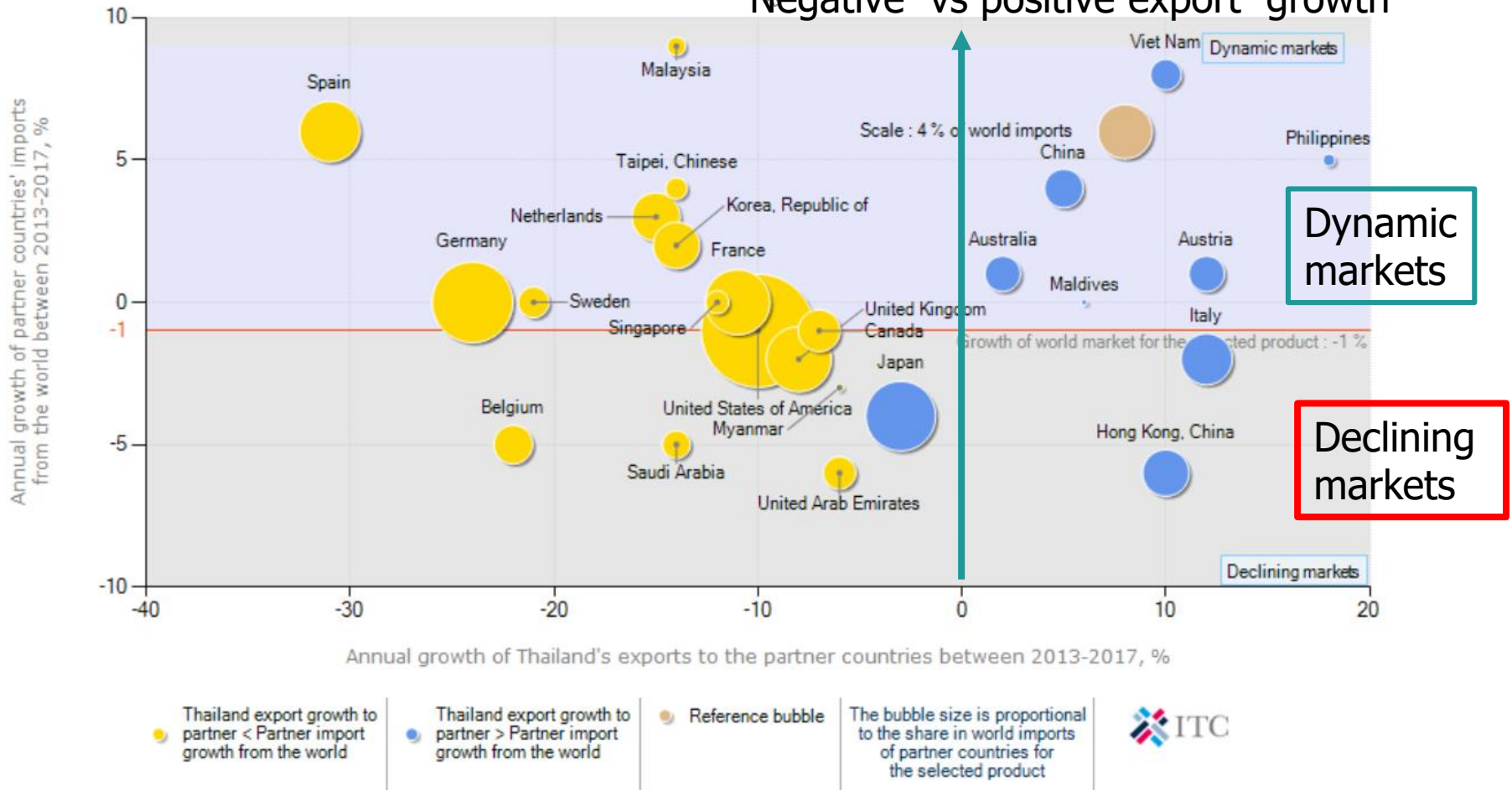
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# Product 62: Apparel (2 digits)

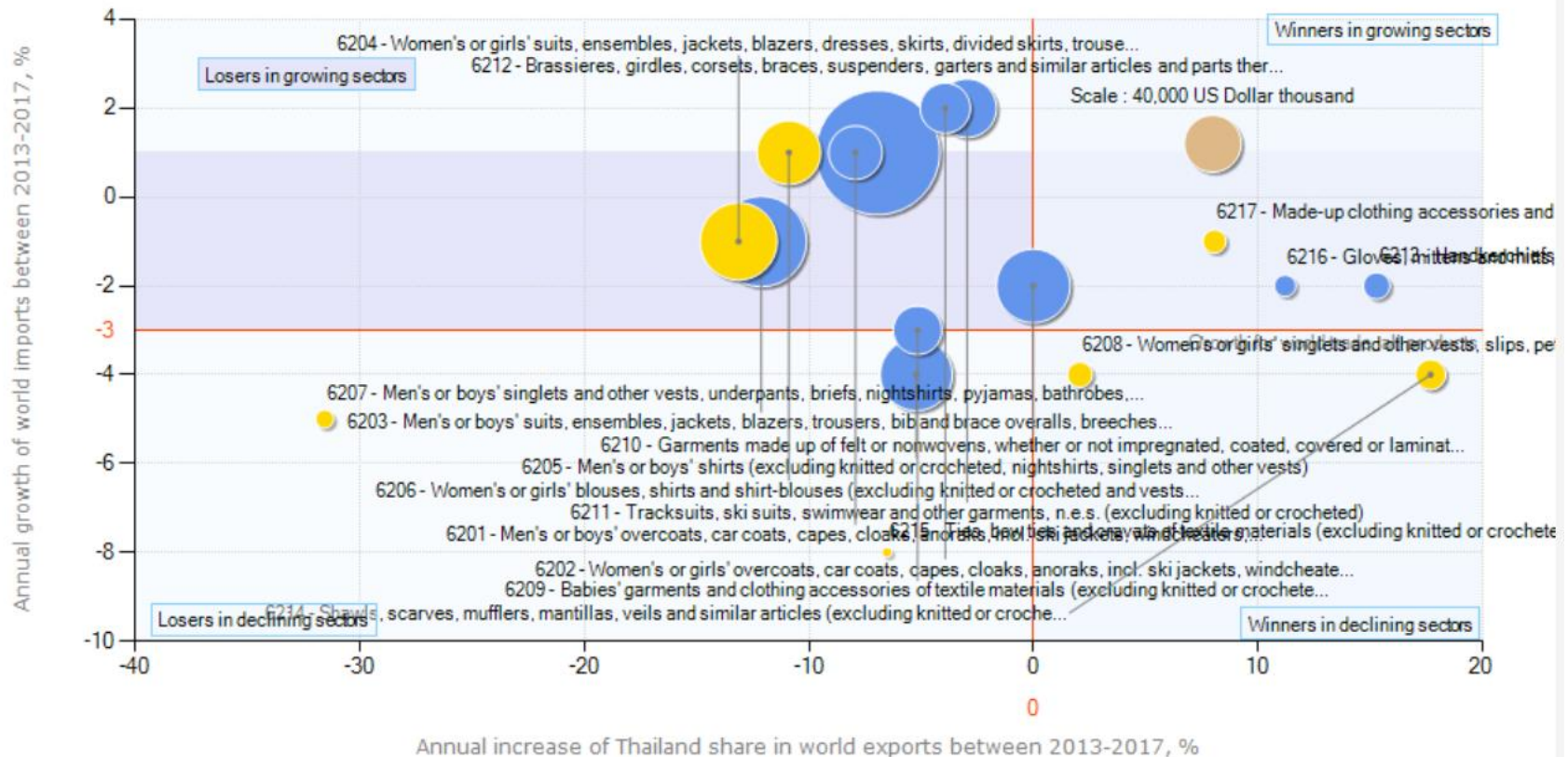
Growth in demand for a product exported by Thailand in 2017  
 Product : 62 Articles of apparel and clothing accessories, not knitted or crocheted

Negative vs positive export growth



# Lost opportunity: Thailand exports of P62xx Apparel (4 digits)

Growth of national supply and international demand for products exported by Thailand in 2017



● 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



# Thailand's imports: Product 62

## Apparel and clothing accessories

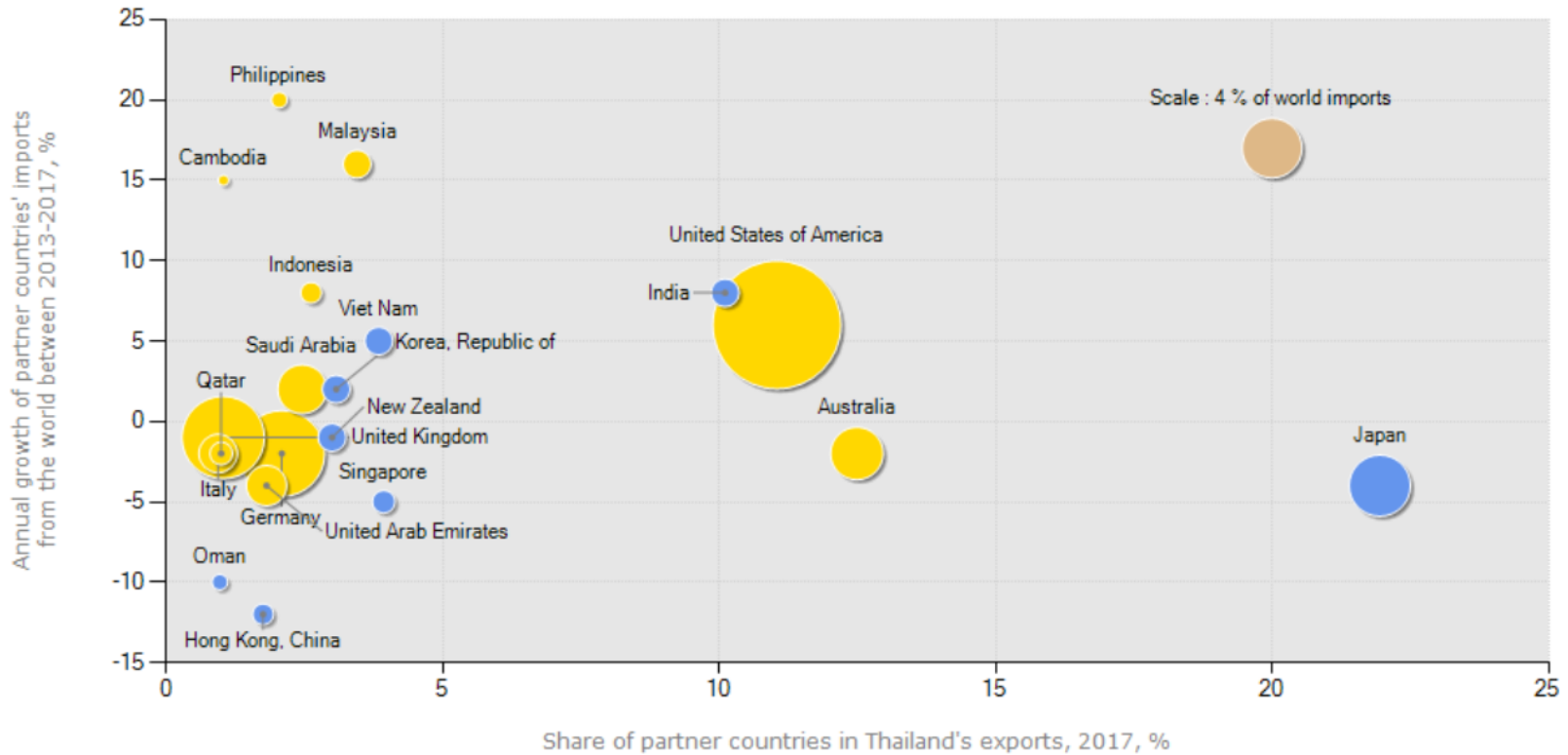
List of supplying markets for a product imported by Thailand in 2016  
Product : 62 Articles of apparel and clothing accessories, not knitted or crocheted



# Carpets and textile floor coverings

## Product 57

Prospects for market diversification for a product exported by Thailand in 2017  
 Product : 57 Carpets and other textile floor coverings

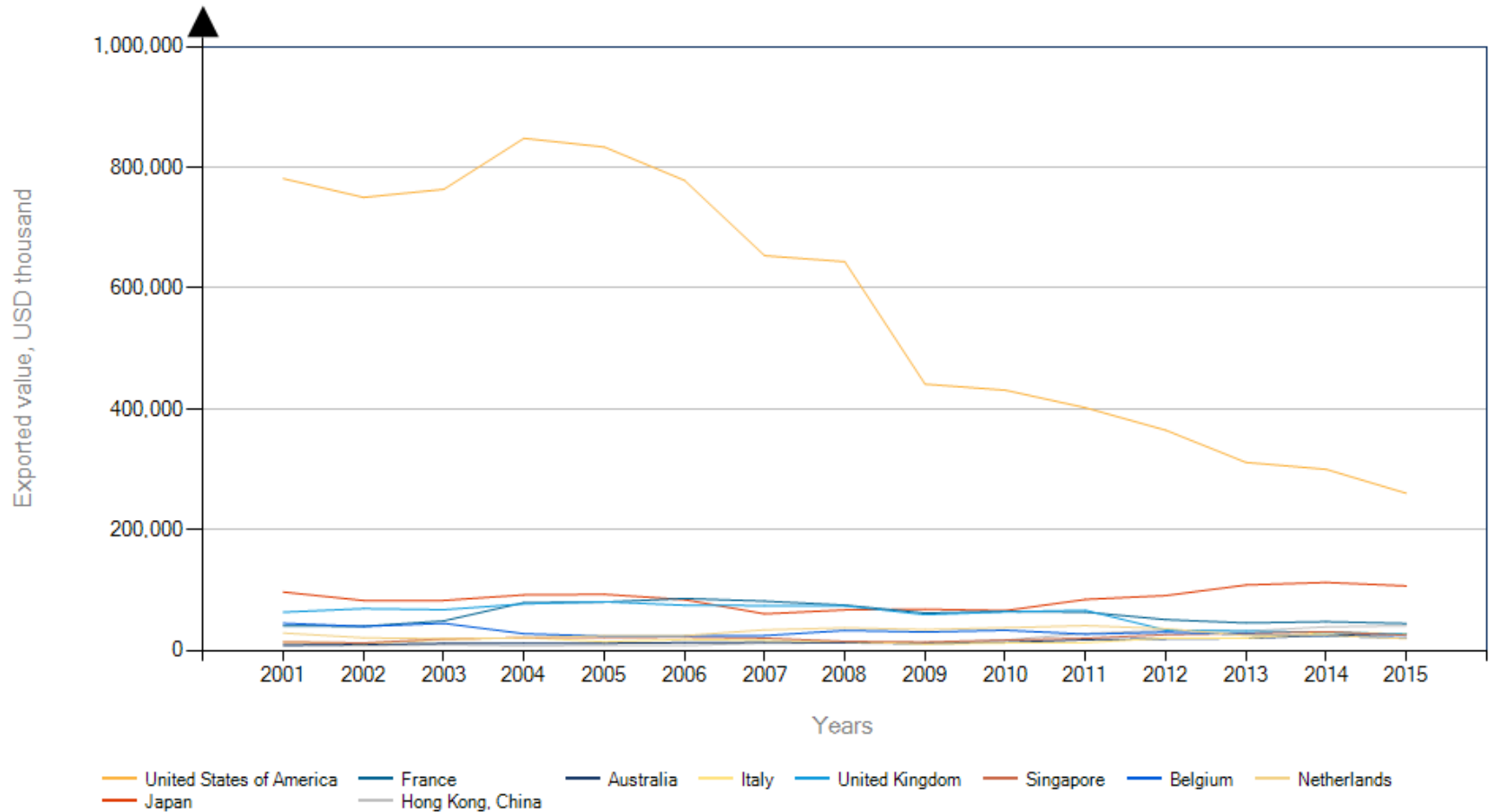


## China's expansion of domestic demand could have provided an opportunity to Thailand

- **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 its focus away from Japan.

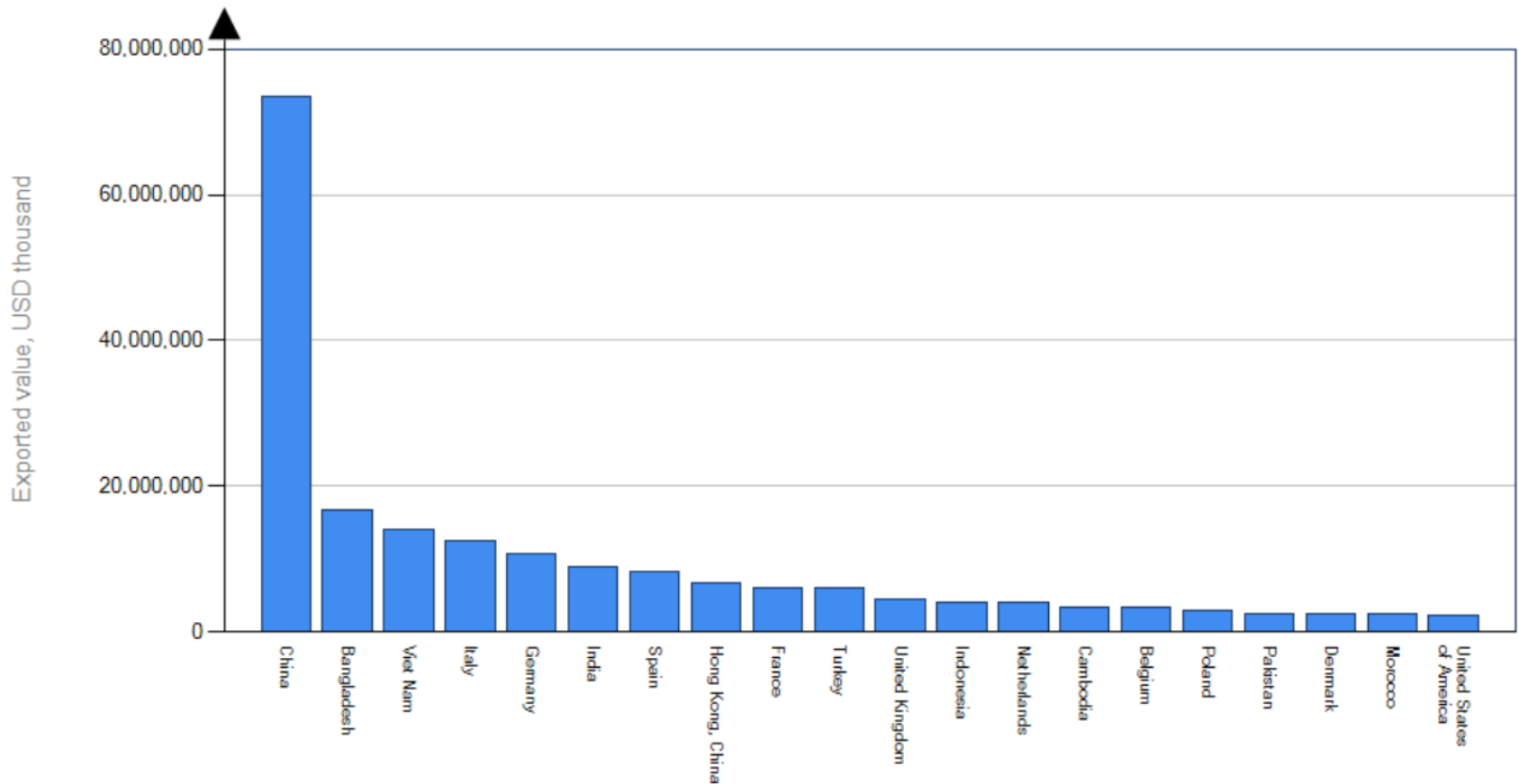
# Thailand's exports of apparel and clothing: falling demand from the U.S. (Product 62 not knitted) 2001-2015

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



# Top world exporters of product 62 2017

List of exporters for the selected product in 2017  
Product : 62 Articles of apparel and clothing accessories, not knitted or crocheted



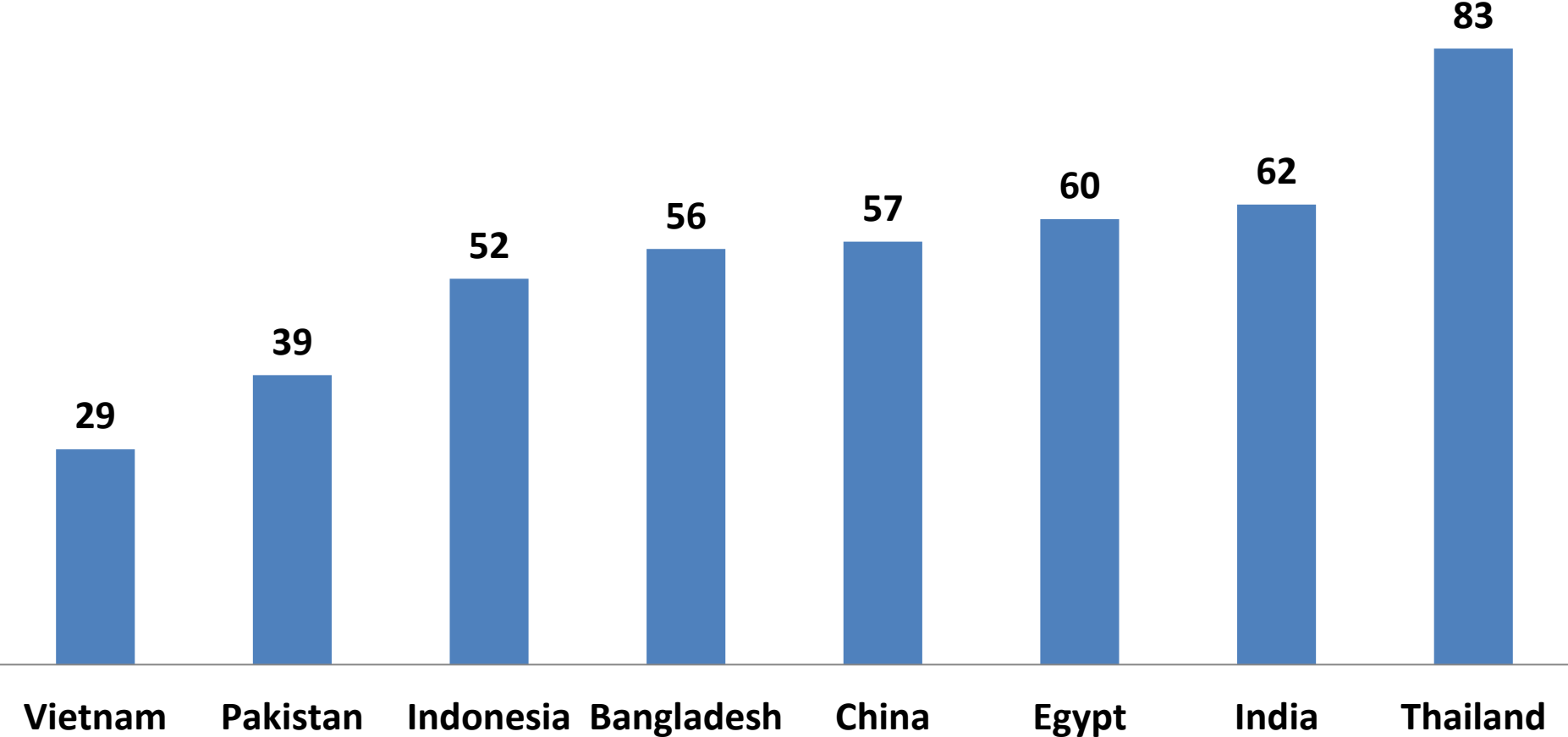
# How to attract FDI

- 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
- 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.

# Where to invest

- Expanding foreign markets encourage the outflow of Thai FDI.
- In the 2007 study by the Industrial Economics Office: 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 by 10.6 % if they made their products in China and reduced the cost by 5.1 % in India.
- (Is this 2007 research still valid these days?)

wage rate per hour (US cents)



# More than tax incentives

- China and India have higher production costs and fewer tax privileges than Vietnam, but they are more attractive regarding larger-sized markets and infrastructure.
- What are other factors attracting foreign direct investment?

## Research subsidy yields 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 as UV protection, freer air flow and a cotton-like ability to absorb perspiration easily.
- Technical spillovers deserve public subsidy (Rule for intervention: the existence of positive externality).

# *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 (I kid you not)
- 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 the garment industry (labor-intensive product).

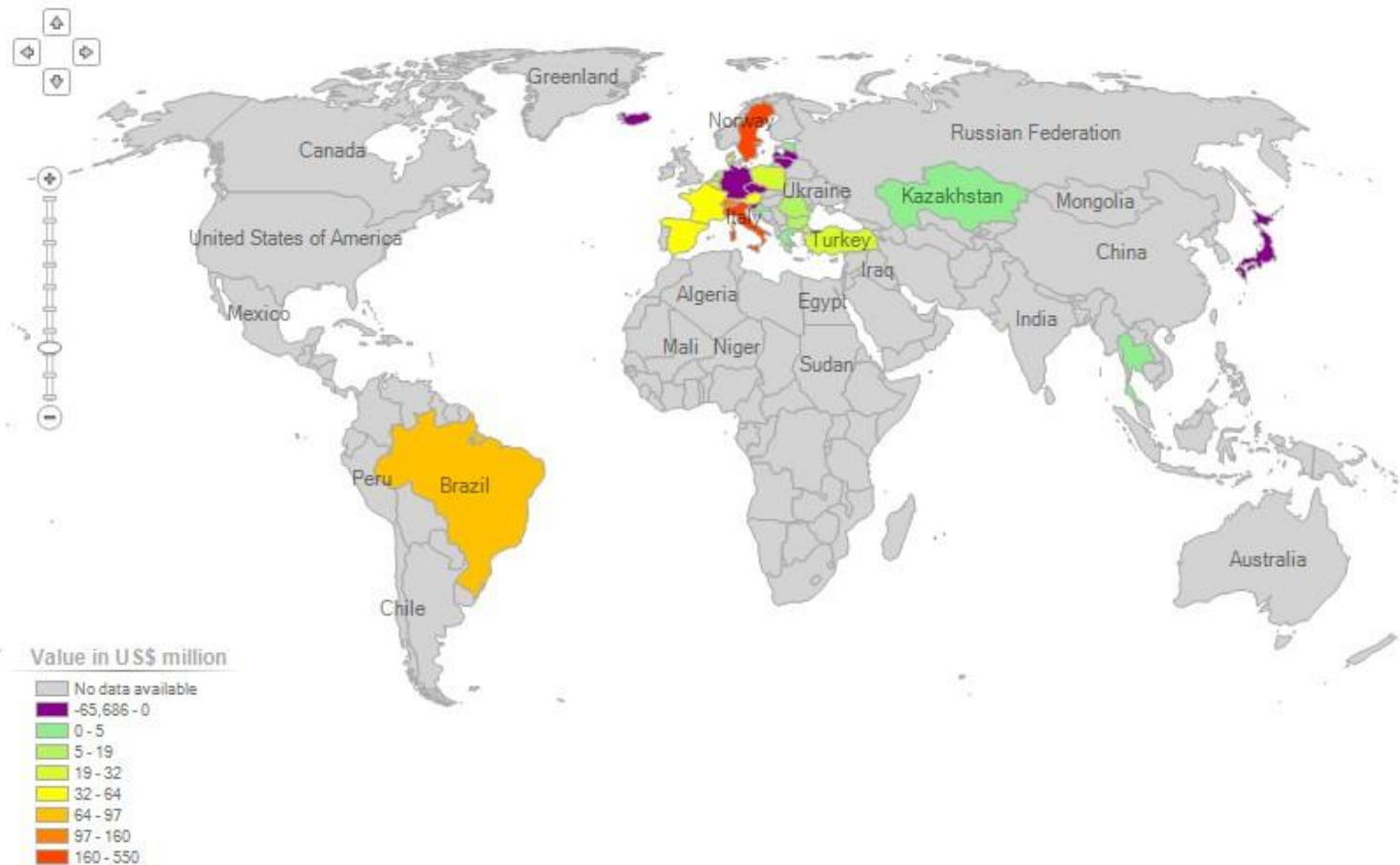
# Outflows of FDI

- 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.

# Outward FDI flow 2011

Countries investing abroad in sector: Textiles, clothing and leather

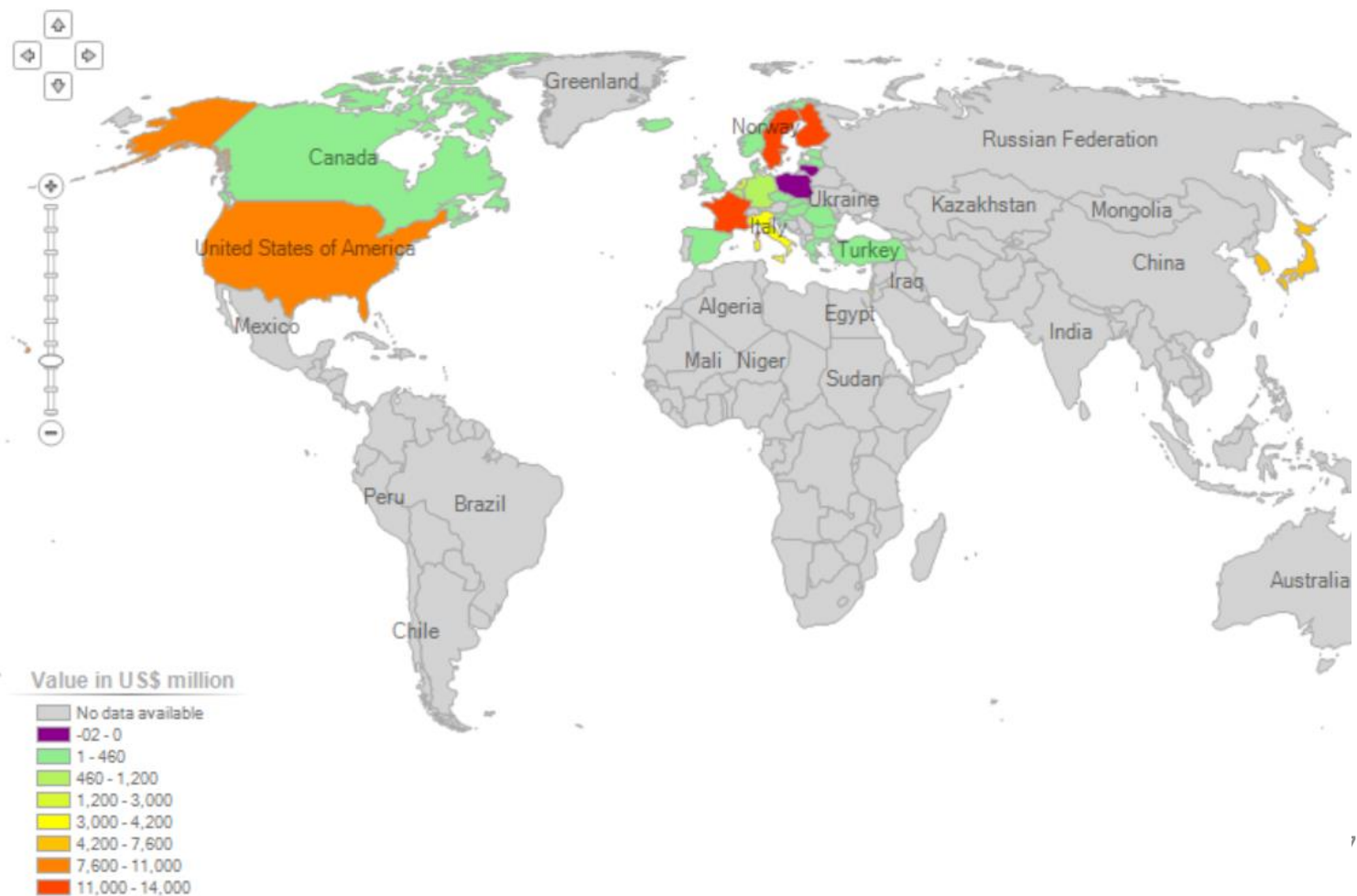
Outward FDI flow 2011



# Outward Stock of FDI: 2016

Countries investing abroad in sector: Textiles, clothing and leather

Outward FDI stock Last available year



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

- Thailand has 400,000 people working in the garment industry.
- "Right now we have a shortage of 50,000 to 60,000 people in the industry, and it should 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.
- Can immigrant workers ease the labor shortage?

# Conclusion

- The importance of textiles and clothing industry reflects in high employment, due to the nature of the industry: labor-intensive technology.
- Competitive characteristics are market and product diversifications.
- Specialization index (RCA Index) shows the industry's declining competitiveness and a lesser degree of specialization.
- The role of FDI has changed from inflows to outflows
- Cost disadvantages in the industry are labor shortage, high wages and the lack of labor productivity growth, caused by the slowdown of FDI.