

# Challenges to Thai Automobile industry

Lecture 17  
Bhanupong

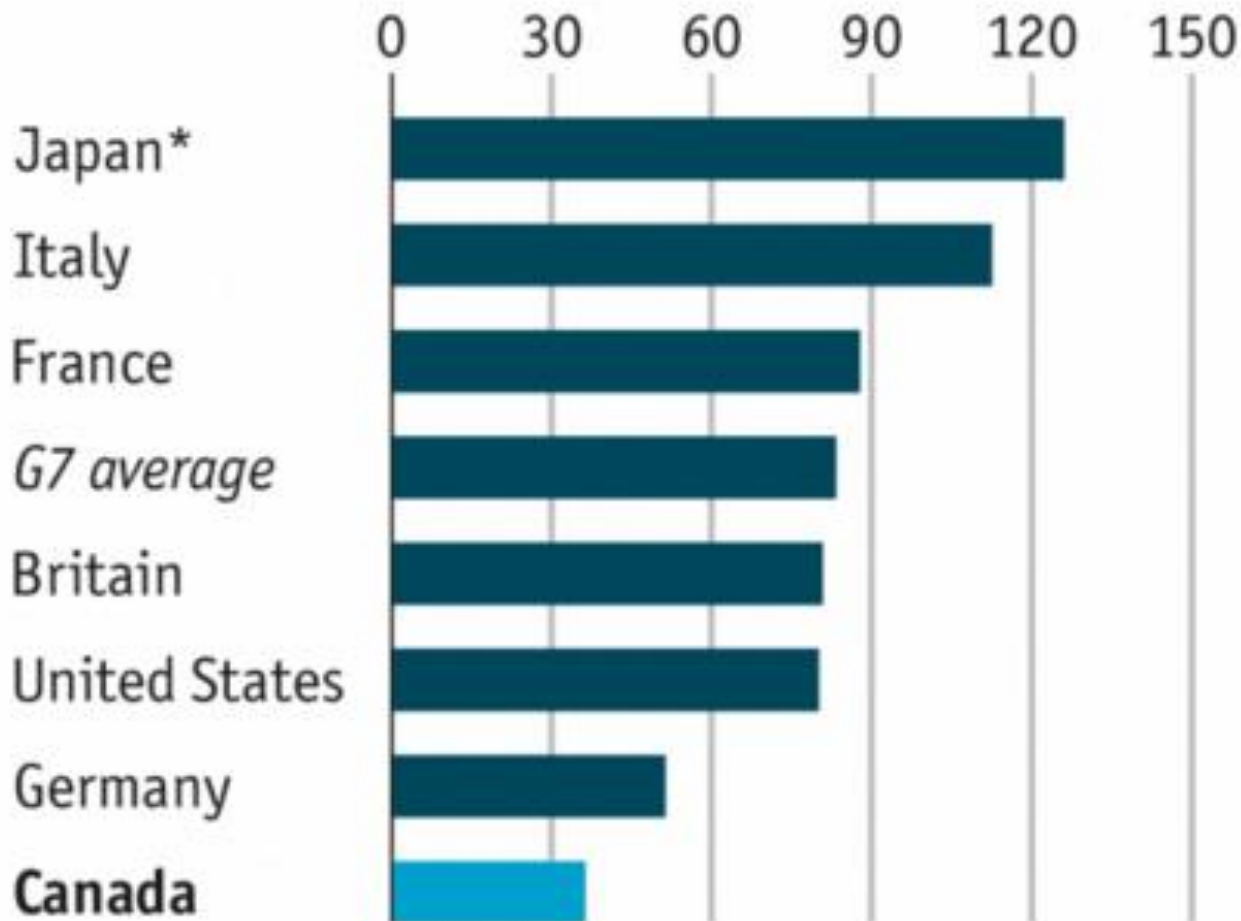
# Looser purse-strings: Canada's budget

- Today (March 22) Justin Trudeau's newish Liberal government will abandon the austerity favoured by its Conservative predecessor—and by most rich countries' finance ministries—and embrace stimulus.
- The deficit is likely to soar to about C\$30 billion (\$23 billion) in 2016-17 from around C\$2.3 billion.
- Canada has been hit hard as commodity prices, especially oil, have tumbled: GDP is forecast to grow by a languid 1.4% this year.

# Trudeau's trousseau



Net government debt as % of GDP  
2014



Source: IMF

\*Estimate

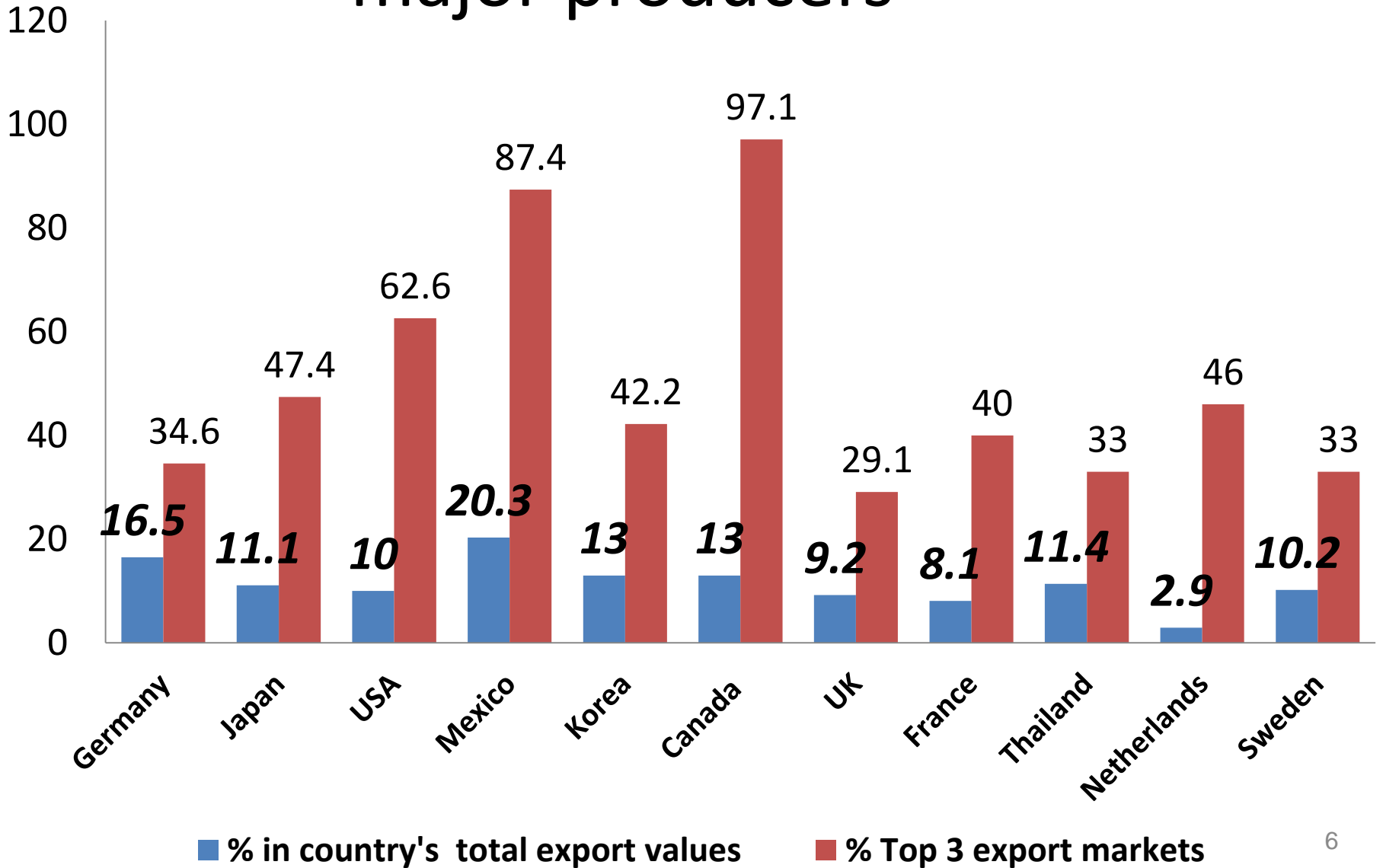
# Looser purse-strings: Canada's budget

- Expect a boost to spending on social, green and public infrastructure, which Mr Trudeau says will help the middle class.
- The finance minister, Bill Morneau, has already cut income taxes for 9m Canadians and raised them for the richest.
- With interest rates at 0.5%, after two cuts in 2015, Mr. Trudeau says that monetary policy alone can't revive the economy, so fiscal policy must do its bit.
- Net debt is the G7's lowest. With borrowing cheap, why not take advantage?

# Outline

- Trade Competitiveness Map
- Structural Analysis
- Sectoral comparison: Four Industries
- Historical perspective
- Export capability
- Trade competitiveness
- Impact of global recession and fragile recovery

# Importance of automobile industry in major producers





# Trade Competitiveness Map

Analyse country and product competitiveness with trade flows

## Transport equipment

Trade Performance HS   Consistency of Trade Statistics   **Trade Performance Index**

Country   Sector

Thailand   2013

Press Ctrl.L and click to select/deselect more than one sector, then Redo.

- Basic manufactures
- Non-electronic machinery
- IT & Consumer electronics
- Electronic components
- Transport equipment**

Re

### Trade Performance Index (by Sector): Thailand (2013)

Indicator's Description		Transport equipment (Value)	Transport equipment (Rank)
N	Number of exporting countries for the ranking in the sector	149	
G1	Value of exports (in thousand US\$)	28,532,055	
G2	Export growth in value, p.a. (%)	20%	37
<b>General Profile</b>	G3	Share in national exports (%)	12%
	G4	Share in national imports (%)	7%
	G5	Relative trade balance (%)	21%
	G8	Relative unit value (world average = 1)	0.0
	P1	Net exports (in thousand US\$)	9,912,566
	P2	Per capita exports US\$/inhabitant)	418.4
	P3	Share in world market (%)	1.72%
<b>Position in 2013 for Current Index</b>	P4a	Product diversification (N° of equivalent products)	9
	P4b	Product concentration (Spread)	42
	P5a	Market diversification (N° of equivalent markets)	19

# Electronics

## Trade Performance Index (by Sector): Thailand (2013)

Indicator's Description		Electronic components (Value)	Electronic components (Rank)
	N	Number of exporting countries for the ranking in the sector	138
	G1	Value of exports (in thousand US\$)	21,153,427
	G2	Export growth in value, p.a. (%)	6%
General Profile	G3	Share in national exports (%)	9%
	G4	Share in national imports (%)	9%
	G5	Relative trade balance (%)	-6%
	G6	Relative unit value (world average = 1)	0.0
	P1	Net exports (in thousand US\$)	-3,041,662
	P2	Per capita exports US\$/inhabitant)	310.2
	P3	Share in world market (%)	1.56%
Position in 2013 for Current Index	P4a	Product diversification (N° of equivalent products)	22
	P4b	Product concentration (Spread)	27
	P5a	Market diversification (N° of equivalent markets)	14

# IT Consumer Electronics

## Trade Performance Index (by Sector): Thailand (2013)

Indicator's Description			IT & Consumer electronics (Value)	IT & Consumer electronics (Rank)
	N	Number of exporting countries for the ranking in the sector	129	
	G1	Value of exports (in thousand US\$)	26,783,289	
	G2	Export growth in value, p.a. (%)	5%	42
General Profile	G3	Share in national exports (%)	11%	
	G4	Share in national imports (%)	6%	
	G5	Relative trade balance (%)	25%	
	G6	Relative unit value (world average = 1)	0.0	
	P1	Net exports (in thousand US\$)	10,858,811	7
	P2	Per capita exports US\$/inhabitant)	392.7	20
	P3	Share in world market (%)	2.32%	10
Position in 2013 for Current Index	P4a	Product diversification (N° of equivalent products)	4	93
	P4b	Product concentration (Spread)		92
	P5a	Market diversification (N° of equivalent markets)	9	43

# Textile Industry

## Trade Performance Index (by Sector): Thailand (2013)

Indicator's Description		Textiles (Value)	Textiles (Rank)
	N	Number of exporting countries for the ranking in the sector	131
	G1	Value of exports (in thousand US\$)	3,876,249
	G2	Export growth in value, p.a. (%)	6%
General Profile	G3	Share in national exports (%)	1%
	G4	Share in national imports (%)	1%
	G5	Relative trade balance (%)	11%
	G6	Relative unit value (world average = 1)	0.0
	P1	Net exports (in thousand US\$)	819,083
	P2	Per capita exports US\$/inhabitant)	56.8
	P3	Share in world market (%)	1.31%
Position in 2013 for Current Index	P4a	Product diversification (N° of equivalent products)	85
	P4b	Product concentration (Spread)	
	P5a	Market diversification (N° of equivalent markets)	24

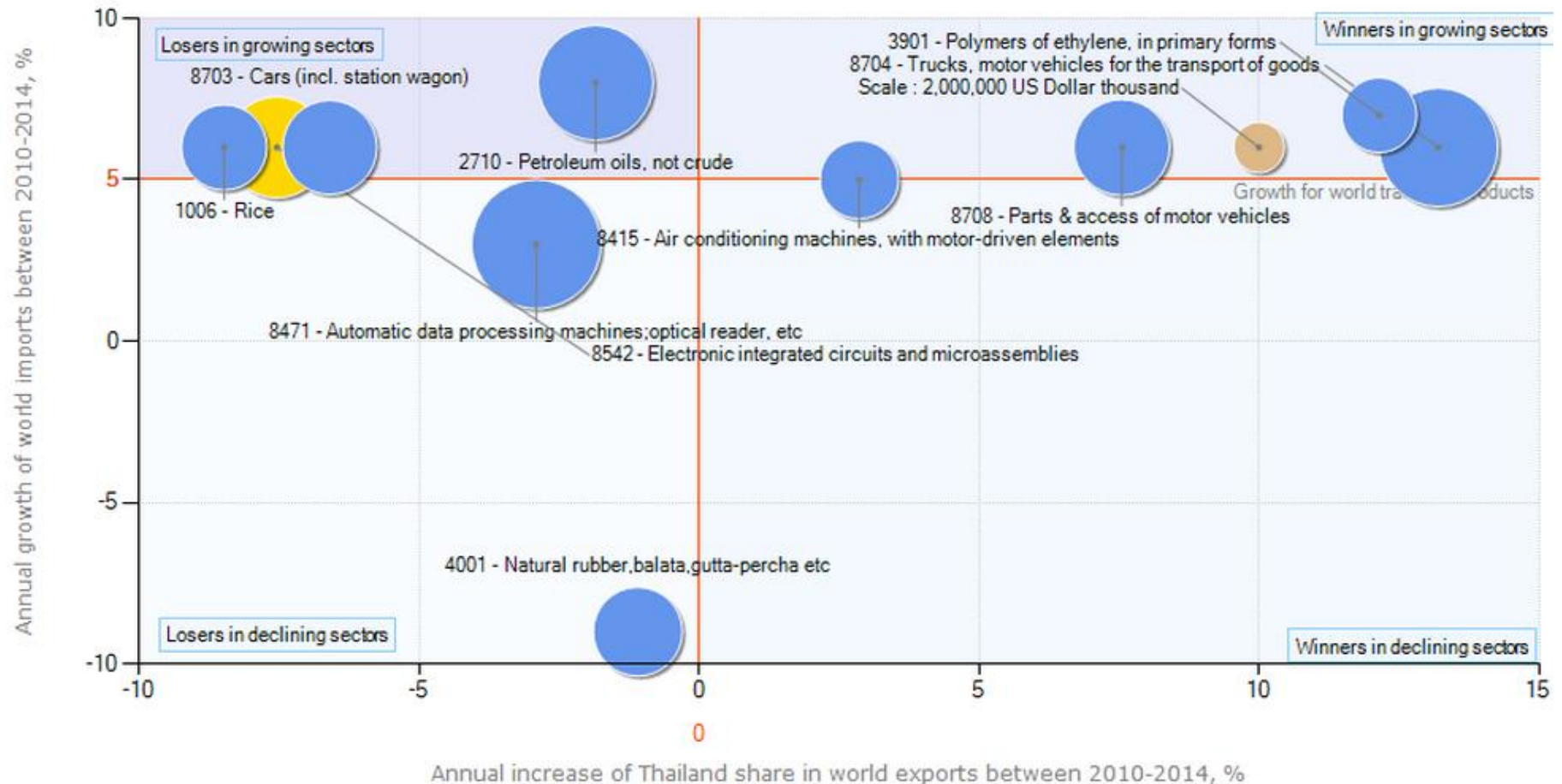
# Processed food

## Trade Performance Index (by Sector): Thailand (2013)

	Indicator's Description	Processed food (Value)	Processed food (Rank)
	N Number of exporting countries for the ranking in the sector	169	
	G1 Value of exports (in thousand US\$)	19,468,004	
	G2 Export growth in value, p.a. (%)	11%	74
General Profile	G3 Share in national exports (%)	8%	
	G4 Share in national imports (%)	2%	
	G5 Relative trade balance (%)	47%	
	G6 Relative unit value (world average = 1)	0.0	
	P1 Net exports (in thousand US\$)	12,451,951	7
	P2 Per capita exports US\$/inhabitant)	285.5	47
	P3 Share in world market (%)	2.57%	14
Position in 2013 for Current Index	P4a Product diversification (N° of equivalent products)	18	35
	P4b Product concentration (Spread)		35
	P5a Market diversification (N° of equivalent markets)	16	14

# Winners and losers

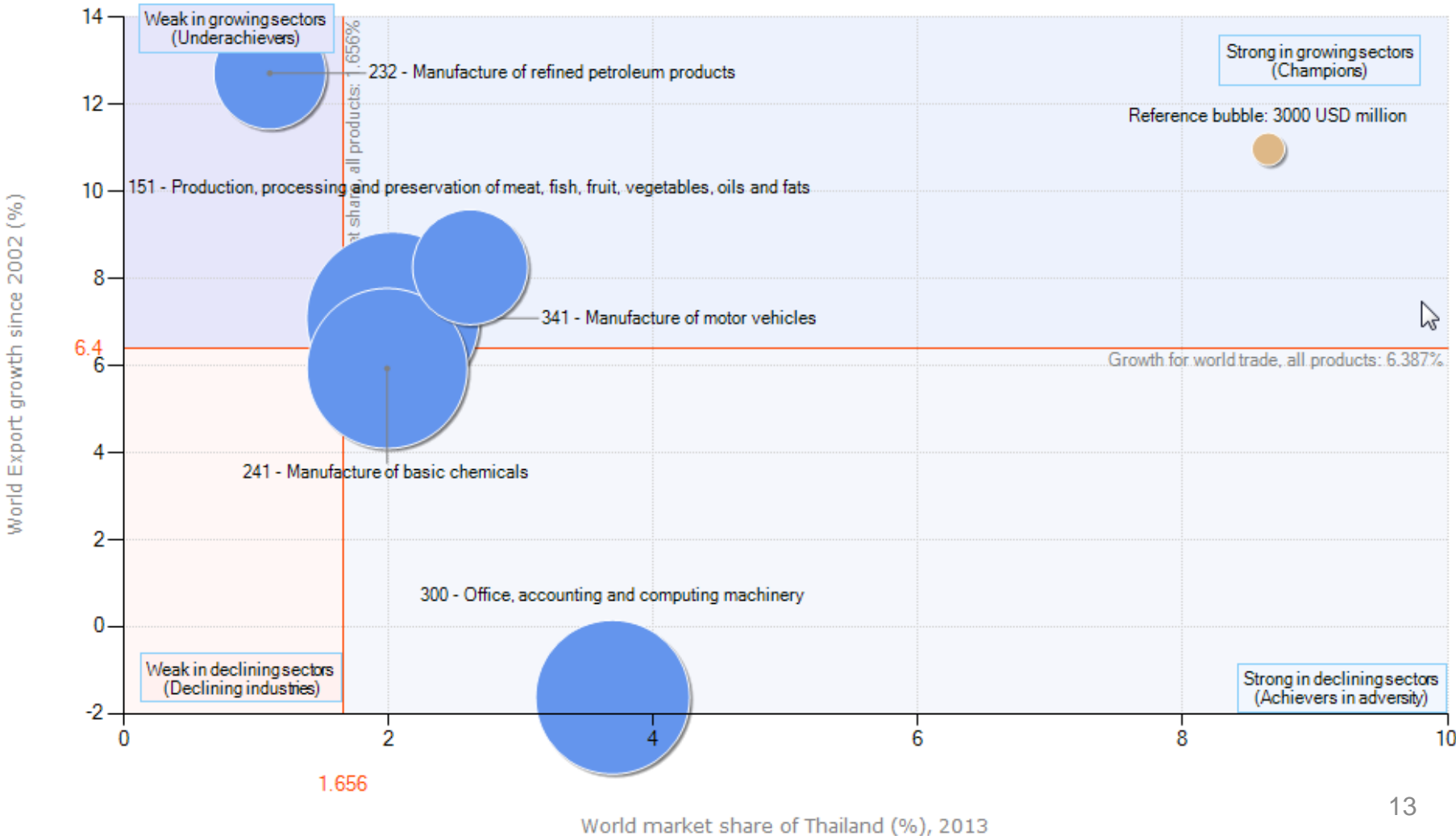
Growth of national supply and international demand for products exported by Thailand in 2014



# Structural Analysis of Thailand's exports: 2013

## Strength and weakness in growing and declining sectors

Exports of Thailand - 2013  
Structural Analysis

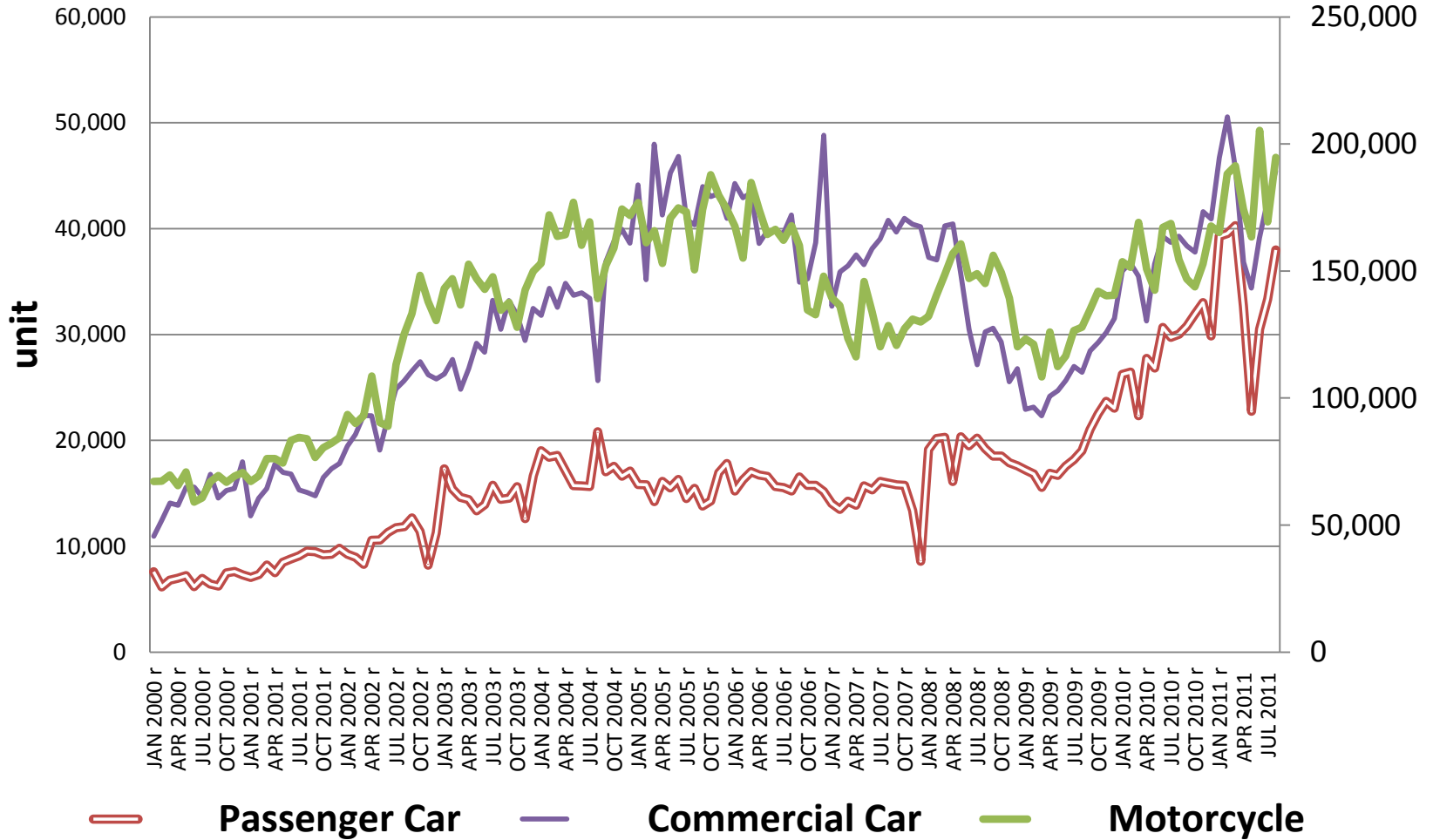


# Dominated by Japanese cars

- In 2007 total vehicle production peaked at 1.25 million units, 65% of which are one-ton pickups and 35% passenger cars.
- Japanese cars dominate production, accounting for 90% of total.
- In 2014, the market structure still remains the same.

# Domestic Car Sales

## 2000- 2011



# Challenges

- Car ownership in Thailand is 9 people per unit, much less than 1.3 in the United States and 1.7 in Japan.
- Thailand is facing competition from many Asian countries, especially China and India, to attract foreign investment from carmakers and auto parts suppliers to their homelands.

# Challenges

- The auto industry, which is the *highest* paid manufacturing sector, is facing a shortage of skilled labor.
- Salary increases are about **5.6%** per year on average and **labor unions** are very influential when compared to those in other sectors .

# An elusive target: 2m units

- The two-million-unit target is not beyond reach but it will be delayed a few years.
- Unsolved political uncertainties have dragged down some investments and the local vehicle market has been slowing down in 2009.
- In 2011, the industry forecasts of 1.8 million units despite the effects of widespread flooding, including in manufacturing areas of Honda in Ayutthaya.
- Most of the country's major automobile assembly plants and part suppliers are located in Rayong, Chon Buri and Samut Prakarn, which have yet to be affected by floods.

# Historical Development of the industry

1. Import substitution policy

(1960-1970)

2. Local content requirement

(1971-1986)

3. Semi-liberalization

(1987-1997)

4. Post crisis 1997:

export-orientation strategy

## The *first* stage of automobile industry development (1960-1970)

The auto industry was among the first to receive promotion from the Board Of Investment (BOI), hoping to create linkages to other industries.

Import substitution was created through high tariff and limitation of new assembly plants until it was lifted in 1993.

Four new assemblers had been established: Honda, GM, BMW, and Auto alliance (Ford and Mazda).

## The *second* stage (1971-1986)

### How was the auto parts industry created?

- From 1973 to 1999, the Thai government had implemented various policies: a Local Content Requirement (LCR), mandatory and selective items for localization, high import tariffs, a ban on imported CBU, a ban on new assembly plants, and localization of diesel engine.
- Local component firms produced Replacement Manufacturing (REM) as well as Original Equipment Manufacturing (OEM) parts.
- There are 200 OEM firms-Japanese owned or joint ventures.

# The *third* stage

Semi-liberalization period: 1987-1997

- By the end of 1987, Siam Motors, Nissan and MMC Sittipol (Mitsubishi) started exporting “**Champ**” to Canada.
- The minimum local content (LCR) requirement was set at **54 %** for passenger cars, **70%** for one-ton pickup trucks.
- Assemblers of pickups must use local manufactured engines; **imports of engines were banned.**
- ***Still an Infant industry?***

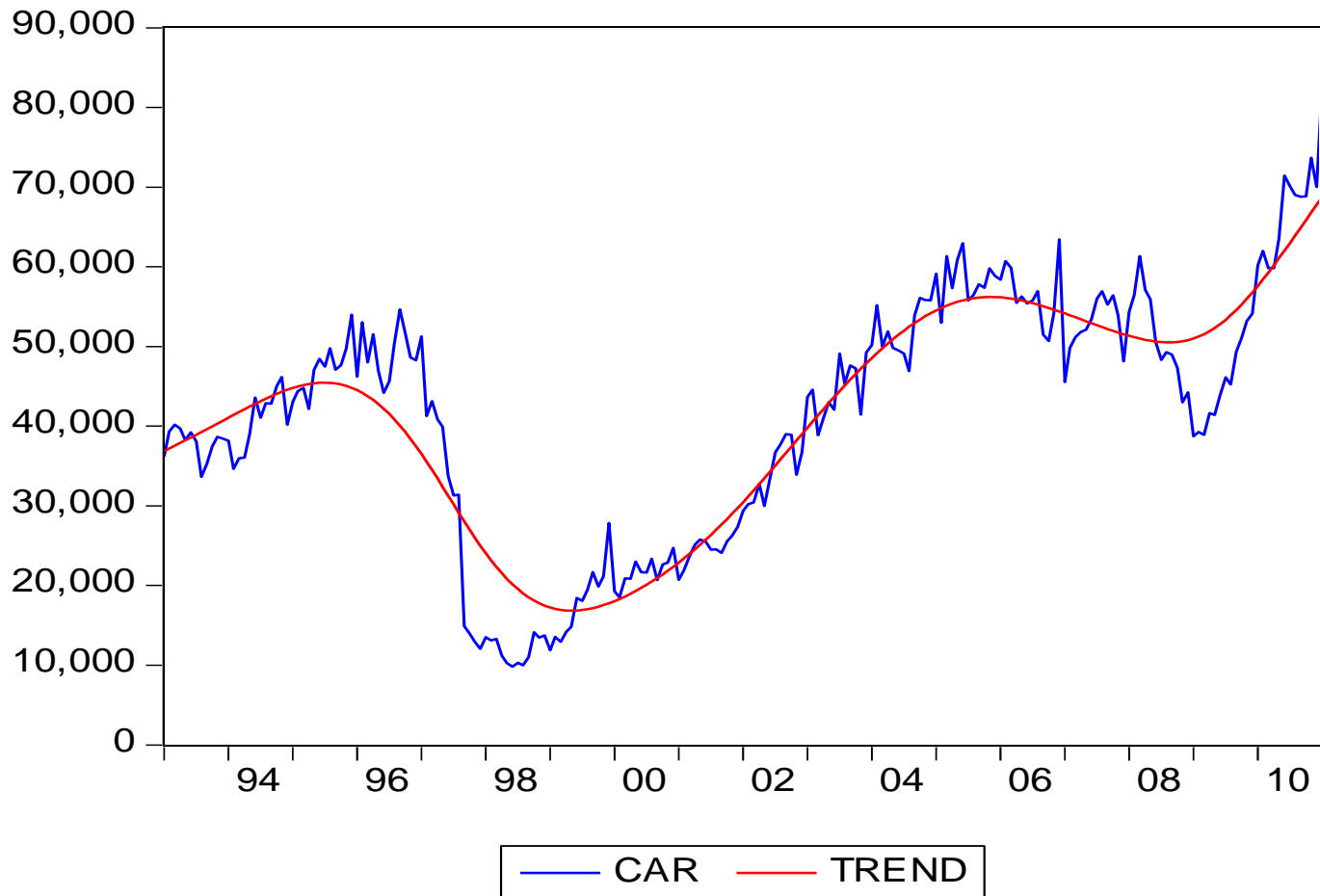
# The ban on imports of CBU was lifted in 1993

- The protective tariff system on automobiles and parts were restructured.
- The highly protected industry has become more competitive.
- *BOI promoted three Japanese joint ventures (Toyota, Nissan, and Isuzu) which began producing diesel and gasoline engines in Thailand.*

# Impact of the 1997 crisis

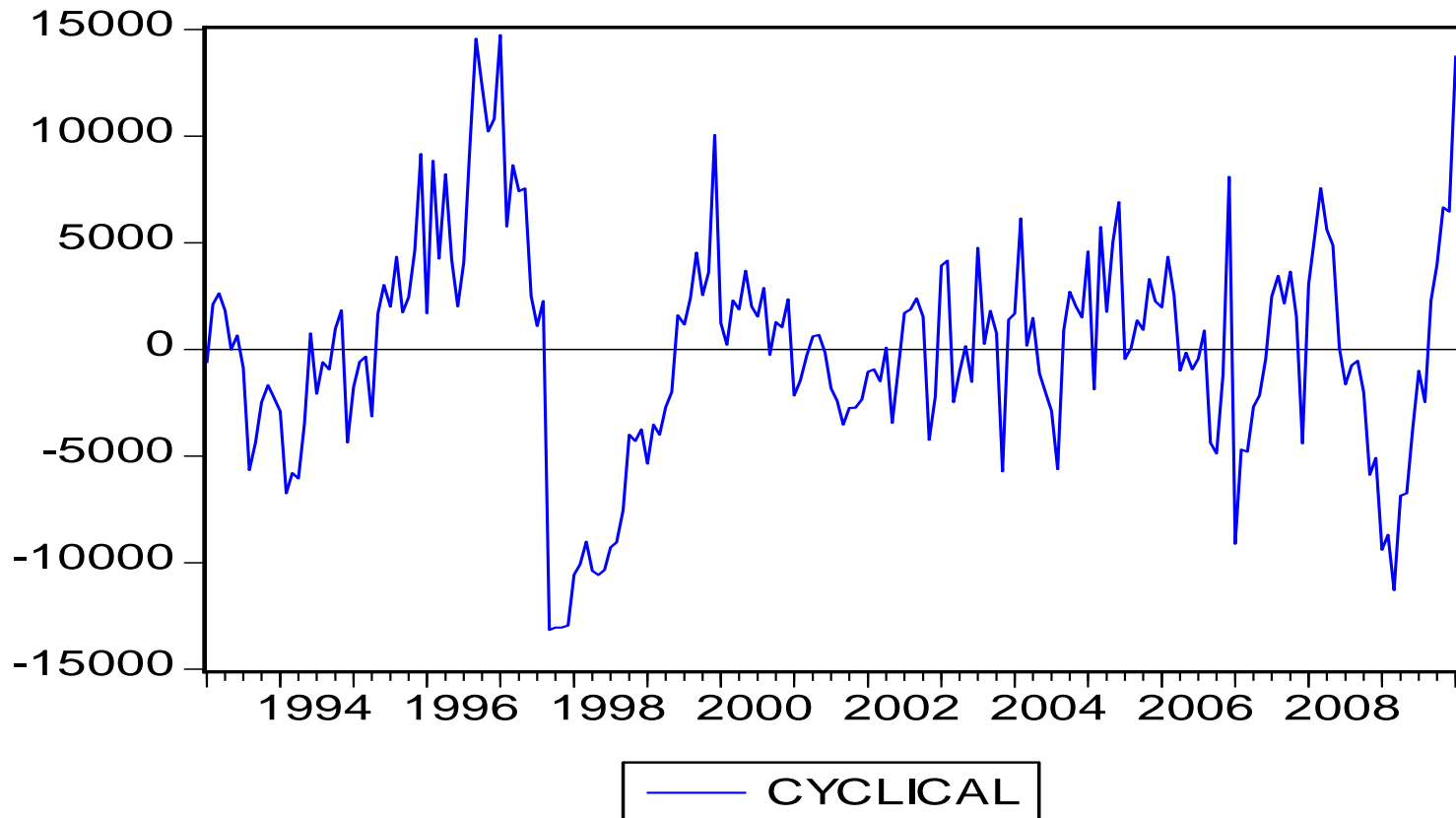
- Domestic sale declined sharply by 38 % in 1997 and 60 % in 1998.
- The capacity utilization was lowest at **17%** in 1998.
- Firms reduced production, temporary stopped production, reducing numbers of workers.
- Who drove that light blue Toyota Soluna (sub-compact model) out of the factory --during the severe economic slump in 1998?

# Domestic automobile sales: AFC, GFC, and before the floods



# Deviation from long-term trend: resilience

(number of automobile domestic sales:  
Jan 93- Jan 2010)



# Impact of the 1997 crisis: Shifting strategy

- Toyota and Honda which previously concentrated on only domestic market began **shifting** the focus to export markets by trying to utilize excess capacity.
- Baht depreciation helped during the time when the rest of the world was growing
- *The slower we change, the faster we die.*
- **What is the big difference between time and money?**

# The fourth stage of car industry development

## Export orientation

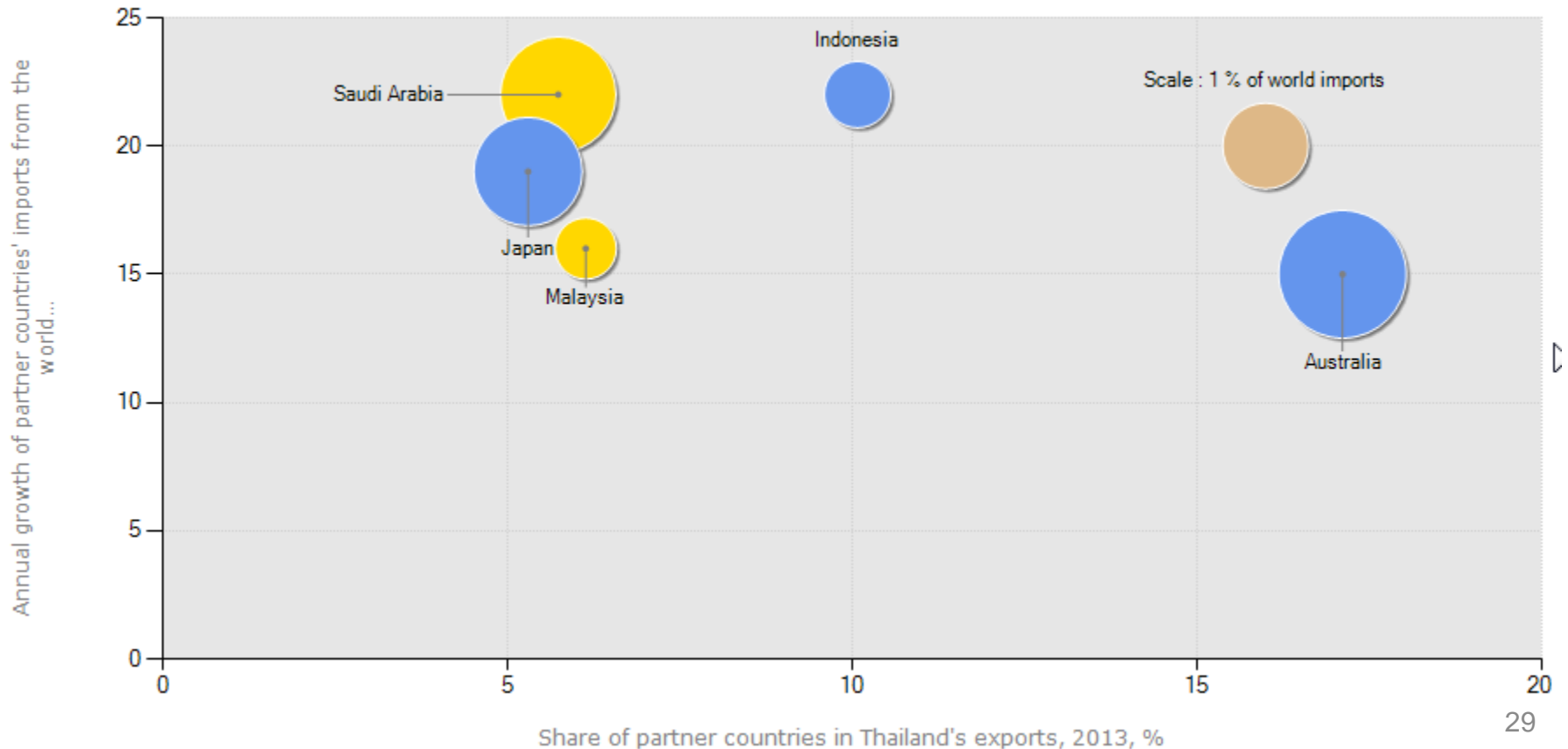
the post 1997 era

- Before 1997, most production went to domestic market where local people had high purchasing power—only a small amount was exported.
- After the crisis hit and domestic demand collapsed, producers aimed more at the export markets.
- The crisis was a blessing in disguise.
- **The LCR was abandoned by the end of 1999**
- *Can we establish an industry starting with export promotion policy instead of import substitution policy?*
- After 40 years of development, Thai automobile industry has become externally oriented

# Export market diversification of vehicles

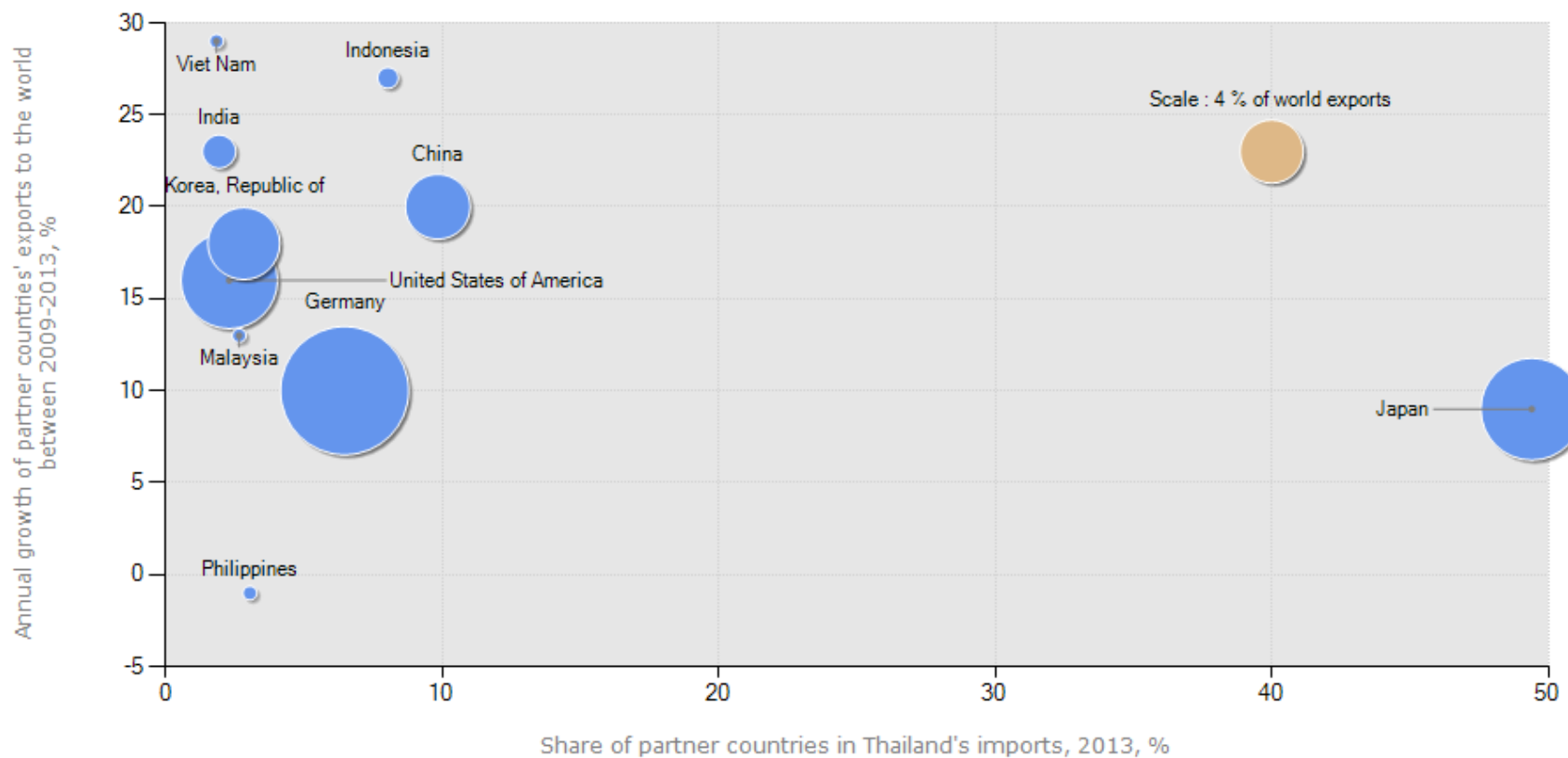
## *Top 5 markets*

Prospects for market diversification for a product exported by Thailand in 2013  
Product : 87 Vehicles other than railway, tramway



# Top 10 countries where Thailand imports vehicles

Prospects for diversification of suppliers for a product imported by Thailand in 2013  
Product : 87 Vehicles other than railway, tramway



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

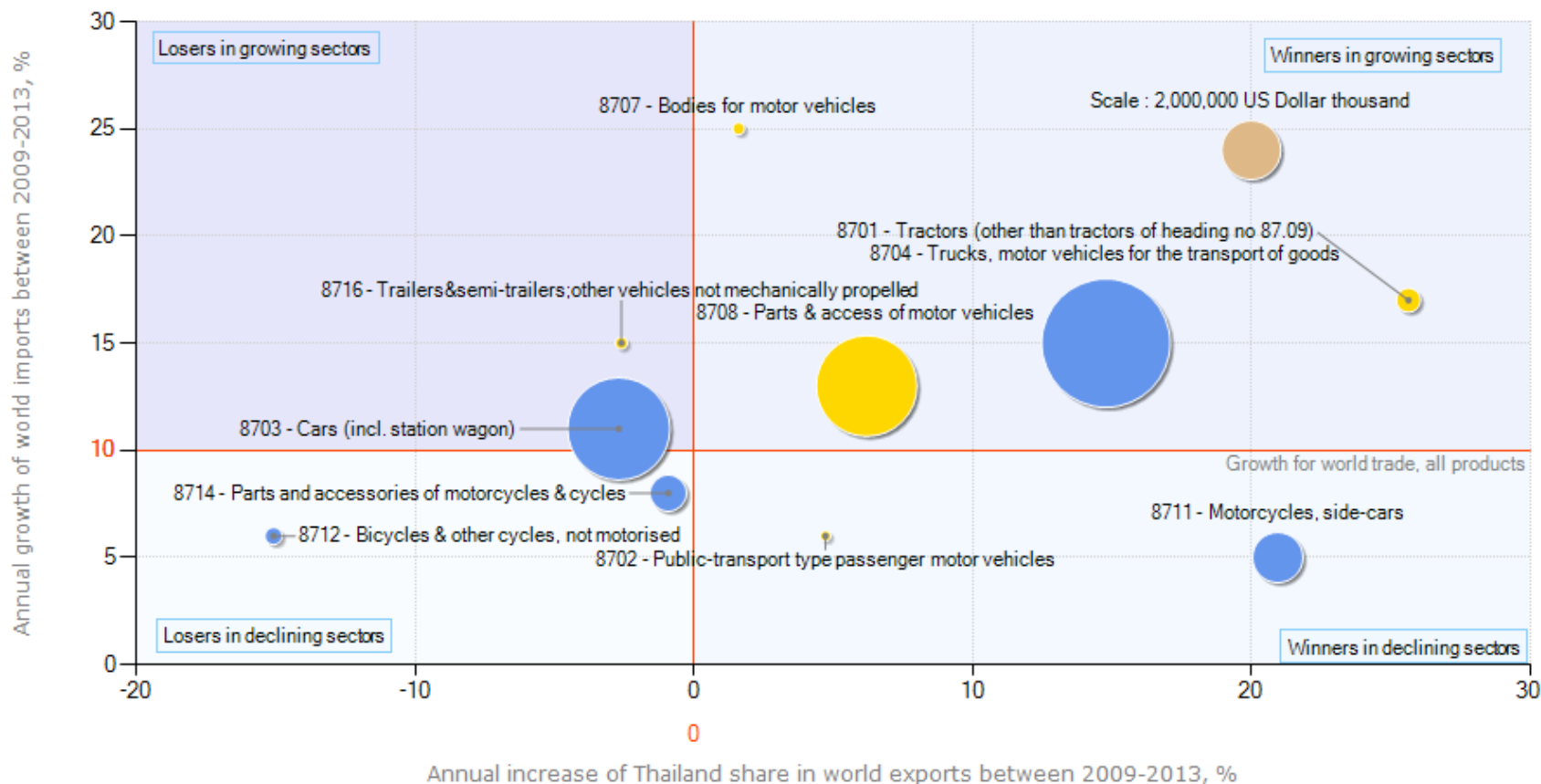
● Reference bubble

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



# Growth of Thailand's share in world exports (X-Axis) and growth of world imports (Y-Axis) (average rate: 2009-2013)

Growth of national supply and international demand for export products of Thailand - 2013



● 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

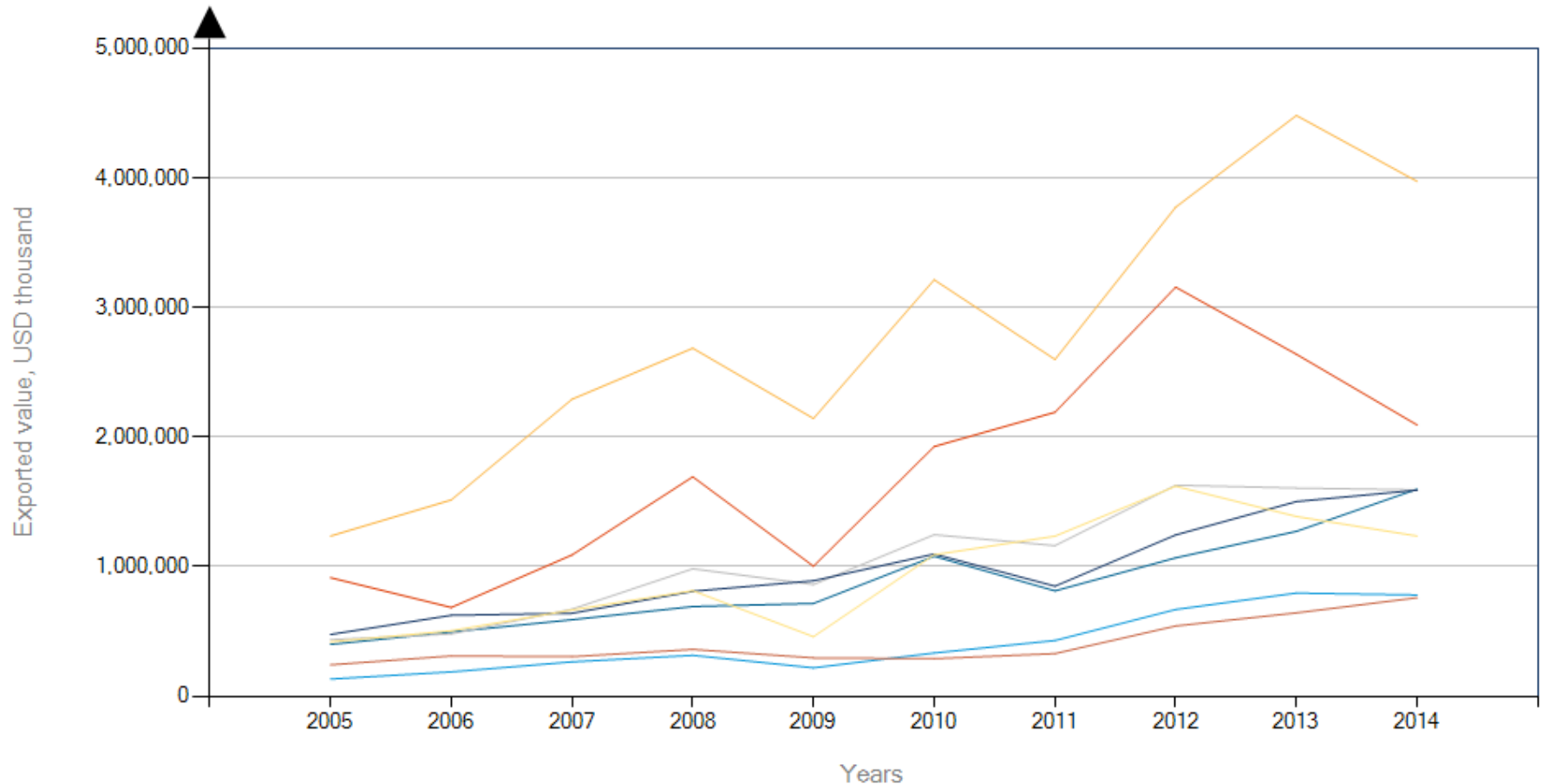


# Exports Galore, until..

- Exports of automobiles increased sharply after the crisis, from 14,020 units in 1996 to 42,218 in 1997, to 67,857 in 1998, and 125,702 units in 1999.
- Some part and component firms succeed in penetrating export markets of some products: ***safety glass, ignition coils, wiring harnesses, air and oil filters.***
- What are **backward** and **forward linkages** in the industry?

# Importing markets for Thailand's vehicles and parts

List of importing markets for a product exported by Thailand  
Product: 87 Vehicles other than railway, tramway



# Importance of parts and components

- Exports of automobiles and auto parts have continually increased since 1997, as many foreign conglomerates have moved their production bases to Thailand.
- Strong **auto-parts** industry is a fundamental support for the growth of automotive production and attracts foreign companies to move their bases here.

# Why did foreign firms invest in Thailand's automobile sector?

- Thailand has no ***national car*** project; thereby offering a level playing field.
- Open market policy (lifting LCR, reducing import tariff on raw materials).
- Expanding domestic markets and establishing export platform.
- World class suppliers of parts followed GM and Ford's relocation to Thailand.

# Problems with local **parts suppliers**

- They need to meet international standard on Quality, Cost, and timely Delivery (QCD)
- Costs of parts and raw materials was reduced by 15-30% by 2006, but can we still compete in 2011?
- Plants in Thailand have limited role in *process engineering*.
- The lack of process engineering capability was due to the fact that suppliers in Thailand ***need not*** perform designing, tooling, or production process themselves.

# Toyota's production network

Source: JETRO and Japanese Automotive Parts Industry

- Thailand: **diesel engine**, steering column, body parts, pressed and resin parts
- Malaysia: **engine computers**, steering linkages, wiper arms and blades
- Indonesia: **gasoline engine**, multi-purpose vehicle CKD, door locks and door frames
- Philippines: **transmissions**, drive shafts (front wheel) and switches

# Honda's regional production network

- **Thailand:** pressed parts, meter parts, and cylinder blocks
- **Malaysia:** bumpers, dashboard, constant velocity joints
- **Indonesia:** cylinder blocks and heads, engine valves, **automatic** transmissions
- **Philippines:** **manual** transmission, exhaust parts, pedals

# Determinants of the demand for durable goods

- The improved economy, low interest rates, strong competition among carmakers are major positive factors contributing to expanding local markets.
- Expected or permanent income
- Credit availability
- ***User cost of capital***
- Expectations of future prices
- The depreciation rate

# What is the user cost of capital?

- Price of the capital goods ( $P_k$ )
- Interest rate ( $r$ )
- Depreciation rate ( $d$ )
- Expected increase in the price of the capital goods
- *Tax rebate* and allowances ( $\tau$ )

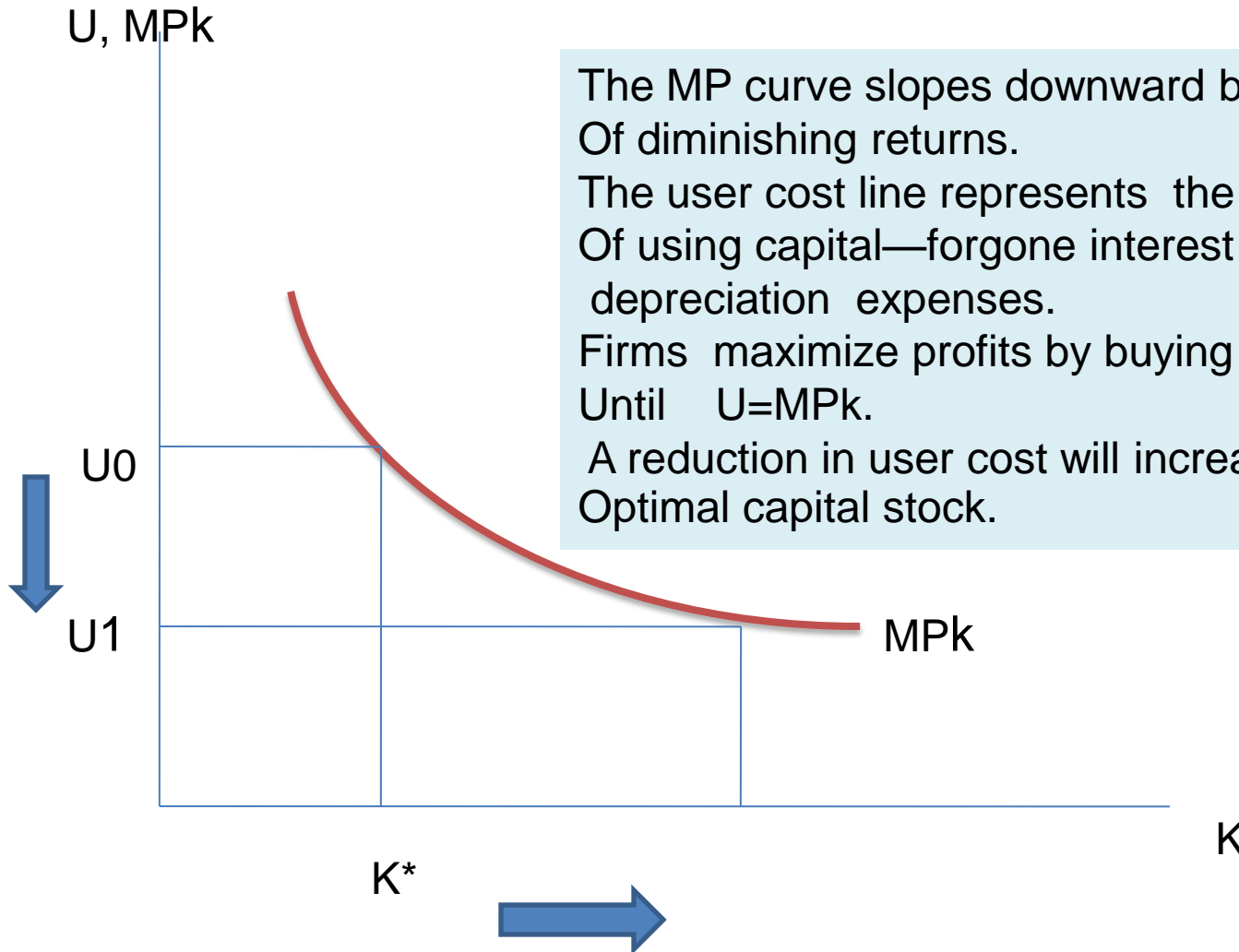
# User cost of capital

(Tax rebate for first time owner of sub-compact car)

$$Uc = (r + d - \tau - P_{kt}^e)$$

How can fiscal and monetary policy affect car sales?

# The user cost and the optimal capital stock



The  $MP$  curve slopes downward because of diminishing returns. The user cost line represents the cost of using capital—forgone interest plus depreciation expenses. Firms maximize profits by buying capital until  $U = MP_k$ . A reduction in user cost will increase the optimal capital stock.

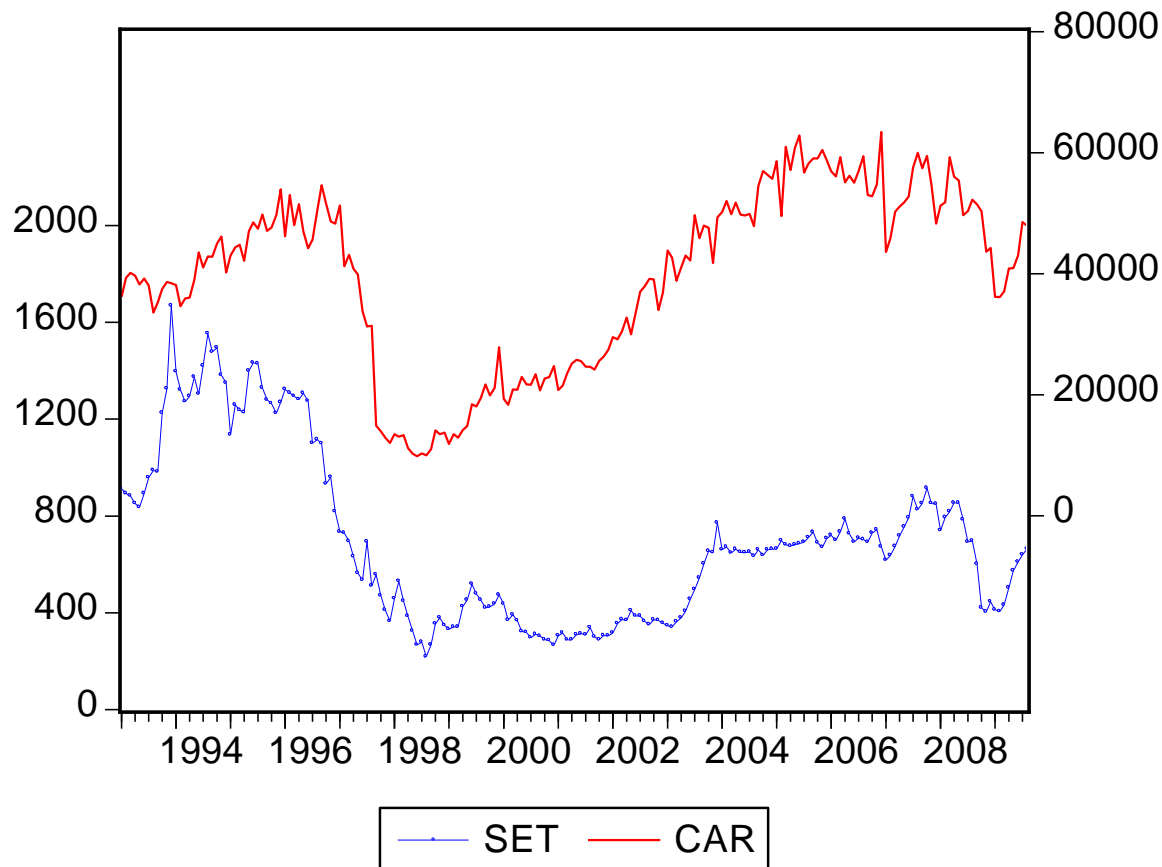
# Bangkok Post: March 24, 2016

- "Every stimulus package offers benefits to the economy," said chief operating officer of Honda Automobile (Thailand).
- According to him, such measures might be able to significantly raise domestic sales to more than 1 million cars a year, but they are not sustainable.

# A long term plan

- President of Suzuki Motor (Thailand), said the company was poised to commence the second phase of its eco-car scheme soon with an investment of 8.43 billion baht, but noted that this also hinges on market conditions
- Investment in the second phase of eco-car development is planned for the long term, but short-term factors should be taken into account as well, " .

# *Financial assets and mobile property* what determinant factors do they have in common?



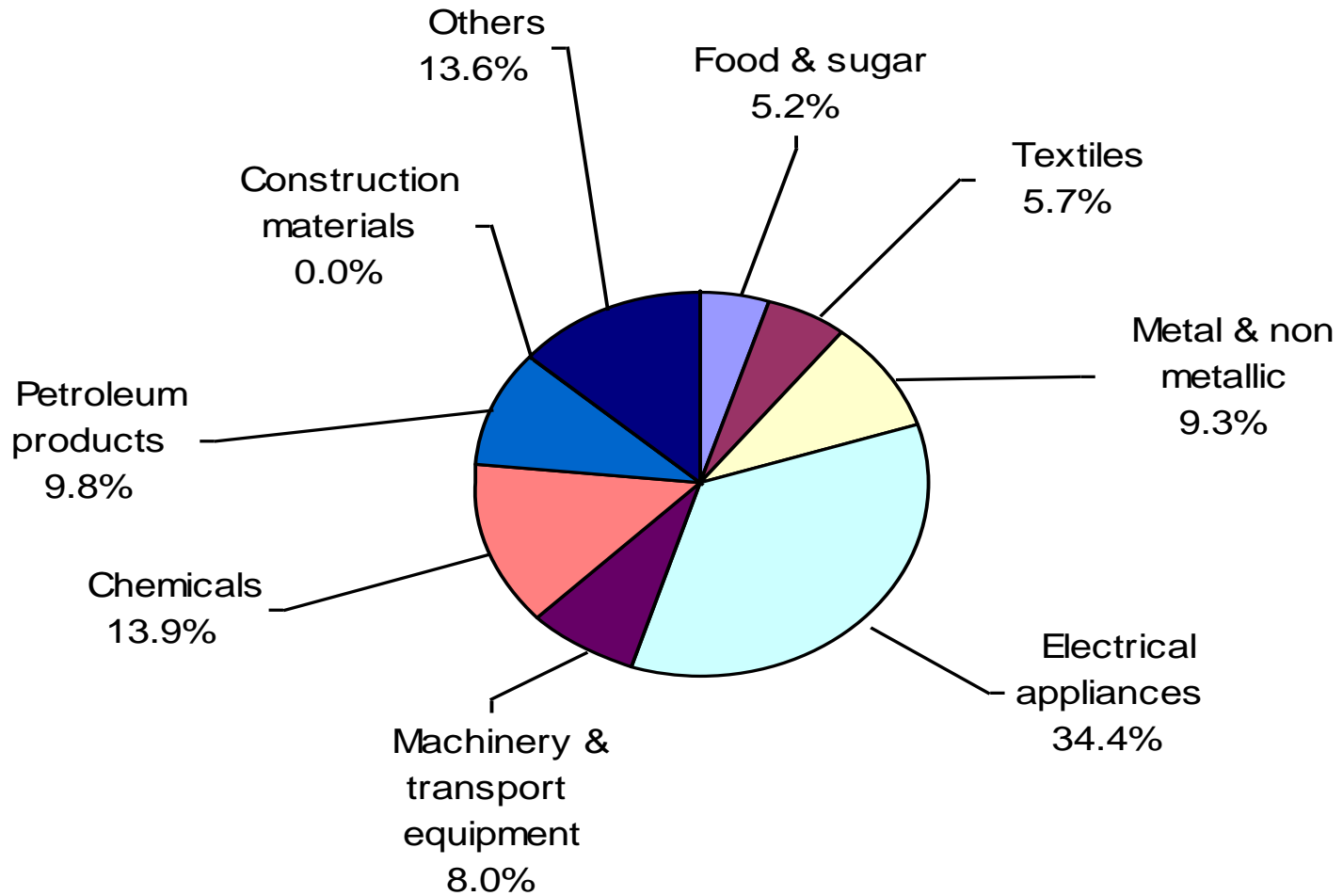
# On the road to becoming Detroit of the East? (Dream on)

- Thailand is the largest automobile market in Southeast Asia.
- It has 1,095 **auto parts** producers, compared with 385 in Indonesia, and 232 in Malaysia.
- Thailand *hoped* that BMW would locate a design center in Thailand (the third after similar operations in Germany and California)
- *Where can we find the best car designer in the world?*
- The country's pickup truck market is also said to be the second largest in the world after the US, because of the strength of the grassroots and small-business economy.

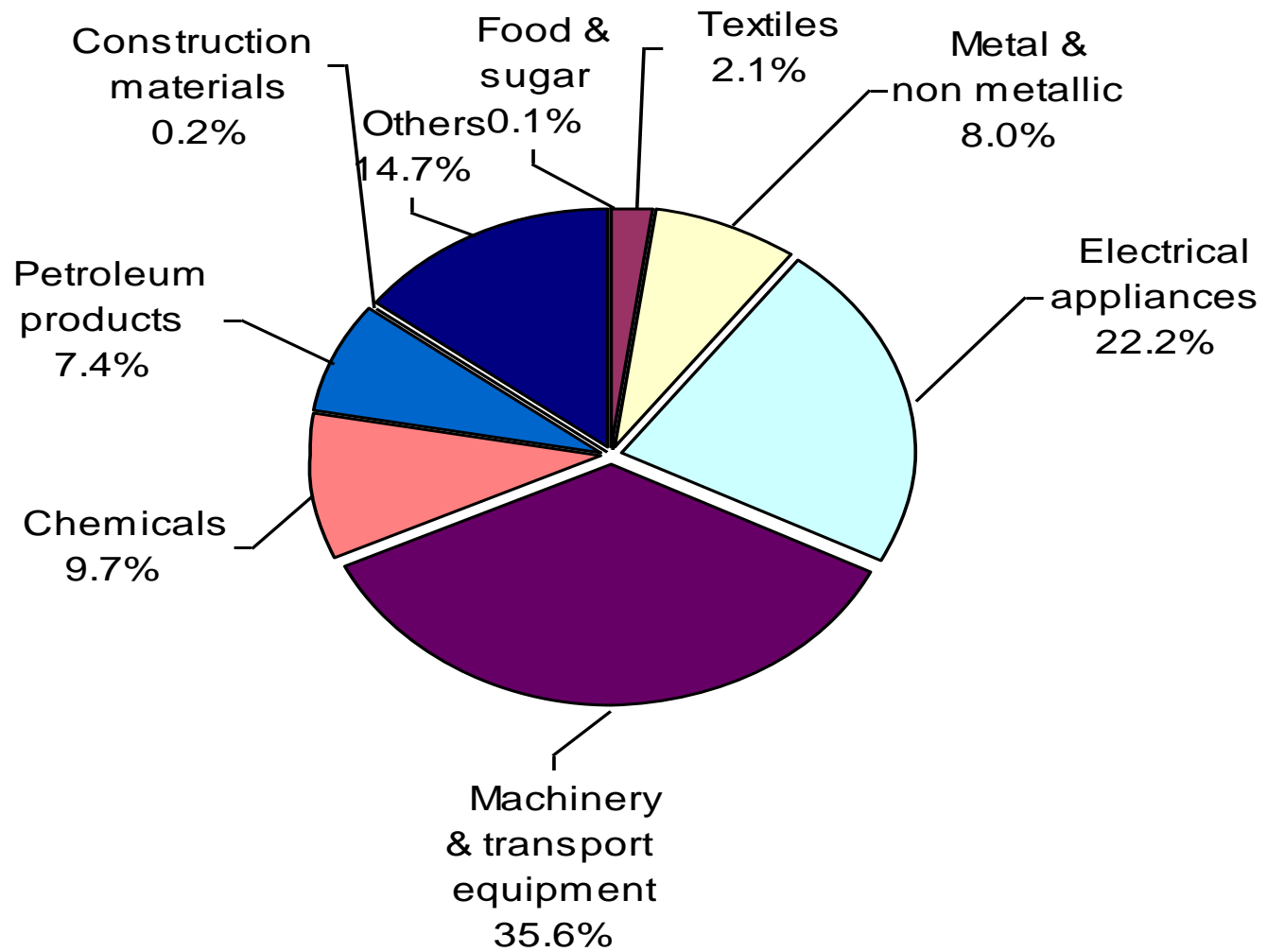
# Automobile Hub

- Because of automobile assemblers' globalization strategy for production efficiency, Thailand **was selected** as a production hub in the region.
- Isuzu (partly owned by GM) and Toyota will transfer all of their pickup production in Japan to Thailand.
- However, Japanese firms were widely criticized for their hesitancy in transferring technology.

# Net FDI by Sector: 1990



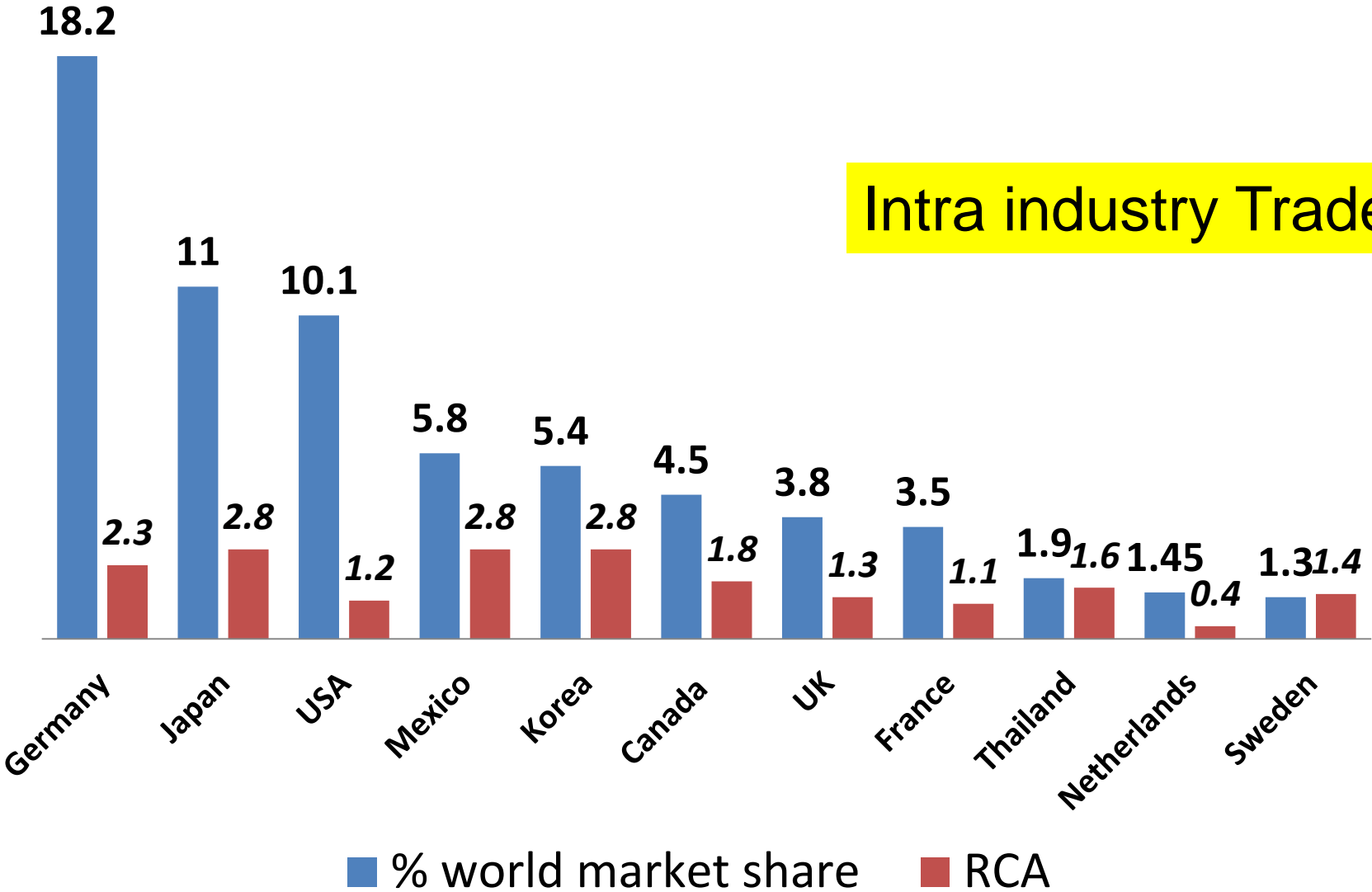
## Net FDI by Sector in 2006



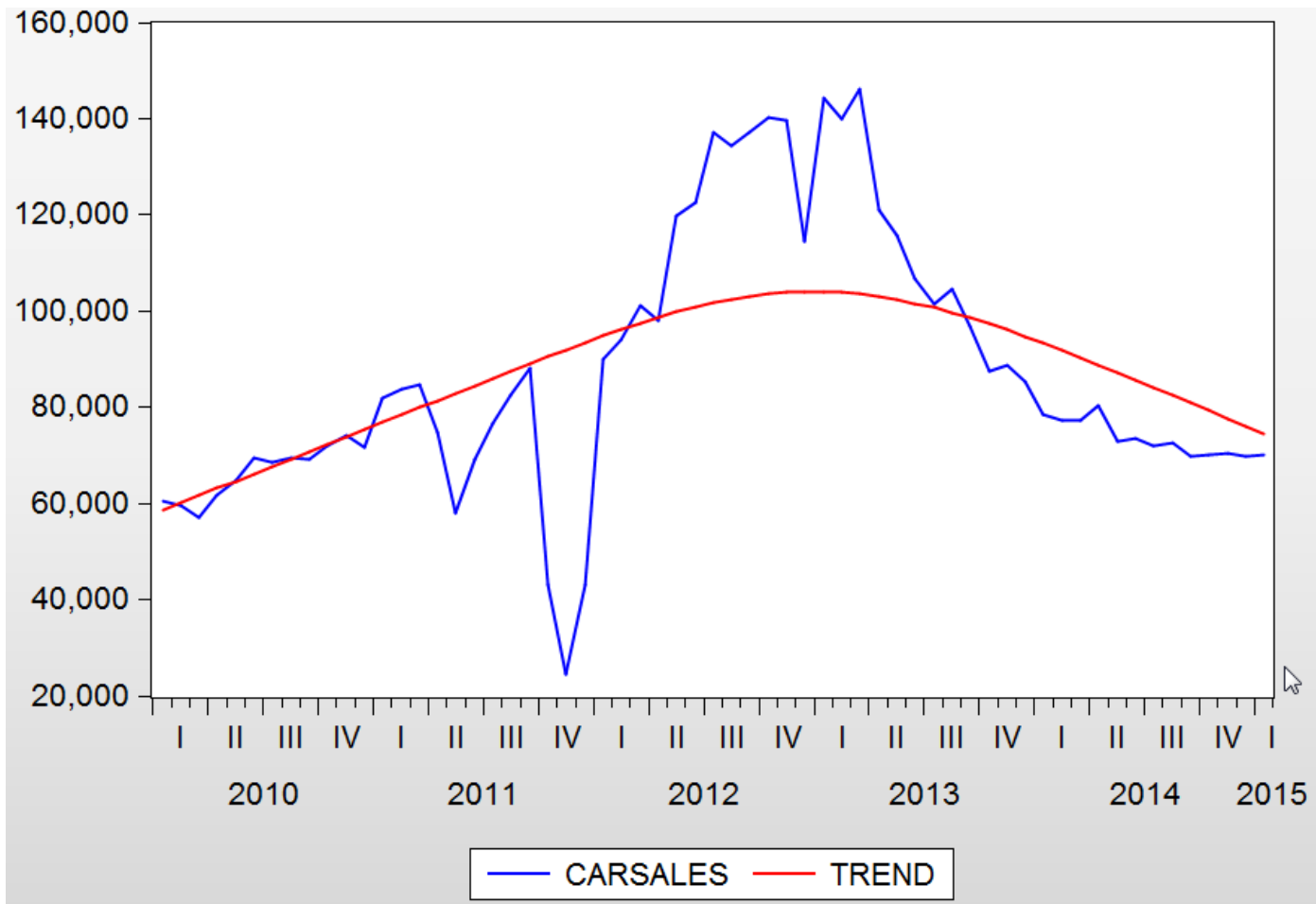
# Impact of the global recession

- Vehicle exports to Australia, Thailand's major export market, was the hardest hit, Honda and Toyota saw their exports drop by 20-30%.
- But the impact on exports to other markets such as ASEAN, Europe, the Middle East and Latin America will be smaller.
- Exports were 56.2% of the total produced in 2008 (export-oriented industry).
- Total passenger car production in 2008 climbed 27.3% year-on-year to 401,474 units while pickup truck production slightly increased 2.8% year-on-year to 974,775 units.

# Specialization and World Market share of Automobile Exports



# Weakening domestic demand: declining trend





# Fiscal stimulus?

- Thailand's vehicle market in the long term still has the potential to exceed 1 million units a year, because of strong future demand for cars in the country.
- "But we don't need any direct measures to stimulate short-term demand, such as the first-time car buyer scheme that ran from September 2011 to December 2012."

Thailand's vehicle market in the long term still has the potential to exceed 1 million units a year, said Mr Pitak, citing strong future demand for cars in the country.

Nonetheless, Yukontorn Wisadkosin, managing director of Ford Thailand, said the market would remain sluggish because of the country's slow economic recovery, poor exports and weak domestic consumption.

"The country currently has only one positive factor -- a booming tourism industry -- and that is not enough," she said. "To ensure GDP growth, Thailand should have at least three or four engines such as exports, consumption and investment performing very well."

Ms Yukontorn said Thailand's poor economic environment could affect the company's investment decisions in the short term.

Even so, such decisions will ultimately rest on export performance, she said.

# Vehicle sale to remain subdued

- *The Nation February 25, 2016 3:04 pm*
- In January, sale amounted to 51,821 units, a 13.2 per cent decrease from the same month a year earlier, Of total, passenger cars accounted for 16,384 units, down by 30 per cent on year.
- Commercial vehicle sale declined by 2.4 per cent to 35,437 units. In this category, 29,000 one-ton pickup trucks were sold, showing a 0.9 per cent increase.
- Reasons:
- Slow recovery in the domestic economy as well as low agricultural product prices.
- Some buyers also completed deals before the end of 2015, before the effectiveness of new excise tax structure.

# What a difference between Thailand and USA: Car sales in America: 2015

- Probably topped 17.5m units last year, the highest ever, thanks to cheap fuel and cheap credit. Ford shifted 5% more vehicles than in 2014, GM 5% and Fiat Chrysler 7%.
- Another bumper month rounded off 2015, with Ford's December sales up by 8%, year-on-year and GM's by 6%.
- Fiat Chrysler's sales rose by 13%—and those of its Jeeps by a whopping 42%.

# Concluding remarks

- Business sentiment and consumer confidence matters for sustainable recovery, provided that the slowing momentum of world economy in 2016 is not too pronounced and prolonged.
- Permanent or expected income, in addition to the user cost of capital, determines automobile sales.
- Credit availability may not be the silver bullet to save the industry.

# Concluding remarks

- During recession, firms need to change strategy and restructure.
- In time of crisis, public subsidy is needed with conditions ( GM and Chrysler bailouts) or first call policy after the great deluge in Thailand.
- The sharp rebound of the industry has demonstrated its resilience.

# Concluding remarks

- The importance of intra-industry trade:  
network trade

*Exploitation of economies of scale and scope through trade integration*

*Competitive environment induces efficiency improvement.*

Macroeconomic conditions constrain the growth of the automobile industry.