



The Impact of Global Value Chain on APEC Major Economies' Competitiveness and Industrial Structure upgrading

Zhang Yaxiong, Yuan Jianqin
Department of Economic Forecasting
State Information Center (SIC)
No. 58 Sanlihe Road, Beijing P.R.China 100045
zhangyx@mx.cei.gov.cn, 86-10-68558135

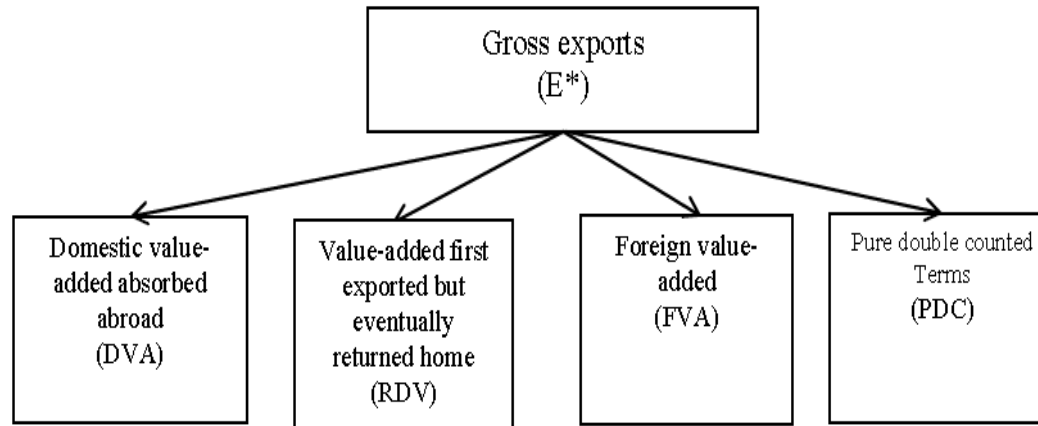
1、 Introduction

- Industrial restructuring and upgrading is one of the keys to achieve sustained economic development for China and APEC main economies.
China is still in a lower level in the international division, the rapid development of international trade and increased specialization degree did not bring more benefits to China
- Under the perspective of global value chain , the industrial upgrading based on the added value of trade in China is still in blank
- Current related research based on the basic of customs statistics caliber trade data, is difficult to reflect a country's position in the global value chain and the real trade benefit.
Lacking of authority of quantitative models and methods to analysis current level of international division of labor and position in the global value chain for China and other APEC major economies.

2、 Contents 、 data and method

- Based on WIOD 1995-2011(1995、 1997、 2002、 2007 and 2011), We adopt KWW(Zhi Wang, Shang-Jin Wei, 2013) method to measure industrial linkage、 industrial division、 vertical specialization and international industrial competitiveness between China and other APEC major economics ,and results compared to the method based on the traditional customs diameter data
- Our contents and structure were referred to “EU Industrial Structure Report 2013-Competing in Global Value Chains” , which is under the global value chain framework to analysis the structure change、 industrial linkage and comparative advantage of EU industry and service.
- Since 2005, 《 EU Industrial Structure Report 》 is published by the enterprise and the industry of the European commission once every two years.

2、 Contents 、 data and method

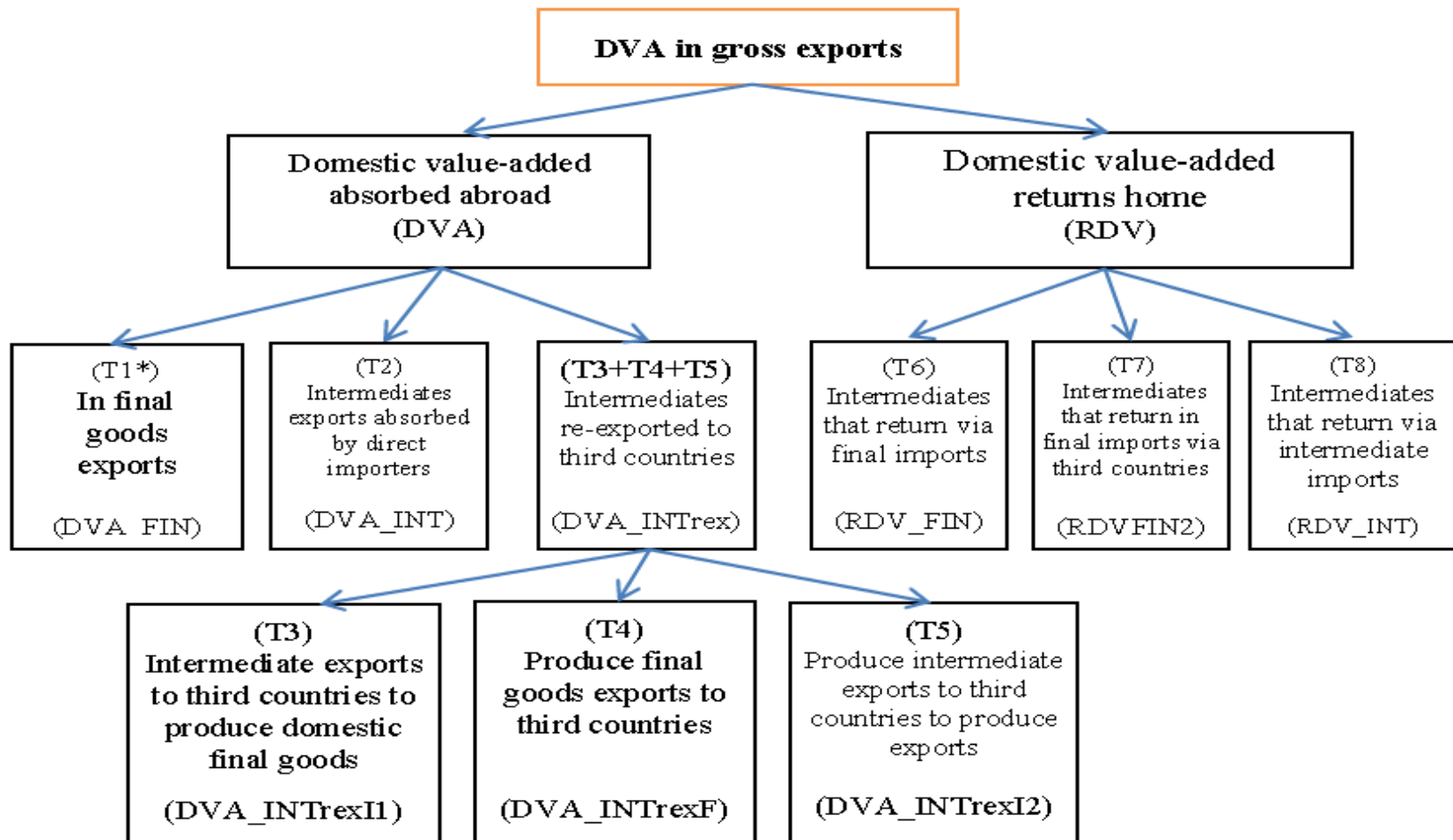


KWW (Koopman, Wang Zhi and Wei. 2013)

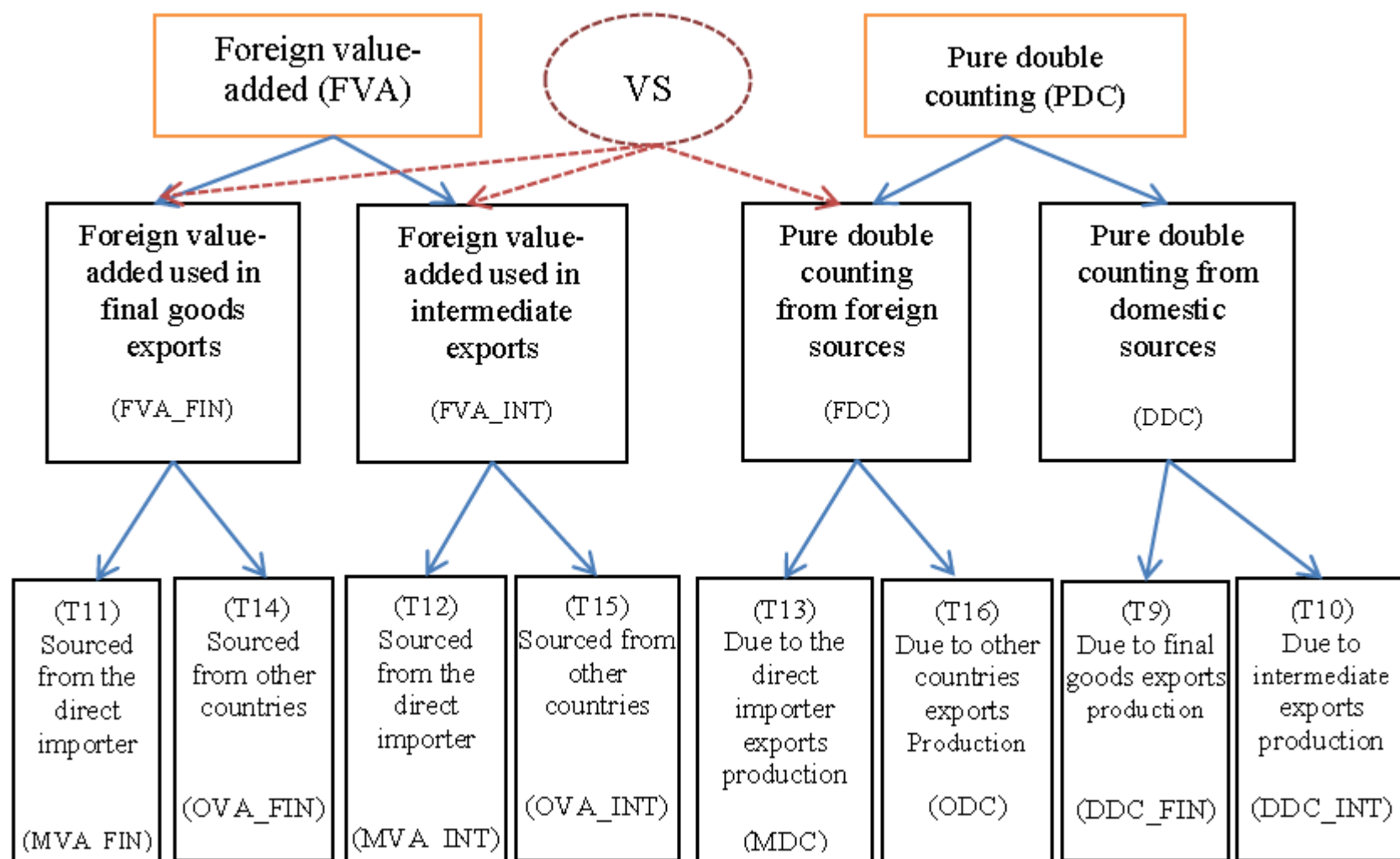
- (1) Domestic Value Added (DVA) - Value added in export and absorbed abroad.
- (2) Returned Domestic Value Added (RDV) - Value added first exported but returned home
- (3) Foreign Value Added (FVA) - Foreign value added in export
- (4) Pure Double Counted (PDC) - Pure double counted terms



2、Contents、 data and method

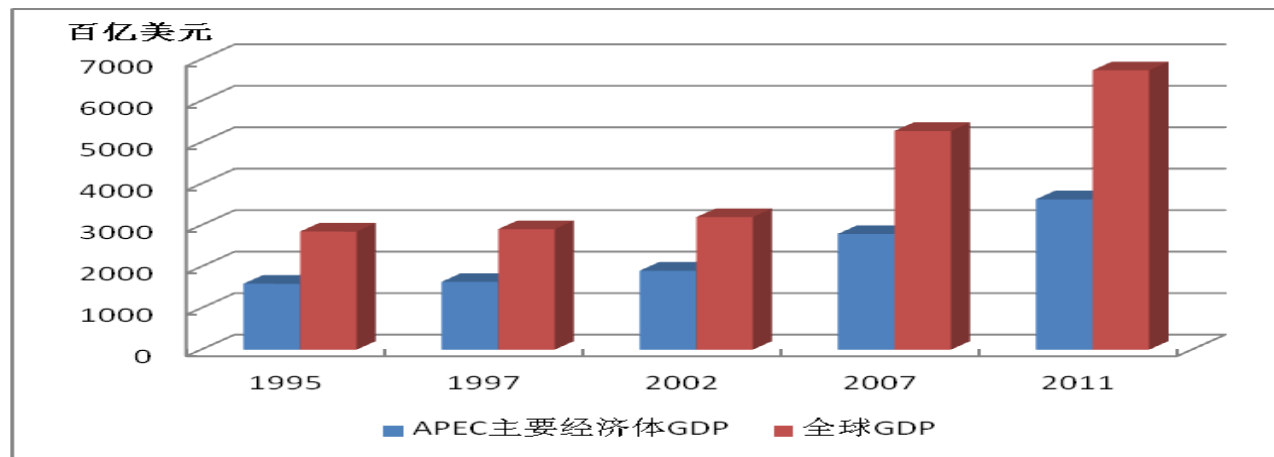


2、 Contents 、 data and method



3、 The economic growth and industrial structure of major APEC economics

- Major APEC economics gained a economic stable growth from 1995 to 2011. In 1995, GDP of APEC was nearly 15900 billion dollar, accounting for 55.8% of global GDP, in 2011 increased to 36300 billion, the proportion fall to 53.8%.
- The United States and China is the largest two in APEC economies, accounting for 37.6% and 32.3% of APEC GDP respectively.
- The annual growth rate from 1.4% during 1995-1997 up to 6.8% during 2007-2011. China and Russia were the mainspring of APEC's economic growth. The average annual growth rate of China and Russia were 15.5% and 10.7% .



3、 The economic growth and industrial structure of major APEC economics



- From the industrial prospective, service is the major impetus of APEC's economic growth , average annual growth was above 5.6% . The Manufacturing industry had showed the slowing growth, less than 3.9%.
- Based on OECD (1997) classification, manufacturing industries are often classified according to technological intensities:
High technology , Medium-high technology, Medium-low technology, Low technology
- APEC'S major economies manufacturing is still greatly depend on the low technology products

High technology	(427.89 ---594.77 billion dollar ,	13.7%----- 15.1%)
Medium-high technology	(898.96---1874.24 billion dollar ,	28.7%-----27.6%)
Medium-low technology	(807.2---1116.07 billion dollar ,	25.8%----- 28.3%)
Low technology products	(993.07---1970.36 billion dollar,	31.8%-----29.0%)



3、 The trade scale and industrial structure of major APEC economics



➤ Total import and export (4235.38----15293.27 billion dollar)

The United States and China is the largest two in APEC economies, accounting for 32.3% and 23.9% of APEC total import and export respectively.

Exports (2195.86----7666.51 billion dollar)

Imports (2039.52– 7626.76 billion dollar)

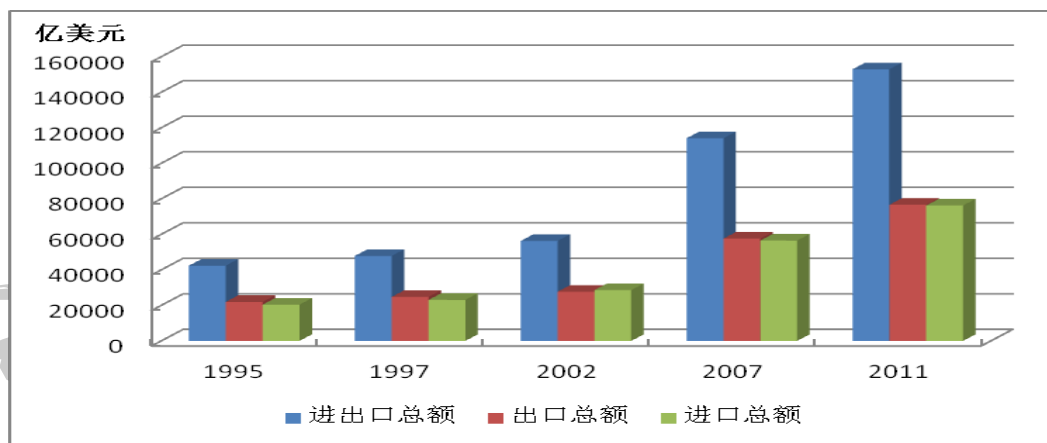
➤ Growth rate

Total import and export 8.4%

China 17.1%, Russia 11.6%

Exports 8.1%

Imports 8.6%

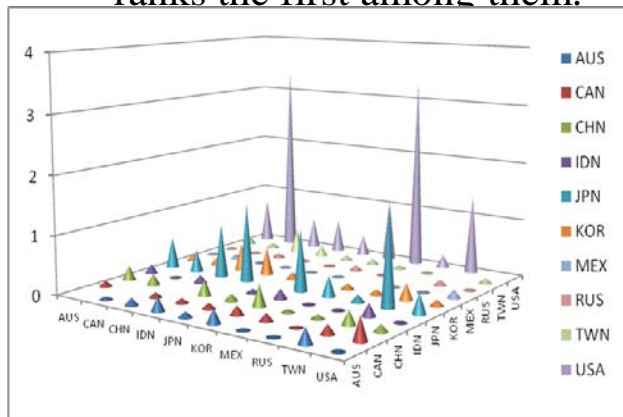


4、 The production linkages of APEC major economies

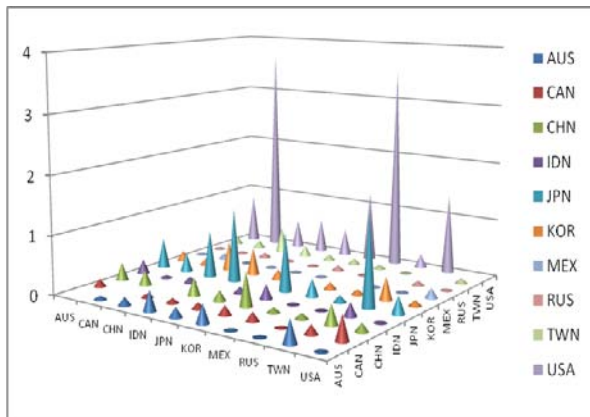


(1) Backward linkages

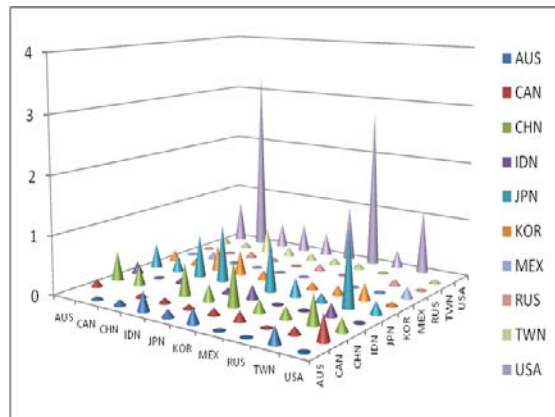
America, China and Japan become the APEC major economies of the top three economies of strongest backward and forward linkages with other APEC major economies, and China ranks the first among them.



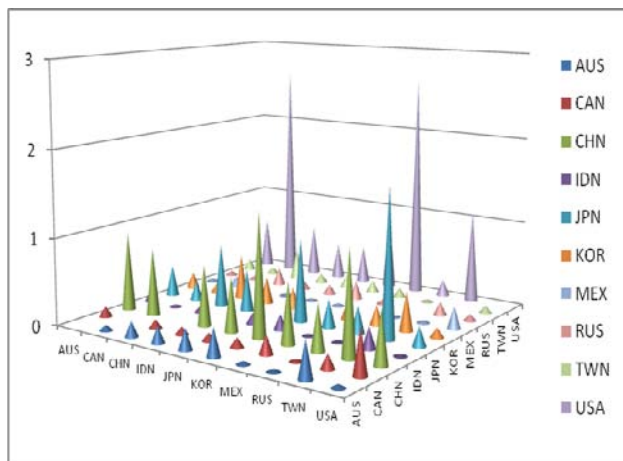
1995



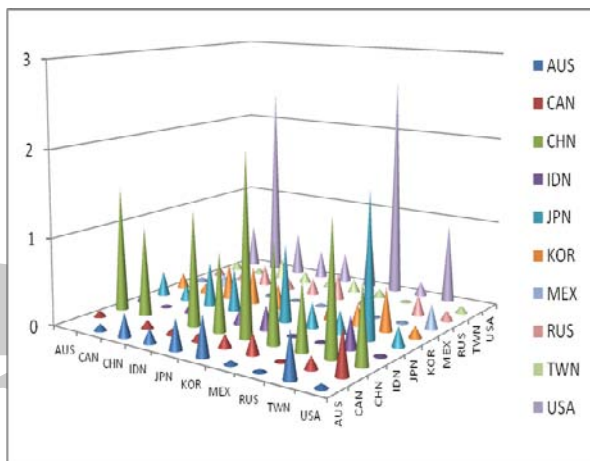
1997



2002



2007

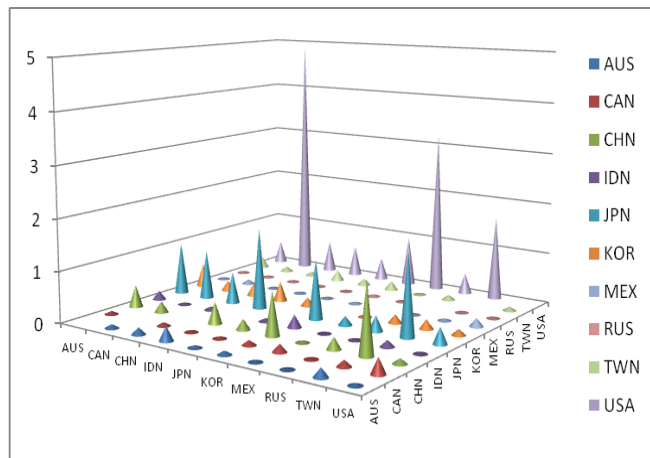


2011

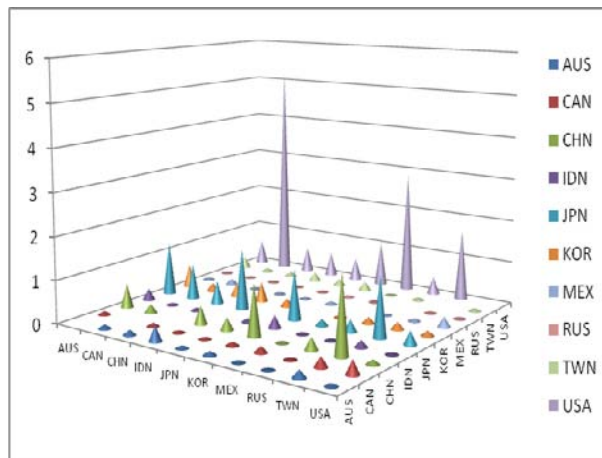


4、 The production linkages of APEC major economies

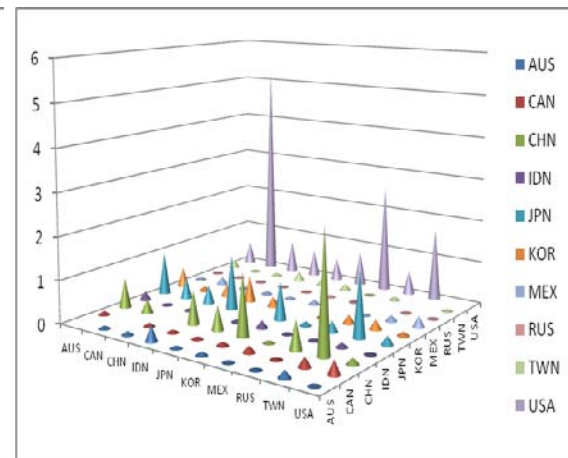
(2) Forward linkage



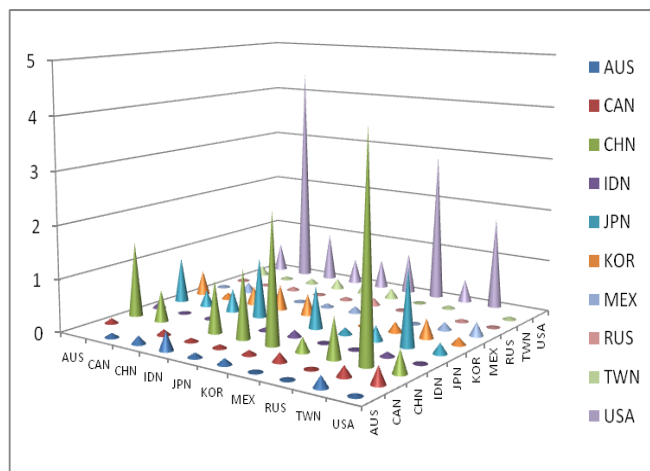
1995



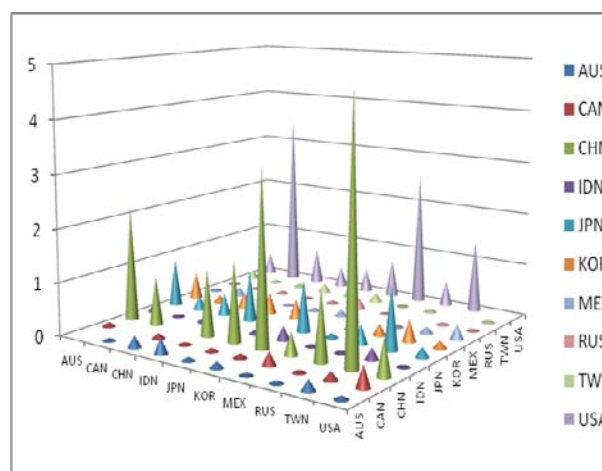
1997



2002



2007



2011

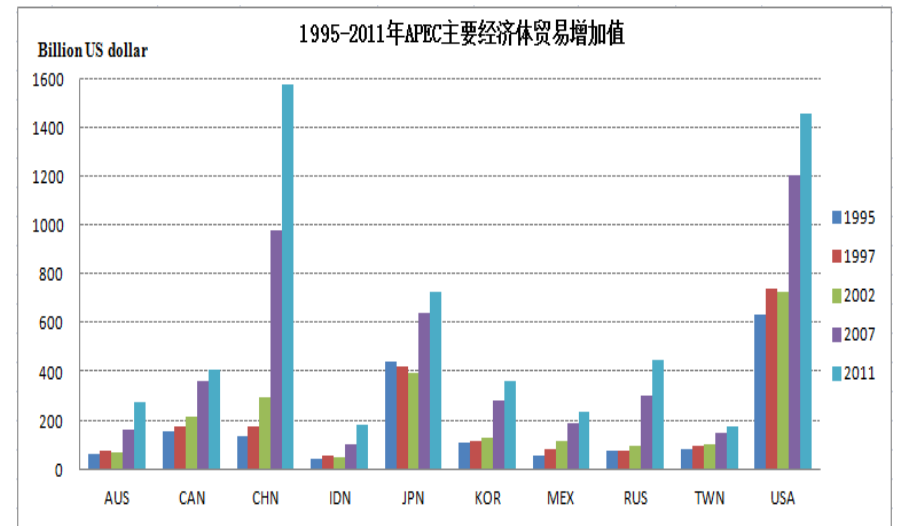
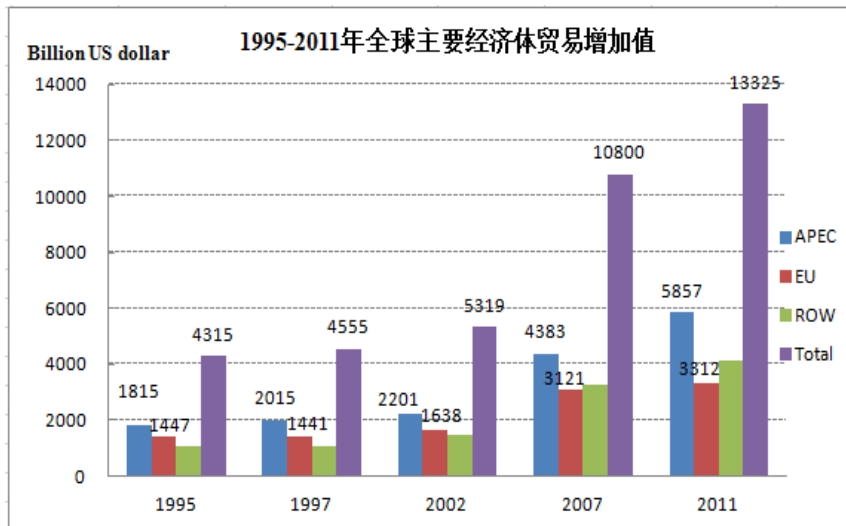
5、 Export of value added of APEC major economics

- 1、 Export of value added of APEC major economics is higher than EU and Row economics, and the growth rate is higher than global

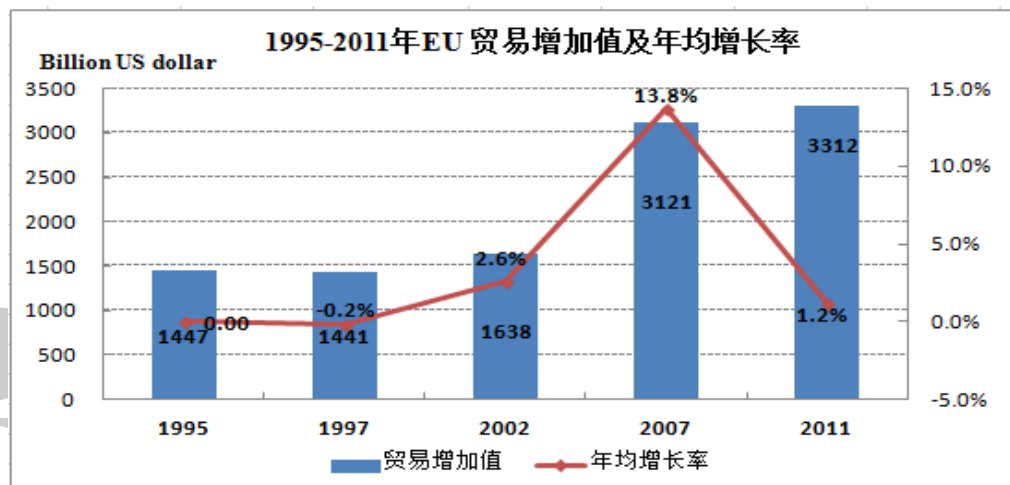
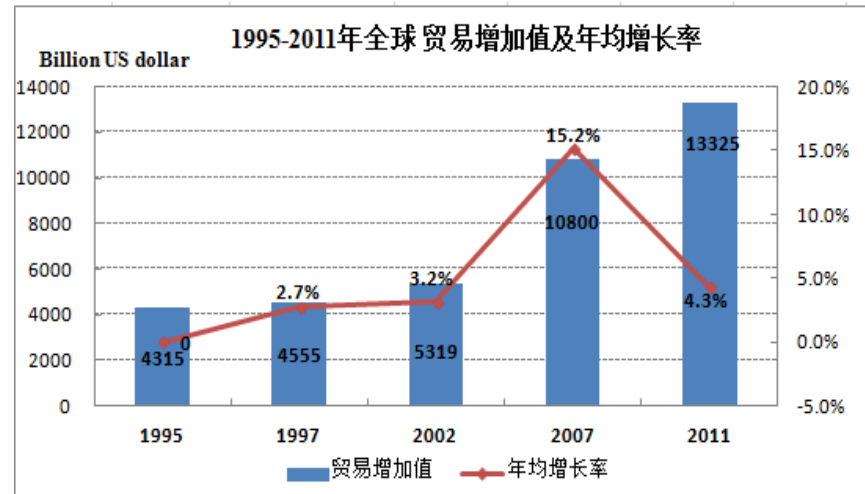
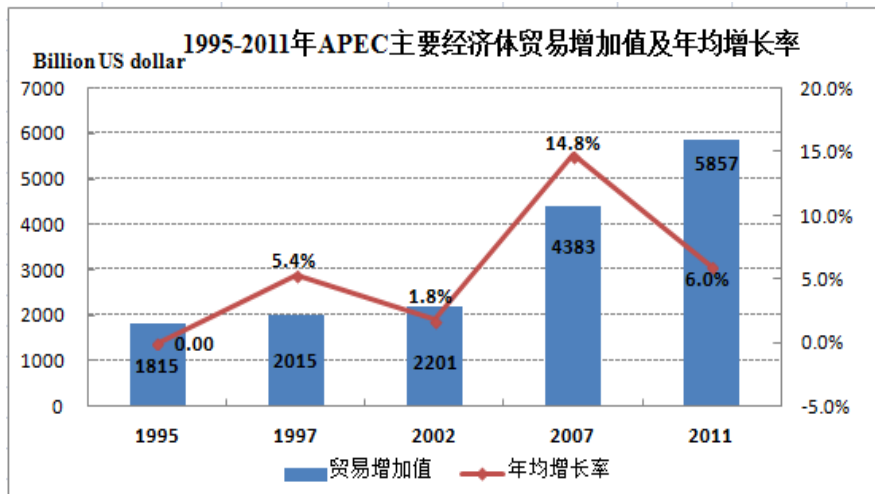
Growth rate for APEC 7.6%, global 7.3%, China 16.3%, USA 5.4% , Japan 3.1%

- 2、 China became the biggest economy of export of value added in APEC, overtaking USA and Japan , the growth is higher than other APEC economics.

- 3、 The export rate of value added for APEC declined year by year, and for the newly industrializing economies ,the rate was lower than developed and resource-based economics.

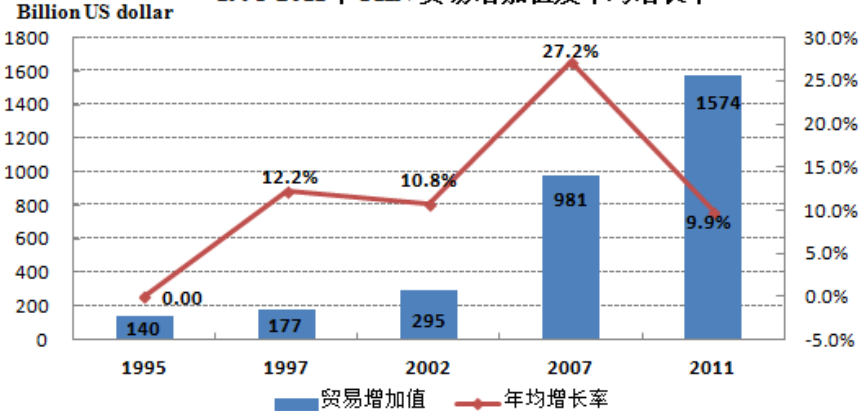


5、Export of value added of APEC major economics

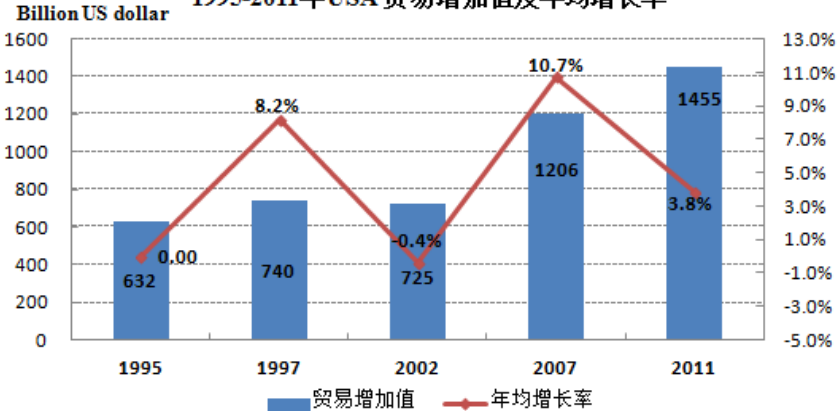


5、Export of value added of APEC major economics

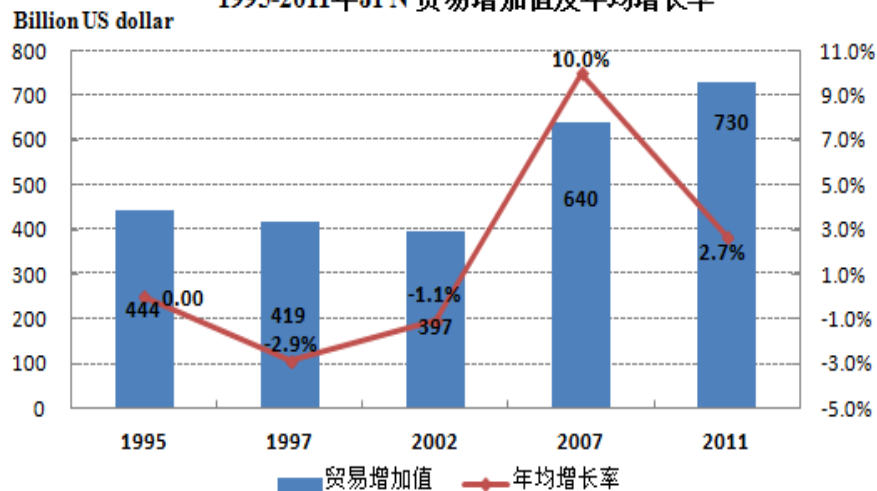
1995-2011年CHN 贸易增加值及年均增长率



1995-2011年USA 贸易增加值及年均增长率



1995-2011年JPN 贸易增加值及年均增长率



6、 The participation in global value chain of APEC major economics



- For the participation in global value chain ,we divided into forward vertical specialization (VS1) and backward vertical specialization(VS).

Forward vertical specialization ratio(VS1):the proportion of a country's exports as intermediates were imported by other countries, reflecting the contribution degree of one country to other countries supply chain,

Backward vertical specialization ratio (VS):the proportion of intermediate imports in a country's exports, reflecting its reliance on imported exports.



6、 The participation in global value chain of APEC major economics

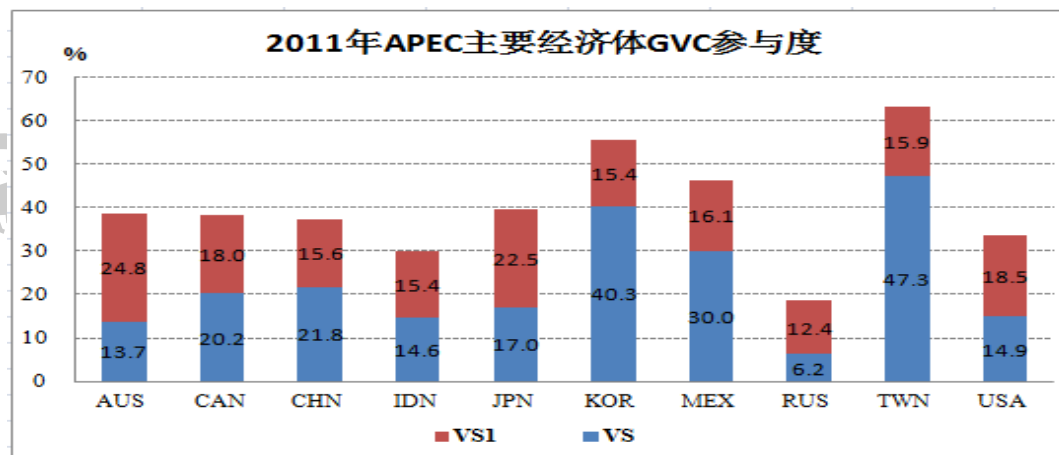


- During 1995 and 2011, participation degree in global value chain of APEC major economies was constantly improving both for backward and forward vertical specialization .
- Newly industrializing economies participated global value chain main by backward way ,the backward vertical specialization ratio is higher than that of developed and resource-based economics.

Taiwan、 Korea and Mexico are the top three economics with largest backward vertical specialization ratio in newly industrializing economies .

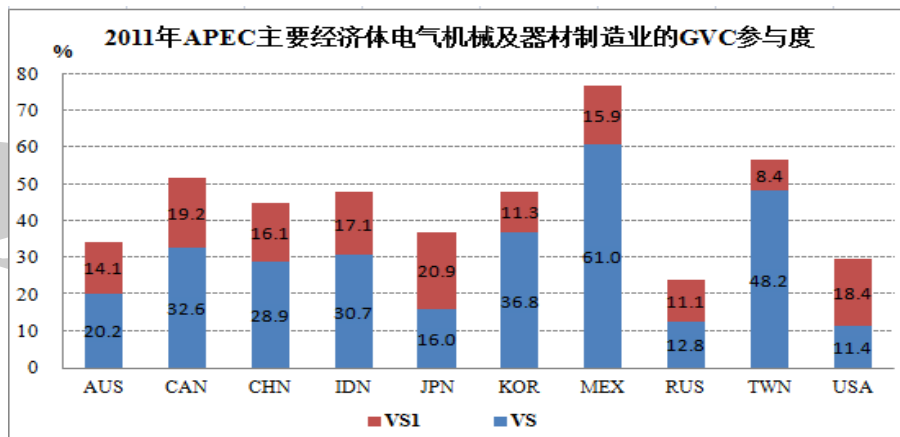
For China also mainly by backward way to participate global value chain, both of the ratio was constantly improving.

- Developed and resource-based economics participated global value chain main by forward way



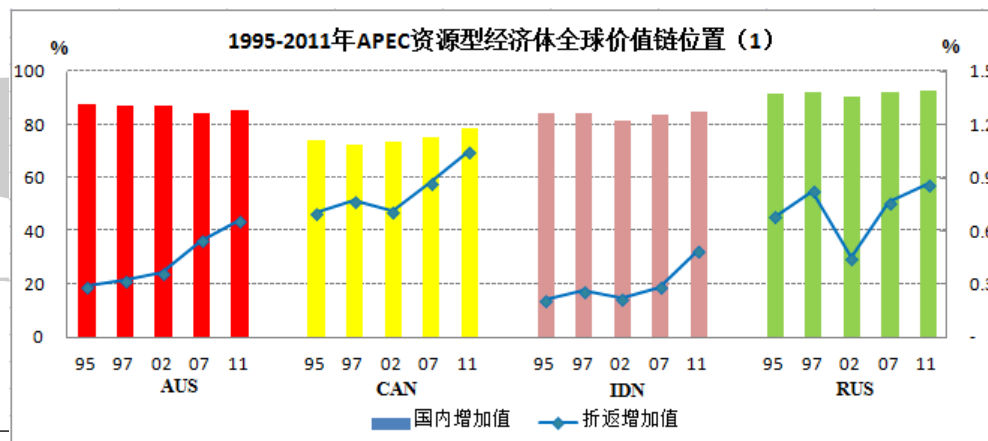
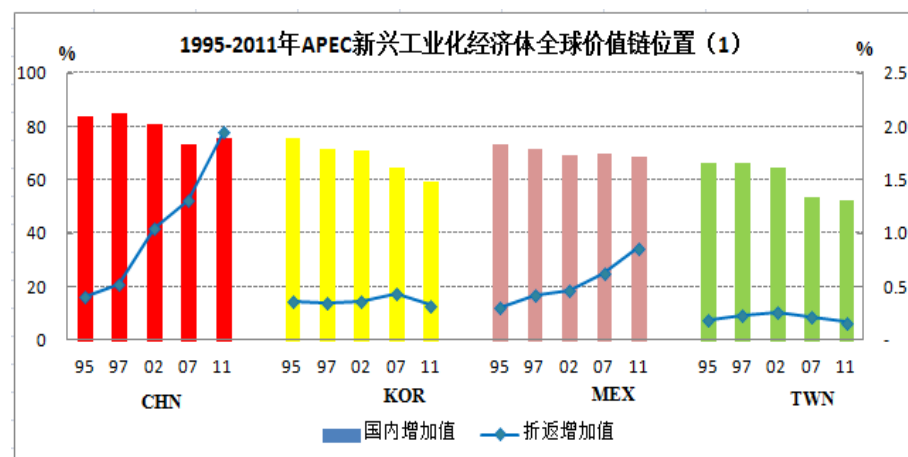
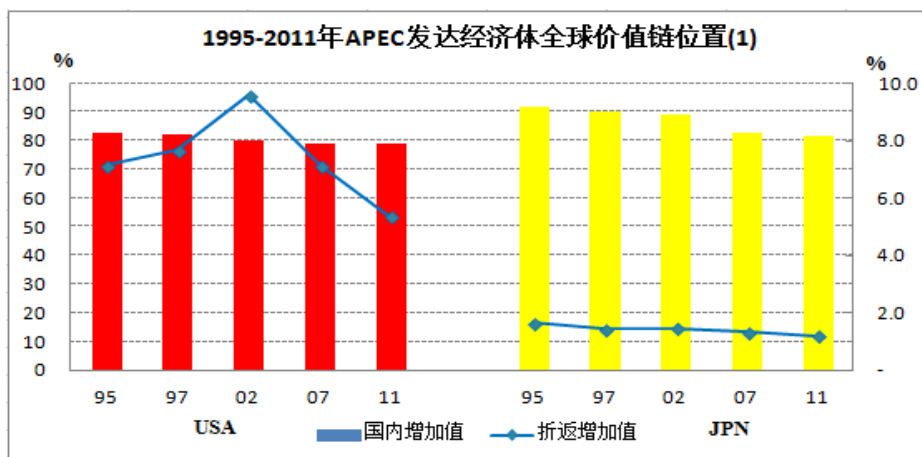
6、 The participation in global value chain of APEC major economics

- For high technology manufacturing industry, developed and resource-based economies participate in global value chain mainly by the forward way, however the newly industrializing economies participate mainly by backward way .
- Japan and USA owned highest VS1
- Mexico's VS ratio was much higher than that of other newly industrializing economies ,up to 61.1% in 2011, and followed by South Korea and Taiwan. For above economies, VS of low technology manufacturing industry was much higher than that of high technology products.
- Compared with other emerging industrialized economies, China's VS was relatively low, only 28.9% in 2011, but higher than that of developed and resource-based economies.



6、 The participation in global value chain of APEC major economics

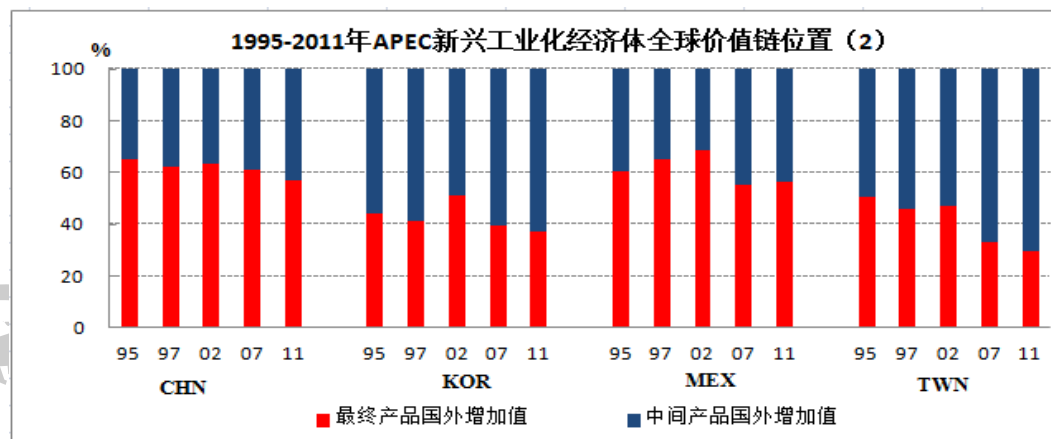
- (1) The higher of export rate of value added and lower of foreign value added rate of developed and resource-based economies reflecting the upstream position in global value chain.
- (2) Return value added rate for developed economies was higher than that of other economies, the United States has the highest proportion, but gradually narrowing the gap with other economies.



6、 The participation in global value chain of APEC major economics

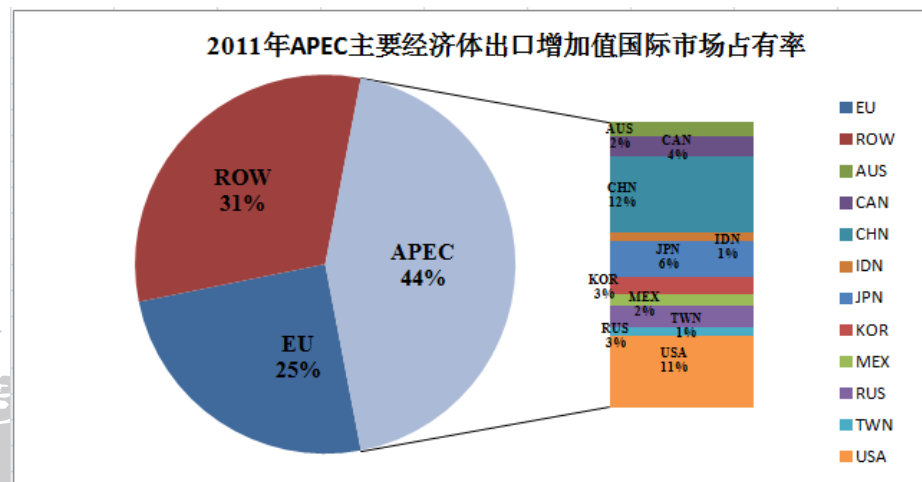
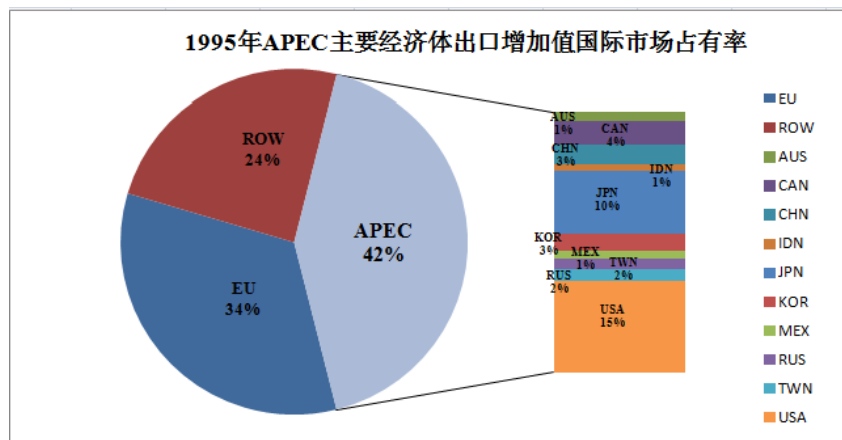
(3) From the value added perspective, emerging industrialized economies mainly export finished products, but the intermediate product export proportion is rising

The proportion of foreign value added embodied in final product export of China was highest in APEC economies and higher than the proportion of foreign value added embodied in intermediate product export. However, the proportion in intermediate product export rose year by year, which reflecting China manufacturing industry is gradually upgrade, constantly climbing upstream of the value chain.

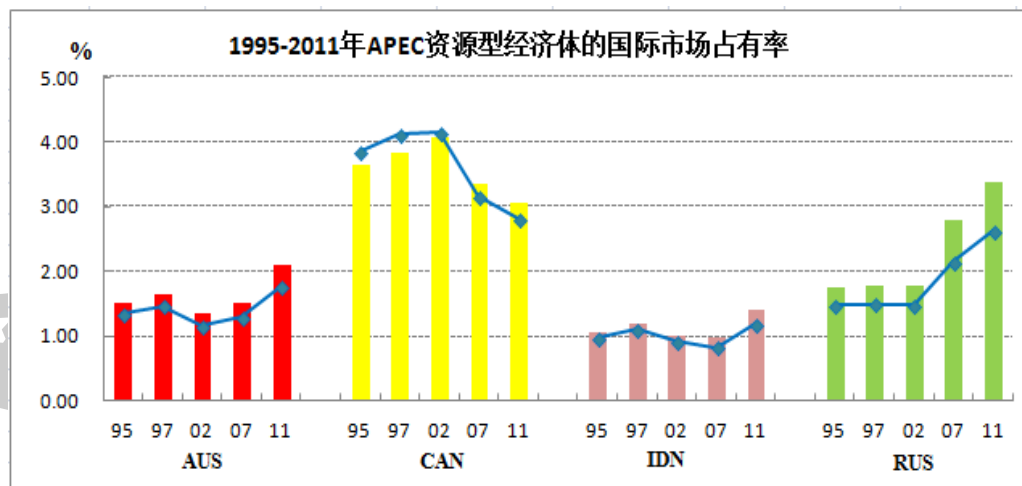
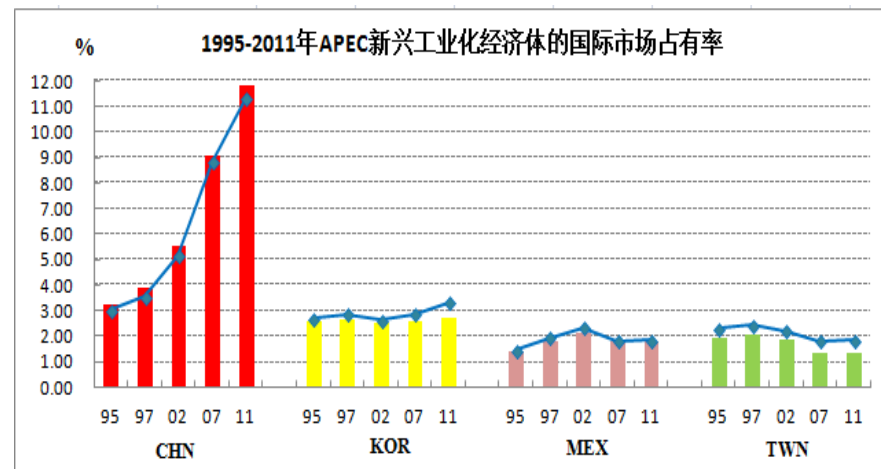
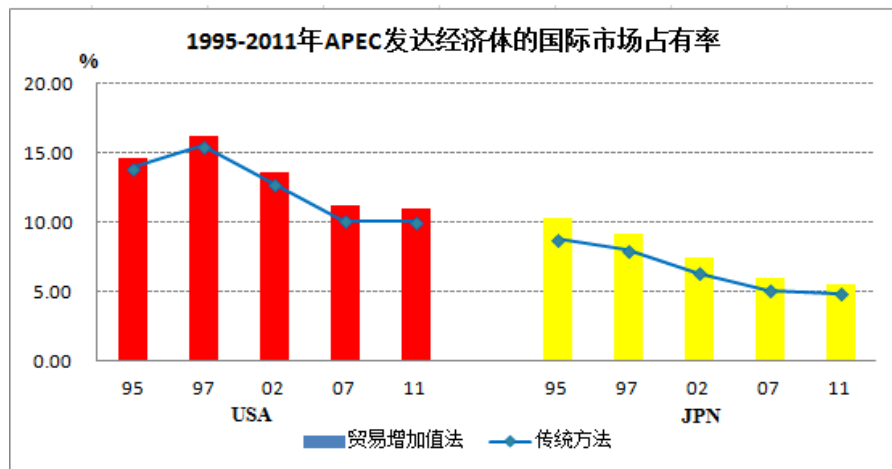


7、The international competitiveness comparative of APEC economics

- (1) APEC's international market share edged up slightly from 1995 to 2011 (42%-----44%)
- (2) The international market share of emerging industrialized economies rose rapidly, especially for China, international market share significantly improved, and for developed and resource-based economies, the share felt. In 2011, surpassing the United States, China became the economy with the highest international market share.

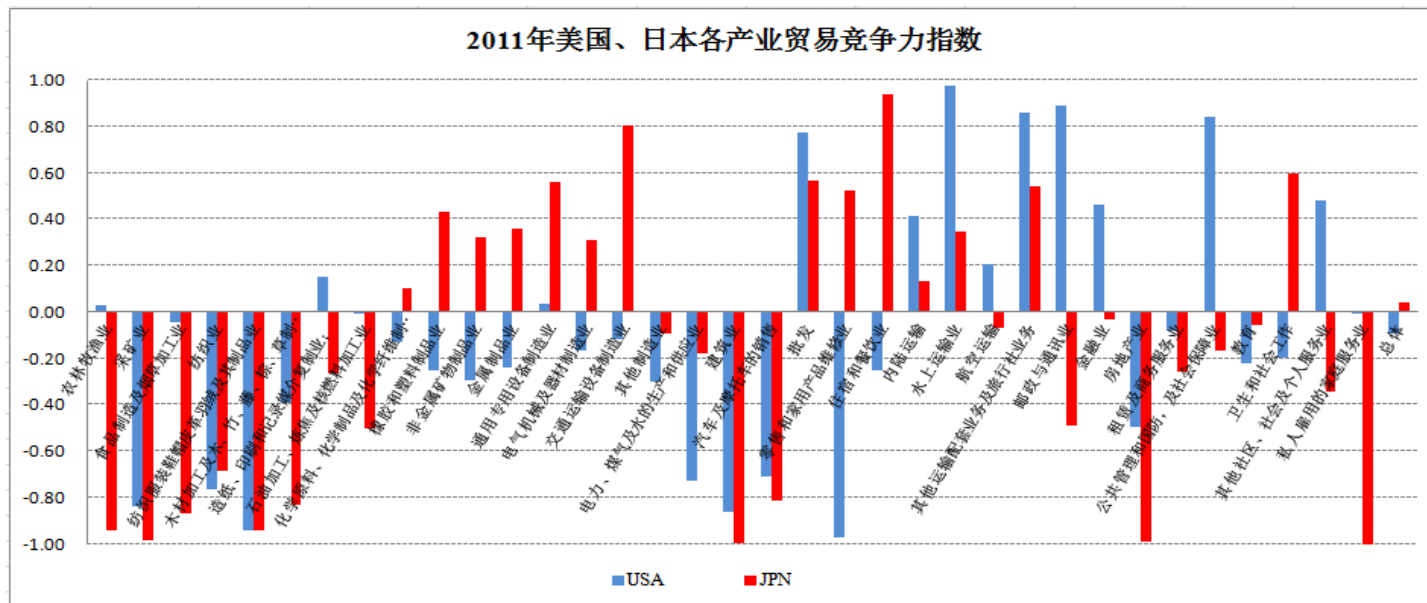


7、The international competitiveness comparative of APEC economics



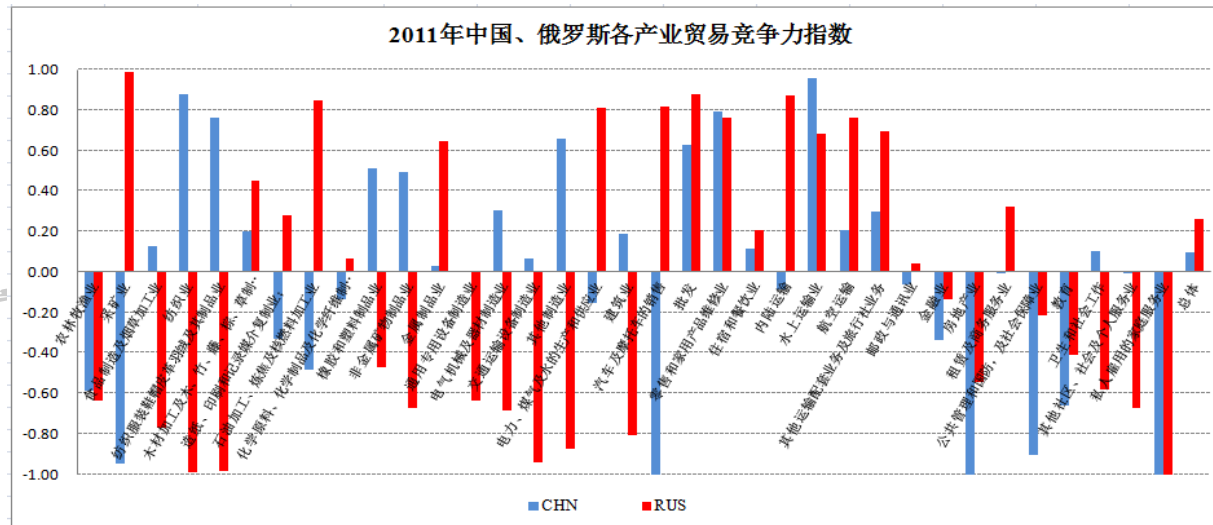
7、The international competitiveness comparative of APEC economics

- For developed economies, Japan's trade competitiveness is higher than the United States, especially in medium-high technology manufacturing industry, reflecting Japan's stronger production capacity.
- With weakest trade competitiveness in the APEC economics, America's trade competitiveness in service was a little higher.



7、The international competitiveness comparative of APEC economics

- For emerging industrialized economies , in general, China's trade competitiveness is much higher than that of South Korea, Mexico and Taiwan, which mainly concentrated in low and middle technology manufacturing
- Competition of Korea, Mexico and Taiwan generally was lower than China, but the trade competitiveness of high technology manufacturing industry was higher than that of China.
- In resource-based economies, Russia's trade competitiveness rank first in the whole APEC.



8、 Conclusion

- There are many differences between APEC's major economies in the added value trade .
- Newly industrializing economies participated global value chain main by backward way , developed and resource-based economics participated global value chain main by forward way
- The developed economics such as United States and Japan were at upstream of global value chain , China was at the downstream of the global value chain , but constantly upgrading for manufacturing.
- The international competitiveness had been enhanced for APEC in 1995-2011.



Thank you