Appendix
International Industrial Economics Operation Analysis

International Industries in the First Half of 2016

In the first half of 2016, the world economy was still subject to a deep adjustment period after the financial crisis. Global manufacturing PMI index dropped from 50.1% in April to 50% in May 2016. The industrial economics of major economies recovered slowly in a zigzag way and unevenly in main countries and regions, indicated significant uncertainty in industrial economics operation. In general, developed economies recovered faster than emerging economies did.

A weak recovery continued in developed countries, such as European countries and the United States. The American economy operated fairly well. Due to trade and government investment in consumption that offset slump in consumption, the year-on-year growth rate of American economy was modified to rise by 1.1%, higher than the desired value and the last modified value. The American people's confidence in economy was enhanced by the constantly recovering labor market, the higher employment rate and lower price index. The bounce-off of consumer spending in the second quarter will further promote American GDP growth. In addition, the American industrial production improved markedly. The overall production index (seasonally adjusted) entered year-on-year positive growth status, and the manufacturing PMI has climbed above the threshold since March 2016, which kept ascending on a monthly basis in the first half year and hit a new high in June, so its manufacturing industry was expected to flourish; due to external environment's influence, however, the American trade volume remained in sharp fluctuations, for which there was still large space for improvement. The Eurozone economy recovered slowly, with first quarter's GDP growth rate higher than was expected. The Eurozone industrial production also recovered persistently. The manufacturing PMI in June was the highest this year, which indicated a recovering trend of Eurozone industry. Currently, the inflation pressure was slightly alleviated and generally better than market expectation, and the inflation that had lasted for four months eventually came to an end in June. Eurozone saw a good trend of employment as the unemployment rates kept descending; due to British referendum on departure from the EU and its external environment, however, the Eurozone trade was not as optimistic as expected. Japan suffered a slow economic recovery,

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regardless of its first quarter's GDP growth rate higher than was expected. Other data indicated that Japanese economy remains flat and that continual fluctuations occurred in its industrial output, e.g. PMI in March stayed below the threshold, inflation risk remained and import/export trade volume kept shrinking.

Among major emerging economies, Brazil's economy and industrial production continued shrinking, but the shrinking amplitude slowed down dramatically; despite a slight decline in the second quarter, Brazil's PMI remained below the threshold in the first half of 2016, with a rising unemployment rate and inflation. In the first quarter, South Africa's economic growth rate went down significantly; the growth rate of industrial production fluctuated drastically; though the PMI began recovering up to the threshold in March, there was still uncertainty in its economic recovery as its inflation deteriorated and foreign trade fluctuated obviously. In comparison, India's economy recovered more steadily, regardless of its sluggish industrial growth. In the first quarter of 2016, India's GDP grew 7.95% year on year, higher than the average of all quarters in 2015, indicating a better recovering trend of India's economy. Since the year of 2016, India's PMI maintained above the threshold; the decreasing amplitude of its foreign trade kept going down and improving steadily. Due to the declining international oil price, Russia's economy continued with the downturn; industrial production remained sluggish, regardless of a slightly positive turnabout. In the first half of 2016, Russia's PMI basically remained below the threshold; the unemployment rate went up somewhat, but the inflation went down markedly and foreign trade improved to some extent. It was clear that as compared with developed economies, major emerging economies were faced with a more difficult problem in economic recovery. In the first half of 2016, the general economic situation of developed economies seemed much better than aforesaid emerging economies.

Developed Economies

(1) The United States

The American GPD growth did quite well in the first half of 2016. According to the latest data issued by the US Department of Commerce, the American GDP in the first quarter amounted to US$ 16.51 trillion and the actual year-on-year growth rate was modified to be 1.1%, higher than the expected value and higher than 0.8% of the last modification value; whereas, the American GDP grew 0.6, 3.9, 2 and 1.4% respectively in four quarters last year. This indicated that the American economic outlook was improving, and that the personal consumption expenditure stimulated month-on-month GDP growth by 1.02 percentage points (seasonally adjusted), which was 1.19, 2.42, 2.04 and 1.66 percentage points in four quarters last years. The total American domestic private investment stimulated month-on-month GDP growth by −0.29 percentage point (seasonally adjusted), which was 1.39, 0.85, −0.11 and −0.16 percentage points respectively in four quarters last year. The commodity and service export stimulated month-on-month GDP growth by 0.04 percentage point (seasonally adjusted), which was −0.81, 0.64, 0.09 and −0.25 percentage points in four quarters last year. The government consumption expenditure and total investment stimulated month-on-month GDP growth by 0.23 percentage point (seasonally adjusted), which was 0.01, 0.46, 0.32 and 0.02 percentage points in four quarters last year. It is thus clear that the improvement of American government consumption expenditure and investment in the first quarter has offset the flat consumption expenditure and sustained the overall economic performance to certain extent, and that the rebounding consumption expenditure in the second quarter will further accelerate and remain the main motive force to stimulate the American GDP growth. The initial value of Michigan's American consumer confidence index in June slightly dropped to 94.3, better than the expected 94.0. However, the British referendum on departure from the EU that added much too global economic uncertainty will also compromise the American economic recovery process to a large extent.

By and large, the American labor market saw a moderate recovering trend. In January and February 2016, the American unemployment rate was 4.9% (seasonally adjusted), the lowest since May 2008. In March and April, it was 5.0% (seasonally adjusted), slightly rising as against the first months. The labor participation rate was 62.7, 62.9, 63 and 62.8% respectively in four months, higher than monthly data in the second half of 2015. The population first applying for unemployment compensation in mid-March 2016 dropped to 259,000 persons, which was the minimum level since mid-October last year and lower than the mid-value of 275,000 persons and last period value of 278,000 persons; meanwhile, the population continuing to enjoy unemployment compensation also dropped to a new record low. In May 2016, the American unemployment rate (seasonally adjusted) further dropped to 4.7%, a new low since May 2008. This indicates that the American employment is getting better and better.

The American industrial growth saw an obvious uptrend and the PMI in June 2016 reached a new peak in a year. In the first quarter of 2016, the general industrial production index (seasonally adjusted) of the United States maintained a negative year-on-year growth rate and a declining month-on-month growth rate. The American industrial production index was 103.38 in March, but the year-on-year growth rate turned positive in April, with the year-on-year growth rates in April and May being 0.1% and 0.0% respectively. In the first half year, the capacity utilization rate of all American industrial sectors maintained at about 75%; in November 2016, the American PMI dropped below 50 for the first time since November 2012; from December 2012 to February 2016, the American PMI remained below 50; in February 2016, PMI was 49.50, rising by 2.7 percentage points over January; in March, PMI first climbed up to 51.80 after staying below the threshold for consecutive four years, rising by 2.3 percentage points over February. Since March, the American PMI has stayed above the threshold and kept ascending on a monthly basis in the first half of 2016; in June, PMI was up to 53.2, the highest since February 2015, and the employment rate climbed over the threshold value of 50 for the first time. The American manufacturing industry also recovered faster and faster, and was expected to flourish.

The American inflation rate remained low after fluctuations. Due to seasonal factors, the American oil price ascended in January, and the CPI grew 1.4% year on year, higher than 0.7% in December 2015 and the highest since October 2014. The core CPI grew 2.2% year on year, higher than 2.1% of the growth rate in last period and the highest since June 2012. In February and May, however, it declined and maintained at a low level 1 and 0.9% respectively. In January 2016, the American PPI (final demand, seasonally adjusted) decreased 0.3% year on year; in February, it stayed flat with the same period; in March, it dropped 0.1% year on year, indicating that the PPI kept decreasing at a slow rate; in April, it grew 0.1% year on year; in May, it stayed flat with the same period again. The constantly declining unemployment rate and price index boosted the American people's confidence in economy.

Under the influence of external environment, the American trade witnessed sharp fluctuations. In the first half of 2016, the American import volume and export volume saw a negative year-on-year growth rate, with the year-on-year numerical fluctuation of import fluctuating obviously more drastically than the fluctuation of export. In February, the American export grew −4.19% while the import grew 0.31% year on year; and in May, the export grew −4.21% while the import grew −3.05% year on year. The American trade deficit was unsteady. In March 2016, the trade deficit increased 26.26% year on year; in May, it declined 2.42% year on year, with the total export volume (seasonally adjusted) amounting to US$ 182.354 billion, increasing US$ 314 million as against the previous month, and the total import volume (seasonally adjusted) amounting to US$ 223.498 billion, increasing US$ 347.7 million as against the previous month.

(2) Eurozone

The Eurozone economy recovered slowly. In the first quarter of 2016, the month-on-month final value of seasonally adjusted GDP in Eurozone was revised from 0.5% up to 0.6% while the year-on-year final value was revised from 1.5% up to 1.7%, higher than the market expectation and obviously higher than 0.2% of the fourth quarter of 2015; however, the recovering foundation still needed to consolidation. The household consumption expenditure of EU 27 nations stimulated month-on-month GDP growth by 0.36%, the gross capital formation did 0.23%, the commodity and service export did 0.16%, and export did −0.34%. Among the three major economies in Eurozone, France's gross domestic product (current price, seasonally adjusted) grew 2.35% year on year, lower than 2.62 and 2.70% respectively in the third and fourth quarters of 2015. Germany's economic growth improved to some extent; in the first quarter, the month-on-month initial value of German GDP was 0.6%, higher than 0.32% of the fourth quarter in 2015. As EU's main trade partners' economic growth slowed down and the positive factors reversed, the *Economic Forecast in Spring 2016* issued by EU predicted that its economic growth rates in 2016 and 2017 would continue to increase (1.8 and 1.9%

respectively), but the increasing amplitude would be lower than its Winter forecast (1.9 and 2.0% respectively).

The unemployment rate kept falling. In the first half of 2016, the unemployment rate of the Eurozone continued with the continuous downtrend of 2015. The Eurozone unemployment rate (seasonally adjusted) was 10.2% in April and further dropped to 10.1% in May, decreasing 0.1 percentage point as against April, the lowest since February 2012.

The industrial production continually recovered during fluctuations. In March 2016, the industrial production index of Eurozone 17 nations (seasonally adjusted) grew 3.1% year on year and 2.1% month on month, higher than 1.7% of market expectation, including month-on-month growth of 3.9% of capital goods output, 2.4% of energy goods output, 2.3% of consumer goods output and 0.9% of intermediate goods output, obviously higher than growth rates in recent half year. In February, it grew 1% year on year, a positive growth rate for consecutive fourteen months but decreasing 2.1 percentage points year on year and 0.94 percentage point month on month as against the year-on-year growth rate in the previous month. In the first quarter of 2016, the Eurozone's capacity utilization rate was 81.2%, decreasing 0.2 percentage point as against the fourth quarter of 2015; in the second quarter, it was 81.4%, rising by 0.2 percentage point over the previous quarter. In December 2015, the Eurozone's PMI was 53.2, increasing 0.4 over the previous month for consecutive four months and reaching a new high in the past twenty months; from January to May 2016, it dropped again to 51.5 in May, decreasing 0.2 as against April; in June, however, it ascended to 52.80, higher than the initial value of 52.6 and the highest value this year. The accelerating industrial production indicated that the Eurozone's economy kept recovering.

The inflationary pressure slowed down but still existed. The year-on-year final value of the Eurozone's CPI was 0.3, −0.2 and 0.0% respectively from January to March 2016, and −0.2, −0.1 and 0.1% respectively from April to June, generally better than market expectation; the inflationary state that lasted for consecutive four months was terminated in June largely due to rising energy prices and recovering internal demands. The year-on-year final value of core CPI was 0.7, 0.8 and 0.9% respectively. In addition, Germany saw 0.3% and France saw 0.2% year-on-year final value of CPI in June; the PPI persisted in falling. In June 2016, the Eurozone 17 nations' PPI decreased 3.85% year on year, 0.52 percentage point lower than May. The Eurozone's PPI has kept decreasing year on year for consecutive 35 months since August 2013.

Sharp fluctuations occurred in Eurozone's trade volume, foreboding a pessimistic prospect. From January to April 2016, the Eurozone 18 nations' import volume grew −1, 1.9, −8.4 and −5.3% respectively, lower than 4.4 and 3.5% in November and December 2015; their export volume grew −2.1, 1.2, −2.3 and −0.9% respectively, lower than 6.3% and 4.15 respectively in November and December 2015. Their trade surplus kept shrinking, too. In April 2016, the Eurozone 18 nations' trade surplus (seasonally adjusted) amounted to €27.482 billion, reduced by €1.946 billion as against March, with total export volume (seasonally adjusted) amounting to €172.313 billion, reduced by €6.289 billion as against the previous month, and total import volume (seasonally adjusted) amounting to €144.831 billion, reduced by €4.344 billion as against the previous month. The shrinking trade surplus was mainly caused by smaller export volume and larger amplitude.

(3) Japan

The annualized and seasonally adjusted month-on-month initial value of Japan's GDP was 1.7% in the first quarter, significantly higher than the median 0.3% of market expectation and −1.7% of previous value, but other economic data of Japan remained flat. Japan's unemployment rate declined slightly. Japan's unemployment rate (seasonally adjusted) was 3.2, 3.3 and 3.2% respectively in January, February and March 2016, and maintained at 3.2% in April and May, slightly lower than the average of four quarters in 2015.

Japan's industrial output fluctuated constantly. From January to May 2016, the industrial production index of Japan's mining industry and manufacturing industry (seasonally adjusted) grew −4.16, −1.15, 0.19, −3.33 and −0.11% year on year respectively. In April 2016, Japan's capacity utilization rate index was 96.5, decreasing 4.33% year on year and 12.4% month on month. Japan's PPI kept declining below the threshold. In February 2016, Japan's PPI was 50.1, decreased by 2.2 as against January 2016, and it dropped again after an uptrend for a while. In March, Japan's PPI dropped to 49.1, exceeding the expectation and decreased by 1 as against February 2016, and it further dropped below the threshold after staying around the threshold for a while; from April to June, it remained below the threshold.

The inflationary risk still existed in Japan. Since the super easing monetary policy was implemented in Japan in 2013, the inflation continued to maintain at a low level. In January and February 2016, Japan's CPI grew 0 and 0.3% year on year respectively, and the core CPI grew 0.0% year on year. In March, due to decreasing oil prices and slowdown of the rising durable goods prices and overseas tourist prices, Japan's CPI decreased 0.1% and the core CPI decreased 0.3% as compared with the same period last year, the largest decreasing amplitude since April 2014; meanwhile, the PPI also kept decreasing. In March 2016, Japan's PPI decreased 3.775 year on year, a decrease for consecutive eleven months, and the decreasing amplitude would intensify in March. In April and May, the decreasing amplitude of PPI further intensified, decreased by 4.25 and 4.24% year on year respectively. However, the shrinking inflation failed to stimulate Japan's Central Bank to carry out new easing policy after its implementation of negative interest rate in February 2016.

Japan's trade volume continued shrinking. Since the fourth quarter of 2015, Japan's export volume suffered a negative year-on-year growth rate; in the first half of 2016, Japan's export volume continued with the trend of negative growth and the amplitude seemed to intensify, growing −12.86, −3.99 and −6.78% year on year respectively from January to March and −6.78, −10.07 and −11.27% year on year respectively from April to June. Japan's import volume also suffered a negative growth rate, growing −17.84, −14.18 and −14.93% year on year respectively from

January to March and −14.85, −23.29 and −13.80% year on year respectively from April to June, which indicated an intensifying amplitude of negative growth. Japan's overall trade surplus turned into a deficit in May after rising from February to April; the deficit amounted to JPY40.7 billion, including JPY63.2 billion of import volume increased over the previous month and JPY789.6 billion of export volume decreased from the previous month. Japan's trade deficit was mainly caused by drastic decline of export volume (Figs. A.1, A.2 and A.3).

Emerging Economies

(1) Brazil

Brazil economy continued shrinking, but the amplitude slowed down. From January to March 2016, Brazil's GDP grew −8.95, −9.29 and −9.37% year on year respectively, significantly reduced as compared with −28% year-on-year growth rate in the fourth quarter of 2015. A year-on-year growth rate of 2.72% was realized in the first quarter, lower than growth rates in all quarters of 2015.

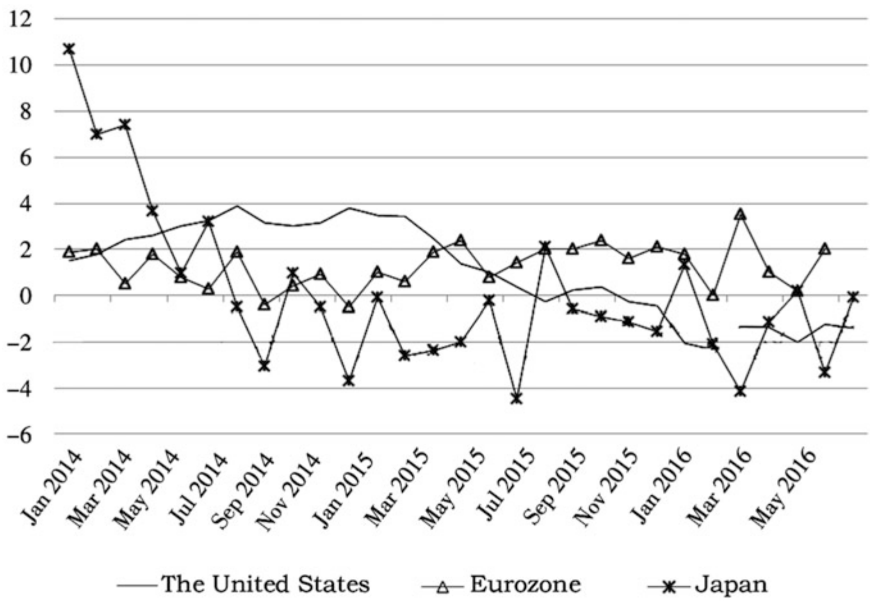

Fig. A.1 Year-on-year growth rates of the industrial production index in main developed countries (*unit* %). *Data source* Wind Information database. *Notes* Indicators used to calculate year-on-year growth rates include American overall industrial output index (seasonally adjusted), Eurozone 19 nations' industrial production index and Japan's mining and manufacturing industrial production index

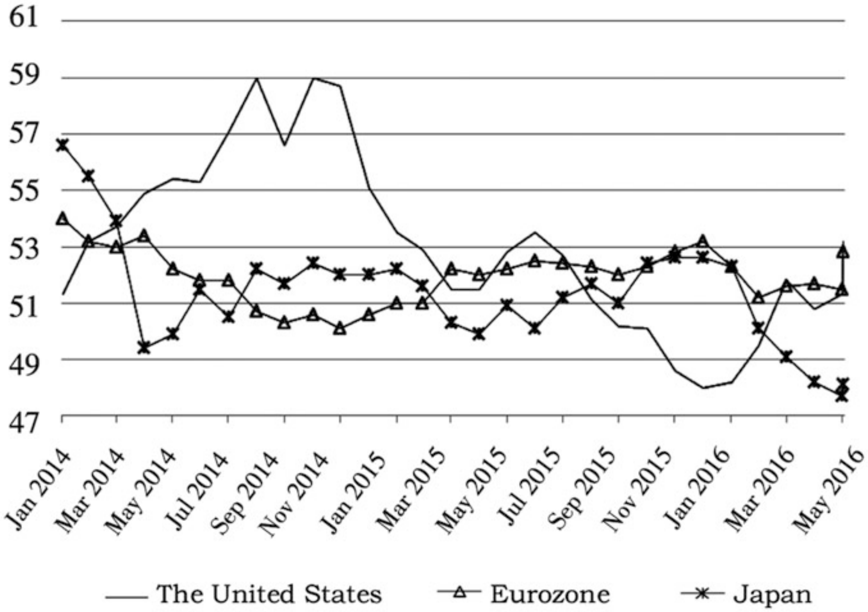

Fig. A.2 PMI index of main developed countries. *Data source* Wind Information database. *Notes* Indicators used include American ISM's manufacturing PMI, Eurozone manufacturing PMI and Japanese manufacturing PMI

Brazil's industrial production saw negative growth rates. From January to May 2016, Brazil's industrial production index decreased 13.6, 9.6, 11.5, 6.9 and 7.8% year on year respectively, which lasted for consecutive 27 months since March 2014, but the decreasing amplitude retarded slowly, and grew −1.3, −0.52, 10.29, −0.96% and 3.74% month on month respectively. The manufacturing PMI remained below the threshold; in November 2015, Brazil's PMI decreased to 43.8, the lowest since April 2009; in December 2015 and January 2016, the PMI picked up but decreased again to 44.5 in February 2016, decreasing 2.9 as against the previous month. In March, the PMI climbed up to 46, still below the threshold but rising by 1.5 over the previous month; in the second quarter, the PMI remained at low level, i.e. 42.6, 41.6 and 43.2 respectively in three months.

The unemployment rate continued climbing. In October 2015, Brazil's unemployment rate was 7.9% in six major cities, the highest since September 2009; but it decreased for a short time in November and December 2015. In January 2016, the unemployment rate climbed again to 7.6%, rising by 0.7% over the previous month. In February, it continued going up to 8.2%, rising by 0.6 percentage point over the previous month and the highest since September 2009.

Brazil's inflation was expected to rise. From January to March 2016, the general CPI in Brazil grew 10.71%, 10.36% and 9.39% year on year respectively, staying at a high level. Brazil's PPI also kept rising. In February 2016, the PPI grew 13.56%

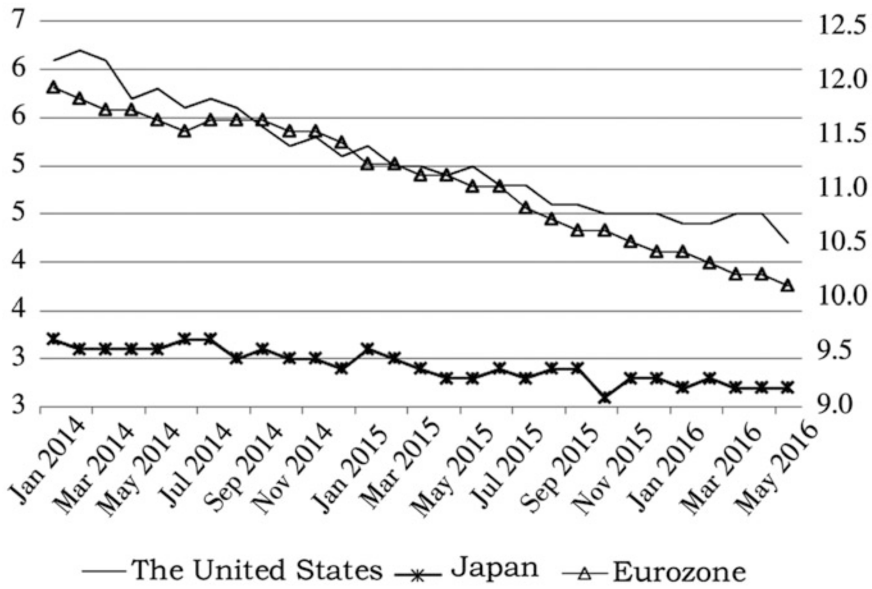

Fig. A.3 Unemployment rates of main developed countries. *Data source* Wind Information database. *Notes* American and Japanese data are indicated on the *left* coordinate axis and Eurozone's data on the *right* coordinate axis. Indicators used include unemployment rates (seasonally adjusted) from Eurozone, Japan and the United States

year on year, rising by 1.72 percentage points over January; the year-on-year growth rate of PPI accelerated on a monthly basis in all months but December 2015 since March 2015, and hit the peak value in February 2016 since May 2015. In March, the PPI grew 13.03%, decreasing by 0.53 percentage point as against February but presenting a slowdown trend. Brazil's trade surplus also fluctuated sharply. In January 2016, Brazil's trade surplus amounted to US$ 923 million, decreased by US$ 5.317 billion as against December 2015; in February 2016, it amounted to US$ 3.043 billion, increased by US$ 2.12 billion over January; in June, it amounted to US$ 3.983 billion, decreased by US$ 6.461 billion as against May, including US$ 1.635 billion of import volume increased over the previous month and US$ 827 million of export volume decreased from the previous month. The shrinking trade surplus in Brazil was caused mainly by the fact that the increment of import volume outnumbered the export volume.

(2) South Africa

South Africa's economy saw a significant drop. In the first quarter, its GDP grew −0.16%, where private consumers' expenditure took up about 60% of GDP and stimulated GDP to grow 0.52 percentage point. The generally steady private consumption was the main reason for the fact that South Africa's economy did not fall into depression or recession.

South Africa's industrial production growth suffered sharp fluctuations and its economic recovery remained uncertain. In October 2015, the manufacturing production index of South Africa (seasonally adjusted) turned for the first time into negative growth from positive year-on-year growth that had lasted for consecutive three months, and maintained the negative growth trend until January 2016 and reached 106.8 in February 2016, increasing 0.37% year on year. The index dropped to −1.84% in March, presenting a year-on-year negative value, and grew 1.8% in April 2016. In February 2016, the South Africa's PMI (seasonally adjusted) was 47.1, increasing 3.6 over January but lower than 50 for consecutive seven months since August 2015. In March 2016, however, the PMI reached 50.5, increasing 2.6 over February and for the first time climbing up to the threshold after staying below 50 for consecutive seven months. From April to June 2016, the PMI reached 54.90, 51.90 and 53.70 respectively, staying above the threshold and foreboding possible recovery of manufacturing industry in South Africa.

Prices presented a rising tendency in South Africa. From January to May 2016, South Africa's CPI grew 6.23, 7.00, 6.55, 6.49 and 6.48% year on year respectively, obviously higher than the average CPI values in all quarters of 2015. Meanwhile, South Africa's PPI continued rising. In January 2016, the PPI grew 7.6% year on year, increasing 2.8 percentage points over December 2015; in February, the PPI grew 8.1% year on year, increasing 0.5 percentage point over January; from March to May, the PPI declined slightly as against February, but remained at around 7%, higher than the average in all months of 2015.

South Africa's trade volumes fluctuated sharply. From January to May 2016, South Africa's export value grew 6.46, 18.13, 4.83, 8.09 and 17.85% year on year respectively, generally higher than 3.27, 11.06 and 0.92% from October to December 2015, and its import value grew −2.11, 7.53, 2.58, 6.43 and 2.46% year on year respectively. In October 2015, South Africa's trade surplus amounted to 21.4 billion Rand, increased by 20.1 billion Rand over September. South Africa's trade saw a short-time surplus in November and December 2015, but suffered a deficit of 17.871 billion Rand in January 2016, with 16.574 billion Rand of export decreased as against the previous month and 8.857 billion Rand of import increased over the previous month. In February, South Africa's trade deficit amounted to 1.267 billion Rand, shrinking by 7.59 billion Rand as against January; from March to May, its trade balance amounted to 2.034 billion Rand, −127 million Rand and 18.731 billion Rand respectively.

(3) India

In the first quarter of 2016, India's GDP grew 7.95% year on year, higher than the average in all quarters of 2015 and indicating a better trend of India's economic recovery; the growth of India's GDP was driven by consumption, which contributed 4.9% to India's economic growth or took up 62% of India's economic aggregate.

As compared with other emerging economies, India's industry remained flat but recovered steadily. In October 2015, India's industrial production index grew 9.8% year on year, a positive growth rate for consecutive twelve months and the highest in recent five years; from November 2015 to January 2016, however, India's industrial production suffered a negative year-on-year growth rate for three months and eventually rebounded to1.99% in February 2016, presenting uptrend of year-on-year growth of industrial production. India's PMI continued rising. In December 2015, the PMI was 49.1, decreasing below the threshold for the first since 2014; in 2016, however, it remained above the threshold. In June, India's PMI reached 51.7, decreased by 1 over May.

From January to May 2016, India's consumer price index of industrial workers grew 5.91, 5.53, 5.51, 5.86 and 6.59% year on year respectively, generally lower than 6.32, 6.72 and 6.32% from October to December 2015. However, India's PPI started rising; in March 2016, India's WPI decreased 0.85% year on year, a negative growth rate for consecutive seventeen months, but the decreasing rate slowed down on a monthly basis; in May and June, the PPI saw a positive year-on-year growth rate, i.e. 0.34 and 0.79%.

The year-on-year decreasing growth rate of India's foreign trade retarded. From January to May 2016, India's total export volume grew −13.57, −5.46, −5.16, −6.62 and −0.79% year on year respectively, with the decreasing amplitude obviously less than −17.16, −26.27 and −13.92% from October to December 2015; India's total import volume grew −10.85, −5.06, −23.80, −24.15 and −13.16% year on year respectively, with the decreasing amplitude also less than the average of three months in the fourth quarter of 2015. This indicated that India's foreign trade was improving and that its foreign trade deficit was getting less and less. From January to May 2016, India managed to keep trade deficit below US$ 10 billion and lower than the deficit in the fourth quarter of 2015. India's trade deficit was mainly caused by the considerable decrement of its export volume.

(4) Russia

Since 2015, the continually falling international oil prices has led to a fast setback in Russia's foreign exchange earnings and the seriously insufficient funds for economic development has resulted in Russia's economic slump. In March 2016, Russia's GDP decreased 1.8% year on year. Regardless of somewhat uptrend, Russia's industrial production remained sluggish. In January 2016, Russia's industrial production index (seasonally adjusted) decreased 2.59% year on year, a negative year-on-year growth rate for consecutive twelve months; since February, however, all months saw a positive growth rate except March when the index decreased 0.36% year on year. Since 2016, Russia's PMI has kept shrinking but stayed above the threshold; in June, however, the PMI reduced to 51.5%, below the threshold.

Russia's unemployment rate kept going up. After seasonal adjustment, Russia's unemployment rate jumped to 6%, rising by 0.2 percentage point per monthly in March 2016, which hit a new high since January 2013 and ended the four-month period in which the rate remained at 5.8%, and it also stayed at 5.9%, higher than market expectation. In this period, Russia's total unemployment increased to 4.567 million people, rising by 138,000 people per month, which was also higher than 4.503 million people in the same period last year. Russia's labor-force participation rate jumped to 68.9%, rising by 0.2 percentage point per month. Russia's CPI and PPI growth rates kept slowing down; from January to May 2016, Russia's CPI grew 9.8, 8.1, 7.3, 7.3 and 7.5% year on year respectively, generally lower than the average of all months in 2015; from March to May, Russia's PPI grew 0.8, 0.9 and 3.2% year on year respectively, obviously lower than the average of all months in 2015.

Russia's foreign trade improved somewhat. From January to April 2016, Russia's foreign export goods grew −38.8, −31.70, −29.3 and −28.8% year on year respectively, with the decreasing amplitude slightly narrowing as compared to each month in 2015; meanwhile, Russia's import grew −19.0, −16.4, −10.3 and −6.5% year on year respectively, with the decreasing amplitude obviously slowing down. In general, Russia's foreign trade surplus was faced with a limited space for improvement. In April 2016, Russia's trade surplus amounted to US$ 6.752 billion, decreasing US$ 1.178 billion as against March, including US$ 1.401 billion of export volume and US$ 223 million of import volume decreased against the previous month (Figs. A.4, A.5 and A.6).

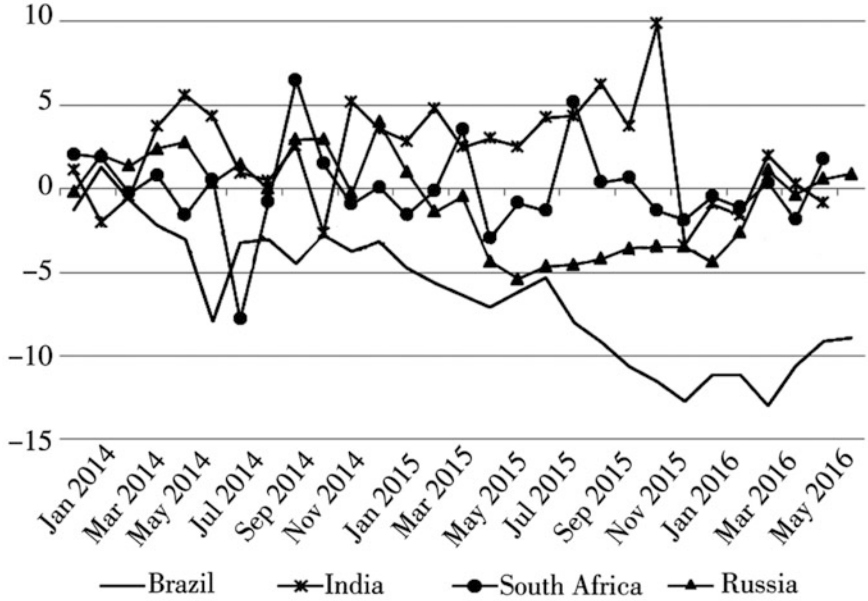

Fig. A.4 Year-on-year growth rates of main emerging economies' industrial production index (*unit %*). *Data source* Wind Information database. *Notes* Indexes used to calculate year-on-year growth rates include India's industrial production index (2004–2005 = 100), Brazil's industrial production index (seasonally adjusted, 2012 = 100), South Africa's all manufacturing production indexes (seasonally adjusted, 2010 = 100) and Russia's industrial production index (2010 = 100)

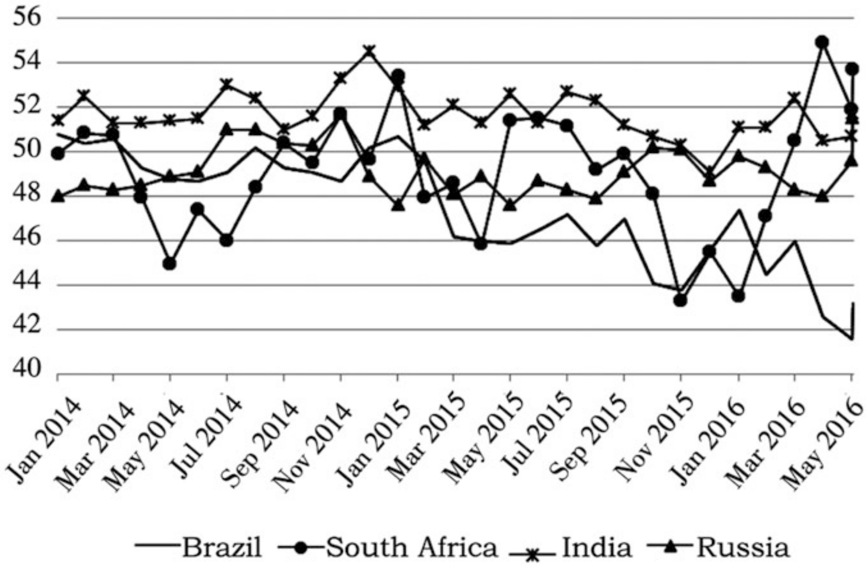

Fig. A.5 Main emerging economies' manufacturing PMIs. *Data source* Wind Information database. *Notes* Indexes used include India's manufacturing PMI, Brazil's manufacturing PMI, South Africa's PMI (seasonally adjusted) and Russia's manufacturing PMI

Prospect of International Industry in the Second Half of 2016

Due to slow recovery of developed economies and sluggish growth of emerging economies, the prospect of global economic growth remains weak. The Federal Reserve's increase of interest rates in December 2015 has produced prodigious influence on the world economy; meanwhile, the influence of strong dollar policy and the Federal Reserve's constant intensification of interest rate hike expectation will persist in the second half of 2016, which may cause a further turmoil in global economy. Under such a background, all other main economies than the United States begin to exercise easing policy, differentiating global policies and adding much to uncertainties and risks of global economic recovery. The effects of British departure from the EU will manifest step by step and aggravate uncertainties in global economic recovery and the Central Bank's policy. In February 2016, OECD cut the global economic forecast for 2016 down to 3.0% (previously 3.3%) and also sharply down-regulated the economic growth expectations of main developed economies. For economic prospect in the second half of 2016, the world economy will recover slowly, with persisting regional differentiation, and the developed economies will perform better than emerging economies; however, the global economy will still be faced with many uncertainties.

It is predicted that the growth rate of developed economies in the second half of 2016 will slow down in stabilization. As the economic fundamentals of the United

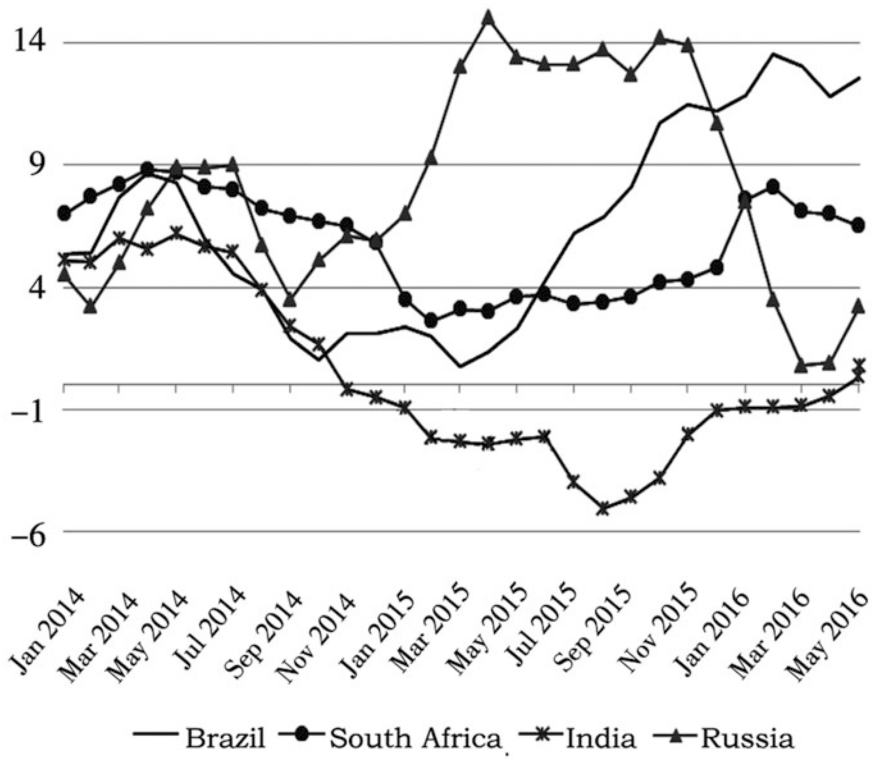

Fig. A.6 Year-on-year growth rates of Main emerging economies' PPIs (*unit* %). *Data source* Wind Information database. *Notes* Indexes used include Brazil's IPA—year-on-year M—monthly, South Africa's PPI of industrial products/finished products—year-on-year—monthly, India's WPI —all commodities—year-on-year—monthly, and Russia's PPI—year-on-year—monthly

States are superior to most main economies and the recovering trend of American economy remains unchanged, the steady growth of consumption expenditure will be one of the definite motive powers for American economic recovery. Although the American economy is unlikely to break through the annual average growth rate of 2.2% in future several years since financial crisis under the influences of aging population and slowing growth of labor productivity, it is noted that the American total factor productivity is improving persistently to accumulate strengths for comprehensive economic recovery. After the Federal Reserve's FOMC meeting in March 2016, the Federal Reserve kept current interest rate unchanged in consistence with market expectations; after the interest rate is raised, the Federal Reserve still maintained that "the Federal fund rate may be lower than the expected long-term level in a given period, but the actual path will depend on the economic prospect indicated by future data" for future increase of interest rate. According to the Federal Reserve's FORMC meeting in June 2016, the British referendum and labor data in May added much to the uncertainty, which widened disagreements among the Federal Reserve; the market analysts argued that it would be less likely to raise interest rate by the end of 2016; in addition, the American general election will be there in 2016 and requires conservative monetary policies, so it is less likely for the Federal Reserve to raise interest rate in the second half of 2016. While the world economic upheaval due to the Federal Reserve's increase of interest rate at the end of 2015 could weaken gradually prior to next increase of interest rate, the Federal Reserve's increase of interest rate in 2016 would be a time bomb. The American economy may pick up after the flood in Mississippi River basin, but its economic activities in the second half of 2016 will be more or less affected by the flood. Continuous economic recovery after the crisis may facilitate gradual recovery of American capacity, but the bottleneck of capacity recovery will undermine acceleration of American industrial production. When other main economies in the world continue with easing monetary policies, the US dollar will further appreciate and bring down American export and thus cause adverse influence on American economic growth; all these influences along with uncertainties in global economy and financial situation will put American economic recovery at risk.

It is also predicted that the Eurozone's economic recovery will be sluggish. The European Central Bank's decision on monetary policy in March 2016 startled the market. It decided to down-regulate three key interest rates: the deposit rate from −0.30 to −0.40%, the main refinancing rate from 0.05 to 0.00% (the first time since September 2014) and the marginal lending rate from 0.30 to 0.25%, and increased the debt purchase size to €80 billion. The easing monetary policy may reduce enterprises' loan cost and promote recovery of real economy, the stimulating effect of easing monetary policy will weaken significantly as time goes on; besides, some deep-seated problems, such as unsmooth transmission of the banking system and dislocation of labor force population, will be resolved simply by monetary policy. Sustainable recovery of Eurozone's economic growth requires joint efforts from a series of monetary and fiscal policies. Greece's break of contract and Britain's referendum intensified market's uncertainty in Eurozone's prospect and will lead to some adverse results in the second half of 2016. With stabilizing oil price, the deflationary risk will narrow and the long-term deflationary pressure will ease, but they will remain the biggest risk of Eurozone's economy; meanwhile, the sluggish demand of China-led emerging markets will also produce certain risks for Eurozone's export volume.

It is predicted that there will remain uncertainties about Japan's economic recovery in the second half of 2016. At the end of January 2016, the Central Bank of Japan unexpectedly announced exercise of negative interest rate, maintained JPY80 trillion of annual QQE, and postponed the time to realize 2% inflation target into the first half of 2017 fiscal year. After exercise of negative interest rate, however, the changes in Japan's finance implied more uncertainties because the negative interest rate produced adverse effects on Japanese financial institutions while stimulating economic growth. In March 2016, the Central Bank of Japan decided to maintain the existing policy of −0.1% negative interest rate and the plan on annual increment of JPY80 trillion for monetary base, intentionally awaiting the further results after exercise of the negative interest rate policy. Continuous appreciation of Japanese Yen offset part of rising prices of bulk commodities and did no good to Japan's imported inflation and export, which would force the Central Bank of Japan to maintain easing monetary policy. Therefore, Japan's economic recovery will depend largely on the Central Bank's policy; however, if the economic growth rates decline sharply in the Asia-Pacific region due to sluggish economic growth of China and the US Federal Reserve's re-raise of interest rates, the Japan's economy will be subject to serious impact.

The emerging markets and the developing economies are expected to stabilize or even pick up, though the process may be rather rough. Many countries have developed programs and measures to promote economic recovery. This also leads to differentiated recovery processes. India sees a promising prospect of economic recovery. The "Made in India" program proposed by Indian Government aims to increase manufacturing industry's proportion in India's gross domestic product and create more jobs by increasing budgetary outlays for investment in infrastructure construction, lowering the upper limit for foreign direct investment, cutting down on government subsidies and reducing taxes on enterprises. Implementation of the program and manifestation of its effects will further help overall recovery of India's economy. Under the influence of weak private investment in India and external economic context, India's economic recovery will be faced with various hardships. According to BMI Research's prediction in March 2016, India's economy will grow 7.2% during 2016 and 2017, which is lower than the 7.6% growth rate predicted by the Central Statistical Organization; the recovery process of developed countries will be slow; no significant improvement will be made in European and American economy; main emerging countries' economy will remain in deep water; Brazil's economy will suffer a serious recession and difficult recovery due to deteriorating external environment, rising unemployment rate and prices, higher indebtedness and the current political crisis; the likelihood of US Federal Reserve's raise of interest rates at the end of 2015 will persist, and capital outflows caused thereby will produce more pressure on emerging economies with lower foreign exchange reserves, such as South Africa, whose economy will be faced with severe challenges from large-scale declining prices of market assets and currently serious domestic inflation; and Russia's economic prospect also seems not as optimistic as expected. Regard to Russia's economic growth in 2016, the International Monetary Fund (IMF) predicted a decrease of 1%, the World Bank predicted a decrease of 0.7%, and the international rating agency Fitch Ratings down-regulated Russia's growth forecast of growing 0.5% to decreasing 1%. On March 1st, 2016, Russia issued the 2016 Action Plan for Steady Development of Social Economy, i.e. the Anti-Crisis Plan, to promote recovery of real economy. In the short run, the emerging markets are still under the adverse influences of fluctuating prices of bulk commodities and drastic appreciation of US dollar, but the medium-term risk facing emerging markets still lies in Chinese economy's "hard landing" or potential significant slowdown or more universal spillover effects due to potential growth.