Abstract: Since the reform and opening up to the outside world, economic construction in Beijing has achieved brilliant achievements. Then, what is the driving force of continued and fast economic growth in Beijing? What are the conditions that will support the sustainable economic growth in the future? Around these questions, this article reviews the characteristics demonstrated in the process of the economic growth in Beijing after the reform and opening up to the outside world, based on the economic growth theory, in view of the main factors exerting influence on economic growth; look forward to the internal and external environment and favorable factors the economic growth in Beijing will face in the historic course of building a well-off society, on the background of globalization during the 11th five-year plan period, and makes a prediction that the average economic growth in Beijing during the 11th five-year plan period, will be between 9.2% and 9.6%, employing increment speed equation and computable general equilibrium model (CGE).

Through the nearly 30 years of fast development after the reform and opening up to the outside world, the economy in Beijing has entered a new important stage of development. This stage is not only an important strategic opportunity for economic development, but also a period in which various kinds of social and economic contradictions appear. Therefore, it is one of the chief tasks for us to grasp all kinds of
opportunities, cope properly with difficulties and challenges, and maintenance a fast, continued and steady economic growth, during the 11th five-year plan period.

I. Major factors influencing economic growth

There are mainly four types of modern theories of economic growth: the Neoclassic Growth Theory, the New Economic Growth Theory, the Theory of Structuralist Growth and the Theory of System Transition. All of them make research deep into the source and endogenetic mechanism of driving force. In summary, based on the four theories mentioned above, we think that capital, work force, technical progress, structural changes and institutional innovation, are the main factors exerting influence on, and the source of, the economic growth.

II. Characteristics of changes in economic growth in Beijing and in its influencing factors since the reform and opening up to the outside world

(I) Economic strength grows fast; economic development is in the process of speeding-up stage.

Since the reform and opening up to the outside world, Beijing’s economic strength has grown fast. In 1978, the economic aggregate of Beijing just broke the value of 10 billion Yuan, reaching 10.88 billion Yuan, accounting for 3% of the economic aggregate of China; while in 2005, the GDP of Beijing had already totaled 700 billion Yuan, reaching 681.45 billion Yuan, accounting for 3.7%. In the 27 years after the reform and opening to the outside world, Beijing’s production level of GDP continued to rise, and the time spent is becoming shorter whenever one new step is taken (See Table 1). In 2005, the economic aggregate of Beijing ranked the tenth in China, four places ahead than in 1978.
Table 1       Six Years corresponding to production increase by 100 billion Yuan

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP (100 million Yuan)</th>
<th>Number of years spent for GDP breaking 100 billion Yuan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>108.8</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>1145.3</td>
<td>16</td>
</tr>
<tr>
<td>1997</td>
<td>2075.6</td>
<td>3</td>
</tr>
<tr>
<td>2000</td>
<td>3161.0</td>
<td>3</td>
</tr>
<tr>
<td>2002</td>
<td>4330.4</td>
<td>2</td>
</tr>
<tr>
<td>2003</td>
<td>5023.8</td>
<td>1</td>
</tr>
<tr>
<td>2004</td>
<td>6060.3</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: In 2004, China’s first economic census was conducted. Depending on the statistics of that investigation, our bureau, Beijing Municipal Bureau of Statistics, adjusted the GDP data after 1993 by way of trend deviation method. All the historic data of GDP and related indicators in this article are based on the adjusted data.

In the period of 1978-2005, the GDP of Beijing increased by an annual average of 10.3%. Since 1999, the economic aggregate of Beijing has maintained a two-digit increase for seven years running, and is in the speeding-up stage.

(II) The fast accumulation of capital lays a solid material
foundation for high-speed economic growth

Beijing, the capital of China, is the center of financial management of China, so the sufficiency in money is one of its advantages. At the end of 2005, the balance of home and foreign currencies of all financial institutions (including foreign-funded ones) in Beijing amounted to 2.897 trillion Yuan, accounting for 9.6% of that of China. Sufficient capital source provided a strong support for the fast accumulation of capital.

(III) Sufficient supply of work force, and relatively high quality of workers, provide a necessary support to economic growth and technical progress.

Beijing, as capital of China, has a strong appeal to the people in the whole China, especially in the neighboring areas. The continued increase in in-coming population has made the work force relatively sufficient in Beijing. During the 10th five-year plan period, permanent population in Beijing will increase by an annual average of 349,000. Of which, 58% will come from outside Beijing. It is expected that incoming population will continue to be the main components of work force in Beijing.

Beijing is the center of culture, and also the center of science and technology, of China. The special position has made Beijing the talent highland of China. The degree of education received by residents and comprehensive quality of employees are relatively high. Of population of six and over six, 24.5% received post-secondary education or above, 6.4 and 10.5 percentage points higher than that of Shanghai and Tianjin respectively. In addition, the statistics in the economic census in 2004 showed that
of the employees in the second industry and tertiary industry in Beijing, 38.7% received college degree of education or above, 14.4 percentage points higher than average level of China, and 6.4 percentage points higher than that of Shanghai.

(IV) The increased volume of investment for science and technology research, and increase in strength of original innovation, pushes forward strongly technical progress.

The Government Work Report approved by the first session of 11th Standing Committee of Beijing Municipal People’s Congress, in January 1998, put forward officially the idea of Capital economy. The development of Capital economy is directed toward knowledge economy, with high and new technology industry as its core. Under this guidance, the investment for science and technology research is growing in volume, and original innovation activities are becoming more active.

During the 10th five-year plan period, the science and technology activity expenditure of Beijing totaled 245.02 billion Yuan, an annual average increase of 14.6. Of which, R&D expenditure accumulated to 134.39 billion Yuan, an annual average increase of 19.5%. Participants in science and technology activities increased averagely by 5.4% each year, of which, 5.6% were scientists or engineers.

With the increase of investment in volume for science and technology research, the ability to make scientific and technological innovation is strengthened further. During the 10th five-year plan period, the quantity of patent application in Beijing accumulated to 84,000, an annual average increase of 16.9%; of which, the number of invention patent application accumulated to 40,000, an
annual average increase of 28.8%.

(V) The speeding-up of upgrade in consumption structure becomes the main driving force for upgrade in industrial structure and economic growth.

Since the reform and opening to the outside world, the economy of Beijing has been growing continuously and fast. The employment situation has been basically stable, and the income of urban and rural residents has increased steadily. In 2005, the per capita income of urban residents and per capita net income of farmers were respectively 17,653 Yuan and 7,860 Yuan, 48.3 times and 35 times that of 1978 respectively.

The increase in income promoted the rise in consumption. The new round of upgrade in consumption structure speeded up, improving conditions for living, transportation and communication. Expenses spent on residential houses, autos, electronic communication products and expenses on raising living standard grew fast, while Engel coefficient kept lowering. In 2005, Engel coefficient of urban residents was 31.8%, and that of farmers 32.8%. According to the standard of FAO, the living standard of Beijing residents had entered the relatively rich section\(^1\).

The upgrade in consumption promoted a new round of great change in industrial structure, and fast-growing industrial groups including residential houses, autos, electronics, communications, etc. which are in close relation to upgrade in resident consumption, are becoming the main driving force for industrial upgrade and economic growth. In 2005, the added value of real estate of Beijing

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\(^1\)According to the standard of FAO, when the Engel coefficient is under 59%, it is absolutely poor living standard; when the coefficient is between 50%-59%, it is subsistent living standard; 40%-50%, comfortable living standard; 20%-40%, rich living standard; under 20%, the most rich living standard.
reached 48.89 billion Yuan, accounting for 7.2% of its GDP, an increase of 5.7 percentage points than that of 1995; the added value of auto industry accounted for 8.8% of the added value of the industries above the designated size in Beijing, an increase of 5.1 percentage points over the year 2000.

The demand on service caused by the development of production and the upgrade in consumption structure extended greatly the development space of the tertiary industry. Positive changes have taken place in the ratio structure of the three industries (See Figure 1). In 1994, the added value of Beijing accounted for 49% of its GDP, surpassing the second industry for the first time (3.8 percentage points higher than that of the second industry). The industrial pattern has changed from “2nd, 3rd, 1st” to “3rd, 2nd, 1st”, in the sequence of descending proportion. In 1995, the proportion of the tertiary in GDP was more than 50%, in 1998, more than 60%, in 2002, 69.2%, and in 2005, 67.7%.

Fig. 1  Changes in Industrial Structure of Beijing Since 1978

Unit: %
(VI) The reform and opening up to the outside world promotes from each other, which becomes the endless source maintaining the dynamism of economy

In the past nearly 30 years, with the development of the reform, the economic pattern of Beijing has changed much evidently. The new pattern has formed, in which multi-forms of economic components co-exist, with collective ownership as the main. Market mechanism is playing a more and more important role of basic adjustment in economic fields of commodity exchange, resource configuration, etc.

The degree of development of non-state economy is one of the important bases for measuring marketization level. Since the reform and opening up to the outside world, the property system in Beijing has changed greatly, and non-state economy has made great progress. Through the analysis of the main composition of the three proportions: the proportion of total output value of non-state economy.
industry in that of industry, the proportion of the non-state investment in total social investment for fixed assets, and the proportion of the staff of non-state units in all the people of all occupations, a composite indicator is formed, which contains over 97% of the information from the three sub-indicators mentioned above. It can be seen from the trend of the composite indicators (See Figure 2) that the marketization process in Beijing is in progress, and after 1992, the process was accelerated. In 2004, the composite indicator reached its Maximum 69.9, 4.4 times that of 1978.

**Fig. 2 The development of non-state economy (composite indicator) of Beijing since 1978**

Beijing is the center for international communication in China. Since the reform and opening up to the outside world, Beijing has grasped the opportunity and made full use of the advantages of its own, to push forward the rapid rise of export-oriented economy, as a result, the space for development of Beijing economy has been continuously extended. As China re-entered the WTO, the opening
up of Beijing to the outside world entered a new stage. The pattern of strategy of multi-outlet market was gradually formed, and the employment of foreign funds was fruitful.

III. Outlook on the prospect of economic increase in Beijing during 11th five-year plan period

(I) Internal and external environment and favorable factors for economic increase in Beijing during 11th five-year plan period

During the 11th five-year plan period, the Capital economy is facing an important strategic opportunity. In spite of many challenges, such as the increase in pressure of population, resources and environment, and the relative extensiveness of mode of economic growth, the system restrains the economic growth potential, and increased number of social conflicts in the course of the sharp changes in social structure. Meanwhile, however, there are good environment for development and many favorable conditions.

In view of international environment, the further development of economic globalization, and fast scientific and technological progress, speeded up the international flow of production factors, and international industrial transition and the foreign direct investment will speed up the transition toward service industry in the globe. Relative low cost of workforce, and the gradual opening up of the service industry, enables China the comparatively big advantages in undertaking the transition of the international service industry. Of all the provinces and cities of China, Beijing has the highest proportion of service industry in all industries, and is rich in human resources.
In view of domestic environment, the period of 11th five-year plan is the key phase for building a well-off society in all-round way; therefore, a large number of favorable factors will bring more opportunities to economic development of Beijing.

First, system environment will be further optimized. During the 11th five-year plan period, the system reform, which focuses on transition of governmental function and further deepening the reform of enterprises, finance, taxation and banking, will be furthered pushed forward, and the economic system of socialist market economy will be perfected further. The breakthrough of the reform will create a more transparent and predictable system environment.

Second, the speeding-up of the process of industrialization and urbanization will promote the development of related industries. The period of 11th five-year plan will be a period of fast growth of industrialization in China. Meanwhile, speeding up of industrialization and the resultant rise in population in cities, will bring us an increase in demand on investment and consumption. The processing industry and urban industry are expected to grow further.

Third, the Urban Circle around Beijing-Tianjin-Hebei is confronting the development opportunity. In the 11th five-year plan period of our country, pushing forward the development of Tianjin Costal New Area and promotion of the economic development of the Beijing-Tianjin-Hebei area is listed in the “national strategy”. As the most important city in Beijing-Tianjin-Hebei area and the neighbor of Tianjin, Beijing will benefit from the economic development of the urban circle in the coming five years.

Fourth, the enforcement of national strategy of the original innovation has brought new opportunity for Beijing to make full use
of Beijing’s advantages, strengthen the ability to make innovations, and speed up the development of high-end industries.

In view of Beijing itself, the period of 11th five-year plan, is the period during which the Olympic economy will play an evident role, and also the important opportunity for the development of modern service industry and high-tech industry. The large scale of economic construction brought by Olympic investment will be completed during the period of the 11th five-year plan, which will directly promote the economic growth of Beijing. At the same time, the Olympic games will also promote the development of related industries. In the period of preparing for and holding the games, not only sports, advertising, tourism and information industry, but transportation, real estate, and retails will be further promoted as well.

(II) Prediction of economic growth of Beijing during the 11th five-year plan period

In the period of the 11th five-year plan, in view of the national and international environment of political and economic development, there are more favorable factors than unfavorable ones. In Beijing, there is still relatively sufficient supply of production factors, scientific and technological progress will enable a more rapid upgrade in industrial structure, and the economic structure is tending to be further optimized, the system and mechanism will be increasingly perfected, all those will set a solid foundation for the fast and steady economic development in Beijing. We have made a prediction on the prospect of the economic growth in Beijing, employing growth speed equation and countable general equation equilibrium model (CGE). The two different methods show that the average economic growth in Beijing during the 11th five-year plan
period will be between 9.2% and 9.6%.

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