

## **The Development of Shanghai in 2010**

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### **Abstract**

This paper revealed the main problems which thwarted Shanghai's economic Growth before 1990s. Basic principles of long term coordinated development of city and metropolis are explored. The paper described the blueprint of Shanghai in 2010 and studied some main factors which might limit its future economic development.

## The Development of Shanghai in 2010\*

### I.BACKGROUND OF THE STUDY

Statistics showed that most cities in the world experienced their four stages of development: the birth, growth, culmination and the decline. The population and economic growth of main metropolises of the U.S. unexceptionally shaped a "peak" behavior, with their climaxes mostly appearing during 1930-1950. They experienced a one-hundred-year booming, proceeding to a slowdown and stagnation. The summits were usually reached in 140-160 years, followed by decline, and a similar behavior mode can be seen in the industrial production of these cities.

Shanghai, quite similarly, experienced a decline with both its government revenue and economic efficiency in the 1980's after it went through its recent 150 years' history. In spite of the differences of situation and location, they showed the resembling behavior mode.

Shanghai is a metropolis characterized in its industry. Its GNP was more than 150 billion RMB and population density was higher than 2000 persons per KM square in 1993. Shanghai took leading part in its national industry before, but the economic reform around the whole China deteriorated it on account of its material and energy shortage in 1980s. The main problems Shanghai facing have been:

1. Its tertiary industry has sustained a small portion and a low growth rate, making its metropolitan function incomplete and imperfect.
2. The superiority of leading industries in Shanghai has been declining, and the competitiveness of Shanghai's products has been weakening both in the domestic and international markets.
3. The provision of raw material and energy for industry in Shanghai is not regular.
4. Transportation and communication situation connected both inside and outside world has been worse.

All facts mentioned above confessed that something essential should take effect on the cities very strongly, but where are they?

The major factors dominating the long-term coordinated development and economy growth of a metropolis were explored by Wang (1992).

### øð.THE PRINCIPLES AND QUESTIONS

By referring the law of metropolis' development and experiences advisable, combining references and some of our new research outcome, the author believes that following principles and guideline should be followed in making the development strategy on China's central cities.

- (1). People should study and draw lessons from historical experiences from a historical, systematic, dynamic, dialectical and long-term viewpoint.
- (2). According to the three principles of coordination of city's function, coordination of space and coordination of time, policy makers should take every effort to settle the relations between society, economy, science and technology, and ecology.
- (3). Central cities should be an open, multifunctional, modernized cities. Each should take its advantages and features to be a center with both specific major functions and ordinary functions.

(4).A spacious area is needed for a central city.

(5).Industrial structure should be rationalized and modernized.The relations between the secondary and tertiary industries should be settled well.In every stage of the central city's development,according to the tendency of market demand,industrial structure and transportation should be adjusted and renewed in advance.

(6).If conditions permit,some new areas can be developed near those central cities which posses too narrow space and is in recession in order to reconstruct its functions.However,much attention must be paid to the coordination between old and new areas,in case of the new area becoming a copy of the old part.

(7).From a prospection of advantage to the development of whole regional economy and even the whole national economy,people should take a radiation ability that an area has,and then determine if the area can be the central city of this region.

(8).Regarding the central government's inspection on the central city(esp. metropolis),instead of conventional indexes,new indexes which can measure the contributions that the city devotes to regional and national economy in a long and a historical period,should be used.

Several investigations are made in order to find a solution to Shanghai in early 1990s.According to the principles explored above,we agreed with that one way to get rid of Shanghai's promblems is to rebuild the whole Shanghai by developing itseastern area and adjusting the unreasonable structure in the western part.The following questions have been under studying:

1.How to plan a reasonable economic development goal for Shanghai in 2010?

2.How to transform an industry concentrated city into a multifunction metropolis, i.e. as a financial center,trade center and information center?

3.How to change the strategy to cope with the situation which requires broad regional cooperation and more efficient international transaction?

4.How to coordinate the development of western and eastern part of Shanghai?

5.How to solved the transportation and communication problems between the city's two parts.

But we just mainly discuss the first question in detail in this paper.

#### 6.The Structure of The Mode

The model has more than 10 levels, and about 100 equations written in Professional DYNAMO.

In order to answer the questions mentioned above and reveal the relation between the western and eastern part of Shanghai,we devide the model into twe parts respectively,each consisting of subsystem of transportation,population and production etc.

GNP is the main index reflecting the economy.It is the sum of three industries.(1st industry:agriculture,2nd: light industry, textile, machinery, electronic industry, ect. , 3rd ( tertiary industry): commerce, finance, service industry,etc.)

The production closely relates to the transportation, raw material and energy supply. The production increase gives rise to extra demand of transportation imposing greater stress on transportation. So does it do to the raw material and energy supply. If the economic structure of Shanghai remains unchanged, then the demand structure of raw material and energy supply will be unchanged and the contradiction of demand and supply will become much more severely imbalanced, constituting a negative effect on the economy development.

#### øø. Blueprint of Shanghai In 2010

The model is still under refining, but we would like to show some lights on our part studying results, as shown in Table 1.

Simulation results show:

(1). Based on supposed development speed, Shanghai will mainly be built into an international economic, financial and trade centre in 2010.

	1993	2000	2010
GNP(billion RMB)	151	330	780
growth rate %		-----12%-----	-----9%-----
GNPøð	90.3	135.3	195
%	59.8%	41.3%	29.5%
GNPøó	57.2	181.5	546
%	37.9%	55%	70%
GNPøñ	3.5	12.21	39
%	2.3%	3.7%	5%

Table 1.

(2). Shanghai will become a base of six key industries: car, electronic and communication equipment, electricity station facilities, household electrical equipment, steel, oil and refined chemical industry.

(3). During 1990s, billions of finance investment should concentrate on its city facility construction.

(4). Develop land transportation (railway and express highway), and emphasize on the building of modern airport, deepwater port and information center so as to become international center of transportation and communication.

#### øø. THE LIMITATIONS TO THE ECONOMIC GROWTH OF SHANGHAI

Main limitation are:

1. The great shortage of raw material and energy between supply and demand. The situation was caused by two reasons: one is that the city's economy development speed was too high; the other is that the city's industry structure was unreasonable: traditional industry dominated the whole economy and service business, financial business and high technology industry far fell behind traditional industry.

2. Transportation problems that include in both goods and passenger, which were caused by poor basic facilities, road conditions and the cross-river transportation. Cross-river transportation problems will be worse because of the increase of cross-river commuters.

#### 6. MAIN CONCLUSIONS

Through the studying of the paper, we find:

1. The reasonable development speed of Shanghai' economy is about 8-10%.
2. By the way of effective investment policies, the city should speed up the adjustment of its industry structure.
3. Increase the investment on basic facilities and basic industries so as to improve the city's transportation and communication situation including that of inside, cross-river, inter-city, etc.
4. The coordinative development of the city's two parts is one of the most important problems the city's planning makers should pay great attention..

#### REFERENCES

1. Jay W. Forrester, *Urban Dynamics*, The MIT Press (1969)
2. Qifan Wang et al., *Theory and Application of System Dynamics*, New Times Press (1987)
3. John M. Levy, *Urban and Metropolitan Economics*, McGraw-Hill Compang (1985)
4. Qifan Wang, *Primary Factors Dominating the Development and Change of a Metropolis*, Proceeding of The 1992 ISDC, Utrecht, The Netherlands, (1992)

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