Statistical Methods and Empirical Research on Consumer Services in Beijing

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Abstract

Consumption is one of the "three carriages" to enhance economic growth. After global financial crisis, our nation has always stressed that we should "make the expansion of domestic demand as the fundamental way to guarantee the economic growth" and put the expansion of residential consumption as priority. To reflect the dynamics of consumer services in Beijing, we have started the research on statistical methods on consumer services. The research, based on relevant theory researches, referring to household consumption expenditure statistics and accounting methods of national economy, starting with the session of service provide, in accordance with *Classification of Household Consumption Expenditure* and *Industrial Classification for National Economic Activities*, screens out *major consumer service industries*, utilizes existing financial statistics system of service industry, and sets up "*consumer service output*" indicator. Based on this method, the thesis calculates *consumer service output* data in Beijing in recent years and evaluates the scientificity of the data.

Key words: Consumption, Output, Service Industry

I. Introduction

Since the 90s of last century, Beijing's economic structure has experienced significant changes, and economic development has entered a new stage with service economy as the leading factor. The growing prominence of service industry is reflected in the sharp increase in final service consumption sparked by rising economic development and income level, and the increase in intermediate services consumption resulting from specialization of industry and the deepening segmentation of industries. Data collected both in China and abroad shows that family spending on material goods has declined in relative terms whereas spending on service has been steadily climbing. Under such context, we undertook the study on statistical method to better account for services consumption, formulating one statistic indicator named as *consumer service output* to shed light on the output of *major consumer service industries*.

Study on consumer services bears practical meaning and strategic significance in revealing Beijing's overall economic development. First, with the *consumer service output* indicator, it's possible to have quarter-based, sustained, timely and dynamic monitoring on the output of *consumer service industries*, as its growth rate can exhibit the subtle fluctuations in overall economic condition; second, the *consumer service output* indicator can demonstrate the consumption of services, complementing the consumption of goods, and form the critical component of overall consumer demand; third, headquarters and service economy have featured conspicuously in the capital's economy, and the *consumer service output* indicator will have increasingly vital role in

improving statistic system for the service industry as it further develops.

II. The definition of consumer services and scope of statistics

1. Research on pertinent theory：Consumption and consumption demand

Consumption is an economic activity of utilizing economic goods to satisfy needs. Consumption demand is the total demand for final goods and services in the economy at a given time and price level. From the scope, consumption includes commodity consumption and service consumption; from the object, consumption includes individuals and enterprises (or organizations).

At this juncture, commodity consumption is measured by *Total Retail Sales of Consumer Goods* indicator, but the calculation on service consumption lags behind. In the practice of national economic accounting, three components of GDP by expenditure approach are final consumption expenditure, gross capital formation and net exports of goods and service; however, final consumption expenditure can't be broken down into commodity consumption and services consumption. In urban and rural resident households' statistics, the household consumption expenditure includes spending on consumer goods and services, but we only count household consumption as object of statistics, which is quite narrow.

2. Inclusion and extension of consumer services

Consumer services in narrow sense refers to the services provided by enterprises (or organizations) to individuals and enterprises (or organizations), through transaction, for ultimate consumption. Consumer services show the final service demand, distinguishing from the intermediate service demand generated in the production process.

Broadly speaking, consumer services mainly span three fields: livelihood services provided to urban and rural residents, non-production and non-operating services provided to enterprises (or organizations) and services provided to transient population (foreign and domestic travelers to Beijing). Targeted audience for consumer services includes permanent residents, travelers and enterprises (or organizations).

3. Definition on *consumer service output*

In the current statistical calculation, products provided by the service industries include both production materials and consumption materials. In theory, consumer services can be classified as "*consumer services in pure sense*" and "*consumer services in real life*." It's an ideal state to break down data retrieving the "*consumer services in pure sense*." Our study only focuses on real-life consumer services, which, instead of solely providing services to the final consumption, also provides intermediate services to the production, though the significance and scale of this part lag far behind that for final consumption. Therefore, we brand grouping of such industries as "*major consumer service industries*".

Consumer service output refers to the aggregate output of *major consumer service industries*, i.e. the total value of services produced by region's major consumer service providers (enterprises or organizations) within a certain period.

III. Study framework of statistical approach to Beijing's consumer services
1. Research design
The basic design for the study is to start from service-providing process, screen out *major consumption service industries* in accordance with *Classification of Household Consumption Expenditure (NBS,2012)* and *Industrial Classification for National Economic Activities (NBS,2011)*, and then estimate *consumer service output* indicators from the production perspective.

In the study, we stress on **comparability**, **operability** and **feasibility**. **Comparability** entails that it's in accordance with *Industrial Classification for National Economic Activities*, insuring that it's in line with national standard. **Operability** emphasizes on the application of prevailing statistic system in service industries to make sure that it is workable. **Feasibility** incorporates multiple aspects: 1) *Consumer service industries* mainly provide services to the final consumption, though the intermediate services provided to production can't be ruled out; 2) Consumer services providers (enterprises or organizations) mainly provide services but can't rule out providing consumer goods; 3) Only *major consumer service industries* are included in the statistics not covering all *consumer service industries*.

2. Definition on statistics scope of *consumer service industries*
Define consumer services' industry scope from the perspectives of household consumption and public service consumption.

Step 1: Define household consumption-related industries in accordance with *Classification of Household Consumption Expenditure (NBS, 2012)*
According to 2012 exposure draft of *Classification of Household Consumption Expenditure* by *National Bureau of Statistics (NBS)*, household consumption includes commodity consumption as well as service consumption, and among them, household service consumption includes: *foodservice, clothing processing, residential service, household service, transport & telecommunications, education & culture and entertainment, medical care & other service*. We compare the content above with *Industrial Classification for National Economic Activities (NBS, 2011)* and screen out the corresponding industries such as *passenger transport, hotels, household service, education, health and entertainment*.

Step 2: Complement public service consumption industries
Public service is the product of meeting increasing public demand when the market economy develops to certain stage. Therefore, supplement public service consumption industries like *meteorological service, seismological service, environment and ecological monitoring, ecological protection and environmental management, public facility management, social work, cultural relics and intangible cultural heritage protection* and etc.

Step 3: Classification on *consumer service industries*
We finally screen out 12 major categories, 12 medium categories and 2 small categories, totaling 114 small categories, and they form the main portion of the *consumer service industries*. According to industry activities, they can be classified as the following six categories: residential service, domestic service, transport & telecommunications, medical care & social service, education & culture and

entertainment and public environmental service. (See Table 1)

Table 1   *Consumer Service Industries* **Classification**

Classification	*National industrial classification*
1. Residential service	Property management
	Real estate agency
2.Domestic service	Household service
	Motor vehicle, electronic products and repair
3.Transport & telecommunications	Railway passenger transport
	Urban public transport
	Highway passenger transport
	Water passenger transport
	Air Passenger Transport
	Passenger ticketing agency
	Post
	Telecommunications
4.Medical care & social service	Health
	Social work
5.Education & culture and entertainment	Education
	Movie theaters
	Culture and art
	Sports
	Entertainment
	Hotels
	Travel agency and related service
6.Public environment service	Meteorological service
	Seismological service
	Environmental & ecological monitoring
	Ecological protection and environmental management
	Public facilities management

3. Basic principles on industry selecting

i. Consumer services' industry scope differs from *Total Retail Sales of Consumer Goods* indicator

Total Retail Sales of Consumer Goods indicator reflects the total consumer goods supplied through various kinds of distribution channels to residents and social groups. *Consumer service output* and *Total Retail Sales of Consumer Goods* measures total service and commodity consumption, and the sum of these two is approximately equivalent to total consumption. Therefore, consumption services' industry scope differs from *Total Retail Sales of Consumer Goods*, and as a result, double counting would be avoided.

Calculation of *Total Retail Sales of Consumer Goods* involves many industries, and some of them can be unequivocally defined as commodity consumption such as wholesale, retail and food service industries. Hence, when deciding on *consumer service industries*, *wholesale, retail and foodservice* industries are excluded.

At present, it's impossible to make complete separation of service consumption and commodity consumption. As a result, when calculating *consumer service output* data, for some industries with disproportionately high degree of commodity consumption, along with relevant basis supporting the separation like hotels and post service, we can conduct data processing resorting to coefficient method, removing commodity consumption essentially.

ii. Select industries closely associated with final consumption

Since consumer services reflect the final demands for services from individuals and enterprises (or organizations), industries closely associated with final consumption are likely to be selected.

In addition, household consumption spending also includes *finance, insurance and legal consulting*, however, those industries mainly provide services to production activities. According to input-output table estimate, the final consumption ratio of *finance, insurance and business services industries* (including *legal service*) remains relatively low(<50%), belonging to typical producer services.

4. Calculation method of *consumer service output*

Consumer service output indicator calculation gets reference from the calculation method for total output, namely, for enterprises use *main business income* and for public institutions use *daily running expenses* (=*salary & benefit expenses + goods and services expenses*) approach respectively.

Ⅳ. Empirical study on Beijing's *consumer service output*

1. Total scale of Beijing's *consumer service output* and classification data

As estimated, 2011's *consumer service output* in Beijing reached RMB 551bn.

Table 2   2011 *consumer service output* data

Classification	Ratio (%)
Sum of *consumer service output*	100
1. Residential service	7.3
2. Domestic service	1.5
3. Transport and telecommunications	48.2
4. Medical care and social service	15.0
5. Education & culture and entertainment	22.9
6. Public environment service	5.1

2. Assessment on Beijing *consumer service output* data

i. Assessment from the overall scale

Consumer services statistical scope encompasses urban and rural residents, enterprises (or organizations) and travelers, and we can calculate on the consumer services size of the three segments from expenditure perspective roughly. Combining total service living expenditure, government fiscal expenditure and travelers' expenditure excluding their spending on dinning and shopping, the sum came to RMB586bn. Considering that government fiscal expenditure not only includes spending on services but also spending on infrastructure, so it's reasonable that the estimate number reached by expenditure approach is bigger than by production approach.

ii. Assessment from ratio perspective

In 2011, Beijing's *Total Retail Sales of Consumer Goods* and *consumer service output* registered RMB690bn and RMB551bn respectively, as the sum of the two reached RMB 1,241bn. The *consumer service output* made up 44.4%, while the ratio remained at 4:6.

Related ratio for reference: based on urban resident household's statistics, 2011's average Beijing urban resident's expenditure on services made up 43% of the overall expenditure, as the ratio between service and commodity consumption would be 4:6, a number close to the calculated ratio between *consumer service output* and *Total Retail Sales of Consumer Goods*.

iii. Assessment from quarterly growth rate perspective

Based on data from four quarters of 2012, the growth rates of *consumer service output* stand at 8.6% , 10.5%, 12.3% and 11.9%. Compared with the relevant data, the growth rate of *consumer service output* is basically in line with the increase rate of *Total Retail Sales of Consumer Goods* and of urban residents' average expenditure on services. (See Table 3)

Table 3　　　　　**2012 quarterly cumulative growth rates**

Indicators	1st quarter	2nd quarter	3rd quarter	4th quarter
Growth rate of *consumer service output* (%)	8.6	10.5	12.3	11.9
Growth rate of *Total Retail Sales of Consumer Goods* (%)	15.8	13.1	11.8	11.6
Growth rate of average services expenditure (Urban residents) (%)	9.8	12.0	10.4	10.3

Result of the data assessment: We have made assessment on the size and structure of *consumer service output*, and conclude that the data matches Beijing's current phase of economic development, reveals the characteristics of its development and has considerable value for reference.

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