

Compiling Supply and Use Tables: The Case in Mongolia

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#### I. Introduction

Mongolia is a landlocked country located in Northeast Asia. It is bordered by the Russian Federation to the north and the People's Republic of China to the south, east, and west. At 1.6 million square kilometers, Mongolia is the 18th largest country in the world in terms of territory. Mongolia's total population as of 2010 was estimated at 2.9 million. Mongolia is divided administratively into 21 aimags (provinces) and Ulaanbaatar (the capital city). About 60.9% of the total population lives in urban areas and permanent settlements, and the remaining 40% live in rural areas. Over a million people reside in Ulaanbaatar, the capital city.

Today, nomadic animal husbandry is still one of the main economic activities. The crop production, manufacturing, trade, and handicraft sectors are developing in line with the climatic and geographic conditions of the regions. Over the past 20 years, Mongolia has been undergoing a transition from a centrally-planned economy to a market economy, and changes and restructuring are taking place in all realms of the economy and social structure. Within the framework of policy for structural reform, the legislative basis for a market economy and a variety of property forms have emerged.

Reflecting these changes, the National Statistical Office of Mongolia (NSO) has changed its most frequently used method for statistical data collection from censuses to sample surveys. Moreover, the NSO is developing and implementing statistical methods, methodologies and indicators that are consistent with international statistical standards. At present, Mongolian statistics are characterized by a combination of centralized and decentralized systems.

# II. The Current System of National Accounts in Mongolia

Before 1991, national accounting in Mongolia used the Material Product System that was a standard practice for the countries belonging to the former Council for Mutual Economic Assistance (Comecon). Within the framework of its transition to a market economy, the Mongolian government, in its resolution No. 71 dated 2 March 1991, decided to begin the transition to the System of National Accounts (SNA) based on the UN methodologies. The first, or preparatory, period of this transition was from 1990 to 1995, and afterwards the implementation period began.

Work on preparation of the SNA-based accounts began in 1991 and GDP estimates, in current and constant prices using the production approach, were published in the Statistical Yearbook for 1993 on, although rudimentary estimates had been published earlier. Estimates

of income in current prices have been prepared and published in the form of percentage distributions. The NSO has calculated an annual GDP estimate by the expenditure approach at current prices starting in 2000, and began publishing it in 2011. Estimates by the expenditure approach in constant prices have been prepared on an experimental basis from time to time, but as yet have not been published. The framework for the National Accounts of Mongolia is based on the 1993 SNA (SNA 93). Mongolia, like many other countries, gives priority to the estimation of GDP using the *production*, *income* and *expenditure* approaches.

Accordingly, GDP estimated by the production approach at current and constant prices have been calculated for 14 sectors and 72 expanded sectors. GDP is estimated using ISIC 3.1 and ISIC 4.0. The current base year for GDP estimation is 2005, and the base year is changed every five years.

Having developed and approved 15 country-specific methodologies and recommendations in conformity with SNA 93, the NSO employs them in its activities. Table 1 illustrates the current compilation methods for Mongolian GDP.

**Table 1 Methods for GDP Estimation in Mongolia** 

|                                 | Curren         | t prices | Constant prices |        |  |
|---------------------------------|----------------|----------|-----------------|--------|--|
| <b>Types of GDP estimations</b> | Quarter Annual |          | Quarter         | Annual |  |
| Production                      | ✓              | ✓        | ✓               | ✓      |  |
| Income                          | -              | ✓        | -               | -      |  |
| Expenditure                     | -              | ✓        | -               | -      |  |
| Regional GDP                    | -              | ✓        | -               | -      |  |

Production accounts, income generation accounts, accounts on the income from primary and secondary distribution, accounts on the use of income, capital accounts, and goods and services accounts have all been developed at the national level by institutional sector for 1995–2008. Goods and services accounts by the main products of agriculture and industry have also been developed.

The compilation of Input–Output Tables (IOTs) has been a long-standing tradition in Mongolia. The first IOTs were compiled in Mongolia in 1963, when the country had a centrally-planned economy. Before the 1990's, the IOTs had been compiled for 1966, 1970, 1977, 1983 and 1987 on the basis of the Material Product System that was used in the countries of Comecon (the Council for Mutual Economic Assistance). The transition from a centrally-planned economic system to a market-oriented one has impacted all spheres of the economy and society of Mongolia. Hence the goal of introducing the SNA for the main macroeconomic indicators and methodologies is underway. The NSO compiled experimental IOTs for 1997 and 2000. Table 2 lists the currently available time series data of the national accounts that have been compiled by the NSO.

**Table 2 Time Series Data for the National Accounts** 

| Components  | Annual    | Quarterly |
|---|-----------|-----------|
| GDP by production approach  | 1990–2010 | 2000–2010 |
| Regional GDP  | 2000–2010 | -         |
| GDP by income approach  | 1990–2010 | -         |
| GDP by expenditure approach   | 2000–2010 | -         |
| Per capita GDP (by the World Bank Atlas Method)   | 1991–2010 | -         |
| The generation of income accounts; The allocation of primary income accounts; The secondary distribution of income accounts; The use of income accounts; The capital accounts | 2000–2010 | -         |

The latest IOTs for 2005 were compiled for the first time in conformity with the SNA 93. First, Supply and Use Tables (SUTs) were compiled and then the IOTs were derived from them. Supply and Use Tables for 2005 were the first tables to be compiled in accordance with the SNA. In 2010, the GDP base-year was revised to 2005 on the basis of the SUTs for 2005 and the Survey on Household Unincorporated Enterprises and Informal Sector (HUEMS), and disseminated to users in 2011.

Most countries are compiling SUTs every year in accordance with the SNA 93. The NSO of Mongolia participated in RETA 6483 of the Asian Development Bank. The project's main objective is to assist participating developing member countries in implementing the SNA 93 recommendations by adopting the Supply and Use Framework. It is helping to estimate a consistent and internationally comparable GDP. The NSO compiled SUTs for 2008.

Mongolia has taken certain steps to incorporate the informal-sector activities of the country into its GDP estimates. The first major study of the informal sector in Mongolia was a survey on that sector conducted in Ulaanbaatar in 1997 by the NSO with the assistance of the World Bank. Based on this research, an additional value of MNT 117.3 billion (togrogs), formed in the informal sector, was incorporated into the GDP for 2000. Since then, the activities of licensed citizens conducting business in the informal sector are estimated every year. The second and third studies of the informal sector were conducted in 1999 and 2003.

In accordance with the Mongolian Law on Statistics, the NSO held a nationwide Establishment Census in 2006 involving governmental and non–governmental institutions, property organizations of all kinds, and businesses with uncertain incomes, and established a database of Mongolian entities and organizations. As a result of this census, the classification of private businesses by industrial sector was made and incorporated into the GDP for 2006, along with updates for the previous years.

A Mongolian version (MONISIC) of the International Standard Industrial Classification (ISIC) was introduced in 1995. Subsequently MONISIC was updated in 1998, 2002, 2004, and 2006. ISIC 4.0 was translated into Mongolian and its incorporation into MONISIC is ongoing. The Business Register was coded in conformity with MONISIC.

A Mongolian version of Central Product Classification (CPC) was introduced in 2001. MONCPC was updated in 2003 and 2007. CPC 2.0 was translated into Mongolian and the updating of MONCPC is progressing. The Harmonized Commodity Description and Coding

System (HS) is used in the foreign trade statistics of Mongolia. HS is based on the international classification and adapted to the local conditions of Mongolia. The Classification of Individual Consumption According to Purpose (COICOP) was introduced in 2005. It was used in the Household Socio-Economic Survey (former HIES). Household consumption is based on the results of this survey. The Classification of the Function of Government (COFOG) was developed in 2009 and government consumption is classified according to COFOG. Recently, the Classification of the Purposes of Non-Profit Institutions Serving Households (COPNI) was developed in 2011 and it will be used in the Establishment Census for 2011.

In 1998, a national Establishment Census was conducted in accordance with the new International Standard Industrial Classification. As a result, a Business Register Database was set up for the first time. From 2000 onwards it has been updated on a quarterly basis. The Business Register Database serves as a basis for producing monthly and quarterly statistical surveys and for establishing the coverage of GDP. There are presently over 50 indicators for establishments observed in the Business Register. Approximately 66,000 legal entities are registered in the Business Register, of which roughly 35,000 are active.

The ISIC, CPC, COICOP, COFOG and HS are used in the estimation of GDP and other economic and industrial statistics. Depending on the number of business entities in a sector, censuses (in agriculture), full enumeration surveys (in construction, and transport, etc.), and sample surveys (in industry, the wholesale and retail trade, and restaurants) are widely used to compile GDP and other economic and industrial statistics.

# III. Mongolia's Supply and Use Tables: Analyses and Results

### 3.1 The Supply and Use Framework

The main National Accounts are primarily concerned with the composition, the value of goods and services entering into the final demand (for example, purchases by consumers), and the outputs and incomes generated in the production process. It does not display the interindustry transactions which link these activities. SUTs and IOTs provide the interindustry transactions which are integral parts of the system and play an important role as a framework for integration.

The Supply and Use Tables and Input–Output Tables are a central part of the national accounts. They include intermediate transactions, which form inputs into these processes, thus providing an extra dimension. Input–Output Tables are constructed to show a balanced and complete picture of the product flows in the economy and illustrates the relationships between the producers and the consumers of the goods and services. They are used to balance supply and demand in a consistent framework and offer valuable information on disaggregated macroeconomic data for economic analyses, as well as serving for statistical and analytical purposes. They provide a framework for checking the consistency of statistics on the flows of goods and services obtained from different statistical sources, such as the Livestock Census, the Establishment Census, industrial surveys, the household socioeconomic survey (formerly the household income–expenditure survey), foreign trade statistics, and other statistics. The supply and use framework is also appropriate for detecting any weaknesses in the national accounts system.

Supply and Use Tables are matrices by industry and product describing the domestic production processes and the transactions in products within the national economy in detail over a given time period. These tables show the structure of the costs of production and the income generated in the production process, the flow of goods and services produced within the national economy, and the flows of goods and services with the rest of the world.

The compilation of SUTs is often associated with the construction of symmetric Input–Output Tables. However, the role of SUTs in the compilation of national accounts should be seen from a much wider perspective than just as a first step in the constructing of IOTs.

In general, the compilation of SUTs is an integral part of producing the national accounts and it is the most efficient way to incorporate all the basic data—aggregated or detailed—into the national accounts framework in a systematic way. It is also an effective way to ensure consistency at a detailed level, and thereby improves the overall quality of the national accounts.

The methodological advantages of Supply and Use Tables as an integral part of the national accounts are:

- Integration of GDP calculation;
- Consistency in the detailed commodity level;
- Efficient confronting of different primary sources;
- Identification of gaps in primary sources; and
- Ideal frameworks for different value concepts (basic prices, purchase prices)

The practical advantages of SUTs as an integral part of the national accounts are:

- Extreme exploitation of information in primary sources;
- Open for incorporation of all other basic statistics;
- Good foundation for making reliable estimates (supply = use);
- Linkages to symmetric input–output tables; and
- Linkages with satellite accounts

SUTs offer an ideal framework for integrating the calculation of GDP via three approaches:

- Production measured as: output + (net) taxes on products intermediate consumption (GDP(P));
- Expenditure measured as: final uses imports (GDP(E)); and
- Income measured as: the sum of the components of gross value added + (net) taxes on products (GDP(I)).

The purpose of the supply table is to record the total supply of goods and services of an economy for a given period. Bearing in mind the description of the goods and services accounts and putting aside for the moment details regarding valuation criteria, the supply table shows two fundamental variables: production and imports. In the supply table, the supply of goods and services is broken down by product and origin, making a distinction between domestic output by industry and imports. The supply table includes total supply at basic prices and purchase prices. A transformation of supply from basic prices to purchase prices is performed by adding the valuation matrices for trade and transport margins and net taxes on products.

The use table has two aims. First, it reveals the input structure of each industry (by column). A column in the use table shows the product used (purchases by industry, and final demand) and the value added generated in the production process of an industry. Second, it

describes the use of different kinds of products (by row). A distinction is made between intermediate consumption by industry and final expenditure. Final expenditure is broken down into exports, the final consumption expenditure of households, the final expenditure of general government and NPISHs, gross fixed capital formation, and changes in inventories and acquisition less disposal of valuables.

The compilation of the use table is linked to the compilation of the supply table. Between the supply and the use tables, two types of identities are good:

- a) The identity by product (SUPPLY = DEMAND):
  - Total supply by product at purchase prices = Total use by product at purchase prices
- b) The identity by industry (INPUTS = OUTPUTS):

Total output by industry at basic prices = Total intermediate consumption by industry at purchase prices + value added

### 3.2 Selection of a Reference Year

The NSO has recently compiled 2008-based SUTs. It was important to select the reference year as the economic activities are functions of time. With an aim of capturing the recent changes in industrial structure of the Mongolian economy and considering the data availability of enterprises, the NSO of Mongolia selected 2008 as the reference year. It should be noted that the availability of the latest data was one of the major factors for this selection. The balancing process has been undertaken up to the end of March 2011. The previous release of Supply and Use Tables was for the year 2005 and completed in December 2007.

### 3.3 SUT Matrix Size and Data Sources

The working format of the Mongolian Supply and Use Tables distinguishes some 32 industries specified in terms of the International Standard Industrial Classification (ISIC 3.1) and 51 products specified in terms of the Central Product Classification (CPC 1.1).

The SUTs for 2008 were compiled on the basis of: SNA 93; the *Eurostat Manual of Supply, Use and Input–Output Tables*; and the *Mongolian Manual of Compiling SUTs and IOTs* which was adopted by the Chairman of the NSO in 2008. The data sources used for compiling the 2008 SUTs are illustrated in Figure 1.

Mongolian Manual Eurostat Manual of System of National of Supply, Use and Supply. Use and Accounts - 1993 Input-Output Input-Output Tables Tables (15)(1) Supply table at Valuation Intermediate Final uses at Value added Business Register SUT, ÍOT · matrices consumption, purchasers' at basic prices 2005 (unbalanced) prices (unbalanced) (unbalanced) purchasers' prices (unbalanced) (14)Balancing (2)Annual, quarterly, Consumer monthly reports prices statistics Supply and Use Tables of industrial Valuation tables (balanced) (balanced) sectors Supply Use table Wholesal Retail Transport Taxes on Subsidies (3) Balance of (13)table at at basis e trade margin products Labour force basic prices, margin margin products survey (HUMS/1-2) Payments including prices, including transformat transforma ion into tion into purchasers' prices purchasers' (12)prices Household socio Foreign trade economic survey statistics Output matrix Import at basic prices Use table at basic prices (11)Revenue amd Spesial survey expenditure of for consructing Supply table at basic Use of domestic output at basic prices State and local SUT prices government (10)Livestock Agriculture Monetary Financial Balance of census statistics statistics statistics electricity, thermal energy, coal

Figure 1 Data Sources used for the 2008 SUTs

#### 3.3 The Analysis and Results

The total supply of all goods and services (including domestic production and imports) of Mongolia was MNT 17,734.6 billion by purchase price in 2008, of which domestic output accounted for 71.4% of the total, or MNT 12,657.7 billion; imports for 24.8% of the total, or MNT 4,404.1 billion; and net taxes on products for 3.8% of the total, or MNT 672.8 billion. In terms of use of total supply, MNT 6,772.6 billion, or 38.2%, was expended on intermediate consumption; 26.2%, or MNT 4,646.3 billion, was expended on final consumption; MNT 2,774.6 billion, or 15.6%, was expended on gross capital formation; and MNT 3,541.1 billion, or 20.0%, was expended on exports (Figure 1).

 Table 3 Main Indicators of the Mongolian Economy

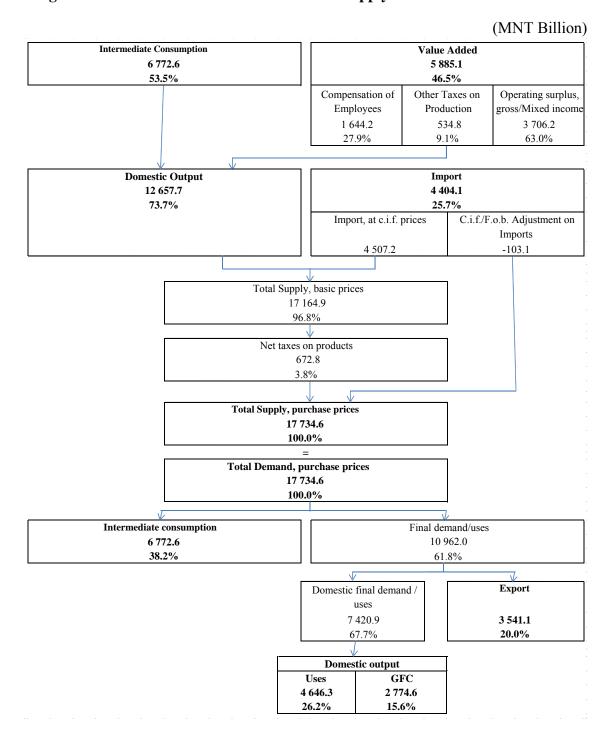
(Billion MNT at current prices)

|   |                            | 2005    | 2008     | 2008 %<br>2005 |
|---|----------------------------|---------|----------|----------------|
| 1 | Total Supply               | 7 741.7 | 17 734.6 | 229.1          |
| 2 | Total Output               | 5 495.3 | 12 657.7 | 230.3          |
| 3 | GDP                        | 3 041.4 | 6 558.0  | 215.6          |
| 4 | General Government Revenue | 837.9   | 2 170.4  | 259.0          |
| 5 | Tax Revenue                | 692.2   | 1 890.9  | 273.2          |
| 6 | Money Supply (M2)          | 1 140.1 | 2 270.0  | 199.1          |

Total supply amounted to MNT 17,164.9 billion and adding on the valuation matrix of MNT 569.7 billion the total supply reached MNT 17,734.6 billion at purchase prices.

In 2008, total supply was 2.3 times higher than that for 2005, and GDP was 2.2 times higher than in 2005, while the revenues of general government and the money supply in the market were, respectively, 2.6 and 2.0 times higher than those in 2005. These values are indications of the increased scope of the economy supply flows. The differences between total supply and total output are explained by the values of imports in the domestic market and the margins for transport and trade, and net taxes on products. The flows of goods and services in the Supply and Use Tables are illustrated in Figure 2.

Figure 2 Flows of Goods and Services in the Supply and Use Tables 2008



## 3.4 Supply Table

In 2008 the total amount of supply amounted to MNT 17,734.6 billion, which was 2.3 times higher than the figure in 2005. At the same time total output increased 2.3 times, or by MNT 7,162.4 billion; imports increased 2.3 times, or by MNT 2,469.4 billion; and net taxes on products increased 2.2 times, or by MNT 361.1 billion. Domestic output of goods and services accounted for 71.4% of the total supply; imported goods and services for 24.8%; and net taxes on products for 3.8% in 2008. It influenced the increase in the domestic output of goods and services by 0.4 percentage points (Figure 3).

2005 он 2008 он Net product\_ Net product taxes taxes, 311.7, 672.8 3.8% 4.0% Import, 1 934.7. 25.0% Import 4 404.1 24.8% Domestic Domestic output output, 12 657.7 5 495.3.

Figure 3 Structure of Total Supply of the Mongolian Economy

In 2008 agriculture, hunting and forestry accounted for 14.5%, or MNT 1,830.1 billion, of domestic output; the construction, mining, industry, electricity, heat and gas production sectors accounted for 38.6%, or MNT 4,880.1 billion; and the service sector accounted for 47.0%, or MNT 5,947.4 billion. "Agriculture" includes livestock, crops, hunting, forestry, and fishing; "industry" includes the mining, quarrying, manufacturing, electricity, gas, steam and air conditioning supply, and construction sectors; and "services" includes all services (Table 4).

71.0%

**Table 4 Total Supply Table at Purchase Prices 2008** 

(MNT Billion)

71.4%

|   | industries                          | Do          | Domestic Output |          | Total               | Import  | TTM      | Net Taxes      | Total                  |
|---|-------------------------------------|-------------|-----------------|----------|---------------------|---------|----------|----------------|------------------------|
|   |                                     | Agriculture | Industry        | Services | Domestic<br>Outputl |         |          | on<br>Products | Supply, at purchasers' |
|   | products                            |             |                 |          | <b>F</b>            |         |          |                | prices                 |
| Α | В                                   | 1           | 2               | 3        | 4                   | 5       | 6        | 7              | 8                      |
| 1 | Agriculture                         | 1 082.3     | 0.0             | 3.8      | 1 086.1             | 102.8   | 184.1    | 21.5           | 1 394.5                |
| 2 | Industry                            | 740.8       | 4 783.2         | 146.7    | 5 670.7             | 3 598.2 | 1 478.3  | 618.7          | 11 365.9               |
| 3 | Services                            | 7.0         | 96.9            | 5 796.9  | 5 900.9             | 703.1   | -1 662.4 | 32.6           | 4 974.2                |
| 4 | Total Supply, at purchasers' prices | 1 830.1     | 4 880.1         | 5 947.4  | 12 657.7            | 4 404.1 | 0.0      | 672.8          | 17 734.6               |

In 2008 imports of agricultural products amounted to MNT 102.8 billion, or 2.3% of Mongolia's total imports, while imports of industrial products accounted for MNT 3,598.2 billion or 81.7% of the total. Machinery and equipment accounted for 28.9% of total imports, or MNT 1,274.4 billion, and petroleum products accounted for 33.8% of total imports, or MNT 1,050.4 billion.

### 3.5 Use Table

In 2008, Mongolia expended 64.4% of the total supply on final and intermediate consumption, 15.6% on gross capital formation, and 20.0% on exports. Total use was MNT 17,734.6 billion, of which that for domestic sources was MNT 12,657.7 billion; for foreign sources, MNT 4,404.1 billion; and for net taxes on products, MNT 672.8 billion. In particular, 38.2% of the total supply, or MNT 6,772.6 billion, was expended on intermediate consumption, and 26.2%, or MNT 4,646.3 billion, on final consumption, while the value for gross capital formation was MNT 2,774.6 billion and for exports MNT 3,541.1 billion (Tables 5 and 6).

**Table 5 Use of Current Supply of the Economy at Purchase Prices** 

(MNT Billion)

|   |                          | 2005 2008 - |          | Percentage |       |  |
|---|--------------------------|-------------|----------|------------|-------|--|
|   |                          | 2003        | 2008     | 2005       | 2008  |  |
| 1 | Total uses of supply     | 7 741.7     | 17 734.6 | 100.0      | 100.0 |  |
| 2 | Intermediate consumption | 2 765.7     | 6 772.6  | 35.7       | 38.2  |  |
| 3 | Final uses               | 2 047.2     | 4 646.3  | 26.4       | 26.2  |  |
| 4 | Gross capital formation  | 1 141.4     | 2 774.6  | 14.7       | 15.6  |  |
| 5 | Export                   | 1 787.4     | 3 541.1  | 23.1       | 20.0  |  |

Table 6 Total Supply by Economic Activity, 2008

|    |   |          | y, billion tog | rog     | Percentage |        |        |  |
|----|---|----------|----------------|---------|------------|--------|--------|--|
|    | Sectors   | Total    | Output         | Import  | Total      | Output | Import |  |
| 1  | Sector's Total, basic prices  | 17 061.8 | 12 657.7       | 4 404.1 | 96.2       | 71.4   | 24.8   |  |
| 2  | Agriculture, Industry, Construction   | 10 457.8 | 6 756.8        | 3 701.0 | 59.0       | 38.1   | 20.9   |  |
| 3  | Agriculture, hunting, forestry and fishing                                      | 1 188.9  | 1 086.1        | 102.8   | 6.7        | 6.1    | 0.6    |  |
| 4  | Mining & quarrying  | 1 483.8  | 1 475.9        | 7.9     | 8.4        | 8.3    | 0.0    |  |
| 5  | Manufacturing   | 6 171.9  | 2 601.1        | 3 570.8 | 34.8       | 14.7   | 20.1   |  |
| 6  | Electricity, gas & water supply   | 302.9    | 293.8          | 9.1     | 1.7        | 1.7    | 0.1    |  |
| 7  | Construction  | 1 310.4  | 1 299.9        | 10.4    | 7.4        | 7.3    | 0.1    |  |
| 8  | Services  | 6 604.0  | 5 900.9        | 703.1   | 37.2       | 33.3   | 4.0    |  |
| 9  | Wholesale & retail trade; repair of motor veh., motocycle & personal & HH goods | 918.0    | 918.0          | 0.0     | 5.2        | 5.2    | 0.0    |  |
| 10 | Hotels & restaurants  | 148.0    | 148.0          | 0.0     | 0.8        | 0.8    | 0.0    |  |
| 11 | Transport, storage & communication  | 1 849.3  | 1 352.7        | 496.6   | 10.4       | 7.6    | 2.8    |  |
| 12 | Financial intermediation  | 445.4    | 413.8          | 31.6    | 2.5        | 2.3    | 0.2    |  |
| 13 | Real estate, renting & other business activities                                | 1 447.7  | 1 291.9        | 155.7   | 8.2        | 7.3    | 0.9    |  |
| 14 | Public administration & defense; compulsary social security                     | 701.7    | 693.9          | 7.7     | 4.0        | 3.9    | 0.0    |  |
| 15 | Education   | 585.5    | 584.8          | 0.6     | 3.3        | 3.3    | 0.0    |  |
| 16 | Health & social work  | 313.5    | 304.5          | 9.0     | 1.8        | 1.7    | 0.1    |  |
| 17 | Other community, social & personal service                                      |          | 193.2          | 1.8     | 1.1        | 1.1    | 0.0    |  |
| 18 | Net Product Taxes   | 672.8    | 672.8          |         | 3.8        | 3.8    | 0.0    |  |
| 19 | Total Uses, purchasers' prices  | 17 734.6 | 13 330.5       | 4 404.1 | 100.0      | 75.2   | 24.8   |  |

As of 2008, the overall structure of the use table had not changed significantly from the 2005 table, although the percentage of gross capital formation increased slightly. However, the shares of final consumption and exports decreased. The consumption of total supply in 2008 increased 2.3 times from the figure in 2005, whereas intermediate consumption increased 2.4 times and final consumption increased 2.2 times. At the same time in 2008, gross capital formation increased 2.4 times and exports increased 2.0 times compared to 2005. In terms of the total use structure, intermediate consumption increased by 2.5 percentage points and gross capital formation increased by 0.9 percentage points, while final consumption decreased by 0.2 percentage points and exports decreased by 3.1 percentage points. Overall these indicators show that the economic capacity and gross capital formation increased during the period (Table 5).

In 2008 38.2% of the domestic use of total supply of Mongolia was expended on intermediate consumption, of which: 8.9% went to the agricultural sector; 1.7% to the mining and quarrying sector; 52.0% to manufacturing sector; 3.6% to electricity, gas, and the steam and air conditioning supply; 0.3% to the construction sector; and 33.5% to transport, banking, financing and other services (Table 7).

**Table 7 Intermediate Consumption by Industrial Activity** 

|    | Sectors   |         | 05    | 2008    |       |  |
|----|---|---------|-------|---------|-------|--|
|    | Sectors   | Total   | %     | Total   | %     |  |
| 1  | Intermediate Consumption, purchasers' prices                                    | 2 765.7 | 100.0 | 6 772.6 | 100.0 |  |
| 2  | Agriculture, hunting, forestry and fishing                                      | 233.6   | 8.4   | 606.0   | 8.9   |  |
| 3  | Mining & quarrying  | 69.9    | 2.5   | 116.8   | 1.7   |  |
| 4  | Manufacturing   | 1 221.7 | 44.2  | 3 519.1 | 52.0  |  |
| 5  | Electricity, gas & water supply   | 153.9   | 5.6   | 244.0   | 3.6   |  |
| 6  | Construction  | 68.1    | 2.5   | 18.8    | 0.3   |  |
| 7  | Wholesale & retail trade; repair of motor veh., motocycle & personal & HH goods | 13.3    | 0.5   | 0.0     | 0.0   |  |
| 8  | Hotels & restaurants  | 28.4    | 1.0   | 102.9   | 1.5   |  |
| 9  | Transport, storage & communication  | 124.4   | 4.5   | 371.9   | 5.5   |  |
| 10 | Financial intermediation  | 302.8   | 10.9  | 380.5   | 5.6   |  |
| 11 | Real estate, renting & other business activities                                | 186.5   | 6.7   | 793.4   | 11.7  |  |
| 12 | Public administration & defense; compulsary social security                     | 254.8   | 9.2   | 315.0   | 4.7   |  |
| 13 | Education   | 44.8    | 1.6   | 179.5   | 2.7   |  |
| 14 | Health & social work  | 26.0    | 0.9   | 66.1    | 1.0   |  |
| 15 | Other community, social & personal service activities                           | 37.4    | 1.4   | 58.6    | 0.9   |  |

According to the results of the 2008 SUTs, domestic output (excluding services) accounted for 38.1% of the total use of the total supply of MNT 17,734.6 used in the economy; whereas agriculture, hunting, forestry and fishing accounted for 6.1%, mining for 8.3%, the manufacturing sector for 14.7%, electricity, gas, and the steam and air conditioning supply for 1.7%, and construction for 7.3% of the total, respectively.

The service sector consumed 37.2% of total resources in 2008, while imports accounted for 24.8% of the total. In terms of the use of domestic products (excluding imports) in the domestic economy, the industrial sector accounted for 50.7% of the total, whereas agriculture and forestry accounted for 8.1%, mining and quarrying for 11.1%, the manufacturing sector for 19.5%, electricity, gas, and the steam and air conditioning supply for 2.2%, and construction for 9.2%. The service sector used 44.3% of the total, while 5% was expended on net taxes on products. At the same time, 38.2% of total use was expended on intermediate consumption, and 61.8% on final consumption in 2008 (Table 8).

**Table 8 Total Use by Industrial Activity** 

|    |   |         | 2005                     |            | 2008     |                          |            |  |
|----|---|---------|--------------------------|------------|----------|--------------------------|------------|--|
|    | Sectors   |         | Intermediate consumption | Final uses | Total    | Intermediate consumption | Final uses |  |
| 1  | Total uses, basic prices  | 7 590.2 | 2 765.7                  | 4 824.5    | 17 734.6 | 6 772.6                  | 10 962.0   |  |
| 2  | Agriculture, hunting, forestry and fishing                                      | 867.7   | 233.6                    | 634.2      | 1 394.5  | 606.0                    | 788.5      |  |
| 3  | Mining & quarrying  | 674.4   | 69.9                     | 604.5      | 1 726.8  | 116.8                    | 1 610.1    |  |
| 4  | Manufacturing   | 3 049.4 | 1 221.7                  | 1 827.7    | 8 033.3  | 3 519.1                  | 4 514.2    |  |
| 5  | Electricity, gas & water supply   | 215.8   | 153.9                    | 61.8       | 295.0    | 244.0                    | 51.0       |  |
| 6  | Construction  | 363.1   | 68.1                     | 295.1      | 1 310.8  | 18.8                     | 1 292.0    |  |
| 7  | Wholesale & retail trade; repair of motor veh., motocycle & personal & HH goods | 13.3    | 13.3                     | 0.0        | 0.0      | 0.0                      | 0.0        |  |
| 8  | Hotels & restaurants  | 69.8    | 28.4                     | 41.3       | 150.5    | 102.9                    | 47.5       |  |
| 9  | Transport, storage & communication  | 596.9   | 124.4                    | 472.5      | 1 119.9  | 371.9                    | 748.0      |  |
| 10 | Financial intermediation  | 555.9   | 302.8                    | 253.0      | 448.3    | 380.5                    | 67.8       |  |
| 11 | Real estate, renting & other business activities                                | 385.3   | 186.5                    | 198.8      | 1 456.2  | 793.4                    | 662.8      |  |
| 12 | Public administration & defense; compulsary social security                     | 411.9   | 254.8                    | 157.1      | 701.7    | 315.0                    | 386.7      |  |
| 13 | Education   | 169.5   | 44.8                     | 124.7      | 586.2    | 179.5                    | 406.7      |  |
| 14 | Health & social work  | 120.0   | 26.0                     | 94.0       | 314.9    | 66.1                     | 248.8      |  |
| 15 | Other community, social & personal service activities                           | 97.1    | 37.4                     | 59.7       | 196.6    | 58.6                     | 138.0      |  |
| 16 | Direct purchases of residents abroad  | 151.5   | 0.0                      | 151.5      | 0.0      | 0.0                      | 0.0        |  |
| 17 | Total uses by purchasers' prices  | 7 741.7 | 2 765.7                  | 4 976.0    | 17 734.6 | 6 772.6                  | 10 962.0   |  |

The gross capital formation was MNT 1,141.4 billion in 2005, and it reached MNT 2,774.6 billion in 2008. Gross capital formation includes the increase in the number of livestock, the inventories of agricultural and industrial products, and buildings and structures. However, the shares for gross fixed capital formation were rather small in both periods, reflecting the low stage in development of the Mongolian economy (Table 9).

**Table 9 Gross Capital Formation by Industrial Activity** 

|    |   |                         | 2005                          |  | 2008                    |                               |  |  |
|----|---|-------------------------|-------------------------------|--|-------------------------|-------------------------------|--|--|
|    |   | of which:               |                               |  | of which:               |                               |  |  |
|    |   | Gross capital formation | Gross fixed capital formation | Changes in inventories, Acquisitions less disposals of valuables | Gross capital formation | Gross fixed capital formation | Changes in<br>inventories,<br>Acquisitions<br>less disposals of<br>valuables |  |
|    | Gross capital formation, purchasers' prices                                     | 1 141.4                 | 849.7                         | 291.7  | 2 774.6                 | 2 374.1                       | 400.5  |  |
| 2  | Agriculture, hunting, forestry and fishing                                      | 283.5                   | 139.8                         | 143.7  | 334.0                   | 150.1                         | 183.9  |  |
| 3  | Mining & quarrying  | 69.6                    | 1.8                           | 67.7   | - 220.3                 | 0.0                           | - 220.3  |  |
| 4  | Manufacturing   | 450.5                   | 370.3                         | 80.2   | 1 366.0                 | 929.0                         | 437.0  |  |
| 5  | Electricity, gas & water supply   | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |
| 6  | Construction  | 291.2                   | 291.2                         | 0.0  | 1 230.4                 | 1 230.4                       | 0.0  |  |
| 7  | Wholesale & retail trade; repair of motor veh., motocycle & personal & HH goods | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |
| 8  | Hotels & restaurants  | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |
| 9  | Transport, storage & communication  | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |
| 10 | Financial intermediation  | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |
| 11 | Real estate, renting & other business activities                                | 46.6                    | 46.6                          | 0.0  | 64.6                    | 64.6                          | 0.0  |  |
| 12 | Public administration & defense; compulsary social security                     | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |
| 13 | Education   | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |
| 14 | Health & social work  | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |
| 15 | Other community, social & personal service activities                           | 0.0                     | 0.0                           | 0.0  | 0.0                     | 0.0                           | 0.0  |  |

## IV. Concluding Remarks

As a result of compiling the SUTs for 2008 it was possible to construct the IOTs for 2008. Compiling the SUTs was of great benefit to the implementation of the system of national accounts, along with aiding in the gaining of experience and practice in constructing institutional accounts and integrated national accounts, especially for integrated estimation of GDP.

Thanks to the support and help of consultants from the Asian Development Bank, the NSO of Mongolia was able to construct SUTs in accordance with the international standards, classified by CPC and by ISIC. Specialists at the Mongolian National Statistical Office benefited from the practical work of constructing the SUTs and substantially improved their skills.

In addition, the construction of the SUTs gave the opportunity to create information sources that had not been covered earlier in the statistical information and to use them for further work. Moreover, the NSO had the opportunity to undertake more detailed research

based on the SUTs. This year, the NSO is conducting the next round of surveys in order to compile SUTs and IOTs for 2010.

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