Abstract

The regional GDP and the regional GDP per capita are key indicators that measure important disparities between the economic development of the regions of an economy. The regional GDP is equivalent to the national GDP. It can be measured at any regional levels, namely aimags/cities and soums/districts.

Mongolia estimate regional/aimag GDP in current prices. However, there is a need for us to estimate the regional/aimag in constant prices and soum/district GDP at current prices.

This paper focuses on the methodological issues on the estimation of the regional GDP. Whereas the estimation of regional GDP was based on enterprises previously (units engaged in production are recognized by the 2008 SNA as ‘enterprises’), the National Registration and Statistics Office (NRSO) plans to make the GDP estimates based on “a statistical unit” or establishment (the combination of location and kind of activity of an enterprise as ‘establishment’).

As to the regional estimates, the GDP production approach is used for non-financial and household sectors while the GDP income approach is employed for public management /general government/ and NPISH sectors. For the financial sector, the national results are allocated by regions.
In allocating the GDP by regions, the pseudo-bottom-up approach is mostly applied for the main economic sectors – non financial sector and household sector. For the other economic sectors (financial, general government/ public management and NPISH sectors), the GDP is allocated based on key indicators - in other words, the top-down approach is employed.

From 2013 onwards, the NRSO compile the Supply and Use Table (SUT) on an annual basis. Based on the results of the annual SUT, the national and regional GDP estimates are revised. There is a gap between the results from SUT and the preliminary GDP estimates. This gap is allocated to the regions based on the value added of each sector. This estimation is made at the national level. To allocate the value added by the regions, different methods are applied for sectors (bottom-up, pseudo-bottom-up, and top-down methods).
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I. Introduction

Overview of Mongolia

Mongolia is a landlocked country bordered by the Russian Federation in the north and the People’s Republic of China in the south. It has a population of 3.0 million and a territory of 1,565 thous. sq.km. Administratively, it is divided into 21 provinces and the capital city of 5 regions.

In terms of the economic structure, the agricultural industry accounts for 12.7 percent, the mining and manufacturing industries 34.5 percent and the service industry 52.8 percent according to the recent 3 year average.

National accounts

Mongolia is implementing the SNA 2008 recommendations successfully.

a. SUT and IOT are compiled annually;

b. For the sectorial accounts: the current accounts, capital and financial accounts are compiled.

c. The latest versions of the classifications for national accounts such as ISIC 4, CPC2, Classification of Assets, and Institutional Sector Classification are used.

d. The material flow account within the framework of SEEA have been compiled on an experimental basis.

e. We have joined and are implementing 2 projects carried out by ADB – the Updating of Supply and Use Tables and the International Comparison Programme.

Need and demand of users

The regional GDP estimates are crucial to policy and decision makers and are in great demand for users. The National Registration and Statistics Office have conducted a survey of user demand. The survey results reveal that the GDP data at soum (sub-province) and district levels are in demand. Also, the Ministry of Economic Development has initiated and undertaken work on calculation of local development index.
II. Regional GDP compilation

A. Internationally common methodology and methods

1. Methods and recommendations being followed

The regional estimation is an important topic and the following methods and recommendations have been developed.

- SNA 2008, chapter 18.E “Regional accounts”;
- ESA 2010, chapter 13 “Regional accounts”;
- Eurostat “Manual on regional accounts methods”, 2013; and
- Regional accounts: an introduction, Viet Vu, Consultant to UNSD (Lecture material of International Workshop “Regional Products and Income Accounts, Beijing, China, 2010”).

▶ SNA 2008, chapter 18.E: Regional accounts. Chapter 18 of the SNA 2008 - “Elaborating and presenting the accounts” deals with the challenges encountered in compiling the regional accounts. Nonetheless, regional accounts, even with the limitations mentioned above, are a very useful tool for economic policy. Partial regional accounts may be inserted in a set of regional statistical indicators on labour participation, unemployment, poverty, etc. The greater the contrast between the regions in a country, the more useful is such a system of regional indicators, including value added per capita, household disposable income and household consumption per capita. It is for countries themselves to devise their own regional accounts and statistical indicators, taking into consideration their specific circumstances, data systems and resources that might be devoted to this work. There are two manuals recommended more detail on regional accounts; Regional accounts methods - Gross value-added and gross fixed capital formation by activity, Eurostat, 1995) and Regional accounts methods – Households Accounts (Eurostat 1996).
ESA 2010, chapter 13 ‘Regional accounts’. This chapter describes regional accounts in general and clarifies the purposes and major conceptual principles and compilation issues typical for regional accounts. Regional accounts are a regional specification of the corresponding accounts of the nation. Thus regional accounts make use of the conceptual and practical difficulties in compiling a full set of accounts at the regional level. Therefore, ESA 2010 specifies a limited system of regional accounts. This covers some aggregates by industry and simplified accounts of households. The new regional chapter 13 in the revised ESA 2010 provides the main issues regarding concepts, principles and methods.

Eurostat “Manual on regional accounts methods”, 2013. This manual gives more practical guidance on the compilation of regional accounts by industry and regional household accounts. Regarding the regional accounts by industry, they concern: A, B and C-methods (the accuracy of the regional accounts estimates); the treatment of the extra-region territory; the volume growth rates of regional GVA; the production of units without significant input of labor; the production of ancillary units; regional estimates of employment.

Regional accounts: an introduction, Viet Vu, Consultant to UNSD, 2010 (Lecture material of International Workshop “Regional Products and Income Accounts, Beijing, China, 2010”). The SNA 2008 provides neither a definition of a regional economy nor the standards for compiling Gross regional products (GRP), it is possible to extend the concept of residents of the national economy to the context of a regional economy. A resident of a regional economy must have a centre of predominant economic interest in the economic territory of a region. As long as it satisfies the definition mentioned above, a resident of a regional economy needs not in the territory of the region (an individual may work in one region but live in another region). One problem with a regional economy is that some production units have only the centre of predominant economic interest in the nation as a whole. These units have no economic ties with any regional economy, they are under the effective economic control of the national government with respect to ownership, the right to operate and
exploit, and the right to tax, and royalty payments, etc. For the units that have no economic interest in any particular region, it is recommended that they should be treated as supra-regional economies, which are conceptually similar to the extra-territorial organizations in the national economy. This means that they do not belong to any region and as a consequence, GDP of the national economy is equal to GRP of all regions plus GRP of the supra-region. If the value added is allocated to the region where supra-regional units operate, actual per-capita GRP of the region may be completely distorted and if value added from these units is significant, rates of regional economic growth are also distorted. The production of multi-regional corporations can be regionalized in line with the SNA recommendation of treating multi-national corporations, i.e. output or value added should be allocated according to an appropriate indicator. A few enterprises operate as a seamless operation over more than one economic territory, typically for cross border activities such as airlines, shipping lines, hydroelectric schemes on border-rivers, pipelines, bridges, tunnels and undersea cables. If possible, separate branches should be identified, but if the entity is run as a single operation with no separate accounts or decision-making for each territory that it operates in, it is not possible to delineate branches. In such cases, because of the central focus on data for each national economy, it is necessary to split the operations between economies. The operations should be prorated according to an appropriate enterprise specific indicator of the proportions of operations in each territory. The prorating treatment may also be adopted for enterprises in zones subject to joint administration by two or more governments (SNA2008, chapter 26 “The rest of the world accounts and links to the balance of payments”, para.26.35). One issue related to regional statistical units. To serve the purpose of compiling regional GDP, local units of corporations, even they are ancillary units that produce services for internal uses by units within the enterprise, should be treated as establishments. The new treatment recommended in SNA 2008, that in output of local units, for instance the headquarter unit, can be calculated by costs. This output is then
imputed as intermediate consumption of other establishments in the enterprise by their shares of output or employment. In old treatment all cost of headquarter are distributed to main establishment.

2. **Principles to be obeyed**

1. GDP is the total amount of value added generated by “residents” within “an economic territory”. This raises the two questions:
   - The question of “residence” arises as to how to allocate economic activities to regions – a place where the activity is being carried out or a place where the producer unit is located.
   - The question of “a statistical unit” arises in relation to the fact that which level of the business activities is to be considered for the regional GDP.

2. The regional GDP estimates shall be in consistent with the national GDP ones and the total amount of regional GDP shall be equal to that of national GDP.

**Residence**

The question of the allocation of business activities by establishments to regions arises when an establishment is located in a place and carries out an activity in another place. There are the residence concept, referring to a place where an establishment is located, and the territory concept, referring to a place where the business is being run. The resident concept is the principle, adhered to the regional estimates, as recommended by the international community.

**Residence and territory principles**

Economic transactions of enterprises may cross regional boundaries. For example, transport services and energy supply can consist of moving goods between two or more regions. Enterprises may also operate in more than one region, either at permanent sites or on a temporary basis. Therefore, a clear principle is needed to “constantly” allocate this interregional activity to a region.

**Residence principle**
The general principle for regional accounts is that transactions should be allocated to the region where the production unit or household is resident. For instance, gross value added from transporting goods across several regions will not be partitioned between the regions, but allocated to the region where the production unit is resident. Another consequence is that value added of enterprises with establishments in more than one region will be allocated to the regions where the establishments are located and will not be allocated entirely to the head office or administrative address of the enterprise.

Territorial principle
The territorial concept implies that activities are allocated to the territory where they actually take place regardless of the residence of the units involved in the activity. It is generally not applied in the national and regional accounts. In practice, regional authorities are interested in reflecting the activities taking place in their territories in their regional GDP estimates.

Center of economic interest
In the SNA, the economic residence is the economic territory where a unit has its “center of predominant economic interest”. The center of predominant economic interest implies that an institutional unit is said to have a center of economic interest within a country when there exists some location within the economic territory of the country on or from which it engages, and intends to continue to engage, in economic activities and transactions on a significant scale, either indefinitely or over a finite but long period of time (mostly a year and more).

Statistical units
Economic unit are those that can engage in the full range of transactions and are capable of owning assets and incurring liabilities on their own behalf.

Challenges to be faced in moving to the statistical units
As the measurement of production by sectors is important for the regional estimates, it is used for monitoring the implementation of economic development goals of a country. Besides, sectoral production varies at the national and regional levels. This variance appears due to the
following two reasons. Firstly, production and value added estimates are not made at the regional level for some services, particularly services provided nationwide (monastery etc.,) and financial institutions. The second reason is due to the difference in composition of statistical units, which are formed the industry. At the national level there is a legal unit. At the regional level, the composition of units is not always heterogeneous and it covers the whole enterprises (legal units) and some of their activities – geographically separate structural subdivisions.

Let us suppose that a territorially diversified company with many branches is located in three regions. Its main activity 1 is in the region A, making up 40 percent of GVA, and its secondary activities 2 and 3 are in the regions B and C, constituting 30 percent of GVA.

In this case, all of its GVA will be allocated to activity 1 and the production unit in question will be part of the industry with the same name 1 according to the national accounts.

In the regional accounts, the GVA generated in the area A will be reflected in the sector A. In this case, there will be additional volumes of value added in the sector 2 (region B) and sector 3 (region C).

The number of such enterprises has increased in the recent years due to the structural change in the composition formed at levels of these industries.

The impact of structural decomposition of production units on the regional and national production units.

Regional production is changed as a result of the structural decomposition. This change impacts on the structure and regional macro-economic aggregates and their absolute values. The structural change may arise when one identifies local units from the composition of enterprises and local kind of activities from the composition of local units.

Let us take an example. The structure of a company X consists of two geographically separate business units (local units) operating in the region A and region B.

Production indicators of the enterprise “X”

<table>
<thead>
<tr>
<th>Main activity: ISIC: 35 /energy</th>
<th>Amount</th>
<th>Share of primary activities, %</th>
</tr>
</thead>
</table>


Production indicators of the local unit “A”. It has a LKAU in its composition.

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
<th>Share of primary activities, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross output</td>
<td>12,000</td>
<td>99,5</td>
</tr>
<tr>
<td>Value added</td>
<td>5,000</td>
<td>99,6</td>
</tr>
</tbody>
</table>

Production indicators of the local unit “B”.

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
<th>Share of primary activities, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross output</td>
<td>3,000</td>
<td>99,5</td>
</tr>
<tr>
<td>Value added</td>
<td>1,000</td>
<td>99,6</td>
</tr>
</tbody>
</table>

As result of the decomposition, the local unit “B” is divided into three LKAU.

<table>
<thead>
<tr>
<th>ISIC</th>
<th>LKAU R1</th>
<th>LKAU R2</th>
<th>LKAU R3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>1500</td>
<td>1000</td>
<td>500</td>
<td>3000</td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>500</td>
<td>300</td>
<td>200</td>
<td>1000</td>
</tr>
</tbody>
</table>

Thus, the sectoral structure of GDP of the region B will undergo the following changes: before the decomposition, it has a branch (the activity - ISIC: 35, the value added - 1000). After the decomposition, it has three branches with the following main activities: ISIC – 35 (value added - 500), 36 (value added - 300), and 28 (value added - 200).

The following changes will be made in the structure of the industry at the national level: ISIC 35: decreased by 500, ISIC 36: increased by 300, and ISIC 28: increased by 200. On the other hand, according to the regions, the value added for the region A decreased by 1000 and that for the region B increased by 1000.

The rapidly changing of production and in particular the ways in which producers produce goods and services has cast a spotlight on the SNA’s preference for using the establishment or statistical units (LKAU) as the preferred unit to compile industrial statistics, and particular,
supply and use tables and regional GDP. The ISWGNA has decided to establish an ISWGNA Task Force on Statistical Units.

The Task Force is expected to provide a clear view of what needs to be measured in the economy in order to identify ways to improve the definitions, if necessary, taking into consideration: work of the UN expert group on international trade and economic globalization statistics; current country practices; regional accounts as well as productivity measurement; and consult with broad community of experts, including business register experts, survey specialists and classification experts.

3. Methods of regionalization

- Bottom-up methods
- Top down methods

The bottom up method of estimating a regional aggregate involves collecting data at the local KAU and aggregating these values to get a regional total. On the contrary, the top down method involves allocating the aggregate to a region. If it is not possible to employ the bottom up method for an industry, the top down method will be used.

Bottom-up method: this method, used for collecting data from producer units and aggregating at the national level, allows to aggregate data on the enterprises operating in an aimag (a province) at the statistical unit level and to directly estimate regional and national aggregates based on the aggregation.

Data required for the GDP estimates is collected through annual reports by enterprises. Data on large enterprises is gathered through an exhaustive survey while that on small enterprises is collected through a sample survey. This also covers those enterprises operating in many regions. For these enterprises, the allocation and estimation by regions are made once the data on enterprises has been received.

Top-down method: this method, used for making estimation at the national level and allocating the aggregate to a region, is employed if it is not possible to measure the activities of
enterprises in aimags at the statistical unit level and to prepare a balance sheet. In this case, the aggregate at the national level is allocated to regions.

**Illustration 1. Methods of regionalization**

<table>
<thead>
<tr>
<th>Region</th>
<th>Uniregional SBS</th>
<th>Multi-regional SBS</th>
<th>Small SBS</th>
<th>Total SBS</th>
<th>Difference total SBS – national accounts total</th>
<th>Regional total adding up to national accounts total</th>
</tr>
</thead>
<tbody>
<tr>
<td>All covered units</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Regional accounts total</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4+5=6</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1+2+3=4</td>
<td></td>
</tr>
<tr>
<td>National</td>
<td>National uniregional</td>
<td>National multi-regional</td>
<td>National small</td>
<td>National total SBS</td>
<td>Difference</td>
<td>National accounts total</td>
</tr>
<tr>
<td>Method</td>
<td>Bottom-up</td>
<td>Psedo bottom-up</td>
<td>Top-down</td>
<td>Mixed</td>
<td>Top-down</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

An internationally recommended method for the estimation of regional GDP is to directly measure the operation of local units and to estimate the regional GDP based on the resulting data from this measurement. The local unit is directly associated with the geographical unit. This method is of analytical importance as business activities in a region is linked to some extent with the economic growth of the region in question.

4. **Accuracy of regional accounts estimates (A, B and C-methods).**

Manual describes possible methods that can be used for the estimation of regional GDP. The methods are classified according to their suitability. They can be divided into 3 groups:

1. A-methods represent the actual values or approximate the ideal as closely as possible.
2. B-methods are acceptable alternatives: they are further away from the ideal but still provide an acceptable approximation.

3. C-method are too far away from the ideal to be considered as acceptable and should be improved if possible.

**B. Regional estimation for Mongolia and problems**

1. **Scope, classifications, and frequency**

   Administratively, Mongolia is divided into 21 aimags and the capital.

   Illustration 2. Administrative map of Mongolia

   Geographically, it is divided into 5 regions, which are of much economic significance. From the statistical perspective, the regional estimates are prepared at the 21 aimag and the capital city levels due to the fact that the aimags:

   - Have large territories;
   - Inhabit an environmentally vulnerable topography; and
   - Are based on the animal husbandry in terms of the economy.

   1. Western region: Bayan-Olgii, Govi-Altai, Zavkhan, Uvs, Khovd;
   2. Khangai region: Arkhangai, Bayankhongor, Bulgan, Orkhon, Ovorkhangai, Khovsgol;
   3. Central region: Govisumber, Darkhan-Uul, Dornogovi, Dundgovi, Omnogovi, Selenge, Tov;
4. Eastern region: Dornod, Sukhbaatar, Khentii; and
5. Ulaanbaatar

The aimags are divided into 335 soums (sub provinces) and the capital into 9 districts.

To estimate the provincial GDP, the production and income approaches for GDP are used. The provincial GDP is estimated at 19 industry level according to ISIC 4 the same as the national GDP is done.

At present the provincial GDP is estimated in current prices on an annual basis. If the national GDP estimates are revised, the provincial GDP estimates are also revised.

2. Principles adhered to the estimation

Mongolia has a centralized statistical system. Provincial GDP is compiled by the NRSO. There are many advantages:

- The concepts underlining data at the national level and regional levels, by activity and at the aggregate level, can be easily made fully consistent;
- Data at the regional levels are guaranteed to add up to the national totals.
- Data on national industries can be properly allocated to the regional economies by NRSO based on top down approach using appropriate indicators.

Given the availability of data sources, the combination of bottom up and top down methods are used for estimating the value added of an industry.

The bottom up method is employed for the provincial estimation as much as possible. For an enterprise operating in multi-regions, the psedo-bottom-up method is used.

1. Estimation is made for the following industries through the bottom-up method and psedo-bottom-up method. They are:
   - Mining and quarrying;
   - Manufacturing;
   - Electricity, gas, stream and air conditioning supply;
   - Water supply, sewerage, waste management and remediation activities;
Construction;
Wholesale and retail trade;
Transport and storage;
Accommodation and food service activities;
Information and communication;
Financial and insurance activities (except bank and insurance);
Real estate activities;
Professional, scientific and technical activities;
Administrative and support service activities;
Public administration and defense; compulsory social security;
Education;
Health
Arts, entertainment and recreation; and
Other service activities.

2. The top down method is used for the following industries. They are as follows:

Agriculture;
Financial and insurance activities;
Imputed rent;
Measurement of non-observed economy and informal sector is prepared at the national level and then allocated to regions.

3. **Data sources**

- Official statistics;
- Administrative statistics; and
- Measurement of non-observed economy.
4. Estimation

NRSO estimates the regional GDP by provinces. The provincial and national total for GDP is equal. As shown in illustration 1, it is necessary to classify enterprises by those uniregional and multiregional. If the sampling method is employed, a sampling frame is prepared in a way that can be representative of a province.

For the multiregional enterprises, we allocate the value added to provinces based on some key indicators and collect the data on large multiregional enterprises engaged in many different business activities by their branches, for example, the Mongolian railway and its branches.

We also allocate the aggregates for non-observed economy to provinces.

**Considering the methods of regionalization according to A, B and C classification:**

For the most of industries in Mongolia, although the bottom-up method is employed, we have not yet allocated all the multiregional enterprises to provinces. The top down method is used for allocating the aggregates for agricultural, financial and insurance industries and imputed rent to provinces. There are some particular industries to which we should pay attention.

- **Construction industry**

  The operation of local construction companies is relatively lower than that of the companies in Ulaanbaatar. As building operations are mostly implemented according to the invitation of tenders, enterprises from different regions are able to win the contracts for constructing large scale buildings in a given region. In this case, the enterprises are included in the estimates for their resident regions according to the principle of residence. As per the Eurostat methods, an enterprise operating for more than a year in a region is considered a statistical unit of that region in question. For Mongolia, the data on building objects are available at the soum and aimag levels.

- **Electricity, gas, and thermal power production industry**

  For this industry, centralized large stations operate in few regions. As for some regions, there is no a producer unit, but there are only consumers. The Eurostat methods recommend allocating
the value added based on the producer units. Some experts of Mongolia recommend allocating it based on consumers.

➢ Transport and storage

The transport industry is unique sector engaged in mobile activities. For this industry, most of its operations are allocated to the capital city due to the fact that those enterprises engaged in air transport, railway, and intercity transport are located in Ulaanbaatar. The value added of these enterprises has not yet been allocated to provinces. For those units engaged in postal services, the allocation to provinces is based on sales income – a key indicator.

➢ Finance and insurance activities

Data on finance and insurance industries is provided by the central bank and the Financial Regulatory Commission. To estimate the value added for this industry by regions, the top down method is employed for the banking and insurance industries. The regional estimates for commercial banks are made using the data on banks in regions.

➢ Real estate activities

Imputed rent is first estimated at the regional level. Based on the housing data from Population and Housing Census, it is estimated by provinces.

➢ Other service activities

As for the other service activities, the bottom up is used for the regional estimation. For the public benefit non-governmental organizations such as monastery and political parties, it is not possible to make the allocation to regions.

5. Dissemination

Revision policy for GDP statistics

<table>
<thead>
<tr>
<th>No</th>
<th>Annual GDP estimates</th>
<th>Dissemination timeline</th>
<th>Printed products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quarterly estimation based annual preliminary statistics (t)</td>
<td>15th February of the next year and t+1.5 month</td>
<td>Bulletin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>May of the next year and t+5 month</td>
<td>Yearbook</td>
</tr>
<tr>
<td></td>
<td>Enterprise report and survey based annual statistics</td>
<td>10th July of the next year and t+6.5 month</td>
<td>Bulletin</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------</td>
<td>------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>3</td>
<td>SUT based annual statistics</td>
<td>15th February and t+13.5 month</td>
<td>Bulletin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>May and t+17 month</td>
<td>Yearbook</td>
</tr>
</tbody>
</table>

NRSO first estimates “Enterprise report and survey based annual statistics” in July. From 2013 onwards, it has been constructing the Supply and Use Table. It revises GDP estimates based on the results from SUT for dissemination in February of the next year and allocates the national results to regions to estimate the provincial GDP in March and includes them in the statistical yearbook.

6. Challenges in preparing estimates

Challenges in preparing the regional GDP estimates: for some producer units, it is difficult to identify local units for estimation. For instance,

- **Mining and quarrying industry**

  For some enterprises in the mining and quarrying industry, the data on them comes from a consolidated report, but not from each mine; however, they operate in several locations. Also, there are some large mining companies associated with the national interests. For example, Oyu Tolgoi LLC is an enterprise planning to operate in Umnugovi province for a long period of time. Here the question of a statistical unit or a local unit arises. The company accounts for a large share in the country’s economy and its headquarters is located in Ulaanbaatar, to which it pays taxes, while its mine is located in Umnugovi province. For such enterprises, it is difficult to classify them into a head company or headquarters and factory. As for this enterprise, it is regarded as a unit of Ulaanbaatar. Most of its employees are nonlocal workers, including high skilled expats and workers from Ulaanbaatar.

- **Manufacturing industry**
The amount of livestock slaughtered for food is reflected in the gross output for the livestock sector whereas that of processed meat is included in the gross output for the manufacturing industry. For instance, people bring live animals to Ulaanbaatar for slaughtering. There are no data sources in this area and for the province estimation, the meat production is currently estimated based on the amount of livestock slaughtered for food and processing of meat.

Like the processing of meat, milk production is estimated. Milk milked from livestock is included in the livestock sector. Similar to the processing of meat, majority of milk and milk products are processed by households. The milk production is estimated by deducting the imported milk products and the milk processed by manufacturing factories from the total consumption of milk products, derived from the Household Income and Expenditure Survey, and the remaining balance is considered as the milk products by household business. To allocate the amount of milk products by household business, the share of it in the agricultural milk production is used.

7. Way forward

- Revision to methods is underway;
- Registration of statistical units that are to be in consistent with the Establishment Census will be improved and used for estimation. We place much emphasis on branch units of establishments and their relevant indicators when conducting the upcoming Establishment Census;
- The number of staff is added to the regional estimates; and
- In order to harmonize the regional GDP with the national GDP, the provincial estimates are now prepared by NRSO, but not by local statistics divisions. Thus, it is of importance that the soum and district estimates are prepared by aimag and minicipal statistics divisions, but not by soum and district statistics divisions.
III. Conclusion

- It is beneficial for us that the Economic Week is being held;
- It is necessary to ascertain the statistical unit to improve the methodology for SNA 2008;
- Regional development is one of issues to be addressed under the sustainable development goals;
- To prepare the regional estimates, we need to move from the enterprise based estimates to the LKAU based estimates. To this end, the LKAU, used for the regional estimates, and the LKAU, used for the business register, should complement each other;
- For NRSO, an assessment of the allocating indicators for multiregional enterprises reveals that NRSO has “C” rating on average; however, the data for the majority of industries is based on the bottom up method;
- We urge countries to improve the rating, evaluating the disaggregation of value added for those enterprises running many businesses and having many branches, by provinces and upgrade their C rating to B and their B rating to A as much as possible; and
- International organizations need to pay attention to the fact that to what extent the Asian countries are ready to use the Eurostat methods. It seems this guide is designed for developed countries.

IV. References

