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Wang Weiyu, Shen Na
Census Center, National Bureau of Statistics of China
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Globalisation and Profiling

Profiling for large and complex enterprises in China

Introduction

In china, the number of big and complex enterprises is small, but the economy contribution is of great importance. From the role of the BR, we need a profile including complete review of all pertinent statistical information regarding an enterprise (group)'s organization and identify the reporting units for the purpose of producing reliable estimates by province and sector of activity. In turn, for realizing comprehensive maintenance and updating, we should integrate the structural information of big and complex enterprises to upgrade the BR's content and quality.

The following paper will introduce the background of China's profiling and briefly describe the pilot work we carried out this year. Meanwhile, some difficulties and problems faced and future work plan would be discussed in the context.

Background

1. Structural types for large and complex enterprises

In non-census year, the BR mainly offers 'above threshold'¹ enterprises list for annual or regular subject matter surveys which conducted with Integrated Questionnaire for Enterprises, monthly. The profile is a survey of large and complex enterprises those have complicated relationship with affiliated units. And they are mostly in the list of 'above threshold' enterprises. Based on current BR's coverage and the definition of China's statistical unit, there are three main structural types for large and complex enterprise. The first and fundamental linkage is enterprise and its affiliated establishments (legal unit-establishment), the second is the enterprise and owned or holding enterprises (upper-lower legal unit),

¹ The 'above threshold' enterprises are those whose turnover is more than RMB 20 million in industry, and qualification owned in construction; RMB 20 million in wholesale; RMB 5 million in retail; RMB 2 million in hotel and catering; and all real estate enterprises.

and the last is parent company and subsidiaries belong to one enterprise group (parent-subsidiary from one economic conglomerate). Three kinds of linkage could be multi-crossed.

2. Basic situation of large and complex enterprises

In 2013, China carried out the third national economic census. For the first time, 'above threshold' enterprises which have large and complex structure would complete census questionnaires with hierarchical information through the internet. We could obtain a list and basic information of related legal units and establishments from the direct upper's questionnaire, including legal names, locations, business activities, corresponding industrial classification code, employee and financial information.

About 120 thousand enterprises did belong to enterprise groups, taking up 13% of the total 'above threshold' enterprises. Nearly 90 thousand 'above threshold' enterprises with complex structure had reported the hierarchical information, taking up 10% of the total. Among of them, about 9.5 thousand enterprises had lower legal units, 84 thousand had multi-establishments. The amount of assets of parent companies and subsidiaries accounted for 33 percent in all 'above threshold' enterprises, that of big and complex enterprises, 55 percent. For annual revenue, the number was 35 percent and 33 percent, respectively.

Thus, the number of big and complex enterprises is small, but the economy contribution is of great importance.

3. The need to establish a survey program for profiling large and complex enterprise (enterprise groups)

3.1 Delineating complete structure, understanding the status of complex enterprises

There is no structural statistics for large and complex enterprises so far. In china's statistical system, the parent companies and their subsidiaries, and the legal units on each level of the unincorporated enterprise groups should all be treated as respondents and report their data respectively, rather than the parent companies reporting the data for their direct or indirect subsidiaries, rather than the upper reporting the lower's data. But which is very common in practice and would lead to duplicates. Describing and better understanding the relationship between related units is a key factor to identify statistical objects for different surveys.

With the rapid economic development, it is very common for one business to merge with another or combine companies, even across the globe. Some big enterprises even don't know their whole structure including every branches. China National Offshore Oil Company had asked us for the complete list of related units and did some comparison with their own grasped. Managers of large and complex enterprises have their own need to keep track of the status of operation and to forecast the trend of the development too.

3.2 Improving BR's quality

As mentioned above, the BR mainly offers 'above threshold' enterprises list for annual or regular subject matter surveys. In the future, subject matter divisions not only need the list with unit names, organization code, address, principal activities and other main attributes indicators, but also the relationship description about large and complex enterprises. Since there is no enterprise' structural

information in BR before, subject matter accounting experts could not distinguish and split bundling data. So, we need a profile which include complete review of all pertinent statistical information regarding an enterprise (group)'s organization and identify the reporting units for the purpose of producing reliable estimates by province and sector of activity.

On the other hand, the structure information of big and complex enterprises should be important content in BR. It would develop and upgrade the BR content and quality to realize comprehensive maintenance and updates along with enterprises' structural changes.

3.3 Enriching survey system with international standards

Before 2009, there was a survey program for enterprise groups. It was carried out under the historical background of strategic reorganization of state-owned enterprises by managing large enterprises well while relaxing control over small ones. Under the policy guidance, various companies were restructured to form enterprise groups. They should be approved and registered by the registration authority, issued to the enterprise group certificate.

The 'enterprise group' is defined as economic conglomerate which comprises parent company and subsidiaries as main bodies, and combining with many enterprises even institutions by investing activities or collaborating on producing and operating. This program covered five types² of 'enterprise group'. It surveyed the basic information of the enterprise group, financial and employment situation, and focused on the investigation of inner management of an enterprises group's development and reform. It was more likely a survey for economic monitoring, in order to provide scientific advice to guide the management of enterprise groups.

With the development of market economy, this survey program would no longer been adapted to the situation of enterprise groups and cancelled in 2009. But the definition and scope is still used in some statistical analysis. Even in the BR, there is an indicator used to identify one enterprise whether it belongs to an enterprise group or not. But it is not enough to connect all related units, not to mention establish a complete picture of structure for an enterprise.

In order to master the development of enterprise groups, to integrate with the international statistical methods, it is necessary to improve the statistical system of enterprise group. In this case, profiling is the basic work to analyze the new situation, scale and structure of certain enterprise group.

Progress of profiling

4. Pilot work

We are currently doing the research of profiling and expect to establish a formal survey program to collect structural information of large and complex enterprises, and to clarify the hierarchical relationship between related legal units, as well as the relationship of the legal units and certain

² (1) those managed by the central government;(2) national pilot enterprise groups approved by the State Council;(3) enterprise groups approved by authorities under the State Council;(4) enterprise groups approved by the people's governments of the province, autonomous region or municipality;(5) other kinds of enterprise groups with annual revenue and total assets both above 500 million yuan, including the parent company, owned or holding subsidiaries in and outside the territory of China, not including joint equity or cooperative enterprises.

establishments. These steps are expected to give a strong support for the application of statistical data. It was began at the beginning of April.

4.1 Problems to be resolved

In order to gain organizing experience, the pilot work focused on several major issues which should be resolved.

The primary purpose was to know about possible forms of relationship between upper and lower legal units. In another words, how the hierarchical structure forms and how to define an enterprise as another's subordinate. In China, in addition to capital control, there are many associated bonds between different enterprises. Such as various investment forms, administrative management, assigning senior manager, seemingly affiliated, even just statistical management, and so on. There are still many forms we can't find out and the suitable object in certain survey might not be provided by the BR.

The second purpose was to establish the structure in statistical database for big and complex enterprises according to three main types mentioned above. And organizational structure with multi-levels will be shown in an intuitive, visual way. It is called 'tree structure' as you can see in the following section. The tree structure for big or complex enterprises will be automatically generated according to the key connected knot of 'organization code', the unique identifier for each unit.

The last was to review the definition and scope of large and complex enterprises for formal survey program. There is a division standard of large/medium/small/ micro-sized enterprises used in current statistical system. According to the number of employer, revenue and assets or alternative indicators, enterprises of different industry can be grouped into large, medium, small and micro sized-enterprises. The criteria for 'large' is different from the 'above threshold' enterprises'. In fact, it is regarded as a grouping indicator and be updated on the BR once a year. To the 'above threshold' enterprises, there is not only designated criteria for size, but also some management rules for the entering, changing and exiting from survey frames on the BR. Once approved into 'above threshold' pool, an enterprise would finish the Integrated Questionnaire and submit to National Data Management Center directly via the internet, using the data collecting and processing software.

Besides, as far as we know, some countries' profiling work mainly targets enterprise groups, especially international conglomerate. The substance of 'enterprise group' in China have changed a lot compared with the past. The statistical concept and scope for the 'enterprise group' should be readjusted according to the needs of survey projects. Though the 'enterprise group' being not the statistical unit as legal or operating unit in BR, we could provide suitable frames for any survey regarding that.

In addition, there are other critical issues to be under consideration such as feasibility of survey methods, choice of data processing platform, integration with BR's data, and use of administrative data, etc.

4.2 Survey scope and collection units

The pilot work included several stages, designing, training personnel, software developing, selecting enterprise groups, internet inquiry +interviewing with related person, data collecting, processing and analysis.

It was not carried out national wide. According to the data from the third economic census and the situation of regional economy, we chose five provinces as pilot areas, Jilin, Anhui, Shandong, Hunan and Guangxi. A total of 24 enterprise groups were profiled, and 3483 related units were surveyed. Of them, there were 1532 legal units and 1951 establishments. The biggest levels was 7.

4.3 Information collected

The questionnaire contains three parts of information.

- legal information and basic attributes of reporting unit: organization code (BN), name, address, primary activities, industrial classification code, type of unit and contact information.
- structural information: the list of the direct uppers, the list of the direct lowers, and description of relationship. The relationship was limited to financial relationships as absolute holding, relative holding, joint equity, and shareholding proportion. legal information and basic attributes of upper and lower units would be filled in by the reporting unit too.
- a few questions: whether keep complete accounting vouchers, accounting books and accounting statements, whether conduct independent financial accounting , whether file and submit tax forms independently, whether invest abroad or not, which level' financial status the enterprise can knew about completely? the situation of consolidating financial statements of the lowers'.

Financial data such as revenue, assets and profits, together information of employment, was not the main content of the survey because these indicators' value could be obtained from subject matter surveys and updated in the BR correspondingly.

4.4 Data collecting methods

Two methods were used to collet structural information in order to gain experience.

- Method 1: Provincial BR authorities organized enterprises of the first level (parent -company) to fill in questionnaires. According to the administrative division of lower units, BR authorities below province level would be responsible for the survey of its lower units', then lower' lower. If some enterprises were beyond the jurisdiction, the higher BR authorities would be responsible for coordination.
- Method 2: Provincial BR authorities organized enterprises of the first level (parent -company) to fill in questionnaires. The enterprises at the first level organized all related units to complete questionnaires. BR authorities would track and guide the reporting.

Anhui, Hunan province took the first method. Jilin, Shandong Province and Guangxi autonomous region, the second.

Every related unit belong to an enterprise group would report the questionnaire until the lowest units (treetop units) completed the reporting. Based on the two methods above, electronic questionnaires could be reported by the upper enterprises if the status was grasped completely. Since enterprises have other data reporting systems which is required by administrative departments, it could be derived from the enterprise' management system. We allow the parent company to fill in all members' questionnaires of an enterprise group if the detailed information is enough for our profiling.

No matter which method chosen, the profiler would need to contact the parent-company before collecting data to get important support and cooperation. It is important to interview with the individuals who will most likely be able to answer the questions fully or who can direct someone within the organization who will best be able to answer the questions. They are usually the financial, statistical or administrative officials.

4.5 Data processing

When data collecting finished, data would be upload to the processing system. It is not the BR system. Which was developed by one of our colleagues who is from GIS division. Geographical distribution of all units from one enterprises group could be illustrated in the system.

After uploading, the profilers can review the information collected in the pilot work. This included verification of legal information, basic attributes and structural information of related units from one enterprises group.

Legal information and basic attributes would be reviewed and compared on the BR. Each unit from one enterprise group should be in the data pool of BR, updated and maintained occasionally. These information included names, addresses, business activity descriptions and their corresponding industrial classification code. If there were mismatches, the profilers would updated the corresponding information on the BR.

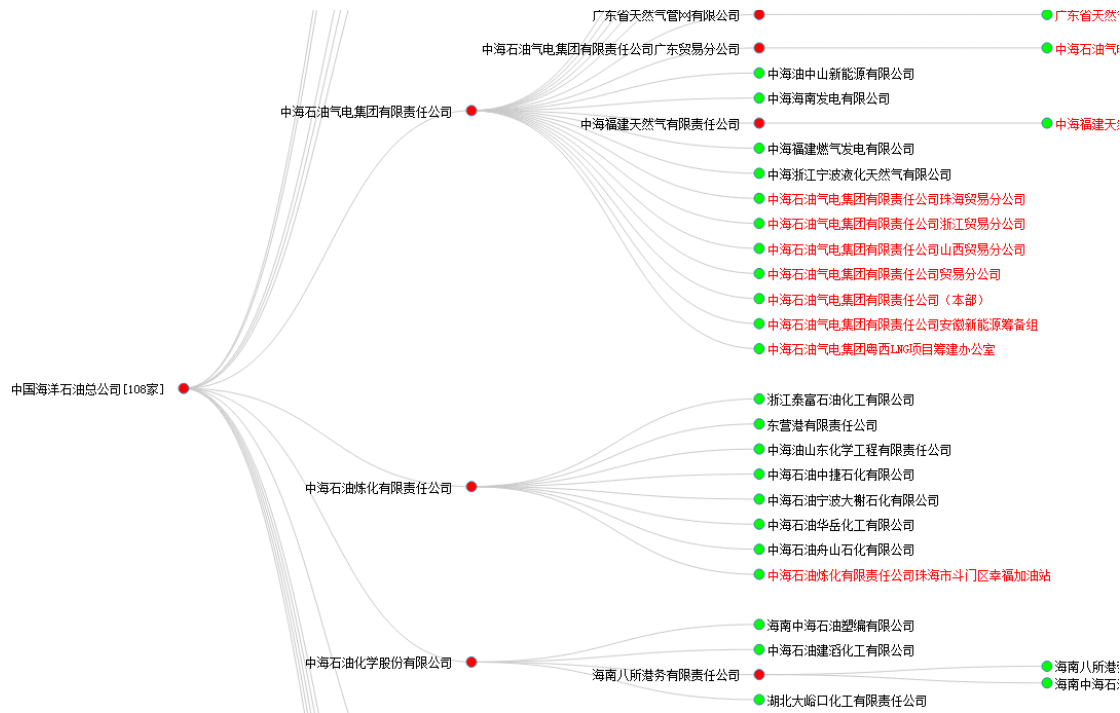
And most important work was to verify the authenticity of the ownership relationship which is used to establish the tree structure for an enterprise group. It was a mutual authentication process for both the upper and the lower enterprises. The process was performed automatically too. The key variable for connection is "organization code" of units. Since the direct upper would report its owned or holding lowers, but if the lower did not grant it or vice versa, then authentication failed. We would checked the failed and did further investigation. The profilers would contact with the respondents to make sure. Then edited the pilot data collected.

4.6 Establishing tree structure

At the end of all review and verification, the profilers would decide to establish a tree structure for an enterprise group. Before that, all mismatches should resolved through comparison. And structural information were authenticated. The tree structure for an enterprise group was established automatically as shown in Figure below. It could be unfolded layer by layer. Every unit in the tree picture was labeled the unit type and the level of the group.

The main line between connection nodes was the capital relationship. The system assigned a direct upper to a unit according to share proportion, though more than one enterprise invested it. The others were surveyed too, but not delineated in the tree.

Tree structure



5. Recent work

5.1 Propose a new statistical definition for 'enterprise group'

The first step to develop and implement profiling survey is proposing a new definition of the enterprise group and delimit the scope of profiling survey. Old enterprises groups with old criterion and management have changed a lot mentioned above. We would carry out a study on statistical definition for the enterprise group and implement it in the next step. This work needs cooperation with departments of both statistical standards and subject matter surveys. And we intend to disseminate and encourage the use of the new definition.

5.2 Find a way to include other hierarchy relationships

For big and complex enterprises, we established the tree picture based on financial relationship. But some other linkages we found through the pilot have not been shown in the picture. For example, Xiangtan Iron&Steel Company from Valin Group fulfills administrative management for Xianggang Ruixing Company, not holding any shares. Another is institutional units like school or training center assigned by administrative department. To these enterprises, they do not know whether they are their lower units because there is no business contact. But to the opposite, they are the upper one. We intend to find a way to illustrate these units avoiding any missing in the tree picture but accepted by both.

5.3 Study on maintenance and updates of the profile

Once the profiling has been finished and the structure established, it is important for us to maintain it in time as any change happens on it. No matter legal and operating information of related units, or structural information caused by mergers, restructuring and acquisition, there should be some ways to

get the changes for maintenance and updates. How to monitor the notifications of updates and what kind of sources could be obtained would be critical factors for implementing profiling methods and procedures.

We intend to establish regular reporting mechanism with large and complex enterprises. The headquarters of an enterprise group or the enterprise at the first level is responsible for reporting structural changes to statistical department. It would be the first hand and accurate source. Some factors should be taken into account.

- respondent burden
- training statistical profilers who distinguish and decide updates
- reporting methods(internet, electronic or paper questionnaire)
- how to keep constant interview with related person(financial, statistical, administrative manager), etc.

Information from subject matter survey is important too. They are the main users of the profiling. They use the structural information to carry out surveys and analyze the bounding data which would influence regional economic accounting to some extent. We also need the survey data to review the profiling and correct or update the structure. We should do some research before the formal profiling survey.

- subject matter surveys using the profiling data
- what kind of information we need and what kind we can obtain to update the profile
- the frequency and method of data feedback
- how to confirm before updating with information from subject matter divisions, etc.

Besides, other possible sources are also under consideration. Such as administrative data from different departments, information on company website, important announcement and so on.

Challenges

6. Use of various administrative data

In China, different government departments require large enterprise groups, especially the state-owned ones to submit their financial data, merger and regrouping reports and major investment activity reports in order to realize the management and supervision of state-owned assets, such as tax department, the administration for industry and commerce, state-owned assets supervision and administration commission, the ministry of finance, securities regulatory committee.

We countered the problem of respondents' cooperation during the pilot work too. Enterprises prefer to cooperate with administrative departments when submit the same information. From reducing respondent burden, we wish we could obtain information from other administrative departments.

For the structural information, state-owned assets supervision and administration commission is the best choice. All enterprises from one central enterprise group's are required to submit financial statements to state-owned assets management committee through their information system, level by level. It is very clear how many enterprises or branches at every levels those belong to one group, including all kinds of independent accounting branches, institutions, financial enterprises, foreign enterprises and infrastructure projects. Therefore, not only the overall number is clear, the management levels, shareholder structure, operating information and structure, are verified.

Usually, they are super big enterprise groups. If we can obtain their structural information from this department, it is a wonderful thing.

7. Uncertainty of data processing system

National Bureau of statistics is in the integration stage of data system, all programming development are demanded to meet the unified planning. The processing system for the pilot survey was developed beyond the BR system. For formal profiling, we need to put forward the new software development requirements under the unified planning. Though the best choice is to upgrade existing BR system in order to avoid complicated data integration, it is most likely to develop another system to cater to the profiling program.

Meanwhile, we would like to choose the second method which the enterprise group organize the reporting themselves. Under the condition of reform of statistical collecting methods, large and complex enterprises are more willing to complete survey via internet on current platform which mentioned above.

Thus, there are some factors influencing the choice.

- the unified strategy of data platform of NBS
- reducing respondent burden
- integration with BR's database structure
- convenience for subject matter surveys

8. Integration, maintenance and updates of structural information for upgrading the BR

Once the information on the enterprise structure has been collected, it needs to be reflected on the BR in a timely manner, so that all surveys can benefit from the updated information.

As a matter of fact, one of the objectives of profiling is to identify the right survey units for specific subject matter survey, then the BR can fulfill its primary function of providing frames or sampling units. That how to integrate structural information from another data processing system is a problem we must resolve sooner or later.

Once the first integration done, we need to consider the timing and frequency of the maintenance and updates. For this pilot, the basic information of enterprises was compared and modified, but for structural information, stored in another pool whose database structure is totally different from BR's.

And there is no denying that how to resolve this problem is decided by the previous one.