

The Research on Utilization and Interoperability of XBRL Taxonomy Elements of Listed Companies Financial Report

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Abstract

This article is based on the research on utilization and interoperability of Chinese XBRL taxonomy elements, focusing on the improvement of the insufficient XBRL taxonomy elements. The authors believe that increase the number of XBRL taxonomy elements can enhance the interoperability of financial reports and accuracy of compiling XBRL software elements.

Index terms— XBRL taxonomy; elements utilization; elements interoperability.

1 Introduction

In October 2010, the Chinese National Standardization Management Committee and the Ministry of Finance issued a standard of the common XBRL taxonomy, which not only provides XBRL elements standard to financial software manufacturers and comprises who use it, but also unifies data format of financial reporting and improve relevance of the financial information, to promote the development of data industry and the efficient use of data as well. In the past three years, the application of practitioners and the research of theorists continue to test the accuracy and applicability of XBRL taxonomy, send various proposals to improve the quality of financial data generated by XBRL taxonomy. However, there is still missing and ambiguity in the elements of Chinese XBRL taxonomy elements (We call them XBRL-China in the following text), which caused some hindrances when listed enterprises try to extend it. Redundancy and insufficiency of XBRL-China affect the interoperability of financial reporting data.

With the development of XBRL both at home and abroad, XBRL plays a very important role in the development of information technology. The unique advantage of XBRL—the unstructured data structures, makes the correlation between data more dimensional. XBRL can process more complex multi-dimensional data. These advantages make XBRL gains more concern, and the constitution of data directly related to the XBRL taxonomy modeling methods. International organizations and countries have already formulated and promulgated the standard of XBRL taxonomy according to their accounting standards. The standard XBRL taxonomy directly affect the accuracy, relevance and understandability of XBRL financial reporting. Chinese scholar Zhang Tianxi [1], foreign scholar Roger [2], Bovee [3] all found evidences of this view.

Through the study on the utilization and interoperability of XBRL-China, we match the disclosure elements of financial reporting and XBRL-China. We find the unreasonable XBRL element definitions, point out the existing problems of XBRL taxonomy to improve the situation of insufficient XBRL-China. So that we can improve the interoperability of financial reports in all industries. Meanwhile, by additions and amendments to the elements, reducing the number of future expansion by companies, we can reduce the possibility of future expansion and differences caused due to the application of XBRL in more comprises, to improve the quality of financial reporting disclosure.

2 II. Current Situation of Chinese XBRL Taxonomy

Bovee [3] [5] pointed out that in the constitution of taxonomy standard, there must be some differences between the taxonomy standard and elements required by the comprises. On the one hand, because the high gather level of standard taxonomy elements, if companies prepare financial reports all by the taxonomy standard, part of the standard may not be suitable to the enterprises, which will lead to the loss of information.

45 However, if the gather level of taxonomy standard is too low, the companies have to expand the elements by
46 themselves which will lead to the lack of comparability of financial data.

47 The constitution of Chinese XBRL taxonomy also faces the same situation, which ??ovee [4] [5] has identified.
48 Gao Jinping [1](2006) compared the "Chinese Listed Company Information Disclosure classification standards"
49 issued by SSE and annual reports of 117 Listed Companies, found that there existed great differences between
50 SSE standard and annual reports, which could not meet the need of disclosing data.

51 Zhao Xianming [6] (2010) studied the influence of earnings on annual reports, the results showed: although
52 XBRL had disclosed information, it had not been recognized by the market. There were two reasons: First,
53 the quality of standard XBRL taxonomy need improvement to meet the requirements of the financial disclosure.
54 Second, it was not enough only apply XBRL to financial reporting, it should be extended. Our standard XBRL
55 taxonomy is promulgated in accordance with the relevant Chinese accounting standards , so there are some
56 differences between XBRL-China defined by authorities and elements used by comprises. The differences will
57 effect the utilization and efficiency of the element. There exist elements with very low utilization, but there
58 also exist some elements used by different companies frequently but have not been defined by the standard.
59 In addition, the suitability of elements definition also have impact on the interoperability. The Higher the
60 interoperability is, the better the definition is made.

61 3 III. Utilization and Interoperability of XBRL Taxonomy Ele- 62 ments a) XBRL Taxonomy Elements and Elements Disclosed 63 by Companies

64 The differences between the standard XBRL-China and the disclosed elements of comprises effect the interoper-
65 ability of financial reports. For example (Please see table 3-1 for the Descriptive Statistics), the elements of
66 individual balance sheet "Net Oil and Gas Assets" and "Special Reserve" as well as the consolidated balance sheet
67 elements "Settlement Provisions", "Net Premiums Receivable", "Net Receivables from Reinsurers", "Net Reserve
68 Reinsurance Contract" and so on are all defined by the standard. But many companies do not use them in the
69 disclosure process. Another example, the balance sheet element "Insurance Contract Reserve", "Total Long-term
70 Liabilities", "Total Non-current Liabilities" and so on, which many companies disclosed in their reports but have
71 not defined in the taxonomy standard.

72 Moreover, there existed mismatch between XBRL-China and corporate disclosure elements. For example
73 (Please see table 3-2 for the Descriptive Statistics), when matching the elements of Inventories (general industrial
74 and commercial sectors) in the notes, different companies have different descriptions for "Goods in Transit",
75 such as "Merchandising", "Goods in transit" and "Material Procurement". The disclosure of these elements does
76 not belong to the provisions of accounts and cannot meet the requirements of accounting comparability and
77 understandability.

78 4 b) Utilization of XBRL Taxonomy Standard Elements

79 The list of Chinese Standard XBRL Taxonomy Elements has defined 2845 elements, but the frequencies of
80 different elements varies greatly (Please see the picture 3-1 for the utilization of XBRL taxonomy). We find
81 that about 35 % of the elements have high utilization, such as "Currency Funds", "Other Receivables", "Paid-up
82 Capital or Equity". But nearly 50 percent of the elements have low utilization, utilization of such elements as
83 "Special Reserve" is almost zero. Thus, the differences between standard XBRL-China and disclosing elements
84 used by companies are very large. All of the above will affect the interoperability of financial reports.

85 5 c) Interoperability of Standard XBRL Taxonomy

86 Elements Due to the differences between standard XBRL-China and disclosing elements used by companies, and
87 the differences in the utilization of XBRL-China, there are differences in the interoperability of financial reports.
88 These Mainly reflected in the following aspects: First, the interoperability of the financial statements level is
89 different. Second, there are differences in the interoperability of financial reporting elements within the same
90 industry, which means on the enterprise level there are different disclosure elements. Finally, the interoperability
91 of elements between different industries is also different. (Please see the picture3-2 for the interoperability).

92 6 d) Interoperability of Extended XBRL Taxonomy

93 Elements Now the XBRL taxonomy are not decided by the companies, and the extended XBRL-China are also
94 not be decided by the companies themselves. But because there are some elements the standard taxonomy has not
95 defined (we call these elements: missing elements), and the listed companies have to use lots of elements exceeded
96 the standard taxonomy, the companies have to extend the taxonomy (we call these elements: extended elements).
97 Meanwhile, the extended elements are defined by different companies, so that there are some differences in their
98 disclosure elements with the same meaning, which in turn affect the interoperability.

99 **7 IV. Policy Recommendations for XBRL-China a) Standard of**
100 **Corporate Disclosure Elements**

101 In the process of enterprises disclosing their financial reports based on XBRL taxonomy in China, there exist
102 some issues such as inaccurate elements. Some elements disclosed by companies and defined by standard XBRL
103 taxonomy are totally different. Such as the element in the note: inventory. The enterprises will disclose "Product",
104 "Stock Goods", "Raw Material", but the standard XBRL taxonomy defined "Inventories Beginning Balance",
105 "Increase of the Amount of Inventories ", "Decrease of the Amount of Inventory", "Inventory Impairment".
106 Companies should strictly follow the XBRL taxonomy to define the elements and disclose information in
107 accordance with accounting standards, thereby they can improve the interoperability of their financial reports.

108 **8 b) Adjust Part of the Elements in XBRL Taxonomy**

109 XBRL defines some elements that companies almost do not use in their disclosure (we call them: redundant
110 elements), such as the elements in the balance sheet, "Net Oil and Gas Assets" and so on. Moreover, the
111 utilization of some elements is low, or even zero, we recommend that such elements could be adjusted or omitted
112 in the standard. More prominent problem is that the XBRL-China are insufficient and missing, leading to
113 the definitions of the elements by enterprises is not unified and not standardized. All these cause the low
114 interoperability of the XBRL financial reports. Therefore, we recommend to add new XBRL-China. Set bank
115 as an example, we can add the elements such as "Financial Subsidiaries Deposit". In addition, we have to add
116 elements to standardize and refine the notes. For example, "Other Current Assets" can be roughly divided into
117 "Prepaid Items", "Deductible Items", "Financial Products", "Accounts Receivable", "Entrusted loan Items" and
118 so on.

119 **9 c) Add Extended XBRL Taxonomy Elements**

120 The Outstanding issue of XBRL-China is the missing elements, which lead to the low interoperability of the
121 elements defined by the companies themselves. Therefore, the extended XBRL taxonomy have to be added to
122 the the development of existing standard XBRL taxonomy, so that the quality and comparability of financial
123 reports of all the industries and different companies can be improved V.

124 **10 Summary**

125 Based on the research on utilization and interoperability of XBRL-China by analyzing the descriptive statistics
126 of Chinese listed companies, we find that XBRL-China and companies disclosed elements are not matched.
127 There are redundant elements and insufficient elements both existed in the standard, and nearly 50% of all the
128 standard XBRL-China are low utilized, which all seriously affect the interoperability of financial reporting data.
129 Therefore, this paper also put forward a proposal to amend the existing XBRL taxonomy, aimed at improving
130 the interoperability of financial reporting and enhancing the quality of financial information.

131 **11 References Références Referencias**



Figure 1:

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Figure 3: Table 2 :