Analysis and Research on Model of Impact of Replacing the Business Tax with a Value-added Tax on Performance of Enterprise Combining with Computer Platforms

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Abstract — objective: according to the Twelfth Five Year Plan, to implement "deployment, the reform of the financial industry", we need to change reform background. As the complex financial institutions in the organization structure and business type, the volume is big. "Camp to increase" landing implementation is more difficult than before. Only share information means and financial institutions can win the “Camp to increase". Methods: the financial sector played a camp to increase this battle, one cannot win if short of business, accounting, tax and IT. Process: the implementation of “Camp to increase" has two modes, one is the comprehensive reform of internal business system, the second is to build a management platform of value added tax with the way of "plug-in". Analysis: to establish a management platform of value added tax, adopt the way of "plug-in" is the fastest solution, but in the long run, the financial sector may want to further their business system reform.

Keywords - Financial industry; Management platform; Business Tax; Computer

I. PURPOSE AND INTRODUCTION

In accordance with the "twelfth five-year" plan, China completed the financial insurance industry, construction, real estate and life service for the tax system reform of the industry and said goodbye to the business tax on January 1, 2016. "Camp to increase", which is likely to be in the financial sector profits, has a significant impact. Therefore, many enterprises are actively preparing for "change", and completed the related consulting [1]. How will consult the results to the ground becomes the new challenge enterprise faces, because the business of financial institutions are usually through IT system to handle. China's tax revenue in 2011 [2] is as shown in figure 1:

Figure 1 China's tax revenue in 2011

II. THE PRINCIPLE

A. Camp to Increase Basic Policy Analysis

According to our country the current management mode of value added tax, the categorized management of the VAT taxpayer [5]. According to the taxpayer's production and operation scale and sound accounting degree, could be
divided into general VAT taxpayer and small-scale VAT taxpayer taxpayers [6]. Its tax method, applicable tax rate or levy rates, certificate management, and other aspects are different, should be treated differently. Pilot taxpayers in front of the pilot implementation of sales, such as the service lives of formula 1 T: represents the service lives of taxable sales; Taxpayers with sales and output tax merger pricing method, calculate the sales such as formula 2; According to the tax price of tax price formula as 3; Overseas units or individuals in China providing taxable services, has no business institutions in China, the withholding agent shall be the withholding tax amount as formula 4; Not deducted from payment for goods when tax credits should pay tax, such as formula 5, P represents proportion of output tax of goods [7].

\[
T = \text{taxable service for no more than 12 months} \times (1 + 3\%) \\
\text{Present} = \text{sales tax } \times (1 + \text{sales tax rate}) \\
\text{The tax cost price} = \text{tax cost margins} \\
\text{withholding tax} = \text{The receiver to pay the price} \times (1 + \text{tax rate}) \\
\text{The tax payable} = \text{[Output tax - Actual deductible tax]} \times P 
\]

B. Methods

To increase camp is in stages, the influence of present to solve the problem of "change "and" quote ". Implementation of enterprise management to increase "camp" will meet what difficulty? First, the value-added tax for Chinese companies is a new thing. On a global scale, China's financial industry to increase "camp" can draw lessons from the experience of not much. This is the first difficulty. Second, the complex and varied business financial business types, all kinds of business how to embed the VAT [8], is worth studying. For example, the savings and loan business, insurance premiums and claims, securities have features such as proprietary trading. How these operations are corresponding to the corresponding VAT tax is difficult [9].

The "camp to increase" will change the day-to-day running of enterprise management mode, and will change its internal management process [10]. This would require the enterprises to carry out the corresponding process optimization and reengineering. In fact, industry is highly dependent on information system of enterprise management [11]. Large amount of data without information support, The era of value added tax, the banking system, management, operation, how to deal with the VAT IT system construction, is also a difficulty. Table 1 shows tax revenue and major tax revenue in 2012.

### Table 1 Tax Revenue and Major Tax Revenue in 2012

<table>
<thead>
<tr>
<th>Items</th>
<th>Income</th>
<th>The previous year's amount of increase or decrease</th>
<th>Increase or decrease rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax revenue</td>
<td>100600.88</td>
<td>10862.49</td>
<td>12.1</td>
</tr>
<tr>
<td>Among them: the domestic value-added tax</td>
<td>26415.69</td>
<td>2149.06</td>
<td>8.9</td>
</tr>
<tr>
<td>Domestic consumption</td>
<td>7872.14</td>
<td>935.93</td>
<td>13.5</td>
</tr>
<tr>
<td>Imports value-added tax and consumption tax</td>
<td>14796.41</td>
<td>1235.99</td>
<td>9.1</td>
</tr>
<tr>
<td>Export VAT and consumption tax</td>
<td>-10428.88</td>
<td>-1224.13</td>
<td>13.3</td>
</tr>
<tr>
<td>Business tax</td>
<td>15747.53</td>
<td>2068.53</td>
<td>15.1</td>
</tr>
<tr>
<td>The enterprise income tax</td>
<td>19653.56</td>
<td>2883.92</td>
<td>17.2</td>
</tr>
<tr>
<td>The individual income tax</td>
<td>5820.24</td>
<td>-233.87</td>
<td>-3.9</td>
</tr>
<tr>
<td>The property tax</td>
<td>1372.49</td>
<td>270.10</td>
<td>24.5</td>
</tr>
<tr>
<td>A stamp tax on securities trading</td>
<td>303.52</td>
<td>-134.93</td>
<td>-30.8</td>
</tr>
<tr>
<td>Urban land use fee</td>
<td>1541.72</td>
<td>319.46</td>
<td>26.1</td>
</tr>
<tr>
<td>Land value added tax</td>
<td>2718.84</td>
<td>656.23</td>
<td>31.8</td>
</tr>
<tr>
<td>Vehicle purchase tax</td>
<td>2228.27</td>
<td>183.38</td>
<td>9.0</td>
</tr>
<tr>
<td>Tariffs</td>
<td>2782.74</td>
<td>223.62</td>
<td>8.7</td>
</tr>
<tr>
<td>Deed tax</td>
<td>2873.92</td>
<td>108.19</td>
<td>3.9</td>
</tr>
</tbody>
</table>

III. PROCESSES

A. The Tax Change VAT Impact on Corporate Profitability Analysis

Business tax before the change of value added tax, enterprises in the purchase link pay value-added tax can't touch buckle, the value-added tax into the purchasing cost. Business tax after the change of value added tax, value-added tax for purchases deduction system, purchasing link value-added tax deductibility, avoiding double taxation between upstream and downstream enterprises, reduce the tax burden of enterprises. Pilot enterprises tax changes, but also to how much input tax deductible, tax rate and tax incentives and other factors, input tax deduction for little or no business, increase rate of enterprise, the greater the tax increase may exist. Despite the value added tax and business tax are as city building duty and educational expenses to add calculation basis, but business tax included in the business tax and additional, VAT is not included in the, thus lowered the business tax and additional [12]. Business tax changes after paid VAT, tax is a tax excluded in price, within the price will change to a certain extent the pricing of the enterprise, product sales changes, both affect the sales revenue, will affect profits, at the same time, the business activities of enterprises cash flow would also be affected. In addition, the business tax on value added tax, tax and additional changes, the change of profits leads to the change of the income tax, will affect the enterprise's operating activities cash flow. As we know, cash flow is more important than profit, operating activities cash flow is necessary to maintain the company operation and support development. Revenues, costs and taxes, the change of cash.
flow are all factors that affect corporate profitability [13]. As shown in figure 3.

![Diagram of Business tax change VAT transfer process of the impact of each factor](image)

**Figure 3** Business tax change VAT transfer process of the impact of each factor

**B. Business Tax Change VAT Impact on Enterprise Operation Ability Analysis**

Business tax changes after paid VAT, reduced the original value of the purchased materials, equipment and services, in the case of corporate income must, asset turnover will increase. Since purchased equipment can tax deduction, the enterprise may accelerate the update of equipment and equipment on the scale, equipment update speed up means that asset use efficiency, scale enlargement promoting enterprise's operating income increasing.

**C. Business Tax Change VAT Impact Analysis of Enterprise Debt Paying Ability**

From the enterprise assets, the business tax change value, purchased assets cost does not include VAT, outsourcing entry value of the assets will be reduced, the investment under the condition of constant and offer no tax, enterprise's assets will decline [14]. From the point of corporate liabilities, business tax after the change of value added tax, value-added tax for purchases deduction system, the tax payable for the output tax deducting VAT on purchase, under the same investment scale, the tax payable will be increased after the reform, but change not greater than the assets liabilities. Looked from the long-term development, "camp to increase" will promote enterprises to expand investment assets, enterprise's total assets and liabilities of ascension will lead to different extent. At the same time, the change of each factor in the process of operation will affect the operating activities cash flow, cash flow not only influence the profitability, also influence the solvency, operating activities cash flow, the more the better the company's solvency. As shown in figure 4.

![Growth contrast figure in 2011-2012](image)

**Figure 4** Growth in contrast figure in 2011-2012

**D. Business Impact Analysis of Change the Vat to the Enterprise Development Ability**

Development ability is to show the enterprise through its own production and business operation activities, to accumulate and form with future development potential and ability is one of the important bases, as a reference for many investors, therefore, to analyze and evaluate enterprise development ability has the very strong practical significance. According to the above other ability of analysis, we determine enterprise's development ability is changing. VAT, the object of this study is the tax change during the period of financial policy and operating efficiency may change, do not meet the prerequisite for the sustainable growth rate, therefore this article does not consider the impact on the development ability.

**E. Implementation Process**

To add "for enterprises to implement" camp, combing their own business process is the first step. In particular, it to value added tax management out of the financial institutions of the financial department and the ministry of science and technology. In financial institutions, is a former financial ministry tax, ministry of science and technology IT systems camp to increase change is a financial institution's daily operation management pattern, after customer manager and insurance manager, the bank manager to talk about with customer price, VAT, must be out of this step. In addition, some financial institutions need to select the appropriate partners. Suggest financial institutions to find and understand the financial business, know about financial management, tax management, and understand the financial IT systems of partners. Financial institutions themselves, of course, should be timely supplement knowledge about VAT and policies. In short, the enterprise played 'camp to increase this battle, business, accounting, tax, IT is be short of one cannot. Have a good partner, can do better, more accurate, more likely to be born.

**IV. ANALYSES**

**A. Hypothesis**

In this paper, we study the business tax change VAT impact on business performance; business tax and value-added tax are the turnover tax. Sales tax is a tax on transactions directly, so the business taxes directly inhibit the scale of the development of the market trade and service
industry. Business tax instead of VAT, the input tax can be deductible, enterprises mainly to the appreciation tax, by double taxation problems restrict enterprise scale and specialization, and will put more money on research and development and information technology, will pay attention to the improvement of core competitiveness, the enterprise will gain more revenue opportunities and greater profitability. Visible, the business tax change VAT can promote the improvement of enterprise performance. Therefore, we assume that:

Hypothesis 1: the business tax change VAT can improve business performance. To increase "camp" belongs to our
country an important part of structural tax cuts, structural
tax cuts overall goal is to adjust the industrial structure, promote industrial upgrading, most of the measures it is
aimed at a specific industry, for example, the business tax change VAT pilot for the transportation industry and part of
the modern service industry, therefore, we can expect, business tax change VAT different effects on corporate
performance in different industries. To this end, we assume that. Paired sample statistics, For example, average TAB
Table 2.

### TABLE 2  PAIRED SAMPLE STATISTICS

<table>
<thead>
<tr>
<th>EPS</th>
<th>Before the pilot</th>
<th>After the pilot</th>
<th>Standard error of the average</th>
<th>correlation coefficient</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>The average</td>
<td>0.203691</td>
<td>0.22358</td>
<td>0.2227454</td>
<td>0.0474854</td>
<td>0.458</td>
</tr>
<tr>
<td>N</td>
<td>22</td>
<td>22</td>
<td></td>
<td></td>
<td>0.032</td>
</tr>
<tr>
<td>The standard deviation</td>
<td>0.2227454</td>
<td>0.2385904</td>
<td>0.0493747</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis 2: the tax change VAT impact on corporate performance in different industries is different. In the long
run, the tax change VAT through the VAT chain, strengthen the deep integration of manufacturing and service sectors
and eliminates the business tax double taxation specialized division of labor and services to the enterprise development,
promote enterprise development, improve enterprise performance. But in the short term, the enterprise may not
be ready, failed to timely adjust its strategy for the enterprise production and management, completes the tax
planning, tax change VAT has not good effect.

Hypothesis 3: the business tax to value added tax's influence on the enterprise operating performance may be
lagging effect. Net value of fixed assets and the proportion of total assets, for example, average TAB Table 2.

### TABLE 3  NET VALUE OF FIXED ASSETS AND THE PROPORTION OF TOTAL ASSETS

<table>
<thead>
<tr>
<th>Financial indicators</th>
<th>Enterprise classification</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net value of fixed assets</td>
<td>Pilot enterprises</td>
<td>15784157246</td>
<td>18304487563</td>
<td>20091404220</td>
<td>21176944557</td>
</tr>
<tr>
<td></td>
<td>Other companies</td>
<td>97099804701</td>
<td>10564693021</td>
<td>11147435830</td>
<td>12032281124</td>
</tr>
<tr>
<td>The ratio of fixed assets to total assets</td>
<td>Pilot enterprises</td>
<td>0.47424239</td>
<td>0.478004354</td>
<td>0.5867544373</td>
<td>0.4694837485</td>
</tr>
<tr>
<td></td>
<td>Other companies</td>
<td>0.425258464</td>
<td>0.431953319</td>
<td>0.4135860485</td>
<td>0.4328675475</td>
</tr>
</tbody>
</table>

B. Sample Screening

Camp to be included in this article is not to add "pilot all the industry analysis, due to some industry is too
thin, not well judge whether an enterprise belongs to a particular industry, and some industry listed companies are
less (such as a modern service industry in the verification consulting), without access to relevant data. Therefore, in
this paper, based on, the classification of industries in selected information technology services (belong to modern
service industry), two transport industry are analyzed.

Starts from January 1, 2012 in China was carried out on the transportation industry and part of modern service
industry in Shanghai and then extended to Beijing, Tianjin and other provinces and cities, and in 2013, on August 1, in
the national pilot. We can see around the pilot time is not unified, Beijing, Jiangsu, Anhui, Fujian, Guangdong,
Tianjin, Zhejiang and Hubei are 2012 midterm trial, and have different time, proposed to exclude it. So this article
chose the deep Shanghai two cities issued a-share listed companies (information technology services and
transportation) as the research sample, taking out the Beijing, Jiangsu, Zhejiang, Anhui, Fujian, Guangdong,
Tianjin and listed companies in Hubei.

On August 1, 2013, the national pilot "camp to increase". If the annual data, sample selection criterion
cannot compare 2013 experimental data and other data, and on August 1, 2013 to the end of the third quarter, time is
short, the impact is relatively small, so the data is proposed to choose the third quarter. Considering all kinds of data,
index than at the same time, based on January 1, 2012, select the two years before and after the 2010-2013 in the
third quarter data of a-share listed companies as samples. On this basis, in order to compare before and after "camp to
add" pilot areas and other areas, the change of enterprise operating performance indicators to eliminate variables
related data missing company and outliers, and eliminate 2010-2013 st. * ST companies, excluding newly listed in
2010-2013 or 2010-2013 years of delisting enterprises, to maintain consistent statistical data in all the years. After
screening, this article selects the transportation industry and information technology sectors in 2010-2013, the third
quarter of the total 220 samples data.

C. Models is Established in this Paper

In this study, business tax using multiple linear regression models to value added tax on corporate operating
performance, the influence of multiple linear regression
analysis is the study of how a set of independent variables directly influence a dependent variable. 6 general form for the formula Among them, the beta \( \beta_0 \), as constant, also known as the intercept; \( \beta_1, \beta_2, \ldots, \beta_m \) as the partial regression coefficient, referred to as "regression coefficient, when other independent variables remain the same," \( X_i \) (i = 1, 2, ..., m) for every change unit, the average change of the dependent variable \( Y \), \( \varepsilon \) for removal of random error of \( Y \) after m independent variables, also known as the residual. This article will choose variable into the model such as formula 7:

\[
Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_m X_m + \varepsilon
\]

This article will choose variable into the model such as formula 7:

\[
EPS = \beta_0 + \beta_1 BTV + \beta_2 ROA + \beta_3 NCF + \beta_4 CR + \beta_5 DR + \beta_6 OC + \beta_7 TATR + \beta_8 SIZE + \beta_9 NAPS + \varepsilon
\]

### D. Instance

Pilot enterprise information technology services, for example, in 2011 enterprises business taxes and additional lower, lower by 15.76%, and other enterprise's business tax rate increases, the increase rate of 15.55%. Part this is because, the business tax after the change of value added tax, tax into value-added tax, business tax and business tax and additional greatly reduced. As shown in the figure 4.

![Figure 5: The pilot enterprises information technology service in 2011](image)

V. CONCLUSIONS

A. The Government

Parts of the business tax change VAT only occurred in 2012, August 2013 nationwide, which referred to the short-term effect was obvious. In the long run, the business tax change get through between the secondary and tertiary industries of VAT chain to ensure the VAT chain integrity and fair enterprise tax burden.

So far the only transportation industry and part of the modern service industries in the "camp to increase scope of the pilot", pay business tax and after the reform and development to a certain degree, a limited scope of industries further promote the reform. Therefore, it is necessary to expand the scope of the industry under the feasible premise. The ideal type of VAT should be covered in every sector of the national economy; each link includes production, circulation and consumption. If only for some industries business tax change VAT, it is difficult to play in the VAT tax function and can't completely eliminate double taxation problem. So, paying business tax in other industries should be as soon as possible. In the tax change range of value added tax, further perfecting the tax system in our country.

Can be seen from the above empirical analysis section, the transportation enterprises camp to increase enterprise's earnings per share dropped after the main reason that failing to match the increase of cost. The main cost of transportation industry includes bridge tolls, insurance premium, yard fees, depreciation cost and the relevant provisions of value-added tax levy management and the main spending does not offset the input tax, which should be included in the cost. If these cost can include deduction, the transportation industry tax will decline and reduce the cost. For difficult refueling and maintenance projects of making out an invoice, these items can be after expenses deducted from income as the output tax plan and tax basis. In this way, it not only be not easy to get the VAT invoice to the actual situation of transportation, but also can greatly reduce the difficulty of the tax supervision.

B. Enterprise

In the face of the business tax change VAT period of opportunities and challenges coexist, enterprise should combine their own situation and pay attention to the following aspects:

Early "camp to instead", the situation of enterprise performance has not appeared, which is the reason some companies failed to timely change the pricing. If customers are the pilot area average taxpayers, the purchasing service can input tax deduction. If it doesn’t change the price, customers will receive a tax deduction, which reduces the cost of benefits. Therefore, without any increase in customers cost under the premise of appropriate prices, enterprises can share the customer's benefits. At the same time, enterprises also must strengthen the cost management in a reasonable price. For example, in view of the transportation, enterprises are difficult to get fuel bill of value added tax, which can be used through the centralized purchasing and disperse method, provided by the oil companies first when buying cards, then sent to the driver to use.

For spending projects, enterprises should distinguish between value added tax deductible and not offset projects, for the input tax which can deduct spending projects, enterprises need to obtain professional VAT invoices. In addition, selecting suppliers, purchasing from small-scale taxpayers, deducting VAT on purchase of enterprises will not gain, but needs to consider its price, which cannot be treated as the same. In view of the change of invoice management, enterprises need to formulate strict invoice management system, and standardize management special invoices for value-added tax, to adapt to the business tax to the change of value added tax.

Enterprises can use the integration of their business and the non-core business outsourcing functions, provided by
the professional third party service, to improve their core competitiveness. Outsourcing firms generally pay 5% sales tax, "camp" instead, with VAT general taxpayers according to the 6% pay and small-scale taxpayers according to 3% tax, the seemingly average taxpayer rate has increased, whose input tax can be deducted, however, the actual rate is lower, VAT invoice can be deductible from the outsourcing business of the party awarding the contract, both sides can achieve a win-win cooperation. Enterprises should strengthen the specialization and improve the innovation ability and the technical level of reallocating resources to form the enterprise core competitiveness. For example, for technology-intensive enterprises, human resources cost is higher, no input tax can be deductible. At the same time, enterprises use the human resources outsourcing services in acquiring professional service outsourcing company from belong to average taxpayer outsourcing companies special invoices for value-added tax deduction to reduce the tax burden. Enterprise management pattern can be adjusted timely to small-scale taxpayers by reasonable selection taxpayer identity, the firm can reduce the tax burden to a certain extent. The financial industry, in short, while I was playing a camp to increase this battle, one cannot win if short of business, accounting, tax and IT. Having a good partner can do better, more accurate and more likely to be born.

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