Value-Added Tax and China's Recent Reform

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Abstract: To a great extent, the history of a modern country is its economic history and financial history. In 1994, with the overall transition to market economy, the tax system has been improved to adapt to the rapid growth of domestic and international trade. In the second part, this paper will first summarize the value-added tax and compare its current situation in OECD region and China. Then, in the third section, it discusses the theoretical and empirical impact of VAT reform on economy, and puts forward further suggestions in the fourth section. After four years of experimentation, the new VAT policy in May 2016 shifted the last two-thirds of China's total revenue to VAT. It has been found that the pilot projects in previous years are helpful to promote economic growth and increase the share of tertiary industry in the whole economy. It is reasonable to expect that the latest reform will help this country in a similar way. In view of the large-scale reform in 2016, the current situation of this research field will definitely change, because more data will be available in the next few years.

1. Introduction

To a great extent, a modern country's history is its economical and financial history. Only after taking all political, economic, and social factors into account will we be able to fully analyze why the country chose its current path of financial policies.

The same works for China. The country has undergone four major periods of tax reform, each serving the purpose of a different economic policy. The ten years starting from 1984 saw the building of a rudimentary tax system after the "Reform and Opening-up" (shifting from planned economy to market economy) starting in 1978. The new tax system was built from scratch, since the old planned economy did not require taxing at all – everything was owned by the "people," i.e., the government. In 1994, with a full switch to market economy already on track, the tax system was refined to adapt to the rapid growth of trade, both domestic and international. The third period, 2004 to 2014, focused more on structural tax reduction, formalizing tax laws and regulations, and enhancing fairness of taxes.

The fourth and latest reform started in 2012 (overlapping with the third reform period), with its emphasis on a full-scale shift from Gross Receipts Tax to Value-added Tax (VAT). Before the latest VAT reform, VAT only applied to industrial business taxpayers, while businesses in the tertiary industry mostly was taxed on a gross receipts basis. Such an arbitrary distinction resulted in two issues which had negative impacts on the economy: (i) industrial businesses were not able to deduct certain labor and service costs from their VAT computation base by using the "credit-invoice method," since those costs do not come with VAT invoices in the first place; and (ii) service providers were subject to severe double-taxation [1]. In order to promote the share of the tertiary sector in the whole economy, such a reform was necessary, even urgent.

In August 2017, the Chinese government announced in a press release that the VAT reform has achieved a total tax cut of RMB 161 million since 2012, and the latest nationwide reform contributed RMB 85 million of the total [2]. All industries have enjoyed a lower tax burden [3]. However, this statistic provided by the Ministry of Finance could not differentiate between the effects of the reform and that of other macroeconomic factors. Thus, a more detailed analysis is necessary.

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This paper will first provide an overview of VAT in Section II, with a comparison of its current status in the OECD area and China. Then I will discuss the theoretical and empirical impact of the VAT reform on the economy in Section III, and make further suggestions in Section IV.

2. Value-Added Tax Overview

Since France started the first VAT system in 1954, more than 140 countries now throughout the world have a VAT, according to KPMG [4]. A large number of scholars believe the reasons why VAT is so popular are that it: 1) has a significant income effect; 2) is a neutral tax; and 3) is easy to collect [5]. Not surprisingly, a lot of countries were attracted to VAT mainly due to its income effect – because VAT is an indirect tax collected from businesses, most individuals were insensitive to its rate. Under the current global economic landscape, no wonder more and more countries are developing tax reform plans to further promote and improve VAT.

However, VAT doesn't come without flaws. The most significant drawback of VAT is its regressivity (as opposed to progressivity, which is common in personal income taxes). Almost all researches confirm that as a turnover tax, VAT shows regressivity, which is basically why certain western countries, especially the U.S., did not adopt VAT in the first place. In the frequently cited book, *Who paid the taxes, 1966-85?*, Pechman used U.S. data and confirmed that regressivity does exist. As for Chinese researchers, Zhao used data between 1995 and 2010 to analyze the how the introduction of VAT will affect income distribution of urban residents. She found significant regressivity, especially for the low-income group [6]. Cheng believed that, if VAT is applied to manufacture-related service industries, residents' welfare will be improved in general, but there will be regressivity [7]. However, if a full-scale VAT reform is conducted across all industries, though some welfare will be sacrificed, progressivity might be achieved [8].

In the whole OECD area, the share of VAT in all taxes has increased from 11% in 1985 to 20% in 2014, which is the third largest kind of tax after personal income tax (24%) and Social Security Tax (25%) [9]. Among the 35 OECD countries, United States is the only one that does not have VAT.

It should be noted that, the share of VAT in total tax of all OECD countries has stabilized at 20% since 2005 [10]. In comparison, the Chinese tax structure is shown in the table below:

Table 1 Chinese Tax Structure [11]

(percentage)	2015	2014	2013	2012	2011
VAT	24.90	25.89	26.07	27.97	28.83
Normalized VAT Share	18.68	19.42	19.55	20.98	21.62
Sales Tax	8.44	7.47	7.45	8.34	8.24
Gross Receipts Tax	15.46	14.92	15.59	16.67	16.25
Business Income Tax	21.72	20.68	20.29	20.81	19.92
Normalized Business Tax Share	16.29	15.51	15.22	15.61	14.94
Personal Income Tax	6.9	6.19	5.91	6.16	7.19
Others	22.58	24.85	24.69	20.05	19.57

At first glance, it seems that in China, VAT represents a greater part (24.9% in 2015) of total tax income than OECD countries. However, this is because Social Security Tax is not considered tax but is contributed directly to the national/provincial Social Security Funds. By taking into account the average 25% Social Security Tax in OECD countries and normalizing the share of VAT (as shown in row 2 of Table 1), China's VAT plays a similar role to that in OECD countries.

One difference worth noting is that, indirect taxes constitutes a much greater share (60.63% as of 2015) in China than OECD countries in general (36% on average). One of the explanations for this phenomenon is that, China used to be a planned economy where no one paid personal income taxes. With a population of 1.4 billion, the costs of building everyone's sense of responsibility for paying their own taxes are too

high. On the other hand, it takes much less time and effort to develop such sense in businesses, and potential penalties for tax evasion are more readily available. It makes more sense for the Chinese government to collect taxes indirectly from businesses to compensate for the lost revenue from individuals. This theory is further supported by the fact that the normalized business tax share (16.29% as of 2015) is much more than that of OECD countries as a whole (on average, 9% as of 2014).

3. The Effects of the Vat Reform

Despite the flaws of VAT discussed in the previous section, VAT does have its significant benefits – high income effect, low administrative costs, economic neutrality, etc. The original intention of the recent VAT reform was to phase out the arbitrary differentiation between the secondary and tertiary industry in taxing, and eliminating double taxation across the board.

A.Heavy burden on service sector businesses before the reform

Before the reform, the VAT only applied to industrial business taxpayers, while businesses in the service sector mostly was subject to a Gross Receipts Tax. Logistics companies were believed to be suffering most from such double-taxation. A nationally recognized TV show, “Economy Time,” gave a detailed example on how severe the burden was [12]. One logistics company charging RMB 407 for a shipment of four lamps, with the profit-before-tax for this deal being RMB 12, had to pay a total of RMB 39 on taxes. Of the RMB 39 of taxes, 5 was due to double taxation. The reason why there was double taxation was that both the logistics company itself and its service providers were both subject to Gross Receipts Tax, even if the service providers were its subsidiaries. For the sake of establishing a full network across the country, logistics companies usually set up a lot of subsidiaries and branches in major cities, and it is a common practice for one shipment to change hands before being sent from one distribution center to another. However, though the parent company had already paid taxes on the full shipment charge of RMB 407, when it outsourced to various subsidiaries in the shipping process, all of the subsidiaries had to pay their respective Gross Receipts Taxes again.

Five RMB did not seem to be a lot at first glance, but if you take into account the gross profit margin of the industry - 2% to 3% on average [13], double taxation is indeed a severe problem. Similarly, for a storage company, they would be responsible for both the gross receipts tax of their landlord’s and their own sales proceeds. A storage company with RMB 16 million of sales and RMB 1.2 million of net profits would have to bear RMB 500,000 of double taxation costs [14]. The more rounds of transactions, the worse double taxation.

B.The Pilot program and its preliminary outcome

On January 1, 2012, Shanghai started implementing the VAT reform on the tertiary industry, especially logistics and certain other services, as a nationwide pilot program [15]. Eight months later, the experiment was expanded to eight other municipalities and provinces, include Beijing [16]. It is estimated by the State Administration of Taxation that the pilot program in Shanghai increased the growth rates of (i) GDP, by 0.5 percent, (ii) value-added of the tertiary industry, by 0.3 percent, (iii) export, by 0.7 percent, (iv) household consumption, by 1 percent. Additionally, more than 700,000 more jobs were created [17].

Despite the fact that the pilot program did improve economic growth and stimulated business structural change, for certain industries, at least in the short term, the tax burden was in fact heavier. Take the logistics industry discussed above as an example. After the reform, there are now four kinds of VAT rates, 17%, 13%, 11% and 6%. For companies which provide transportation services, including land, water, and air services, the applicable tax rate is 11%. For ancillary logistic services, the tax rate is 6%. In contrast, before the reform the Gross Receipts Tax rate for transportation services was 3%, and that for ancillary logistics services was 5%. By definition, the VAT rates only apply to the value-added, so if the companies receive invoice for all their costs, theoretically under the credit-invoice method they would pay less tax. This is especially true if we consider the low profit margin of logistics companies.

Unfortunately, for logistics companies, only gas and fixed assets are deductible. On the one hand, most of the fixed assets were purchased before the VAT reform, and retrospective deduction is not possible. Only when the businesses start equipment update in the future will they be able to receive invoice credits. On the other hand, most logistics companies do inter-province transportation, and not all gas stations along the way provide "Special VAT Invoices," which can be used for deduction [18]. This is because the Chinese State Administration of Taxation differentiates between two kinds of VAT taxpayers, the Regular and the Small-scale. Small-scale taxpayers can only issue Regular VAT Invoices, and cannot use the "credit-invoice method." However, they enjoy a much lower VAT rate – generally 3%. In other words, Small-scale taxpayers are essentially gross receipts taxpayers. A lot of the gas stations are sole proprietaries run by families, so it makes sense for them to elect to be Small-scale taxpayers. Additionally, constantly changing circumstances do not allow the logistics companies to stick to a couple stations that do provide Special VAT Invoices. Finally, a large portion of logistics companies' costs are not deductible, including but not limited to labor, highway tolls and insurance premiums.

Based on a survey conducted by China Federation of Logistics and Purchasing in March 2011, the 65 large Shanghai-based logistics companies interviewed had an average of 1.3% effective gross receipts tax rate between 2008 and 2010, among which transportation service companies had a tax rate of 1.88% [19]. After the pilot program, the effective VAT rate for those transportation service companies increased to 4.2%. 67% of the 21 logistics companies which participated in the pilot program paid more taxes – on average, RMB 50,000 more per month; for certain industry leaders, RMB 1 million more [20]. For instance, the tax burden of Shanghai Deppon Logistics, one of the largest logistics companies nationwide, increased by 3.4%, which was almost double its original gross receipts tax rate [21].

Other than increased effective rate, the VAT reform also affected logistics companies' cash flows. In the past, some companies will also provide accounts payable collection services to manufacturers while shipping the goods to purchasers. Such additional service provided a large amount of working capital, and alleviated operating risks. After the reform, it was required that the funds only be transferred directly to the business which actually issues the corresponding invoices; otherwise, no invoice credit will be allowed [22]. As a result, such collection service is no longer necessary, which was highly disadvantageous to logistics companies.

C.Recent studies on the aftermath of VAT Reform

On May 1, 2016, construction, real estate, finance and lifestyle services were finally included in the VAT reform, which marks the full coverage of VAT across all industries. According to China Tax Yearbook (2012), construction, real estate and finance industries constituted 22.68%, 26.25% and 15.82% of all Gross Receipts Tax income of that year, respectively. In other words, the four industries together contributed at least 65% of all Gross Receipts Tax. Given the large amount of tax income affected, the implementation of this policy will surely provide valuable data to the analysis of the reform.

Some recent literature already analyzed the VAT reform from different perspectives. A large number of researchers focused on the macroeconomic changes, especially the economic structure. Fan and Peng found that, on average, the VAT reform did not reduce businesses' tax burden. The only industries which enjoyed significant tax cut are those among which there had always been a closely-knit and collaborative relationship [23]. In other words, because the reform was expanded gradually, both in terms of industry and geographic areas, the VAT credit-invoice chain was broken, which thwarted the reform's original tax reduction purpose. After analyzing data of publicly-listed companies, Cao et al. found that businesses participating in the pilot program actually paid more income taxes, but once the reform was nationalized, on average there was no significant income tax impact [24]. This is in line with the findings of Pan and Feng. One interesting side note from this research is that the group of businesses which benefited most from this reform are actually state-owned enterprises.

However, the reform did effectively promote cross-regional cooperation, as service sector firms can deduct intermediate inputs from the VAT [25]. The VAT reform was also found to be able to boost equipment investment growth and further promote technology development [26]. Similarly, researchers

have found that the shift from Gross Receipts Tax to VAT boosted the share of the tertiary sector in the Chinese economy [27]. This was achieved by reducing the share of the secondary industry, without affecting the first industry. Some studies, in contrast, found that the industrial sector will benefit more from the reform than the service sector [28].

From an economic growth perspective, Hu and Tian estimated that, the 2016 new policy will increase China's GDP growth rate by 1.26%, investment demand by 5.29% and nominal household income by 1.67% [29]. Nevertheless, the unemployment rate will increase by 1.70% [30]. The 2016 new policy will widen the income gap among urban residents, but will narrow that of rural residents [31].

Other studies emphasized on industry and business specific influences. For example, Jiang estimated tax burdens on various industries, and pointed out that expansion of VAT coverage caused a larger variance in the service sector than the industrial sector in terms of tax rates [32]. One major reason for this gap is that there are multiple tiers of VAT rates, and those for the service sector are relatively high. However, Tian and Hu pointed out that, though for certain industries the amount of tax paid increased, it does not necessarily mean that those businesses suffered from the reform. If the margin between price charged and tax deductions widens, they would pay more VAT, but it also leads to more profits [33].

In Zou (2013), the researcher used 49 publicly-listed logistics companies' financial data to compute the actual tax burdens (including both Gross Receipts Tax and VAT) of those companies, as summarized in the table below [34]:

Table 2 Tax Burden On Logistics Companies

(percentage)	Shanghai 1/1/2012	10 Provinces 8/1/2012	Rest of the country 8/1/2013
2012	3.29	2.16	4.20
2013	2.91	2.46	4.18
2014	2.81	2.18	4.42
2015Q1	8.20	5.12	9.59
2015Q2	3.48	2.81	4.44
2015Q3	2.26	2.14	3.83

In the table, the dates below the different region names indicate the time when VAT reform took effect in those areas. It seems like there was a bump in the actual tax burden when the policies were implemented, but after the businesses adjusted to the new scheme, the effective tax rates reverted back to the pre-reform level. This is most clear in column 3, the case of 10 Provinces. The author further demonstrated that, in the long term, the average tax burden was less than that pre-reform.

4. Suggestions

The recent VAT Reform achieved full coverage across all industries and the whole country, which laid a solid foundation for forthcoming tax policies. However, the current VAT structure still has problems that need to be address in the future.

Firstly, the current VAT rate structure should be simplified. As mentioned above, in addition to a special rate for Small-scale Taxpayers and 0% VAT for exportation, currently there are four levels of VAT rates ranging from 6% to 17%. To be truly economic neutral, VAT rates should be uniform across all stages of production and distribution. Otherwise, different tax rates would distort prices and incentives. Wang et al. used the Computable General Equilibrium (CGE) model for data simulation, and concluded that the best reform plan was to introduce full coverage of VAT, and adopt a single tax rate for all industries [35]. The second-best plan also includes a full coverage, but allows a single lower tax rate for the tertiary industry. The worst scenario was to keep the current set of VAT rates [36]. Among the 34 OECD countries which have VAT, only 9 of them have as many different rates as China [37]. Moreover,

too many levels of VAT rates will incur unnecessary administrative costs. Thus, it is important to simplify the VAT rate structure.

Secondly, the invoice-credit system needs to be improved to further reduce double-taxation. Whether invoice credit can be effectively implemented is the key to achieving true tax neutrality. An ideal invoice-credit system can completely eliminate double-taxation, but even those European countries which first started using VAT are unable to reach this goal. Specifically, the government needs to pay more attention to distinguishing between business and personal expenses.

Finally, the government needs to reconsider the current preferred tax treatments. Preferred tax treatment is by definition a dilemma for VAT. On the one hand, limited or even no preferred treatment is the basis for tax neutrality. On the other hand, considering the regressivity of VAT and collection costs, most OCED countries offered tax exemption or 0% VAT for food, healthcare, finance and real estate. Now China has twenty-four VAT-exempt items. As compared with Australia, Canada, France and other western countries, China has relatively more VAT-exempt items but fewer 0% VAT items. Given the differences between VAT-exempt and 0% VAT, it is important to reconsider how to best improve preferred tax treatments.

5. Conclusions

After four years of experiment, the May 2016 new VAT policy shifted the last two-thirds of China's Gross Receipts Tax income towards VAT. The pilot programs in the previous years have been found to have helped promote economic growth and increase the share of the tertiary sector in the whole economy. It is reasonable to expect that the latest reform would also help the country in similar ways.

Given the large scale of the 2016 reform, the current landscape of this field of research will surely be changed, since more data will be available in the next few years. I believe that the full effects of the VAT Reform will reveal themselves soon.

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