

Feasibility Research on Tax Collection of Amazon Overseas Sellers and Non-resident Enterprises in the United States

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Abstract

With the development of international economic globalization, enterprises in various countries are carrying out transnational business activities with increasing frequency, and various forms of international investment activities have emerged. While actively participating in the global division of labor, they have also brought an impact on the international tax system. A large number of non-resident enterprises gain profits from transnational business activities, which also brings conflicts of tax jurisdiction between countries, which leads to conflicts between sovereign countries in the distribution of jurisdiction and the distribution of economic benefits with operators. The purpose of this paper is to select a brand-new perspective and study the feasibility of levying tax on Amazon overseas sellers from non-resident enterprises in the new socio-economic and legal environment. This paper mainly introduces the operation of Amazon overseas sellers on the Amazon platform in the United States, further analyzes the necessity of taxation for non-resident enterprises of Amazon overseas sellers in the United States, and then analyzes the tax collection of non-resident enterprises of Amazon overseas sellers in the United States. Finally, it studies the impact of taxation on American native buyers, as well as tax subsidies for native buyers and solutions to achieve a balanced situation.

Keywords: Amazon • Overseas sellers • Non-resident enterprises • Tax collection

Introduction

Under the background of the global tax reform, the VAT reform in the member countries of the Organization for Economic Cooperation and Development (OECD) and its neighboring countries can reflect the international trend of VAT reform to a certain extent. As an important reference for countries in the world to sign tax treaties, the tax model formulated by OECD has always played a leading and vane role in international tax rules. There are great differences in the threshold of registration in different countries. Among them, the countries with relatively high registration threshold are Britain, Switzerland, Australia and other countries. The UK stipulates that business entities with annual turnover below 79,000 pounds may not be registered as taxpayers of value-added tax, but non-British enterprises have no threshold; Switzerland has annual sales of 100,000 Swiss francs; Australia requires mandatory registration if the estimated sales amount exceeds A \$75,000 per year. Countries with low registration threshold include Canada, South Korea, Japan and other countries [1-3]. Canada's registration threshold is annual taxable sales of 30,000 Canadian dollars; South Korea stipulates that corporate taxpayers must register VAT, regardless of the amount of their income, and only taxpayers whose annual income is less than 48 million won can apply for simplified taxation; The Netherlands stipulates that if the supplier does not set up an institution in the Netherlands and conducts taxable transactions (that is, taxable supply of goods or services), but the place of supply is the Netherlands and the buyer of the supply is a subject in the Netherlands, then the reverse levy is applicable. Japan stipulates that the reverse collection system should be implemented for cross-border digital services provided by overseas enterprises to Japanese enterprises.

At present, according to German law, VAT is collected from suppliers. This makes platforms such as Amazon and Ebay ambiguous about the VAT issue, and gradually angers the tax authorities [4]. It is said that Germany is discussing whether to amend or make special provisions for the e-commerce platform, or directly make the platform undertake obligations, or make the platform unable to avoid the problem of large-scale tax evasion by sellers [5]. The attitude of relevant departments has been very clear, that is, it is necessary to rectify the tax evasion problem of e-commerce platform and recover all the short taxes in the past. Usually, foreign sellers in Canada ship unsold goods to Canada and then sell them until they are sold in Canada and delivered to local buyers. Goods and services tax is levied according to the wholesale price when goods cross the border, but when goods are sold to consumers, sellers do not always levy federal sales tax [6,7]. This creates a tax gap, and the Liberal Party hopes to make up for it by either letting registered sellers collect GST according to the final selling price, or letting platforms like Amazon take responsibility for it. Many sellers have to face new tax policies one after another while completing VAT registration in Europe. Now, another seller has received a new email from Amazon asking for the VAT tax number in France. This new policy indicates that the seller must send an invoice or receipt in PDF format by electronic means within one working day after the delivery confirmation. If the seller does not need to pay VAT on the goods sold, it still needs to provide a receipt for each enterprise order.

Tax Situation of Native American Enterprises

American tax system

On December 25, 2017, the US government passed the largest tax reform since the Reagan administration's tax reform, and it was implemented on January 20, 2018. This tax reform mainly focuses on corporate income tax, personal income tax, cross-border tax system, etc., especially corporate income tax, trying to reshape the global competitiveness of American market, especially manufacturing industry [8]. The main contents include: adjusting the progressive tax rate of enterprise income tax from 35% to a single tax rate of 21%; The expenditure on specific assets acquired and put into use by enterprises between September 27, 2017 and January 1, 2023 can be 100% expensed; The deduction limit of interest expenses is 30% of the taxable income after adjustment in the current year; For qualified "pass-through

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entities" enterprises, a 20% pre-tax deduction will be added; increase the tax standard deduction, cancel most of the sub-deductions, slightly reduce the tax rate, and adjust the grade distance; The cross-border tax system has changed from the personal principle of global taxation to the principle of participation in territoriality, exempting dividends remitted by American companies from foreign companies holding more than 10% of shares, and adopting the methods of collecting global invisible low tax and anti-tax base erosion tax to reduce the situation of enterprises transferring profits and intellectual property rights overseas for tax avoidance.

- (1) **Tax system:** The current tax system in the United States is compatible with federalism and consists of three levels: federal, state and local. American federal tax takes personal income tax and corporate tax as its main sources of income, state tax takes sales use tax as its main source, and local tax takes property tax as its main source of income. The current tax system in the United States is composed of income tax as the main tax, supplemented by other taxes.

The income tax system in the United States has two systems: "territorial management" and "personal management", that is to say, the territorial tax system and personal tax system coexist. Non-Resident Alien should pay taxes to the U.S government on income originating in the United States. As far as American citizens or residents are concerned, the income tax adopts "individualism" in principle, that is, the income of American citizens in the world is taxed.

(2) **Management system:** According to the division of powers and responsibilities, the federal, state and local governments in the United States implement a thorough tax-sharing system. The federal and state legislates separately, and the local tax is determined by the state. The three levels of taxation are separated and collected separately. Different tax jurisdictions have different definitions of taxable income and distribution of income.

(3) **Federal government:** It mainly collects federal income tax, property tax and gift tax. Among the total tax revenue of the federal government, personal income tax accounts for about 1/3, social insurance tax accounts for about 1/3, corporate income tax accounts for about 1/6, and other taxes include inheritance tax and customs duties.

(4) **State and local governments:** It mainly collects state income tax, franchise fees, consumption tax, use tax and property tax, etc. The income tax system in the United States has both "territorialism" and "individualism". As far as "US Source of Income" is concerned, income tax adopts "territorialism" in principle, and "Non-Resident Alien" should pay taxes to the US government on income originating in the United States. As far as American citizens or residents are concerned, the income tax adopts "individualism" in principle, that is, the income of American citizens in the world is taxed.

(5) **Administrative setup:** The Ministry of Finance is responsible for the administration of US federal tax laws and regulations; Senate and House of Representatives have tax legislative power; the tax law bill proposed by the Ministry of Finance will come into effect after being passed by Congress and approved by the President. The tax collection agency is responsible for the collection of tariffs by the Internal Revenue Service (IRS). The headquarters of the State Administration of Taxation only gives guidance and instructions on the collection work, and the actual collection work is the responsibility of the seven regional tax bureaus set up in China. Regional tax bureaus have the right to make decisions on issues in collection and management without the approval of the General Administration of Taxation. There are several regional bureaus under the regional bureau, which directly manage the tax collection and payment. Since the United States implements a tax system based on voluntary declaration and payment of personal income tax, the actual work of tax departments below the regional bureau is mainly to examine tax returns.

Major taxes and tax rates

- (1) **Main taxes:** Generally speaking, American tax can be divided into federal tax, state tax and local tax. From the perspective of taxes, it mainly includes corporate income tax, personal income tax, sales and use tax, customs duty, property tax, consumption tax, stamp duty,

salary tax, etc. From the perspective of tax rate, it can be divided into single tax rate, progressive tax rate and declining rate tax; on the measurement of tax revenue, it can be divided into specific tax and ad valorem tax. The final tax paid by taxpayers is determined by their total income, tax filing status, age and residence. Among them, corporate income tax and personal income tax are not only the main taxes in American tax system, but also the most closely related taxes with investment in America.

- (2) **Corporate income tax:** Chinese corporate income tax is a kind of income tax levied on the global income of American resident enterprises and the income of non-American resident enterprises from the United States, which is divided into federal, state and local levels.
- (3) **Tax resident enterprises and tax jurisdiction:** The American tax resident enterprise stipulated in the federal tax law of the United States refers to an enterprise established according to the laws of one of the 50 American States or the District of Columbia and registered with the state (SAR) governments. Therefore, an enterprise (including a partnership enterprise) is an American tax resident enterprise as long as it is registered and established in the United States according to American laws, regardless of whether it conducts business activities or owns property in the United States or whether its equity is owned by American enterprises or individuals.
- (4) **Non-tax resident enterprises and tax jurisdiction:** Enterprises established according to foreign laws and registered with foreign governments, regardless of whether they carry out business activities or own property in the United States, even if all or part of their shares are held by American enterprises or individuals, are non-tax resident enterprises stipulated by various federal laws of the United States.

If a non-U.S. tax resident enterprise obtains income from the United States but has no actual connection with its business activities in the United States, it shall pay corporate income tax at the rate of 30%, usually in the form of withholding tax withheld and remitted by the American payer. Withholding tax mainly aims at some passive income (such as dividends, interest, royalties, etc.) and capital income obtained by non-resident enterprises from the United States with fixed income amount and term. If non-U.S. tax resident enterprises obtain income that is actually related to their trade and business activities in the United States, they shall pay federal corporate income tax according to the general provisions of federal corporate income tax.

Operation of Amazon Overseas Sellers on Amazon Platform in USA

The situation of third-party sellers

- (1) **Competing with Amazon's own brand:** In 2009, Amazon launched its own brand Amazon Basics, which mainly sold battery products at the beginning. A report released in 2016 by Skubana.com, which helps sellers manage sales, said that this self-operated brand "has been going smoothly for many years because it retains the success data of other sellers". About five years ago, Amazon Basics launched a series of products that seemed to fully meet customer needs [9].

Amazon is not the first company to create its own brand, and it says that its products only account for about 1% of the total sales of the platform [10]. Wal-Mart and other retailers have been doing this for many years, and they will put their own food, soap and cereal next to the hot items on the shelves. But in fact, Amazon's huge database not only tells it which products sell well, but also tells it what products shoppers are searching for but can't find them. Although many of Amazon's branded products were finally declared to be on the street, it brought no comfort to sellers who watched the company copy their products and then began to eat into their business.

- (2) **Frequently entangled by malicious sellers:** At the same time, Amazon has also increased its efforts to directly recruit Chinese suppliers and manufacturers, excluding its overseas warehouses

in the United States, FBA front lines in the United States, special lines in the United States and imperial express sellers of overseas warehouses in the United States. In addition, the number of fake and inferior products and false customer comments on Amazon platform is also surging, which puzzles many e-commerce enterprises in China. However, when Amazon takes suppression measures, some legitimate sellers are sometimes taken advantage of by malicious sellers and their accounts are suspended. They can only watch their sales rankings decline until they persuade Amazon to resume its accounts [11]. This process may take several weeks, and suspending Amazon's business during the busy holiday season is likely to bring a devastating blow to the company.

Amazon has indicated in an email statement that it attaches great importance to customer safety. It will investigate all fake and inferior products listing and take appropriate actions, including removing products, taking legal actions against suspected offenders and cooperating with law enforcement departments. The company said: "We have hired a special team composed of software engineers, application scientists, project managers and investigators to operate and continuously improve our anti-counterfeiting procedures." But at present, Amazon's actions seem to have little effect.

- (3) **The seller is still "inseparable" from Amazon:** There are millions of sellers on Amazon, and many of their supporters believe that without Amazon, they might not be able to achieve the scale of their business today. They said that Amazon's logistics service allowed them to enter the warehouse network of American overseas warehouses, American FBA head line, American special line and American one-piece service overseas warehouse imperial express, which means they can store their inventory closer to customers and participate in Amazon's two-day delivery Prime distribution plan. The cost of paying Amazon to handle logistics is usually lower than the cost of self-delivery.

There are also some less optimistic sellers trying to reduce their dependence on Amazon. A few years ago, Wal-Mart launched its own online platform and began to actively win over Amazon sellers. eBay expanded its business scope, and Alibaba has been trying to make Chinese consumers directly buy American overseas warehouses, American FBA headlines, American special lines and an American imperial express goods for overseas warehouses. Despite these alternatives, sellers are even more dependent on Amazon than they were two years ago. Some people say that although they will publish products on other websites, in fact, 80%-90% of their sales still come from Amazon [12,13].

Amazon seller operation status

At the beginning of the launch of Amazon platform, mainly some dealers and sellers settled in, and Amazon's buy box was designed for these dealers and sellers. Because dealers may sell the same products at the same time, and buy box chooses the cheapest price for the same product, this design also directly leads to the price war on Amazon platform. Sellers should try their best to balance inventory and ensure profits. A few years ago, the situation began to change. Non-competitive sales pushed the seller's pattern to two directions: the seller who established an exclusive agreement with the brand side and the seller who established its own brand. The seller who establishes an exclusive agreement with the brand is the seller who sells the brand products on Amazon as an exclusive distributor, and the seller who establishes its own brand is the third-party seller who sells its own brand and products.

Now, Amazon is expanding constantly, and the speed at which sellers settle in is beyond imagination. According to last year's settlement data, about millions of new sellers have settled in Amazon's 12 global sites, and this year's number of sellers has exceeded that of last year. The following four sets of data are used to check the operation status of Amazon sellers.

- (1) **The proportion of sellers who are mainly engaged in a single brand is increasing:** Figure 1 shows that in just two years, the proportion of sellers of Amazon's single brand has increased from 46% to 58%. The research focuses on the top 10,000 sellers of Amazon, because they almost represent the overall trend of Amazon platform.

After investigation, it is found that, on the one hand, hundreds of brands of products covered in the catalogue of dealers and sellers may only be a small part of the catalogue; On the other hand, third-party sellers with their own brands tend to focus on their own single brands. In the future, selling a single brand will become the sales trend of Amazon sellers. At present, many brands have settled in Amazon as sellers, instead of selling them to Amazon or other sellers in batches as platform suppliers.

- (2) **Less than 100 kinds of products on sale will become the mainstream trend:** According to the data in the above figure, from 2016 to 2018, the number of sellers with less than 100 products has increased from 34% to 42%, which also proves the conclusion of point 1 from the side. The number of products sold by self-operated sellers of some brands is usually below 100, while the number of products sold by distributors and sellers is relatively large. However, the platform trend shows that the dealer's business situation is not optimistic. In recent years, the operating conditions on the platform are relatively good, which are generally sellers with self-owned brands or sellers with exclusive authorization of brands. With the increasing number of Prime members in the world, the number of Prime members has exceeded 100 million, so sellers need to provide Prime services, which means more sellers need to use FBA services [14]. When providing Prime service becomes the equipment of most sellers on the platform, Amazon e-commerce circle needs to be upgraded and transformed again (Figure 2).
- (3) **The number of sellers using FBA services is increasing:** The above data shows that the number of sellers using FBA services increased from 53% in 2016 to 68% in 2018. This means that most platform sellers are actively integrating into Amazon's Prime system. According to the survey, the FBA service utilization rate of international sellers is higher than the average utilization rate of all sellers. It is reported that FBA service enables overseas sellers not

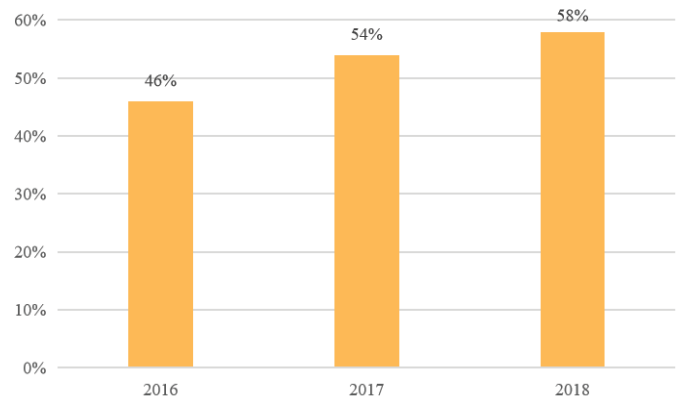


Figure 1. The proportion of sellers of Amazon's main single brand from 2016 to 2018.

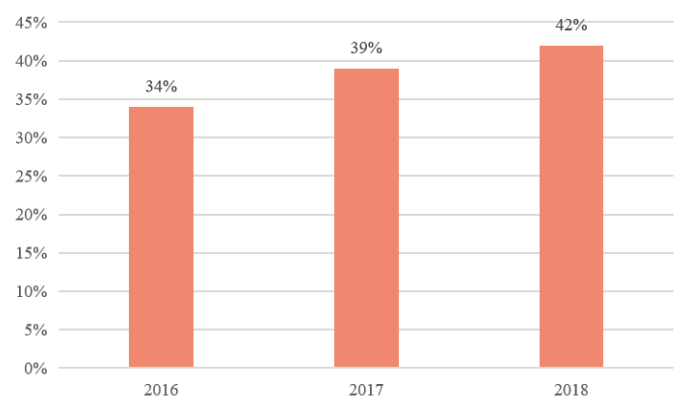


Figure 2. The proportion of sellers who sell less than 100 products in Amazon from 2016 to 2018.

to be affected by long transportation time in product distribution. For consumers, there is no need to worry about the geographical location of sellers (Figure 3).

- (1) **The proportion of Chinese sellers has gradually increased:** The above data shows that Chinese sellers account for the highest proportion among Amazon international sellers. For UK sites alone, the proportion of Chinese sellers increased from 19% in 2016 to 32% in 2018. However, most Chinese sellers are self-owned brands rather than sellers as distributors. At the same time, American sellers have also settled in Amazon. This means that the global competition of e-commerce has become an irreversible trend. Amazon has developed rapidly because of its increasing influence and upgrading of platform services. This also means that sellers need to make adjustments and changes. Product types, brand relationship management and order delivery are all problems that sellers need to solve one by one (Figure 4).

The Necessity of Taxing Non-resident Enterprises of Amazon Overseas Sellers in the United States

Theoretical analysis

Before discussing the necessity of taxing a new thing, we must first determine the rationality of taxing. If there is no legitimate reason for taxation, there is no need to discuss the necessity. According to tax theory, the purpose of taxation is to meet the needs of national public goods, and its essence is the consideration paid by taxpayers to enjoy public goods [15]. If Amazon does not enjoy public goods and services in transactions like traditional business, it should not bear the same economic costs and pay the same taxes. It is the continuous improvement of logistics distribution system that urges more people to choose online shopping. Amazon obviously benefits more than traditional economy. Therefore, Amazon enjoys national public goods and services like the real economy, and has sufficient and reasonable reasons to pay taxes like the real economy.

Requirements for safeguarding national fiscal revenue

Taxation is not only the main means of raising fiscal revenue, but also an important economic basis for the government to play its public functions. Behind Amazon's huge profits, there is a challenge to the state tax collection right. As the largest online e-commerce company in the United States, Amazon has created huge profits. From the perspective of the development trend in the United States, more and more people buy and sell through Amazon. It can be predicted that with the development of time, Amazon will create more profits than now. If Amazon continues to be exempted from taxes, it will lead to huge loss of taxes, which is not conducive to the healthy and sustainable development of Amazon. Thus, it is imperative to tax Amazon in the United States, and the amount of tax collected will be very optimistic.

Maintain the requirements of the principle of tax fairness

The principle of tax fairness is divided into horizontal fairness and vertical fairness. The operators of physical stores and online stores with the same economic ability or tax paying ability pay taxes while the latter does not, which seriously violates the principle of horizontal fairness in taxation and will have an impact on physical retailing. In order to reflect Amazon's impact on physical retailing, the model is set as follows with reference to the practice of reference [16].

$$S = a_0 + a_1EC + a_2N \tag{1}$$

In which: S is the total sales of e-commerce, N is the national per capita disposable income, a_0 is a constant term, and a_1, a_2 is a coefficient indicates the change of retail sales of real economy caused by 1 unit change of e-commerce sales, and a_2 indicates the elastic influence of the change of national per capita

disposable income on retail sales of real economy under other conditions unchanged. According to the data of the US Department of Commerce, in the fourth quarter of 2019, the retail sales of e-commerce in the United States increased by 16.4% year-on-year (without seasonal adjustment), reaching US\$ 187 billion, reaching US\$ 602 billion for the whole year, double that of five years ago. In the fourth quarter of 2019, after seasonal adjustment, the sales of U.S. e-commerce reached \$154.5 billion, accounting for 11.4% of the total retail sales. According to the revised retail trade data of the US Department of Commerce, the total retail sales in the fourth quarter of the United States, including e-commerce, increased by 3.9% year-on-year to reach 1.39 trillion US dollars.

In addition, the retail sales of e-commerce in the United States accounted for about 11% of total retail sales in 2019, higher than its 9.9% in 2018; E-commerce sales in the United States increased by 14.9% in 2019, higher than the growth of 13.6% in the same period of 2018 (Figure 5).

E-commerce market is the main growth driver of American retailers, while offline retail is still the largest sales market in the United States, with

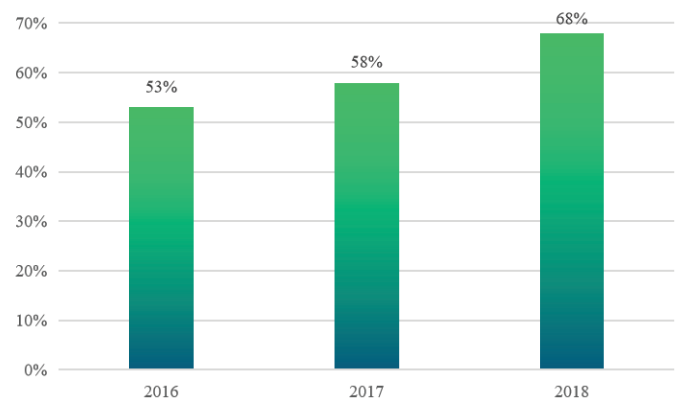


Figure 3. The proportion of sellers using FBA services in Amazon from 2016 to 2018.

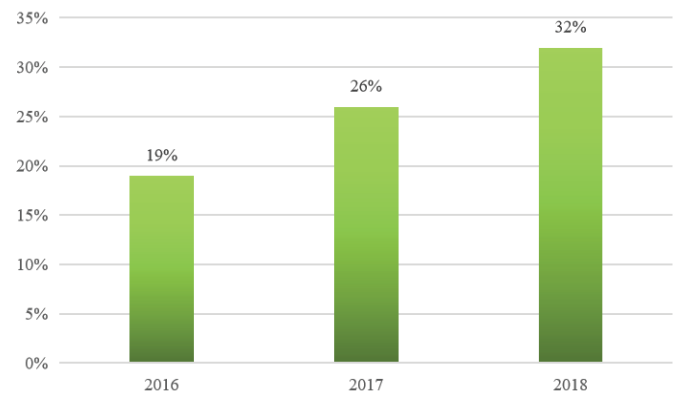


Figure 4. The proportion of Chinese sellers in Amazon UK Station from 2016 to 2018.

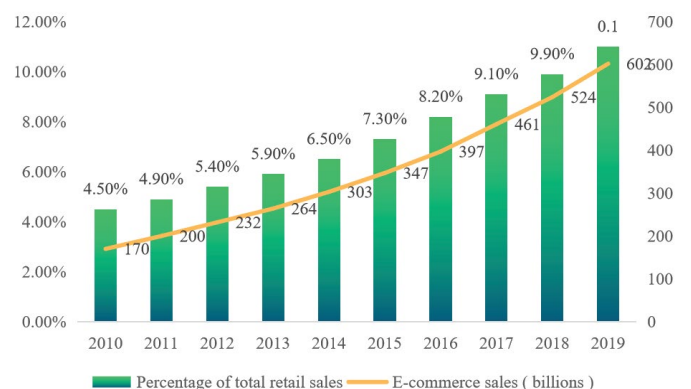


Figure 5. E-commerce sales in America.

retail sales excluding e-commerce accounting for 89% of the total sales in 2019. Therefore, Amazon and some payment companies are also entering the offline physical market to obtain more traffic. In addition, Amazon's online stores do not need to pay taxes regardless of the amount of sales, which is not in line with the principle of vertical fairness in taxation, and is not conducive to the implementation of policies to encourage individual entrepreneurship and support the development of small and micro enterprises. On the Amazon platform in the United States, powerful enterprise sellers and individual sellers who have grown to a certain scale have accumulated high sales volume and good reputation compared with many small sellers, which are two important factors that affect online shopping users' shopping choices. Because of the large scale of these online stores, there are more funds to publish advertisements, which occupy a better recommendation position, and there are also capital to greatly reduce the selling price of goods, which forces small sellers to follow up or quit. In the long run, many small sellers of Amazon stores, which are irreplaceable, have difficulty in sustainable operation, and finally have to close their stores and quit. If Amazon is not taxed differently, it is difficult to protect the rights and interests of small sellers, and Amazon platform can hardly promote employment and entrepreneurship.

Standardize the requirements of Amazon market

The test report of American e-commerce market data shows that online selling fake goods, after-sales service, difficulty in returning goods, difficulty in refunding money, online fraud, false delivery, etc. have become hot issues of online retail complaints in that year, and Amazon, which lacks supervision, has become the hardest hit area with frequent occurrence of these problems. Net Names, an American counterfeit tracking company, estimates that 20% to 40% of Amazon products are still fakes. Taxing Amazon can effectively increase the illegal cost of operators. Through tax registration, taxpayers' real and reliable identity information can be obtained. Through tax collection and management, operators' daily business activities can be effectively supervised.

Tax supervision is a powerful deterrent to operators who intend to violate laws and regulations. Once they violate laws and regulations, the tax department can confirm their violations with the industrial and commercial administration. After confirmation, they can be punished according to relevant laws and regulations, which greatly increase their illegal costs and effectively reduce Amazon chaos. Therefore, the reasonable and healthy development of Amazon in the United States requires taxation to play its supervisory and administrative functions, and regulate and guide it.

Analysis of Tax Collection of Non-resident Enterprises of Amazon Overseas Sellers in the United States

Construction of efficiency loss model for tax collection of non-resident enterprises

A region A is divided into two small regions A_1, A_2 according to certain administrative scope or economic characteristics. The maximum tax potential of region A_1 is T_{c1} , that of region A_2 is T_{c2} , and that of region A is $T_c = T_{c1} + T_{c2}$. The existing allocation number of tax personnel in area A_1 is R_{z1} , and that in area A_2 is R_{z2} . Because in a certain period of time in the same region, the informationization level, collection and management means and collection and management mode of non-resident enterprises in each sub-region are relatively fixed and basically consistent, it can be considered that a single tax officer has the same optimal tax collection ability of non-resident enterprises under normal energy conditions. Therefore, it is assumed that a single tax officer in the area A_1, A_2 has the same optimal tax collection ability E of non-resident enterprises. The optimal collection and management capacity of the tax department refers to the tax amount collected by the tax personnel of the department according to the optimal allocation number and the optimal tax collection capacity of non-resident enterprises, which is expressed as T_{sei} . Then, the collection and management capacity of tax authorities in area A_1 , area A_2 and area A are:

$$T_{e1} = E \times R_{z1}, T_{e2} = E \times R_{z2} \text{ and } T_e = E \times (R_{z1} + R_{z2}) \text{ respectively.}$$

The actual tax collected in area A_1 is T_1 , and the actual tax collected in area A_2 is T_2 , obviously, $T_1 \leq T_{c1}, T_2 \leq T_{c2}$.

Therefore, the model of tax collection efficiency loss of non-resident enterprises is constructed:

$$S = (T_{c1} - T_1)^2 + (T_{c2} - T_2)^2 \tag{2}$$

When the value of S is the minimum, the loss of tax collection efficiency of regional Anon-resident enterprises is the smallest, and the tax collection efficiency of non-resident enterprises is the largest. Theoretically, when, $T_1 = T_{c1}, T_2 = T_{c2}, S = 0$, non-resident enterprises have the greatest tax collection efficiency.

From this, it is deduced that when the allocation number of tax personnel in area A_1 reaches the optimal allocation number R_{z1} , the tax department of A_1 obtains the optimal collection and management ability $T_{se1} = E \times R_{z1}$

At the same time, when the allocation number of tax personnel in area A_2 reaches the optimal allocation number, R_{z2} , the tax department obtains the optimal collection and management capacity $T_{se2} = E \times R_{z2}$

Further deduce,

$$E \times R_{z1} = T_{c1}, \text{ and } E \times R_{z2} = T_{c2} \Rightarrow R_{z1} = \frac{T_{c1}}{E}, R_{z2} = \frac{T_{c2}}{E} \Rightarrow \frac{R_{z1}}{R_{z2}} = \frac{T_{c1}}{T_{c2}}$$

$$T_{se1} = E \times R_{z1}$$

It shows that R_{z1} is positively correlated with T_{c1} , and R_{z2} is positively correlated with T_{c2} , which means that the number of regional tax personnel should be allocated in direct proportion to the scale of tax potential to meet the requirements of optimal allocation.

Without considering changing the total number of A tax personnel in the region, assuming, $R_{z1} + R_{z2} = R_1 + R_2 = R_c$, solving the binary linear equation can get the number of tax personnel who reach the optimal allocation of human resources at this time.

$$R_{z1} = \frac{R_c \times T_{c1}}{T_{c1} + T_{c2}} = \frac{R_c \times T_{c1}}{T_c}, R_{z2} = \frac{R_c \times T_{c2}}{T_{c1} + T_{c2}} = \frac{R_c \times T_{c2}}{T_c} \tag{3}$$

Solution of the optimal collection and management ability of a single tax officer

Under the condition that the above-mentioned tax collection efficiency of non-resident enterprises is maximized and the total number of A tax personnel in the region is not changed, the number of tax personnel in the region A_1 is:

$$R_{z1} = \frac{R_c \times T_{c1}}{T_c}, T_{se1} = E \times R_{z1} = E \frac{R_c \times T_{c1}}{T_c} = T_{c1} \tag{4}$$

Available:

$$E = \frac{T_c}{R_c} \tag{5}$$

That is to say, the optimal collection and management ability of a single tax official is the maximum tax potential per capita of tax officials in A of the whole region. The optimal collection and management ability E of a single tax official is the slope of function $T_{se1} = E \times R_{z1}$. When the number of tax personnel in area A_1 reaches the optimal allocation number R_{z1} , and the number of tax personnel in area A_2 reaches the optimal allocation number R_{z2} , the number of tax personnel in the area is directly proportional to the scale of tax potential, namely:

$$\frac{R_{z1}}{R_{z2}} = \frac{T_{c1}}{T_{c2}} \tag{6}$$

At this time, A_1 tax department obtains the best collection and management ability $T_{se1} = E \times R_{z1}$, and $T_{se1} = T_{c1}$; At the same time, A_2 tax department obtained the best collection and management ability $T_{se2} = E \times R_{z2}$

R_{z2} and $T_{se2} = T_{c2}$. Thus, according to formula (2), it is obvious that $S = 0$, regional A non-resident enterprises have the least loss of tax collection

efficiency, while non-resident enterprises have the greatest tax collection efficiency. Under the condition that only formula (6) is satisfied, and $R_{z1}+R_{z2}$ does not have to be equal to R_c , if the collection and management means and mode are further improved, the optimal tax collection ability of non-resident enterprises of a single taxpayer with exogenous variables will be further

improved, and $R_{z1} + R_{z2} = \frac{T_{c1}}{E} + \frac{T_{c2}}{E}$, $R_{z1}+R_{z2}$ and $R_{z1}+R_{z2}$ will become smaller and smaller than R_c , so that the collection and management efficiency can be optimized with fewer taxpayers.

Extension of model

Although the above model of tax collection efficiency loss of non-resident enterprises only considers two sub-regions and the allocation of tax human resources, it can also be extended to other conditions. In the case of more than two sub-regions, to achieve the goal of minimizing the loss of tax collection efficiency and maximizing the tax collection efficiency of non-resident enterprises in the parent region, it is also required that the tax collection capacity of non-resident enterprises in all sub-regions be equal to their maximum tax potential, and that the tax collection resources of non-resident enterprises in all sub-regions should be allocated in direct proportion to their own tax potential scale. That is to say, for areas with large tax potential, more tax collection resources of non-resident enterprises such as tax personnel, collection and management equipment and administrative funds should be allocated; for areas with small tax potential, less tax personnel, collection and management equipment, administrative expenses and other tax collection resources of non-resident enterprises should be allocated. Equation (4) can be extended to:

$$R_{zi} = \frac{R_c \times T_{ci}}{T_c}, (i = 1, 2, ?, n) \tag{7}$$

R_{zi} is the optimal allocation of collection and management resources in each sub-region, which can not only refer to the number of tax personnel, but also refer to collection and management resources such as collection and management facilities and administrative funds.

$$R_c = \sum_{i=1}^n R_i \tag{8}$$

R_i is the number of existing tax personnel in each sub-region or the amount of collection and management facilities and administrative funds allocated.

$$T_c = \sum_{i=1}^n R_{ci} \tag{9}$$

T_{ci} is the maximum tax potential of each sub region.

Because the allocation of tax collection resources of non-resident enterprises such as collection and management equipment and administrative funds is closely related to the number of tax personnel, under normal circumstances, tax departments with a large number of tax personnel are equipped with more collection and management equipment and administrative funds; Tax departments with fewer tax personnel are equipped with less collection and management equipment and administrative expenses. Therefore, we can first determine the optimal number of tax personnel through the model, and then rationally allocate the collection and management equipment and allocate administrative funds according to the optimal number of tax personnel.

The impact of taxation on American native buyers

Tax will affect consumers' behavior and stimulate consumers' demand. Tax policy will affect consumption, which is mainly reflected in two aspects: total consumption and consumption structure. The demand of tax policy for total consumption is mainly realized by collecting personal income tax. The most direct impact of this move is to reduce the disposable income of consumers. Once the disposable income of consumer's decreases, the total consumption will also decrease. From the aspect of consumption structure, the collection of various commodity taxes will affect consumption behavior. Under the guidance of tax policy, the relevant state departments will levy taxes on certain commodities. In order to improve their own economic benefits, the producers of products will transfer the tax burden to consumers by raising the price of products, which will increase the price of products and decrease the purchasing power of consumers (Figure 6).

However, on the other hand, if the tax policy becomes loose, the price of products will be relatively low under the condition of reduced taxation, thus increasing consumers' desire to buy, increasing their purchasing power and stimulating consumption activities. Thus, tax policy will have a very important impact on consumption activities.

Enhance the willingness of American buyers to spend

The so-called residents' willingness to consume refers to the degree to which residents tend to consume under the current price level and income level. There is a positive correlation between residents' consumption intention and income level and consumption expenditure. That is to say, if the residents' income level is higher, their expenditure for consumption will be higher. On the other hand, under the condition of equal income, if the consumers' willingness to consume is stronger, their consumption expenditure will be higher, and the residents' willingness to consume also represents the level of social and economic development. According to modern consumption theory, the degree of residents' marginal propensity to consume is mainly determined by consumers' willingness to consume, and marginal propensity to consume is the key factor affecting consumption demand. The future income and expenditure budget will directly affect the consumption tendency of American native buyers. If there are unfavorable factors such as laid-off workers in the current economic development process, the income expectation of American native buyers will naturally decrease.

Improve the spending power of American native buyers

There is a reverse changing relationship between tax policy and consumption activities. The increase of tax will reduce the disposable income of American native buyers, which will also reduce the consumption expenditure of American native buyers. On the other hand, if the tax revenue is reduced, the disposable income of American native buyers will increase so will the consumption expenditure. Therefore, the improvement of tax policy can increase the disposable income of American native buyers, thus enhancing the spending power of American native buyers and stimulating various consumption activities. For example, government departments can further reduce the tax rate of property tax or narrow the scope of property tax collection, so as to further increase the property income of American native buyers, stimulate American native buyers to carry out sustainable consumption activities, and fundamentally enhance the consumption power of American native buyers.

Optimize the consumption environment

At present, consumption demand can be divided into two categories, including actual consumption demand and potential consumption demand. The former refers to those who have a clear sense of consumption and have certain spending power; the latter refers to some demands that have not been realized temporarily due to the lack of consumption consciousness or consumption ability of some consumers. In order to transform potential consumption demand into actual consumption demand, relevant departments must further optimize the consumption environment. In tax work, the relevant state departments

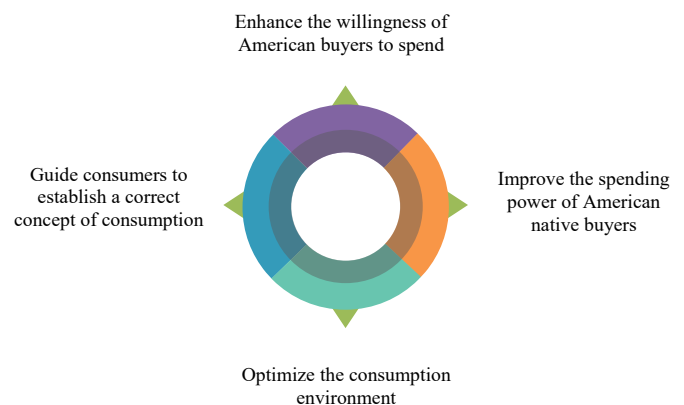


Figure 6. The impact of tax policy.

must improve the tax policy; especially provide some preferential measures to guide the behavior of enterprises or individual consumers. The formulation of tax policy is conducive to adjusting the supply structure of consumer goods, expanding the consumption field, optimizing the consumption environment and transforming more potential consumption demand into real consumption demand.

Guide consumers to establish a correct concept of consumption

The actual tax burden of some commodities has increased especially health care products, maternal and infant products and daily-use products. The new tax system is bound to have an impact on consumers. However, the taxation policy of cross-border e-commerce is not to raise the tax rate of all commodities. For some products, such as digital products, cosmetics and toothpaste, the tax burden has been reduced from 20% and 50% to 11.9%. Originally, the provisions of the postal tax exemption and quota below 50 yuan are more due to the consideration of consumers' cross-border personal consumption. Nowadays, cross-border consumption has more become the business behavior of overseas purchasing, which cannot cultivate good consumption habits, and may also destroy the order of domestic commodity trading. Therefore, the so-called impact is not absolute, which will probably lead consumers' consumption preference.

Tax Subsidy for Local Buyers and Analysis of Equilibrium Situation

Overview of game theory

Game theory, originally a branch of applied mathematics, has now become one of the standard analytical tools of economics. The advantage of game analysis, that is, it is different from the traditional economic analysis method, because it identifies the information cost and countermeasure cost caused by the asymmetry of information between the two parties in the real world, which makes the transaction cost clearer. More importantly, it can adhere to the individualism methodology, and includes the holistic factors.

Game theory studies the decision-making when people's behaviors interact directly and the equilibrium of decision-making. Classical game theory presupposes that people are completely rational, that is, everyone will maximize their own interests under given constraints, and people's behaviors influence each other and information is usually asymmetric. The outcome of a game is often an equilibrium result produced by a combination of game strategies, which we call Nash equilibrium, that is, given the opponent's strategy, each player chooses his own optimal strategy.

Game analysis of tax interests between tax authorities and enterprises

In the case of enterprises voluntarily declaring tax payment, the tax collection by tax authorities is mainly based on the tax payment information declared by enterprises themselves. Under certain circumstances, the tax authorities have the right to carry out tax inspection on the tax payment authenticity of enterprises. In this case, the taxpayer's behavior choice is to evade taxes, or to make use of loopholes in the tax law to make tax planning that is not illegal. Taxpayers hope to reduce the occurrence of tax evasion, and their pure strategy is to check or not check, nor to make up for tax loopholes and gaps.

Table 1 uses matrix to describe the different utility combinations when the tax collectors adopt different strategy combinations. Among them, the letter T represents the tax payable by taxpayers according to the law, and the letter S represents the tax actually declared and paid by taxpayers. Then the taxpayer's income from tax evasion or tax planning is (T-S), the fine for tax evasion is n(T-S), n is the multiple of the fine for tax evasion, or the loopholes and gaps in tax law are made up, resulting in the taxpayer's loss. The taxpayer's inspection cost is C, the inspection probability is a, and the taxpayer's tax evasion probability is b (Table 1).

Similarly, there is no pure strategy Nash equilibrium in this game. Game equilibrium refers to the existence of "stealing" and "grasping" or "planning" and equilibrium. Nash equilibrium of the mixed strategy of "compensation" between taxpayers and taxpayers.

Given b, the taxpayer's expected returns when choosing to check (make up) (a=1) and not check (make up) (a=0) are:

$$U_3(1, b) = [(T - S) + n(T - S) - C] \times b + (-C) \times (1 - b) = (T - S)(n + 1)b - c \quad (10)$$

$$U_3(0, b) = -(T - S) \times b + 0 \times (1 - b) = -(T - S) \times b \quad (11)$$

When there is no difference between checking (making up) and not checking (making up), $U_3(1, b) = U_3(0, b)$, the solution $b^* = C / (T - S)(n + 2)$.

That is, if the taxpayer's tax evasion (planning) probability is less than $C / (T - S)(n + 2)$, the taxpayer's best choice is to choose not to check (make up); if the taxpayer's tax evasion (planning) probability is greater than $C / (T - S)(n + 2)$, the taxpayer's best choice is to choose to check (make up); if the taxpayer's tax evasion (planning) probability is equal to $C / (T - S)(n + 2)$, the taxpayer randomly chooses to check (make up) or not check (make up). For a given a, taxpayers choose to evade taxes (planning) (b=1) and not evade taxes (not planning) (b=0). The expected returns are:

$$U_4(a, 1) = [- (T - S) - n(T - S) - C] \times a + (T - S) \times (1 - a) = - (T - S)(n + 2) \times a + (T - S) \quad (12)$$

$$U_4(a, 0) = 0 \times a + 0 \times (1 - a) \quad (13)$$

When there is no difference between tax evasion (planning) and non-tax evasion (planning), $U_4(a, 1) = U_4(a, 0)$, solve: $a^* = (T - S) / (T - S)(n + 2), 1 / (n + 2)$, that is, if the probability of tax payer implementing inspection (making up) is less than $(T - S) / (T - S)(n + 2)$, the taxpayer's best choice is evasion.tax

If the taxpayer's probability of auditing (making up) is greater than $(T - S) / (T - S)(n + 2)$, the taxpayer's best choice is not to evade taxes (not plan); if the probability that the taxpayer chooses to check (make up) is $(T - S) / (T - S)(n + 2)$, the taxpayer randomly chooses whether to evade taxes (plan) or not to evade taxes (plan).

Therefore, the Nash equilibrium of the mixed strategy is: $a^* = (T - S) / (T - S)(n + 2), b^* = C / (T - S)(n + 2)$, that is, the taxpayer implements inspection (compensation) with $(T - S) / (T - S)(n + 2)$, probability and the taxpayer chooses tax evasion (planning) with $C / (T - S)(n + 2)$ probability.

Summary and Prospect

E-commerce is a very important part of the current economic development, and its development prospects have a great impact on the economy. Proper legal supervision and limited protection of e-commerce are conducive to the healthy and orderly development of e-commerce. But at the same time, the development of e-commerce market and the national tax system will have inconsistent contradictions to some extent. Amazon is a brand-new way of business transaction in the process of modernization, which is highly concealed, mobile, virtual, combined with its global and open nature. It has caused huge losses to the traditional tax laws and regulations and collection

Table 1. Game matrix between tax collectors and taxpayers.

		Taxpayer	
		Tax evasion (planning)	Don't evade taxes (don't plan)
Taxpayer	Audit (remedy)	(T-S)+n(T-S)-C, (T-S)-n(T-S)	[-C,0]
	Do not check (do not make up)	-(T-S), T-S	[0,0]

and management mode, blurred the definition of the basic concepts of the traditional tax system, made it more difficult to manage personal income tax, and intensified the conflicts of international tax jurisdiction. However, from the perspective of Amazon's transaction behavior norms, we distinguish Amazon's characteristics, improve the informatization level of tax collection and management of non-resident enterprises, actively participate in international tax coordination, and strengthen the research of combining theory with practice, so that the perfection of tax system can match and meet the needs of Amazon's development at present, so as to promote the healthy and long-term development and growth of the whole e-commerce industry.

Conclusion

Consumption tax converts the part of goods whose original tax burden is higher than value-added tax into consumption tax, which is a kind of internal tax. Therefore, it is difficult for consumers to distinguish the price-tax share of consumer goods, not know how much tax they have borne, and it is difficult to play the function of consumption tax to guide consumption direction and restrain consumption demand. If the tax collection of non-resident enterprises of Amazon overseas sellers in the United States is successful, the tax of non-resident enterprises can be collected for overseas sellers of eBay, Wal-Mart and other platforms.

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References

1. Matros O, Melnyk L and Mykhailovyna S. "Value added tax in the aspect of forming the enterprise accounting policy." *Mod Econ* 23 (2020): 120-124.
2. Mujahid, Azeem and Danish Ahmed Siddiqui. "The effect of tax amnesties programs on tax collection and economic performance: A global macro economic analysis." *Inter J Soc Admin Sci* 4 (2019).
3. Huda, Mokhammad Khoiril, Agus Yudha Hernoko and Ninis Nugraheni. "The problematic of provincial tax collection as local own-source revenue in Indonesia." *J Legal Ethical Reg Issues* 21 (2018).
4. Cui, Wei. "Taxation without information: the institutional foundations of modern tax collection." *U Pa J Bus Law* 20 (2017): 3-3.
5. Wang, Wenhua, Yihui Tian, Qinghua Zhu and Yongguang Zhong. "Barriers for household e-waste collection in china: perspectives from formal collecting enterprises in liaoning province." *J Cle Prod* (2017)299-308.
6. Azevedo R, JMD Silva and Chaves S. "Agency theory, monitoring problems, and tax morale: Effects on tax collection in municipalities". *Revista Contemporânea de Contabilidade* 17 (2020): 3.
7. Purnamasari, Dyah. "The effects of self-assessment system and tax collection letter on value added tax revenue at the bandung cibeunying primary tax service office." *Inter J Psych Rehab* 24 (2020): 2977-2983.
8. Basrowi, Basrowi. "The effect of tax supervision and tax collection on obedience to pay taxes and tax revenue." *Ind J Acc Gover* 3 (2020):101-140.
9. Sahebe, Arash. "The tax collection and anti-corruption strategy to reform Afghanistan's legal code." *SSRN Electronic J* 8 (2020): 3907.
10. Teshome, Tessema. "Challenges of tax collection in sayint woreda." *Inter J Advan Res* 8 (2020): 955-966.
11. Nazarenko, YA. "Tax on the withdrawal of capital as a mechanism to increase the capitalization level of enterprises." *Econ Inno* 21 (2019): 83-90.
12. Basrowi, Basrowi. "The effect of tax supervision and tax collection on obedience to pay taxes and tax revenue." *Ind J Acc Gover* 3 (2019): 101-140.
13. Li, Aizhen. "Research on tax collection and management system of e-commerce." *A J Indu Bus Manag* (2018): 2256-2266.
14. Moroşan, Gheorghe and Laurenţia-Elena Scurtu. "The dimension and dynamics of tax revenues. A vision on the eu level". Book Chapters-LUMEN Proceedings 6 (2018).
15. Huo, Chunxia. "Deepening the reform of national tax and land tax collection and management system." *Heilongjiang Science* (2017): 160-161.
16. Shilumin. "The effects of tax collection and management on corporate governance: Their transmission mechanisms and approaches". Lishui University (2017): 48-51.

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