

# Empirical Analysis of the Effectiveness of Hainan's Offshore Duty-free New Policy

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**Abstract:** Since the further relaxation of the offshore duty-free policy in 2020, the consumption of Hainan's offshore duty-free shopping has grown rapidly. This paper sorts out the six adjustments of the offshore duty-free policy in Hainan. Based on the relative data of Hainan's offshore duty-free shopping from February 2017 to September 2020, this paper empirically examines the effect of Hainan's offshore duty-free new policy. Results show that the offshore duty-free new policy has greatly enhanced all the indicators of offshore duty-free shopping in Hainan. Nevertheless, this policy still needs further improvement at this stage, relative suggestions has been proposed in the end.

## 1 INTRODUCTION

On July 1, 2020, the Ministry of Finance issued an announcement on Hainan's offshore duty-free shopping policy. This is the sixth and the largest adjustment to the content of the offshore duty-free policy over the 10 years since the policy was implemented in Hainan for the first time in 2011. Such an intensive adjustment of this policy in 10 years reflects China's positive strategy in promoting tourism shopping policy, and it also conveys the urgent need of upgrading the tax refund and duty-free policy of tourism shopping. With this background, this paper conducts an empirical analysis of the effect of Hainan's offshore duty-free new policy.

## 2 ANALYSES OF THE EVOLUTION OF HAINAN'S OFFSHORE DUTY-FREE POLICY

The offshore duty-free policy refers to a tax preferential policy, which allows the passengers leaving the island (excluding departure) to buy duty-free goods with limited value, quantity, and categories of goods. (Chen, 2021) Usually, the passengers have to pay in specific online or offline

offshore duty-free stores, and pick up goods at designated areas at airports, railway stations and port terminals when leaving the island. The offshore duty-free policy of Hainan was implemented in 2011. Since then, Hainan became the fourth region with the offshore duty-free policy in the world. The purpose of this preferential policy is to promote the construction of the international tourism island of Hainan Province. (Jing, 2017) So far, the content of Hainan's offshore duty-free policy has been continuously improved. Six adjustments were implemented to expand the policy content, as shown in Table 1.

The Hainan's offshore duty-free new policy mentioned in this paper refers to the policy implemented on July 1, 2020. From the implementation of this new policy to September 2021, the number of offshore duty-free shopping passengers in Hainan reached 8.124 million, the pieces of offshore duty-free goods sold in Hainan exceeded 72 million, and the amount of offshore duty-free shopping in Hainan reached 55.53 billion yuan. (Dai, 2020, Liu, 2017) This is due not only to the substantially liberalization of the annual quota of the offshore duty-free shopping, but also to the significant improvement of the supporting service of the offshore duty-free shopping. In 2020, all offshore duty-free stores in Hainan launched online supplementary shopping activities. The passengers can still consume their remaining annual quota of

offshore duty-free shopping through online supplementary shopping within 180 days after leaving the island. (Liu, 2021, Zhang, 2017) Compared with the previous policy adjustments, this new policy is obviously stronger than ever. For now, this new policy has greatly improved consumers' shopping experience and provided a new consumption growth point for the economic development of Hainan Province.

Table 1: Adjustment of Hainan's offshore duty-free policy.

| <i>Date of Issue</i> | <i>Policy Title</i>  | <i>Main Content of the Policy</i>   |
|----------------------|--|---|
| March 24, 2011       | Announcement on Further Adjustment of Offshore Duty-free Policy in Hainan  | (1) The annual quota of duty-free shopping is RMB 5,000.<br>(2) The purchase opportunity is two per year for non-island residents and one per year for island residents.  |
| October 1, 2012      | Interim Measures for the Management of Offshore Duty-free Shopping Stores in Hainan  | (1) The age limit for passengers leaving the island is adjusted from 18 to 16 years old.<br>(2) The categories of offshore duty-free goods are increased from 18 to 21.<br>(3) The annual quota of duty-free shopping is increased from RMB 5,000 to RMB 8,000. |
| March 20, 2015       | Announcement of the Ministry of Finance on Further Adjustment of Offshore Duty-free Policy in Hainan                                 | (1) Adding 17 categories of offshore duty-free goods, such as infant formula.<br>(2) The restriction on the quantity of single purchase of 10 categories of goods including cosmetics and perfumes is relaxed.  |
| February 1, 2016     | Announcement on Further Adjustment of Offshore Duty-free Policy in Hainan  | (1) The annual quota of duty-free shopping is raised to RMB 16,000.<br>(2) The limit of purchase opportunity per year for non-island residents is lifted.<br>(3) Online offshore duty-free shopping platform is established.                                    |
| January 15, 2017     | Announcement on the Incorporate the Railway Passengers into the Scope of Application of Offshore Duty-free Shopping Policy in Hainan | Incorporate the railway passengers into the scope of application of offshore duty-free shopping policy in Hainan.   |

| <i>Date of Issue</i> | <i>Policy Title</i>   | <i>Main Content of the Policy</i>  |
|----------------------|---|--|
| December 1, 2018     | Announcement on Further Adjustment of Offshore Duty-free Policy in Hainan | (1) The annual quota of duty-free shopping is raised to RMB 30,000.<br>(2) The limits of purchase opportunity per year for both non-island residents and island residents are lifted.<br>(3) The duty-free preferential amount of a single product within the duty-free category is increased to RMB 8,000, and each offshore passenger is limited to two purchases opportunity per year for buying one single product with a unit price of RMB 8,000 or more each time.<br>(4) Incorporate the rehabilitation medical equipment into the scope of duty-free goods categories. |
| July 1, 2020         | Announcement on the Offshore Duty-free Policy in Hainan                   | (1) The annual quota of duty-free shopping is raised to RMB 100,000.<br>(2) The limits of purchase opportunity per year are totally lifted.<br>(3) Incorporate seven categories of goods including electronic consumer products into the scope of duty-free goods categories.<br>(4) The quantity of single purchases is limited only for cosmetics, cell phones and alcoholic beverages.  |

Data sources: [www.hainan.gov.cn](http://www.hainan.gov.cn)

### 3 AN EMPIRICAL ANALYSIS OF THE EFFECTIVENESS OF OFFSHORE DUTY-FREE NEW POLICY

#### 3.1 Models and Data

To study the effectiveness of the adjustment of Hainan's duty-free new policy, this paper selects monthly data from February 2017 to September 2020 for empirical analysis. Five indicators of Hainan's offshore duty-free shopping are used in this paper as the dependent variable in each regression to judge whether the policy adjustment is effective or not.

(Zuo 2021) This paper establishes a multiple regression model as follows.

$$Y_t = \alpha + \beta \text{Policy}_t + \gamma_1 X_t + \gamma_2 \text{Trend} + \gamma_3 \text{Month} + \varepsilon_t \quad (1)$$

In this model,  $Y$  is the indicator of Hainan's offshore duty-free shopping. Policy is a dummy variable reflecting the adjustment of Hainan's offshore duty-free new policy. (Wang 2020, Yan 2013)  $X$ ,  $T$  and  $\text{Month}$  are all control variables.  $X$  denotes a policy dummy variable released in December 2018. Trend indicates a time trend variable. Month is a monthly dummy variable.  $\alpha$  is an intercept term,  $\beta$ ,  $\gamma_1$ ,  $\gamma_2$  and  $\gamma_3$  are the regression coefficients of each variable.

For the dependent variables, this paper attempts to comprehensively evaluate the effect of Hainan's offshore duty-free new policy. Based on the availability of data, the indicators of dependent variables here include the number of offshore duty-free shoppers (Person), the sales amount of offshore duty-free goods (Sales) and the pieces of offshore duty-free goods (Piece), which are widely representative of the number of people, value and quantity of goods in sales statistics. In addition, this paper also calculates the per capita sales (PerS) and per capita number of shopping pieces (PerP), which are also included in the dependent variables. The above variables are taken as natural logarithms. For the explanatory variable, set the value of 0 in the pre-policy interval and 1 in the post-policy interval. For the control variables, the policy dummy variable  $X$  is selected as the control variable to control the impact on the indicators of offshore duty-free shopping caused by the offshore duty-free policy announced in December 2018. Other control variables include the time trend variable (Trend) and the monthly dummy variable (Month). In this paper, the time trend variable is added to control for the impact of trend changes in variables such as income and price on the sales of offshore duty-free goods. The monthly dummy variable is included in the model to eliminate the seasonal effect of the data, and the dummy variable is taken as 1 for the month of each year and 0 for the rest of the months.

## 3.2 Empirical Results

### 3.2.1 Descriptive Statistics

The dependent variables in this paper are selected to represent the indicators of Hainan's offshore duty-free shopping. Those indicators, such as sales amount, pieces of goods and number of shoppers, are obtained from the website of Haikou Customs of the People's

Republic of China from February 2017 to September 2021. A brief statistical description of the dependent variables is shown in Table 2.

Table 2: Descriptive statistics.

| Variable           | Mean      | Std. Dev. | Min    | Max     |
|--------------------|-----------|-----------|--------|---------|
| Sales amount       | 166984.13 | 136942.74 | 43101  | 524706  |
| Pieces of goods    | 2248007.8 | 1872246.8 | 637726 | 7200000 |
| Number of shoppers | 326622.88 | 164127.24 | 84791  | 756000  |

### 3.2.2 Empirical Results

The baseline regression of the model was performed using STATA software with results shown in Table 3.

Table 3: Empirical results.

| Explanatory Variables | Dependent Variables |                   |                   |                   |                   |
|-----------------------|---------------------|-------------------|-------------------|-------------------|-------------------|
|                       | Sales<br>(1)        | Piece<br>(2)      | Person<br>(3)     | PerP<br>(4)       | PerS<br>(5)       |
| Policy                | 1.29***<br>(.2)     | .958***<br>(.219) | .75***<br>(.245)  | .26***<br>(.064)  | .43***<br>(.073)  |
| X                     | Control             | Control           | Control           | Control           | Control           |
| Trend                 | Control             | Control           | Control           | Control           | Control           |
| Month                 | Control             | Control           | Control           | Control           | Control           |
| Constant              | 11.1***<br>(.286)   | 14.4***<br>(.314) | 11.8***<br>(.352) | 2.01***<br>(.092) | 8.35***<br>(.105) |
| Observations          | 56                  | 56                | 56                | 56                | 56                |
| R-squared             | .783                | .703              | .411              | .857              | .823              |

*Standard errors are in parentheses*

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

The regression results show that the effects of Hainan's offshore duty-free new policy on the indicators of offshore duty-free shopping are all positive at the 1% significance level. The regression results are still ideal on the basis of controlling the impact of the previous policy, trend changes and the seasonal effect. In a word, the implementation of Hainan's offshore duty-free new policy does achieve positive results in practice.

## 4 CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Conclusions

This paper empirically examines the effect of Hainan's offshore duty-free new policy. The results

can be summarized as follows. First, as the largest adjustment of the offshore duty-free policy in Hainan, the new policy has achieved positive effects. Second, the specific effect is shows that the new policy obviously raises all the indicators of offshore duty-free goods which including the number of offshore duty-free shoppers, the sales amount of offshore duty-free goods, the pieces of offshore duty-free goods, the per capita sales and per capita number of shopping pieces.

In the long term, the effect of this policy will be not limited in sales or pieces of offshore duty-free goods. The implementation of Hainan's duty-free policy will bring a huge number of passengers to Hainan, which will lead to the optimization of tourism consumption structure and the upgrading of Hainan's tourism industry. At last, this will form valuable experience for future policy making in this field.

## 4.2 Recommendations

Although Hainan's offshore duty-free policy has been greatly improved in 2020, it still needs to be further improved in many aspects at this stage, especially in terms of shopping facilitation, regulations and information construction.

### 4.2.1 Further Improvement of Shopping Facilitation

The further improvement of shopping facilitation can be conducive to the effectiveness of Hainan's offshore duty-free policy. It requires the joint efforts of the government and enterprises.

The government should continuously improve the offshore duty-free policy. First, the government should expand the variety of offshore duty-free products, such as daily necessities, electronic products, and local specialties. Second, it's necessary to stick to the market-oriented reform of Hainan's offshore duty-free industry and continue to increase market competition. Multiple measures should be implemented to improve the vitality of the duty-free market in order to speed up the formation of an internal circulation system. Third, the government should coordinate the construction of commodity pick-up points to effectively improve the convenience of offshore duty-free shopping for tourists. For example, set up only one commodity pick-up point at every airport, terminal and train station so that the consumer can pick up the goods purchased at all duty-free stores in Hainan after queuing only once. Fourth, form of mail delivery

should be used more so as to reduce the inconvenience caused by consumers queuing and the pressure of pick-up point construction.

It's necessary for the duty-free enterprises to upgrade the offshore duty-free shopping industrial chain. They should form a whole industrial supply system, which includes comprehensive services, logistics and distribution, intelligent supply chain and multi-channel shopping. Firstly, the categories of goods on the online platform should be the same as offshore duty-free offline stores as much as possible, so that the passengers those are willing to go online supplementary shopping can also get the full experience of offshore duty-free shopping in Hainan. Secondly, based on the introduction of advanced blockchain technology and intelligent equipment, duty-free enterprises can form a comprehensive system of services. Only by improving their own software and hardware facilities and forming an efficient and complete industrial system can they fundamentally improve the service standard of Hainan's offshore duty-free shopping industry.

### 4.2.2 More Comprehensive Regulations

With the rising sales of offshore duty-free goods, the need for comprehensive rules and regulations has become more and more prominent.

First, it is urgent for Hainan province to introduce supporting laws and regulations as soon as possible, such as anti-smuggling regulations, measures for the administration of luggage, postal articles, transportation and goods origin. Before the operation of Hainan free trade port, the catalogue of import duty, prohibited and restricted import and export goods and articles also need to be clarified in time. The government need to study and judge the potential risks of current policies so as to establish risk prevention and control system in advance.

Second, the effective anti-smuggling measures for the offshore duty-free commodities are vital for the long-term implementation of the policy. The government should improve the credit supervision system and implement joint credit punishment between local government. Various types of punitive measures are necessary for smugglers. For example, the smugglers with minor circumstances may not enjoy the qualification of the offshore duty-free shopping policy for a period of time, the smugglers with serious circumstances will be included in the national credit "blacklist". People who included in the national credit "blacklist" are not even eligible to take the high-speed railway.

Third, while ensuring the effectiveness of supervision, the convenience of exchanges of personnel and goods between Hainan and the mainland should be fully considered. The short-term development of Hainan free trade port is inseparable from the support of the mainland. Therefore, customs clearance technical standards and business processes need to be continuously optimized to ensure that those regulations will not hurt the wish of mainland tourists to come to Hainan.

#### 4.2.3 Promote the Information Construction of Port

Hainan needs to make full use of information technology to realize modernize supervision based on strengthening the informatization construction of port.

First, a collaborative co-management system which can connect the central government, the Hainan government and all the regulatory authorities is necessary to be established. This system should be able to achieve information sharing and data docking, which make those administrative departments to realize collaborative supervision of Hainan's offshore duty-free shopping activities.

Second, the construction of customs intelligent supervision in Hainan is needed. Regulatory hardware and software need to be upgraded faster by continuously introduce and apply advanced technology equipment with 5G, augmented reality (AR), artificial intelligence (AI) and other cutting-edge technology. The construction of the traceability management system for duty-free goods should also be accelerated to adapt to the development of Hainan's offshore duty-free shopping. It would be more reliable by innovating the means of supervision of the whole process to realize intelligent supervision with real-time data tracking and processing so as to improve the efficiency of customs supervision fundamentally.

Third, it's urgent to strengthen the construction of informatization supervision talent team. On the basis of accelerating the optimization and integration of port supervision institutions, Hainan should introduce professional talents skilled in using latest technologies such as big data, artificial intelligence, cloud computing, internet of things and mobile internet. Meanwhile, colleges in Hainan should prepare students for the demand of the supervision talent team mentioned above.

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