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Residents' Consumption Structure and Regional Differences in the Perspective of Internet

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Abstract

To find out the impact of Internet on Residents' Consumption Structure and Regional Differences, panel data analysis and experimental study were used to analyze China's provincial panel data from 2003 to 2016. The results show that from the overall level of the country, the Internet development plays a significant role in promoting the residents' consumption in China. At the same time, the Internet development can promote Chinese residents' consumption structure from the type of survival consumption to the type of enjoyment and finally to the type of developmental consumption. From the perspective of regional differences, the influence of Internet development on the residents' consumption in the eastern region is greater than that in the central and western regions. It turned out that the consumption potential of Internet development in the Midwest of China is very huge.

Keywords: Internet Influence, Residents' consumption, Regional Differences, Consumption Structure

I. Introduction

Under the modern new circumstances, how to promote consumption to stabilize economic growth has become an important issue. In recent years, China, with the sustained and rapid economic development, has become the second largest economic entity in the world. However, the insufficiency of consumption demand has become a key factor which hinders China's economic development to be healthy and sustainable. So, how to promote the consumption structure has become one of the important parts of China's current economic transformation. Professor Lin Yifu regards this special phenomenon of China's high economic growth and low rate of residents' consumption as "Burned Frozen Fish". The percentage of China's residents' consumption to GDP has fallen from 50.63% in 2007 to 37.69% in 2016. Consumption, as one of the three troikas for economic growth, plays a significant role in promoting economic development. Expanding consumption demand is not only the need to maintain the high-speed growth of China's economy, but also the inherent requirement for China to change its economic growth pattern and optimize its economic structure. In recent years, with the rapid development of information technology, China's informatization level has been greatly improved, and it turns out that the market of online shopping has developed rapidly. The trading volume of Taobao (Tmall) on the 11th of November which also generally regards as "Double 11" had increased from 52 million in 2009 to 168.2 billion in 2017. It has increased 3234.6 times in 8 years. Such a huge growth rate shows that there is a great potential that the Internet development can drive the growth of residents' consumption. In 2015, the Chinese government proposed the "Internet +" strategy. With the rapid development of e-commerce, mobile e-commerce, cross-border e-commerce and Internet-based sharing economy, the Internet will greatly stimulate the potential of residents' consumption. So, being a new driving force, how does the Internet affect the residents' consumption structure? And what is the regional differences of the Internet impact

on the residents' consumption in the eastern, central and western regions of China?

A large number of scholars, from micro economic decision-making of consumers and manufacturers, both home and abroad have done a lot in the aspects of Internet development, residents' consumption, consumers' behavior of online shopping and its influencing factors. They have also paid their attention to the fact that how manufacturers, in order to achieve a favorable competitive position, change their business strategies under the pressure of the popularity of network applications and the diversification of consumers' consuming channels. Such as, in the 1930s, Keynes and his team members focused their research on the residents' consumption and consumption structure (Keynes, 1936). Wang Pengfei studied on the functional mechanism of the promotion of network economic environment to the growth of residents' consumption demand from a macro and micro perspective, and concluded that the development of network economy has promoted the integration of the national consumption goods market and circulation system; it has improved consumption realization conditions from the aspect of business flow, logistics and capital flow; it has reduced the cost of consumption realization and it finally has increased the overall consumption propensity of residents (Wang Pengfei, 2014). Yang Jirui et al. proposed that a new normal of consumption patterns has gradually been formed with the development of "Internet +", such as the interaction of consumer demand, the rationality of consumption structure, the non-borders of consumption scope, the tendency of sharing consumption behavior with friends and the autonomy of consumption choice (Yang Jirui et al, 2015). Liu Hu et al. empirically analyzed the influence of Internet development on China's rural and urban residents' consumption expenditures and regional differences. They concluded that Internet development has a significant positive impact on China's urban residents consumption expenditures, the Internet has a great potential to promote the rural residents' consumption structure to be changed from the type of traditional consumption to the type of enjoyment and the type of development (Liu Hu and Zhang Jiaping, 2016). Finally, they believed that the impact of Internet development on the consumption structure of rural and urban residents in the eastern region is greater than that in the western region (Liu Hu and Zhang Jiaping, 2016). Wang Qian proposed that the "Internet +" can not only enable traditional industries to realize inter-industry interconnection

through the Internet, reshape the consumption environment, reconstruct consumption logic and restructure consumption levels, affect the quantity and level of production, that is, to do revolution through the stimulation of supply; but also, through creating a multi-points supported pattern of consumption growth, cultivating and developing new consumption hotspots and the emerging consumption, realize an upgrade from demand to the push of consumption, to the influence of consumption quantity and level, that is to have a revolution through the hastening of demands (Wang Qian, 2016). Du Danqing proposed that Internet technology has gradually achieved the goal of consumption upgrade, from three aspects of products, channels, services, through the providing of necessary products which the consumption objects need to upgrade, the catering of a new channel which spending pattern needs to change, and meeting the needs of service which consuming environment and consuming concept need to change, both internally and externally (Du Danqing, 2017). All in all, the existing literature has done a lot on the development of network economy and the growth of residents' consumption respectively. And the existing literature also has focused its attention on the generation, development and influencing factors of residents' online shopping in China. These achievements have provided the first rich materials for the research of this paper.

However, the existing literature rarely studies the changes of the general consumption environment which encircles consumers in the era of network economy from the perspective of macroscopic view. Scholars have also seldom focused their attention on the general developmental situation of residents' online consumption in China, and on the promotion and functional mechanism of network economic development to residents' consumption. So the existing literature still needs to be strengthened in the combination of two theories (the theory of network economy and the theory of consuming economy). Their insufficiency provides a right space for a further exploration of this paper. Based on China's provincial panel data from 2003 to 2016, this paper analyzes the influence of the Internet on China's residents' consumption, its structure and the regional differences in the eastern, central and western regions of China.

2. Model Building and Data description

2.1 Model setting

A panel data model was built in order to examine the influence of the Internet on Chinese residents' consumption and consumption structure.

$$\text{Consume}_{jit} = \beta_0 + \beta_i X_{it} + \beta_i M_{it} + \mu_i + \varepsilon_{it} \quad (1)$$

Among them, Consume_{jit} stands for the explanatory variables, indicating current consumption, and “j” represents consumption type. This paper divides consumption into three types. They are subsistence consumption expenditure (including clothing expenditure, food and residential expenses), developmental consumption expenditure (including cultural and educational entertainment consumption expenditure and health care) and enjoyment consumption expenditure (including transportation, communication expenditures, and household equipment expenditures). “i” means the region, mainly including all provinces, autonomous regions or municipalities in China. “t” represents the period; “ μ_i ” is the individual effect; “X” refers to the core explanation, which is used to reflect the development of the Internet, mainly including the Internet penetration rate and mobile phone penetration rate; “M” represents the control variables. The main control variables include:

Pre-consumption (Consumeit-1): Numerous studies have shown that Chinese residents' consumption has a strong tendency. Consumers' behavior is affected by previous consuming habits. Therefore, this paper uses consumption lag to measure the pre-consumption (Li Tao and Chen Binkai, 2014).

Income: The theory of absolute income consumption believes that consumption is an index of people's income level. Income is the premise of consumption. Hu Ridong and other scholars have studied the influence of China's urban-rural income gap on residents' consumption structure, indicating that the income gap has a significant impact on residents' consumption (Hu Ridong, 2014). The per capita disposable income is used in this paper to measure their income level.

Social Security (Rs): Wang Yuxu indicates that social security has an important impact on

residents' consumption behavior. An unsound security system and a reduction in the number of children generally cause residents to worry about their old-age care. Therefore, they generally resolve the risk of aging by increasing the savings. So according to Wang Shuxu's approach, this paper adopts residents' savings of per person to measure social security indirectly. It is generally believed that savings and social security have a negative correlation (Wang Shuxu, 2015).

Job: Shi Zuhui pointed out that people's expectation of future income has a very important impact on residents' current consumption behavior. If residents are confident in their future income, then the proportion of consumption in the current period will increase, and vice versa (Shi Zuhui,1997). This paper uses urban registered unemployment rate to measure urban employment.

City: Lei Xiaoyu and Gong Liutang studied on the impact of urbanization to the rural residents' consumption and structure. They pointed out that urbanization and the growth of rural residents' consumption have a significant positive correlation, and emphasized the importance of promoting urbanization process and rural financial deepening reform to the upgrade of rural residents' consumption (Lei Xiaoyu and Gong Liutang, 2014).

Bring these variables into the model (1). In order to eliminate the effects of heteroscedasticity, all variables are treated logarithmically. Then model (2) was appeared.

$$\begin{aligned} \ln Consume_{jit} = & \beta_0 + \beta_1 \ln Consume_{jit-1} + \beta_2 \ln Internet_{it} + \beta_3 \ln Mobile_{it} + \beta_4 \ln Income_{it} \\ & + \beta_5 \ln Rs_{it} + \beta_6 \ln Job_{it} + \beta_7 \ln City_{it} + \mu_i + \varepsilon_{it} \end{aligned} \quad (2)$$

2.2 Data description

The panel data of Internet development and residents' consumption of China's 31 provinces (cities) except Hong Kong, Macao and Taiwan were selected. The time span was 2003-2016. Taking geographical location and time factor into consideration, the panel data has the following advantages:

It is able to solve the problem of missing variables;

It can display more information about the individual's dynamic behavior, and at the same

time it can hold more panel data sample.

As a result, it can significantly improve the accuracy of the estimated results.

All the variables in this paper are selected from China Statistical Yearbook (2004-2017) and China Economic Database. Based on 2003 date, the relevant variables have eliminated the influence of price factor. In order to analyze the intrinsic relationship between variables, a descriptive statistical analysis of each variable is first performed. As shown in Table 1 below.

Table 1: Descriptive statistical analysis of variables

Variable	Definition	Mean	Median	Maximum Value	Minimum	Standard Deviation	Observation
	Consumption of per						
LnConsume	person	8.9243	8.9323	10.4569	7.6582	0.5794	434
	Survivable consumption						
LnConsume1	of per person	8.4193	8.4231	9.9964	7.2437	0.5434	434
	Developmental consumption of per						
LnConsume2	person	7.1911	7.2143	8.7938	5.6298	0.6938	434
	Enjoyment consumption						
LnConsume3	of per person	7.2186	7.2333	8.6838	5.3492	0.6348	434
LnInternet	Netizen penetration rate	3.0270	3.2932	4.3289	0.7655	0.8754	434
	Mobile phone						
LnMobile	penetration rate	3.9256	4.0551	5.2440	2.1471	0.6182	434
	Disposable income of						
LnIncome	per person	9.2367	9.2506	10.8052	7.9391	0.6069	434
	Deposit remaining sum						
LnRs	of per person	7.4354	7.4687	9.4188	5.4633	0.7380	434

LnJob	Unemployment Rate	4.5687	4.5675	4.6052	4.5380	0.0080	434
LnCity	Urbanization rate	3.8590	3.8470	4.4955	2.9140	0.3000	434

Source: *China Statistical Yearbook (2004-2017)* and *China Economic Database*

The gaps in the consumption expenditure variables in Table 1 are not small, and the standard deviation is greater than 0.5. This indicates that there is a large difference of consumption among regions in China. The standard deviation of the survival consumption expenditure logarithm of per person is the smallest one, which is 0.5434; the standard deviation of developmental consumption expenditure of per person is the biggest one, which is 0.6938; and then the standard deviation of the enjoyment consumption expenditure of per person is 0.6348. Relatively speaking, there is a greater difference about regional difference between developmental consumption expenditure and enjoyment consumption expenditure. The regional differences about the penetration rate of netizens are also relatively large. Its standard deviation is 0.8754.

Figure 1 is the scatter plot of the logarithm of residents' actual consumption of per person and the rate of Internet penetration among the 31 provinces and cities (districts) in China from 2003 to 2016. It can be seen from the figure 1 that there is a positive correlation between the rate of China's Internet penetration and residents' consumption. .

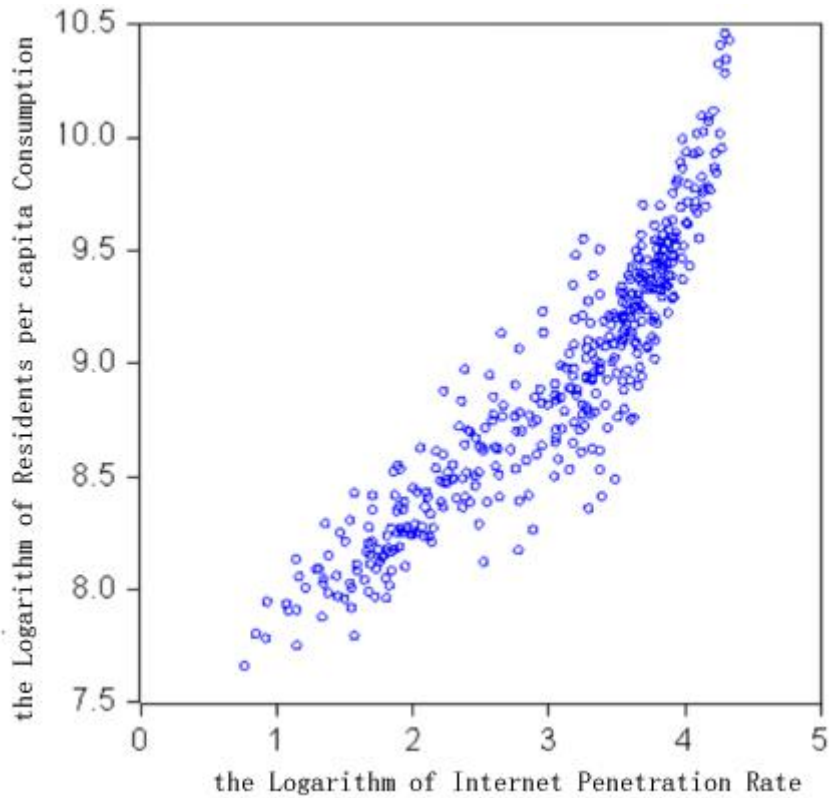


Figure 1. Scatter plot of Internet penetration rate and residents' consumption of per person

3. Analysis of the Impact of Residents Consumption on Internet

First, the F statistic is used to test whether to choose a mixed regression model or a fixed effect model. Second, the Hasuman test is used to determine whether to select a fixed effect or a random effects model. After testing, the fixed effect model should be selected by the total consumption expenditure of per person, the survival consumption expenditure of per person , the enjoyment consumption expenditure of per person and the developmental consumption model of per person . The estimated results of the impact of the Internet on consumption expenditure of Chinese residents of per person are shown in Table 2 below.

Table 2. The impact of various consuming expenditures of residents on Internet

Explanatory variables	Total consumption expenditure of per person	The survival consumption expenditure of per	The developmental consumption expenditure of per person	The enjoyment consumption expenditure of per

	person		person	
LnConsume(-1)	0.490467*** (-0.035117)	0.660388*** (0.049018)	0.54226*** (0.079783)	0.601846*** (0.087968)
LnInternet	0.090002** (0.009644)	0.094509* (0.013462)	0.14686*** (0.021911)	0.030552*** (0.024159)
LnTelephone	0.025509** (0.018951)	0.012868** (0.026453)	0.012337** (0.043055)	-0.007176 (0.047472)
LnIncome	0.535264*** (0.044499)	0.440584*** (0.062115)	0.440847*** (0.1011)	0.255357** (0.111472)
LnRs	-0.059633*** (0.028203)	-0.099279*** (0.039368)	-0.020203 (0.064075)	0.067879* (0.070649)
LnJob	-0.622499* (0.417527)	-0.695736* (0.582814)	-2.422869** (0.948596)	0.207231 (1.045918)
LnCity	-0.013951** (0.051276)	-0.187548* (0.071574)	0.489851*** (0.116495)	0.875236*** (0.128447)
C	2.932598** (1.890769)	3.141198** (2.639269)	7.482584*** (4.29571)	-4.848151** (4.736436)
R2	0.997132	0.993589	0.989678	0.98562
F Test	4.071928***	6.243700***	10.625488***	40.099742***
Hausman	96.030366***	20.700206***	26.247856***	16.95838**
Prob(F-statistic)	0.0000	0.0000	0.0000	0.0000
Model selection	FE	FE	FE	FE

Note: “*” , “**” , “***” represent the significant levels of 10%, 5%, and 1%, respectively, and parentheses the standard deviations. FE and RE represent fixed effect models and random effects models, respectively.

It can be seen from Table 2 above that the R2 of each model is $R^2 > 0.9850$, and the F value is significant below the level of 1%. It can be seen that the model has a good fitting degree. The results of the model test shows that the Internet penetration rate has a significant positive impact on residents' consumption expenditures. Among them, the popularity of the Internet has the greatest impact on the developmental consumption expenditure of the residents of per person. The Internet penetration rate increases by one percentage point, then the developmental consumption expenditure of the residents of per person will increase by 0.14686 percentage points. The mobile phone penetration rate has a significant positive impact on the consumption expenditure of per person, the survival consumption expenditure of per person , and the developmental consumption expenditure of Chinese residents of per person, but not significant on the enjoyment consumption expenditure of per person . And the same time, the penetration rate of mobile phone increases by one percentage point, then residents' consumption expenditure of per person will increase by 0.025509 percentage points. In general, Internet popularization has a significant role in promoting consumers' spending in China. At the same time, the penetration rate of mobile phone and Internet both have the potential to promote the upgrading of residents' consumption structure, that is, to guide residents' consumption structure to change from the type of survival, enjoyment to the type development.

Five conclusions can be drawn from the results of other control variables on the influence of the consumption expenditure of residents:

The consumption of the first-phase lag has a significant positive impact on the current consumption expenditure. It can be seen that the consumption of Chinese residents also has significant inertia. And the residents' consumption behavior is easily to be influenced by past consumption habits and its culture. To some extent, this explains why does the consumption rate of Chinese residents increase slowly;

The models of Table 2 shows that the impact of income has a significant positive influence on

residents' consumption expenditure, when income factors were taken into consideration. This shows that keeping residents' income growth plays a very important role in increasing household consumption expenditure;

Table 2 shows that the deposit balance of per person has a negative impact on various consumers' expenditures, when the social security factors were taken into consideration. However, the coefficient of total consumption expenditure and basic consumption expenditure has passed the significant test, which shows that it is important to improve the social security of urban residents and make them "dare to consume and able to consume", and finally to improve Chinese living standard. Yang Tianyu and Wang Xiaoting pointed out that the increase in social security can lead to a reduction in household savings, which in turn leads to more consumers' spending;[15]

Taking employment factors into consideration, Table 2 shows that the unemployment rate is not significant to the residents' consumption expenditures, except for the consumption-based consumption expenditure. And the coefficient of the unemployment rate is negative to household consumption expenditure, survival consumption expenditure and developmental consumption expenditure. To a certain extent, it also shows that employment has a very important influence on household consumption. Under normal circumstances, if the unemployment rate rises, the relative income of residents will decrease, which will lead to a reduction in consumers' spending. In recent years, China's employment situation is not optimistic and the pressure of competition is serious. So, during the "Thirteenth Five-Year Plan", the social employment should be striven to promoted, industrial structure should be optimized. Thus the upgrading of the consumption structure of Chinese residents will be achieved.

Taking the Urbanization factors into consideration, Table 2 also shows that the degree of urbanization has a significant impact on the expenditure of household consumption. However, the urbanization rate is negatively correlated with the total expenditure of household consumption and the expenditure on living consumption, while is positively correlated for developmental consumption and Enjoyment consumption expenditure. It shows that the development of urbanization may crowd out the surviving consumption expenditure of

residents; at the same time, urbanization provides more opportunities for residents to provide development and enjoyment expenditures, and promotes the upgrading of household consumption from the type of survival to the type of development and enjoyment.

4. Regional differences in the impact of Internet development on household consumption

Due to the different resource endowments, culture and economy in various regions of China, economic development, consumption structure in various regions of China is totally different with its Internet development. In order to further study the regional differences in the impact of Internet development on urban residents' consumption expenditures, this paper, according to the classification of National Bureau of Statistics, divides China into three parts: eastern, central and western. (There are 11 provinces in the east, 8 provinces in the central region and 12 in the west). And the provincial panel data of China's 2003-2016 is used to analyze regional difference.

Table 3. Regional Differences in Internet to the Total Consumption and the Survival Consumption

Variables	The Total Consumption Expenditure of per Person			The total Survival Consumption Expenditure of Per Person		
	The east region	The central region	The west region	The east region	The central region	The west region
LnConsume(-1)	0.452638*** (0.058795)	0.360837*** (0.062493)	0.520051*** (0.061817)	0.961200*** (0.090815)	0.359402*** (0.082960)	0.570552*** (0.070574)
LnInternet	0.016962** (0.014823)	0.002606* (0.018455)	0.006649* (0.017500)	-0.028599** (0.022895)	0.032033** (0.024499)	0.018459** (0.019351)
LnTelephone	0.037435*** (0.028012)	0.024408* (0.038398)	-0.003951* (0.034573)	0.027899** (0.043267)	-0.002692 (0.050973)	-0.012093* (0.036459)

LnIncome	0.652193***	0.72359***	0.450522***	0.281171**	0.580766***	0.398674***
	(0.075637)	(0.077377)	(0.080698)	(0.116828)	(0.102718)	(0.075766)
LnRs	-0.177276***	-0.146159***	0.037679*	-0.134592**	-0.063564*	-0.010628
	(0.047472)	(0.047001)	(0.05332)	(0.073325)	(0.062393)	(0.045129)
LnJob	-0.423115*	0.119374**	-0.724377**	-2.757860**	0.639500*	-0.056338
	(0.790717)	(1.035768)	(0.657216)	(1.221336)	(1.374988)	(0.694592)
LnCity	0.227111**	-0.011928	-0.119347*	-0.490277***	-0.042328*	-0.127430***
	(0.102515)	(0.075981)	(0.104795)	(0.158343)	(0.100865)	(0.048001)
Constant term	1.159725**	-0.476812**	3.710029***	12.878130***	-2.492034**	0.552862**
	(3.682765)	(4.641017)	(2.952299)	(5.688374)	(6.160978)	(3.180370)
R2	0.997509	0.995727	0.994825	0.993490	0.995727	0.990858
F test	3.220299	2.391920	4.627235	4.974033	2.391920	5.774143
Hausman	22.387901***	33.500251***	14.901433**	89.232546***	35.714009***	3.663094
Prob(F-statistic)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Model selection	FE	FE	RE	FE	FE	RE

Note: “*”, “**”, “***” represent significant levels of 10%, 5%, and 1%, respectively, and parentheses standard deviations. FE and RE represent fixed effect models and random effects models, respectively.

Table 4. Regional Differences in the Total Developmental Consumption and the Enjoyment Consumption

Variables	The Developmental Consumption Expenditure of Per Person			The Enjoyment Consumption Expenditure of Per Person		
	The east region	The central region	The west region	The east region	The central region	The west region
LnConsume(-1)	0.231579*	0.408412***	0.817596***	0.489776***	1.110811***	0.573815***
	(0.166357)	(0.144512)	(0.099872)	(0.121750)	(0.134051)	(0.145175)
LnInternet	0.112843***	0.059654*	0.001839*	0.090031***	0.217334***	0.134284***
	(0.041941)	(0.042676)	(0.026513)	(0.030695)	(0.039587)	(0.040821)
LnTelephone	0.032202**	0.035882	0.034699	0.082411***	-0.040914	-0.141492*
	(0.079257)	(0.088792)	(0.047677)	(0.058005)	(0.082365)	(0.079924)
LnIncome	0.699721***	0.678200***	0.389234***	0.180769	0.402887**	0.402796**
	(0.214009)	(0.178928)	(0.099348)	(0.156624)	(0.165977)	(0.177323)
LnRs	-0.208675**	-0.054947	-0.046702*	-0.074417	-0.257018**	0.159504*
	(0.134319)	(0.108686)	(0.052523)	(0.098302)	(0.100818)	(0.117376)
LnJob	1.853250	-0.668744	-4.183201***	6.805456***	0.753644	-2.486823*
	(2.237276)	(2.395148)	(0.941321)	(1.637372)	(2.221773)	(1.497135)
LnCity	0.995741***	-0.081083	0.041873	1.428917***	0.562936***	0.686268***
	(0.290058)	(0.175702)	(0.052493)	(0.212282)	(0.162983)	(0.172116)
Constant term	-12.644110**	0.712321*	15.575550***	-35.04973***	-9.122865*	7.006101*

	(10.420110)	(10.732060)	(4.326554)	(7.626061)	(9.955212)	(6.790712)
R2	0.993490	0.995727	0.990858	0.989420	0.990518	0.960522
F test	9.111591	4.166531	8.519985	6.668365	3.864906	12.169235
Hausman	23.7774***	15.3169**	11.2017	35.476518***	116.12559***	13.551796
Prob(F-statistic)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Model selection	FE	FE	RE	FE	FE	RE

Note: “*”, “**”, “***” indicate significant levels of 10%, 5%, and 1%, respectively, and parentheses standard deviations. FE and RE represent fixed effect models and random effects models, respectively.

According to table 3 and 4, it can be seen that the rate of Internet penetration has a significant impact on the consumption expenditure of Chinese residents. Among them, the coefficient of impact of the Internet on the total residents’ consumption of per person is significantly greater in the central and eastern regions than that in the central and western regions, which indicating that the driving effect of the Internet on household consumption expenditure in the eastern region is greater than that in the central and western regions. There is still a certain gap between the economic development of the central and western regions and the eastern region. It can be seen that the Internet infrastructure in the central and western regions is still not perfect, and the degree of informatization is not high enough. Therefore, there is still much room for improvement in the driving effect of the Internet on consumers’ demand.

Secondly, the rate of internet penetration has the greatest impact on the developmental consumption expenditure of the eastern residents. For every one percentage point increase in the Internet penetration rate, the urban residents’ developmental expenditure of per person in the eastern region will increase by 0.112843 percentage points; and the influence of the Internet penetration rate to the Survival Expenditure of per person and the Enjoyment Consumption Expenditure of per person is weaker than that of the Midwest. It is also reflected from another aspect that the proportion of surviving consumption and enjoyment consumption in the consumption structure of the western region is still relatively large. In the future, efforts

should be made to expand the developmental consumption demand of the residents in the central and western regions, and the consumption structure of the residents will be steadily upgraded.

In the era of mobile Internet, the impact of mobile phone penetration rate on household consumption has gradually emerged. At present, the rate of regional mobile phone penetration has a significant impact on various consumers' expenditures in the eastern region, while it has an impact on the total consumption expenditure of per person in the central region, but it has no obvious impact on the total consumption expenditure in the western region. In the eastern region, the rate of mobile phone penetrations increases one percentage point, then the consumption expenditure of per person will increase by 0.37435 percentage points. The coefficient is significantly greater than the impact coefficient of Internet penetration rate on the total consumption expenditure of residents in the eastern region. With the continuous development of smart phone and the richness and maturity of mobile payment services, mobile functions such as mobile phone learning, mobile entertainment, and mobile medical care will have a more profound impact on the lives of urban residents. For the western region, the rate of mobile phone penetration mainly affects the residents' survival consumption expenditure, and the coefficient is negative, indicating that the popularity of mobile phones has a certain negative impact on the normal life of residents in the western region. The purchase of mobile phones has certain burdens for residents in the western region.

Residents' income and deposits have a significant impact on household consumption. Residents' income has a more obvious impact on the survival consumption and enjoyment consumption of the residents in the central and western regions; Residents' deposits has a more negative impact on the development consumption and survival consumption of the residents in the eastern region. The rate of unemployment has a negative impact on household consumption, especially on the survival consumption of residents in the eastern region, indicating that the residents in the eastern region have relatively strong concerns about employment in the market economy; the urbanization rate has a greater impact on the consumption expenditure in the eastern region, and its impact is positive. Especially it has a significant impact on the development consumption expenditure in the eastern region, and has

a big impact on the enjoyment consumption of the central and western residents.

5. Conclusions and suggestions

Based on the provincial panel data of China from 2003 to 2016, this paper analyzes the impact of Internet development on various consumers' expenditures of Chinese urban residents and regional differences. The results show that China's Internet is developing at a faster pace and the degree of informatization is deepening continuously. With its help, Shopping online has formed a certain scale. On the whole, Internet development has a significant positive impact on Chinese consumers' spending. And it is obvious that Internet development has the potential to promote the upgrading of household consumption structure. From regional perspective, on the one hand, the impact of the Internet on consumers' spending in the eastern region is significantly greater than that in the central and western regions; on the other hand, Internet development has mainly affected the developmental consumption expenditure in the eastern region, which has led to the optimization and upgrading of the consumption structure in the eastern region. The development of the Internet has mainly affected the survival and enjoyment consumption of urban residents in the central and western regions. Finally, the empirical evidence also shows that residents' income, social security, employment, urbanization and other factors also have an important impact on household consumption. In general, the paper explains, from the theoretical and empirical aspects, that under the new normal, network development is an important engine to promote the increase of China's consumers' demand and the upgrading of consumption structure.

Based on the above empirical research conclusions, seven corresponding strategies are proposed to change the current phenomenon: First, the eastern region should continue to explore the potential of the Internet to promote the higher consumption structure of residents and accelerate the implementation of the "Internet +" strategy; Second, the central and western regions should make use of opportunities of the "Internet +" development to drive the overall consumption growth of residents, to promote a new mechanism for the transformation of residents' consumption structure from survival, enjoyment to development; Third, all

regions in China should adapt to its' local conditions to construct informatization; Fourth, taking the difference of Internet commerce and traditional commerce into account, the regulatory system of Internet commerce and finance should be perfected; Fifth people's livelihood should be guarded safely, social employment should be promoted vigorously, and the social security system should be hastened and improved; Sixth, considering the unprecedented scale of the development of China's Internet commerce and finance, it is a basic requirement to promote the healthy development of China's Internet commerce, to strengthen the supervision of Internet commerce and finance. With the gradual development of China's "13th Five-Year Plan", Internet business will have an increasingly strong impact on China's economy. So it is very important, for China's future healthy economic development and the upgrading and transformation of economic structure, to strengthen Internet business and financial supervision, to reduce systemic financial risk; Last but not the least, with the gradual deepening aging process of China's population and constant liberalized China's comprehensive second-child policy, every region or district should thoroughly implement the spirit of the Fifth Plenary Session of the 18th CPC Central Committee, improve the redistribution adjustment mechanism with taxation, social security, and transfer payment as the main means, and increase the income of urban residents, promote farmers' income through multiple channels, and increase farmers' operating income, transfer income and property income.

In short, the basic role of consumption in economic growth has become an important guarantee for China's future healthy economic development. With the final purpose of achieving the simultaneous growth between income growth and economic growth for both urban and rural residents, a bright picture is drew here.

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