Article

Heterogeneity of Internal Migrant Household Consumption in Host Cities: A Comparison of Skilled Migrants and Labor Migrants in China

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Abstract: Improvements in migrant families' consumption are crucial to economic development after the economic crisis. With China's participation in economic globalization, industrial transformation and college enrolment expansion, a new type of migrant worker has emerged, skilled migrants, who have attained a college diploma or above and whose consumption behaviors differ from traditional labor migrants because education helps to improve the income and consumption structure. This study uses comparative analysis and Tobit model to examine differences in income and consumption patterns, and determinants of consumption between skilled migrant and labor migrant households. Education helps to increase income and alter consumption behaviors. The income and consumption levels of skilled migrant households are significantly higher than the levels of labor migrant households, and the propensity to consume among skilled migrant households is higher than among labor migrant households. Moreover, the consumption structure of skilled migrant households is more advanced than that of labor migrant households. Education indirectly influences consumption by influencing economic, familial, individual, settlement intention, and social security factors. These factors have different effects on skilled migrant and labor migrant household consumption. Authorities should improve the education level and social welfare system to cover migrant households, especially for low-income labor migrants, to improve their consumption.

Keywords: migrant worker; household consumption; skilled migrant; labor migrant; China

1. Introduction

Since the global financial crisis which was triggered by the subprime mortgage crisis in the United States, China's economy has entered a structural transformation period. Consumption is considered a crucial driver of economic development. The consumption of the United States accounts for approximately two-thirds of GDP, whereas the rate in China was only 50% in 2017, with household consumption accounting for 36% [1]. Therefore, shifting from an external investment-driven economy to a domestic consumption-driven economy is essential to achieve sustainable and continuous economic development [2].

Migration in developing countries such as Vietnam, Thailand, and China is increasing rapidly [3], and it contributes considerably to the economy of both host cities and hometowns [4]. However, migrant households' consumption levels are significantly lower than in urban households [5]. The largest labor

flow in world history has contributed to the spectacular economic growth of China. In 2017, the internal migrant population of China was 244 million, accounting for 17.55% of the total population [6]. Although internal migrants are indispensable in the urban labor force and are regarded as a major driver of China's future domestic consumption, their contribution to consumption growth is relatively small. The propensity to consume is below 50% among rural migrant workers, whereas it is above 70% among urban residents. Moreover, the consumption level of rural migrant workers is much lower than that of urban residents with the same income level [7]. Therefore, increasing the consumption level of migrant families is crucial to improving migrants' life quality and developing countries' economic growth, especially in the aftermath of COVID-19 and the global financial crisis during the period 2007–2009.

With the continued deepening of globalization and industrial upgrades in China, the employment structure is shifting from basic manufacturing to various other industries. The connectivity of Chinese cities in the World City Network [8] and Chinese cities' economic power, especially in knowledge-based sectors [9], is significantly growing. The larger number of sectors in Chinese cities makes them indispensable in economic globalization, and improves their economic crisis resilience [10], so that cities in China continuously provide job opportunities and attract migrant workers. Moreover, colleges began to expand their enrolment in the late 1990s; the proportion of highly educated laborers is growing rapidly. In addition, the household register system has become relaxed. The labor flow does not only come from rural areas but also from less-developed small cities (permanent population within the city proper: ≤ 0.5 million) and medium cities (permanent population within the city proper: 0.5 million–1 million) to developed megacities, and thus the migrant population has become diverse. Although the education level of initial migrant workers is generally low, the highly educated labor force is growing rapidly. Therefore, a new category of migrant workers has appeared: skilled migrant workers. Scholars have recognized the heterogeneity of the migrant population [11–13]. In this paper, we divide migrants into two groups: skilled migrants and labor migrants. Skilled migrants are defined as those who have attained a college diploma or above, and labor migrants are defined as those with a high school education or below [11]. The householder of a skilled migrant household is a skilled migrant, and the householder of a labor migrant household is a labor migrant. According to the 6th population census in 2010, skilled migrants comprised 14.4% of total migrants [14], and this proportion rose to 25.7% according to the 1% population sampling survey in 2015. Studies have reported that skilled migrants' occupations, earnings, consumption habits, and lifestyles are significantly different from their less-educated counterparts because they received a higher education [11–13]. Although skilled migrants are also mainly employed in the manufacturing, transportation, low-end service, and wholesale and retail trade industries, similar to labor migrants, skilled migrants mostly work in management, professional, or technical positions, which are higher positions than those occupied by labor migrants. Furthermore, the proportion of skilled migrants working in other industries, such as government agencies, education, healthcare, and finance, is considerably higher [15].

Because of the trend of household migration, distinguishing between personal consumption and household consumption is difficult, and thus investigating migrant household consumption is more relevant. Most studies on migrant consumption have treated Chinese internal migrants as a homogenous group. However, the heterogeneity of the migrant population becomes more obvious [11–13]. The householder has a large effect on household consumption [16] and education helps to improve. Therefore, in this paper, migrant households are divided into two cohorts: skilled migrant households, whose householder is a skilled migrant, and labor migrant households, whose householder is a labor migrant. To gain a better understanding of the heterogeneity of internal migrant household consumption, this paper uses comparative analysis and empirical models to examine differences in characteristics of income and consumption, and determinants of consumption between skilled migrant and labor migrant households, by using survey data from six core cities of the Pearl River Delta (PRD) region, China, in 2017. Firstly, the general characteristics of income and consumption of migrant households are analyzed by focusing on skilled-labor and migrant-local differences. Then, empirical

models are developed to detect the determinants of migrant household consumption by emphasizing skilled-labor differences. The results can provide insight into the determinants of migrant household consumption and can help determine effective methods to boost domestic demand and accelerate the urbanization of migrants.

2. The Influence of Education on Migrants' Consumption

The education level of early migrant workers is low, and they principally engaged in physical labor with low income. New highly educated skilled migrant workers mainly engage in mental labor with higher income, and their consumption behavior differs from that of labor migrants [17], because education improves human capital, namely the quality and capacity of migrant workers, which increases their income. Education and the increase in income affect consumption level and consumption structures (Figure 1).

Figure 1. Mechanism of education influencing consumption.

2.1. Education Helps to Increase Household Consumption

Education can increase household income, thereby increasing consumption. According to human capital theory, workers' income mainly depends on their intelligence, skills, and knowledge. Education is the most basic and effective method of human capital investment. Education promotes migrant workers' knowledge and skills, thus improving labor productivity [18]. Therefore, workers can obtain higher compensation. The theory of consumption function suggests that income is the premise of consumption [19]. Increases in household income encourage families to buy more and higher-quality products, thereby promoting household consumption.

Education develops householders' consumption skills and improves household consumption. Consumption skills refer to the knowledge and skills of consumers in purchasing and using commodities. Education is the most effective method of improving consumers' scientific and cultural quality, thereby improving householders' consumption skills. First, education improves people's ability to access information and increases receptiveness to new things, thus broadening their consumption channels. People with higher education levels are exposed to more information, and are thus more likely to obtain product information through advertisements on various platforms. They also are more receptive to new patterns of consumption, such as online shopping [17]. Widened consumption channels can improve consumption. Second, education improves people's ability to use and maintain goods. People with higher education levels can understand the product instructions of new complex products [20], such as electronic products. Consumers usually only buy products if they know how to use them.

Hypothesis 1 (H1). *The income level of skilled migrant households is higher than that of labor migrant households.*

Hypothesis 2 (H2). *The consumption level of skilled migrant households is higher than that of labor migrant households.*

2.2. Education Promotes Consumption Structure

The consumption structure refers to the proportional relationship between various types of commodities. Engels divided consumption into three levels: the basic level of survival needs, a higher level of enjoyment needs, and the highest level of development needs. Clothing, food, housing, durable goods, transportation, telecommunication, and health care belong to survival consumption. Education, entertainment, and commercial insurance, among other items, belong to hedonic and developmental consumption. More advanced consumption structures are associated with smaller proportions of survival consumption [21].

Education increases the income and consumption capacity of migrant households [17], thereby promoting a more favorable consumption structure. The education and income levels of early migrant workers are low, and household income determines the household consumption structure. When low-level survival consumption needs are met, people will seek high-level hedonic and developmental consumption. Education helps to increase people's income, which provides a material basis for migrant households to develop higher-level hedonic and developmental consumption.

Education directly promotes the migrant household consumption structure by improving householders' cultural literacy and expanding the scope of their consumption. Education can expand people's consumption horizon and demand [21]. The improvement in householders' education level increases their range of knowledge, which leads to them exploring new consumption areas and seeking consumption needs outside survival consumption [22]. An increasing number of products require that consumers have high professional knowledge and cultural literacy. For example, in terms of durable goods, householders with higher education levels would select advanced smart electronic products, whereas people with low education levels rarely purchase these goods. Secondly, education can change consumers' preference from low-level material consumption to high-level spiritual consumption [23]. During highly educated householders' spare time, they choose a training course or high-end recreational activities to improve personal quality and spiritual enjoyment, such as fitness, tourism, culture, and art courses, whereas less-educated people prefer low-end recreational activities that kill time, such as playing cards, drinking alcohol, and watching TV.

Hypothesis 3 (H3). *The consumption structure of skilled migrant households is more advanced than that of labor migrant households.*

2.3. Education Indirectly Influences Consumption

Apart from education and income, numerous other factors influence consumption. According to related studies, factors affecting consumption in migrant households in the host city can be classified into four categories: economic factors, family factors, individual factors, and other factors. Economic factors mainly include income [24], household wealth accumulation and debt [2,25]. Family factors are based on family structure, such as family size, age dependency ratio, and sex ratio of unmarried children [26]. Individual factors mainly refer to the characteristics of householders, such as age [15], education level [17], occupation [16], sex, and marital status [1]. Other factors include settlement intention [21], insurance [27], and social security [24,28].

Education indirectly influences consumption by influencing these factors. In addition to income level, education improves income stability and influences household asset allocation. Furthermore, people with higher education have lower fertility rates, and the proportion of people who prefer

sons over daughters among people with higher education is lower than among their less-educated counterparts. Moreover, education enables women to engage in mental labor with higher income and improves female members' family status. Education may also influence other factors. For example, highly educated migrants are more likely to work in large companies that provide complete endowment insurance, medical insurance, unemployment insurance, industrial injury insurance, maternity insurance, and housing provident funds. Low-educated migrant workers tend to work in small companies or self-employed small businesses that cannot provide the same security.

Hypothesis 4 (H4). *The same factors exert different effects on skilled migrant and labor migrant household consumption.*

3. Data and Methods

3.1. Data

This study uses data from a 2017 survey performed in six core cities of the PRD region- Guangzhou, Shenzhen, Dongguan, Foshan, Zhuhai, and Zhongshan, which is the pioneer region of the reform and opening-up initiative of China because it is adjacent to two special administrative regions (Hong Kong and Macao), and have lax investment and tax policies. Therefore, foreign capital and migrant population firstly flooded to the PRD region, apart from the Yangtze River Delta and Beijing-Tianjin-Hebei regions. Moreover, the PRD region is part of the Guangdong-Hong Kong-Macao Greater Bay Area, which is the only bay area in China. In 2016, the number of migrants in these six core cities was 25.5 million, accounting for 10.41% of the total migrants in China. The PRD region will become one of the regions with the highest degree of openness and the strongest economic vitality, and will continuously attract numerous migrants. Through a survey, data are gathered on the remittances, income, savings, demographics, and socioeconomic characteristics of over 2000 internal migrants who had worked in the PRD region for at least 6 months. The complete sample size is 2213.

3.2. Tobit Model

In statistics and economics research, censoring is a condition in which the value of an observation is only partially known. In the present study, household consumption data are censored because not all migrant families display every type of consumption in a given year [29]. Therefore, ordinary least squares regression is used to generate biased estimates. The most commonly used censored regression model is the Tobit model [30].

Migrant household consumption is assumed to be a function of economic factors, family factors, individual factors, settlement intention, and uncertainty factors. Therefore, the level of migrant household consumption is given by the following equation

$$Y_i = \begin{cases} Y_i^*, & Y_i^* > 0 \\ 0, & Y_i^* \leq 0 \end{cases} \quad (1)$$

where Y_i is per capita annual consumption that the i th migrant family expend, which is observed if Y_i^* is positive. The value of Y_i^* is calculated as follows

$$Y_i^* = \alpha_{0i} + \alpha_{1i}EC_i + \alpha_{2i}FM_i + \alpha_{3i}IN_i + \alpha_{4i}SI_i + \alpha_{5i}SS_i + \varepsilon_i, \text{ where } \varepsilon_i \in N(0, \sigma^2) \quad (2)$$

where EC is a vector of variables representing household economic status; FM is a set of variables, including family structure factors; IN denotes individual factors; SI represents a set of variables denoting settlement intention; SS includes some insurances types that reflect social security coverage; and ε_i is an independently and normally distributed error term with a mean of zero and constant variance of σ^2 .

3.3. Variables

Different types of consumption, mainly following the definition provided by the National Bureau of Statistics of China, are considered to explore the consumption allocation patterns of migrant households. Household consumption is clustered into three categories: survival, hedonic and developmental, and social communication. Survival consumption consists of items that satisfy basic survival needs, namely food, alcohol, tobacco, clothing, housing, transportation, telecommunication, durable goods, healthcare, and medical services. Hedonic and developmental consumption consists of education, culture and entertainment, commercial insurance, housekeeping, and other necessities and services that satisfy needs related to material and spiritual enjoyment, education, and life security. Social communication includes weddings, funerals, and gifts [21]. The total consumption, survival consumption, hedonic and developmental consumption, and social communication consumption per capita are selected as the dependent variables.

Economic factors capture migrant household economic status in host cities, including income and wealth accumulation. Income is viewed as the key factor driving household consumption [24]. Wealth accumulation also influences household consumption. Household income is unstable, whereas wealth accumulation is a result of long-term accumulation; thus, current income level cannot fully represent household wealth. Household wealth accumulation can be divided into housing wealth, financial wealth, and durable wealth [2,25]. A negative correlation may exist between household wealth and consumption. When income levels are similar, households with higher levels of wealth may have thrifty lifestyles. Their consumption levels tend to be lower, especially in terms of nonessential consumption, such as social interaction and hedonic consumption [2,21]. Financial wealth has a positive effect on consumption [2,25].

Family factors depict the structure of migrant households, including family size [21] and the children dependency ratio in host cities. Children are often considered as insurance against health shocks [26].

Individual factors capture the characteristics of the householders, including age, gender, years of education, marital status, and household registration type. New-generation migrants, born after 1980, tend to consume more in urban settings and send fewer remittances [15]. Migrant households with a nonlocal urban householder have a noticeably higher income, consumption, and consumption rate per capita because they are included in the comprehensive social security system [24]. Education level also substantially influences consumption [17]. Migrant families with higher education levels spend more on education, status, and hedonic consumption to ameliorate their social status and living conditions [21]. Households with parents working as professionals tend to spend more on education [16].

Several other factors are assessed in this study, including settlement intention, social contact, and insurance. Settlement intention reflects the plans of migrants after a comprehensive evaluation of their development potential is conducted [31]. Migrant families with a strong settlement intention are likely to consume in host cities and exhibited a consumption structure similar to that of locals [21,31]. Short-term and long-term settlement intentions are considered separately. Having close friends and relatives in host cities significantly promotes settlement intention [32]. Migrant families who do not have medical or pension insurance must increase precautionary savings and rein in consumption [24]. Medical insurance has a positive effect on non-medical-related consumption [27]. The New Cooperative Medical Scheme (NCMS) and the New Rural Social Pension (NRSP) are voluntary health insurance and voluntary insurance schemes that China launched for rural residents [28]. Commercial insurance refers to the insurance offered by insurance companies. The housing provident fund, implemented by the Chinese Government, requires employers and employees to contribute to a pool used to provide mortgage loans to participants. The dependent variables and explanatory variables are listed in Table 1.

Table 1. Description of variables.

Type	Variables	Description
Dependent variable	Per capita consumption	Natural logarithm of per capita annual consumption in host city
	Per capita survival consumption	Natural logarithm of per capita annual survival consumption in host city
	Per capita hedonic and developmental consumption	Natural logarithm of per capita annual hedonic and developmental consumption in host city
	Per capita social communication consumption	Natural logarithm of per capita annual social communication consumption in host city
Economic factors	Income	Natural logarithm of per capita annual income in host city
	Housing wealth	Natural logarithm of per capita housing wealth value in host city
	Financial wealth	Natural logarithm of per capita financial wealth value in host city
	Durable wealth	Natural logarithm of per capita durable wealth value in host city
Family factors	Family size	Number of family members in host city
	Children dependency ratio	The children dependency ratio
Individual factors	New generation	New generation, where 0 = No, 1 = Yes
	Gender	Householder gender, where 0 = female, 1 = male
	Education year	Natural logarithm of education years of householder
	Marital status	Marital status of householder, where 0 = Unmarried, 1 = Married, divorced, widowed
	Registration type	Household registration type of householder, where 0 = Rural Hukou, 1 = Urban Hukou
Settlement intention factors	Short-term settlement intention	Short-term settlement intention, where 1 = No, 2 = Undecided, 3 = Yes
	Long-term settlement intention	Long-term settlement intention, where 1 = No, 2 = Undecided, 3 = Yes
	Relative Close friend	Number of relatives in host city Number of close friends in host city
Social security factors	NCMS/NRSP	New Cooperative Medical Scheme (NCMS)/New Rural Social Pension (NRSP), where 0 = No, 1 = Yes
	Commercial insurance	Commercial insurance, where 0 = No, 1 = Yes
	Housing provident fund	Housing provident fund, where 0 = No, 1 = Yes

4. Basic Characteristics of Migrant Household Income and Consumption

4.1. Income and Consumption Levels of Migrant Households

Migrant household income and consumption can be divided into income and consumption in the host city, hometown, and other regions. As displayed in Table 2, income and consumption in the host city are predominant. Household income and consumption in host cities account for 72.58% and 73.32%, respectively. The income and consumption per capita (6036.45 and 3959.03 USD, respectively) of a migrant household in a host city are close to those of permanent households in the PRD region in 2016 (6038.44 and 4428.69 USD, respectively). The propensity to consume of migrant households (64.31%) is lower than that of permanent residents (73.34%). Therefore, the consumption potential of migrants is large.

Table 2. Description of migrant households' per capita income and consumption.

	All	Skilled Migrant Household	Labour Migrant Household
Proportion of income in host city (%)	72.58	63.37	77.04
Proportion of income in hometown (%)	16.92	22.08	14.42
Proportion of income in other regions (%)	10.50	14.55	8.54
Per capita annual income (USD)	4648.46	7721.04	3898.33
Per capita annual income in host city (USD)	6036.45	9437.72	5279.73
Per capita annual income in hometown (USD)	2146.95	4410.48	1555.66
Per capita annual income in other regions (USD)	6526.11	11,825.59	4766.40
Proportion of consumption in host city (%)	73.32	74.82	72.70
Proportion of consumption in hometown (%)	19.93	17.88	20.78
Proportion of consumption in other regions (%)	6.75	7.30	6.52
Per capita annual consumption (USD)	3018.17	4499.11	2656.62
Per capita annual consumption in host city (USD)	3959.03	6493.44	3395.16
Per capita annual consumption in hometown (USD)	1642.40	2080.66	1527.92
Per capita annual consumption in other regions (USD)	2724.20	3458.31	2480.44

The income and consumption per capita of a skilled migrant household is higher than those of a labor migrant household (Table 2), which supports H1 and H2. The annual income and consumption per capita of skilled migrant households in the host city (9437.72 and 6493.44 USD) are between those of upper-middle-income urban permanent households (7072.40 and 5153.79 USD) and high-income urban permanent households (11,206.52 and 7837.79 USD) in Guangdong Province. Although the annual income per capita of labor migrant households in the host city (5279.73 USD) is slightly lower than the income per capita of middle-income households (5668.59 USD), the consumption of labor migrant households (3395.16 USD) is significantly lower than that of middle-income households (4295.69 USD) per capita. The consumption level is closer to that of lower-middle-income households (3418.40 USD). The propensity to consume among skilled migrant households (68.80%) is slightly lower than that of urban permanent households with the same income level (69.94–72.87%). However, the propensity to consume among labor migrant households (64.31%) is significantly lower than that of urban permanent households at the same income level (75.78%).

4.2. Consumption Structure of Migrant Household

Survival consumption dominates migrant household consumption, accounting for 74.79% of total consumption. Hedonic consumption is increasing (Table 3) but food and housing are still the two largest items in terms of consumption proportions. Compared with the findings of the National Migrant Dynamic Survey in 2012 [33], the share of food consumption decreased from 48% to 25.32%. The share of spending on housing increased slightly from 17% to 20.17% because the living standards of migrant households are improving, which reduces the ratio of food consumption and strengthens settlement intentions, leading to an increase in spending on housing. The consumption of health care and medical services of migrant households is lower than in urban households, because the migrant households are younger than urban households. This phenomenon is also observed in Vietnam [5]. Notably, migrant households spent more on education, culture, and entertainment than urban residents in Guangdong. This is consistent with findings from studies that reported that migrant children in China are excluded from local student enrolment systems because of restrictions of the household registration system [34,35]. Therefore, migrant households had to pay more for the same educational resources as local urban households. This phenomenon indicates the need for reforms to improve equality of access to education in China.

Table 3. Structure of migrant household per capita consumption.

	Urban Residents in Guangdong (USD)	All Migrant Household (USD)	Skilled Migrant Household (USD)	Labour Migrant Household (USD)	All Migrant Household (%)	Skilled Migrant Household (%)	Labour Migrant Household (%)
Survival consumption	3709.53	2960.95	4866.12	2537.09	74.79	74.94	74.73
Food, tobacco and liquor	1418.42	1002.23	1283.15	939.73	25.32	19.76	27.68
Clothing	238.38	246.08	399.06	212.04	6.22	6.15	6.25
Housing	965.08	798.68	1561.69	628.93	20.17	24.05	18.52
Durables goods	259.22	398.69	867.91	294.30	10.07	13.37	8.67
Transportation & telecommunication	632.02	369.17	582.66	321.68	9.32	8.97	9.47
Health care & medical services	196.39	146.09	171.66	140.40	3.69	2.64	4.14
Hedonic and developmental consumption	/	760.84	1284.76	644.27	19.22	19.79	18.98
Education, culture and entertainment	467.22	531.51	748.72	483.18	13.43	11.53	14.23
Commercial insurance	/	92.24	218.23	64.21	2.33	3.36	1.89
Other necessities and services	131.00	137.09	317.82	96.89	3.46	4.89	2.85
Social communication consumption	/	237.24	342.56	213.81	5.99	5.28	6.30
Gifts	/	139.53	198.83	126.33	3.52	3.06	3.72
Weddings and funerals	/	97.71	143.73	87.47	2.47	2.21	2.58
Total	/	3959.03	6493.44	3395.16	100.00	100.00	100.00

The consumption structure of skilled migrant households is more advanced than that of labor migrant households because labor migrant households tend to consume to satisfy survival needs. The proportion of food consumption of skilled migrant households (25.32%) is lower than for labor migrant households (19.76%), whereas the proportions of consumption on housing, durable goods, commercial insurance, services, and other necessities are higher (Table 3), which supports H3. The income level of skilled migrant households is higher, their settlement intentions are stronger, and they are more concerned with obtaining a high quality of life. Therefore, skilled migrant households tended to rent or buy apartments and buy durable goods, such as furniture, domestic appliances, and electronic products.

5. Modelling Results and Discussion

The regression results for the determinants of total consumption, survival consumption, hedonic and developmental consumption, and social communication consumption of skilled migrant and labor migrant households are reported in Table 4.

5.1. Economic Factors

According to classic theories of consumption, household income is the key factor determining household consumption. The results of this study are consistent with these theories. Income significantly improved the total household consumption and subtype household consumption of all migrant households (Table 4), indicating that high-income migrant families spend more. Wealth accumulation generally improved household consumption. Durable wealth is positively related to all types of household consumption, and housing wealth has a significantly positive effect on total household consumption and survival consumption. Financial wealth is positively related to total household consumption and hedonic and developmental consumption, but the effect size of financial wealth is the effect size of durable wealth and housing wealth (Table 4). The results are consistent with studies that reported that the housing wealth effect is larger than the financial wealth effect [2], which may be because of the following factors. First, durable wealth, such as household appliances, automobiles, antiques, and jewelry, symbolizes living standards. Families with more durable wealth have a higher consumption capacity. Second, the purchase of property is the goal of numerous Chinese families, and owning a house in the host city is a valuable symbol of settlement. Higher levels of housing wealth in the host city are associated with higher levels of completion of family life goals and stronger settlement intentions, which causes migrant households to allocate more income for consumption. Third, the education level of migrant households is relatively low. Therefore, they favor investing in real estate property or their own business over stocks, funds, or bonds. Therefore, financial wealth cannot fully reflect the level of wealth accumulation of a Chinese migrant household.

Differences between skilled migrant and labor migrant households exist in the effects of household wealth accumulation in the host city on household consumption. Housing wealth has a greater effect on skilled migrant households than on labor migrant households. The regression coefficients and significance levels of the effect of housing wealth on survival consumption and hedonic and developmental consumption of skilled migrant households are higher than those of labor migrant households (Table 4). The housing consumption (1561.69 USD) and homeownership rate (19.6%) of skilled migrant households are higher than those of labor migrant households (628.93 USD, 7.2%) (Table 3). The settlement intention and ability of skilled migrant households are stronger than those of labor migrant households. Therefore, housing wealth in the host city reflects the wealth accumulation of skilled migrant households. Moreover, durable wealth is significantly and positively correlated with the hedonic and developmental consumption of labor migrant households and social communication consumption of skilled migrant households (Table 4).

Table 4. Regression results of determinants of migrant household consumption.

Variable	Total Consumption			Average Survival Consumption			Average Hedonic and Developmental Consumption			Average Social Communication Consumption		
	All Migrant Household	Skilled Migrant Household	Labour Migrant Household	All Migrant Household	Skilled Migrant Household	Labour Migrant Household	All Migrant Household	Skilled Migrant Household	Labour Migrant Household	All Migrant Household	Skilled Migrant Household	Labour Migrant Household
Income	0.32 ***	0.242 ***	0.356 ***	0.303 ***	0.215 ***	0.341 ***	0.599 ***	0.456 ***	0.719 ***	1.129 ***	1.498 ***	0.955 ***
Housing wealth	0.016 ***	0.024 ***	0.012 **	0.015 ***	0.024 ***	0.01 *	0.010	0.044 *	0.001	0.005	0.003	0.010
Financial wealth	0.005 *	0.004	0.005	0.004	−0.003	0.005	0.037 *	0.026	0.041 *	0.026	0.016	0.030
Durable wealth	0.047 ***	0.068 ***	0.04 ***	0.054 ***	0.076 ***	0.046 ***	0.151 ***	0.042	0.166 ***	0.089 **	0.244 ***	0.061
Family size	−0.176 ***	−0.244 ***	−0.167 ***	−0.166 ***	−0.257 ***	−0.152 ***	−0.032	−0.344 **	0.005	−0.201 *	−0.043	−0.238 *
Children dependency ratio	0.037 ***	0.007	0.047 ***	0.016	−0.009	0.026 **	0.405 ***	0.218 **	0.452 ***	0.152 *	0.177	0.128
New generation	−0.121 ***	−0.006	−0.138 ***	−0.059 *	−0.002	−0.065 *	−0.504 **	0.373	−0.699 ***	−0.268	0.589	−0.449
Gender	−0.026	−0.16 *	0.050	−0.043	−0.141	0.018	−0.602 **	−0.586 *	−0.614	0.071	−0.659	0.628
Education year	0.018 ***	0.010	0.012 **	0.016 ***	−0.019	0.009 *	0.08 ***	0.109	0.081 **	0.126 ***	0.180	0.12 ***
Marital status	−0.003	0.098	0.007	−0.077	0.126	−0.094	−0.076	−0.258	0.187	1.635 ***	0.467	1.971 ***
Registration type	0.028	−0.063	0.052	−0.006	−0.087	0.016	0.139	0.029	0.178	−0.551 *	−0.322	−0.714 *
Short-term settlement intention	0.032	−0.061	0.044 **	0.04 **	−0.081	0.057 ***	0.086	−0.082	0.103	0.294 **	0.322	0.294 *
Long-term settlement intention	0.071 ***	0.085 **	0.071 ***	0.07 ***	0.081 *	0.072 ***	0.269 **	0.123	0.322 **	−0.218	−0.657 ***	−0.080
Relative	0.006 ***	0.006	0.006 **	0.006 **	0.010	0.005 **	0.029 **	0.009	0.031 *	0.036 **	0.030	0.038 **
Close friend	0.006 ***	0.015 ***	0.005 **	0.003 *	0.009 *	0.003	0.024 **	0.04 **	0.023	0.036 ***	0.032	0.038 **
NCMS/NRSP	0.099 ***	−0.013	0.119 ***	0.068 *	−0.018	0.083 **	0.198	−0.230	0.262	1.152 ***	0.798	1.262 ***
Commercial insurance	0.327 ***	0.155 **	0.381 ***	0.196 ***	0.079	0.226 ***	2.27 ***	1.271 ***	2.672 ***	0.56 **	0.393	0.663 *
Housing Provident Fund	0.061 *	0.137 **	0.015	0.096 ***	0.216 ***	0.044	0.412 **	0.355	0.380	0.408 *	0.559	0.322
Constant	6.217 ***	7.237 ***	5.847 ***	6.131 ***	7.801 ***	5.724 ***	−0.275	2.518	−1.911	−10.921 ***	−16.489 ***	−9.425 ***

* Significance level at 10%. ** Significance level at 5%. *** Significance level at 1%.

5.2. Family Factors

Family size had a significantly negative effect on migrant household consumption, except hedonic and developmental consumption (Table 4), indicating that a higher number of family members reduced the per capita household consumption. Family size influenced survival consumption the most. The children dependency ratio had a significantly positive correlation with migrant household consumption, except survival consumption (Table 4), which is consistent with previous findings that household savings decrease with the number of dependent children [26]. Migrant households had to pay more for their children to attend school in host cities because of the restrictions of the household registration system.

Differences between skilled migrant and labor migrant households are observed in the effects of family factors on household consumption. Family size had significant negative effects on the hedonic and developmental consumption of skilled migrant households and the social communication consumption of labor migrant households. The children dependency ratio increased the average household consumption and survival consumption of labor migrant households, whereas it did not have the same effect on skilled migrant households (Table 4). Chinese families usually prioritize their children and reduce other family members' consumption to provide their children with comfortable and stable living conditions [26]. The income levels of skilled migrant households are significantly higher than those of labor migrant households. Consequently, they did not have to reduce the survival consumption of other family members to provide for their children, whereas labor migrant households sometimes did. Therefore, the average household consumption and survival consumption of a skilled migrant household are not significantly affected by the children dependency ratio.

5.3. Individual Factors

The new generation exhibited significant and negative correlations between individual factors and migrant household consumption, except for social communication consumption. These factors influenced hedonic and developmental consumption the most (Table 4), indicating that new-generation migrant families consumed less in host cities. Gender is only significantly and negatively correlated with hedonic and developmental consumption (Table 4), indicating that female householders spent more on entertainment and education. This is consistent with findings in Korea that the mother's income, and not the father's, is positively associated with children's educational consumption [36]. Education year improved migrant household consumption. The influences of marital status and registration type on migrant household consumption are weak. They are only significantly associated with social communication consumption (Table 4), indicating that married migrant families or rural hukou migrant families spend more on social communication. The influence of registration type on migrant household consumption is weaker than in a previous study [24] (Table 4), indicating that the restrictions of rural hukou have gradually decreased in recent years. The significant effect of gender on hedonic and developmental consumption suggests that female householders emphasize living standards and human capital investment more than male householders.

Differences between skilled migrant and labor migrant households are observed in the effects of individual factors on household consumption. The new generation only differs significantly in labor migrant household consumption (Table 4) because the education and income levels of skilled migrant households are higher than those of labor migrant households, and thus the generational differences between skilled migrant households are lower. Age had a statistically significant effect on labor household consumption but with fewer generational differences among skilled migrant households. Gender is significantly and negatively correlated with the average household consumption and hedonic and developmental consumption of a skilled migrant household (Table 4), suggesting that the family status of women in skilled migrant households is higher than in labor migrant households. Education year only significantly affects labor household consumption (Table 4), possibly because the overall education level of a skilled migrant householder is considerably higher than among labor migrant householder, and the marginal effect of the difference in education level is diminished.

5.4. Settlement Intention Factors

The effects of long-term settlement intention on migrant household consumption are stronger than the effects of short-term settlement intention. Long-term settlement intention significantly promotes migrant household consumption, whereas short-term settlement intention is significantly and positively correlated with survival and social communication consumption (Table 4) because return intention improves the amount of remittances and savings. Furthermore, migrant families with strong settlement intentions are likely to consume in their host cities and exhibit a consumption structure similar to locals [21]. Compared with short-term settlement intention, long-term settlement intention can reflect the plans of migrants more objectively. Relatives and close friends improved migrant household consumption by promoting settlement intention and increasing the frequency of social communication.

Differences between skilled migrant and labor migrant households are observed in the effects of settlement intention factors on household consumption. Short-term settlement intention only affects the survival and social communication consumption of labor migrant households (Table 4), indicating that skilled migrant households valued long-term plans over short-term plans. Relatives only affected labor migrant household consumption, whereas close friends affected skilled migrant household consumption, except for social communication consumption (Table 4). These results can be attributed to the fact that in social communication, labor migrant families prefer to contact friends and relatives from their hometowns, and they still rely on traditional and family-based social networks. From the interviews, we determine that most labor migrant families obtain new jobs based on recommendations by relatives because of their low education levels, whereas skilled migrants are less constrained when applying for jobs because of their high education levels. Therefore, skilled migrant families do not rely on traditional and family-based social networks to the same extent as labor migrant families. Furthermore, skilled migrant families built new and localized social networks by making friends at school and work, which accorded with previous findings [37].

5.5. Social Security Factors

Insurance and the housing provident fund stimulate migrant household consumption (Table 4) because insurance provides a sense of security and suppresses precautionary saving [27]. However, differences between skilled migrant and labor migrant households are observed in the effects of social security factors on household consumption. The NCMS and NRSP only affect labor migrant household consumption, and housing provident funds only affect skilled migrant household consumption (Table 4). The NCMS and NRSP are rural-oriented social security schemes, and per capita insurance fees are low. Most skilled migrant households are employed under permanent or long-term contracts, and their employers provide compulsory pension insurance, medical insurance, and housing provident funds, whereas most labor migrant households hold temporary jobs or are self-employed [24]. Therefore, they must buy their insurance, and most choose the NCMS and NRSP. Labor migrant household consumption is more affected by commercial insurance than skilled migrant household consumption is (Table 4). The income level of labor migrant households is relatively low, and commercial insurance is more expensive than the NCMS and NRSP. Therefore, commercial insurance reflects the income level of labor migrant households more realistically. Labor migrant households may buy commercial insurance as supplementary insurance because their employers do not provide as much coverage as the employers of skilled migrant workers.

Education indirectly influences consumption by affecting economic factors, family factors, individual factors, settlement intention factors, and social security factors. These factors had different effects on skilled migrant and labor migrant household consumption (Table 4), which supports H4.

6. Conclusions and Policy Implications

With China's industrial transformation and college enrolment expansion, a new type of migrant worker has emerged: skilled migrants. Highly educated skilled migrants' occupations, earnings, consumption habits, and lifestyles differ significantly from those of their less-educated counterparts. This study examines the income and consumption patterns of migrant households and investigated the differences between determinants of the consumption of skilled migrant and labor migrant households in a host city using data from a migrant survey performed in 2017 in the PRD region, China.

Most migrant household income and consumption occurred in host cities. Survival consumption, especially food and housing, still dominates migrant household consumption. The propensity to consume is lower among migrant households than among permanent residents. Economic factors, family factors, individual factors, settlement intention factors, and social security factors significantly affect migrant household consumption.

Education increases income and changes consumption behaviors. The income and consumption levels of skilled migrant households are significantly higher than among labor migrant households, and the propensity to consume in skilled migrant households is higher than in labor migrant households. Moreover, the consumption structure of skilled migrant households is more advanced than that of labor migrant households.

Education directly and indirectly influences consumption by affecting economic factors, family factors, individual factors, settlement intention factors, and social security factors. These factors had different effects on skilled migrant and labor migrant household consumption. Firstly, education increased income; the income of skilled migrant households is significantly higher than the income of labor migrant households. Therefore, skilled migrant household consumption is less sensitive to the children dependency ratio, NCMS/NRSP, and commercial insurance than labor migrant household consumption. Furthermore, skilled migrant households have stronger settlement ability, and consumption is thus more sensitive to housing wealth accumulation. Secondly, the education level of skilled migrant households is significantly higher than that of labor migrant households. High education levels can reshape cognition and narrow the generation gap. Therefore, skilled migrants value long-term settlement intentions over short-term settlement intentions, new and localized social networks over a traditional and family-based social network, and higher family status for women. The long-term settlement intentions, close friends, and gender of householders affect skilled migrant household consumption, whereas short-term settlement intentions, close relatives, age of householders, and generation migrant families affected labor migrant household consumption. Moreover, education level only significantly promotes labor migrant household because the overall education level of skilled migrants is high enough. Thirdly, education improves migrant workers' occupation grading, and occupation differences lead to differences in insurance. Skilled migrant families could afford to buy comprehensive insurance, whereas labor migrant families often relied on the NCMS/NRSP and commercial insurance. Therefore, the consumption of skilled migrant households is affected by commercial insurance and the housing provident fund, and the consumption of skilled migrant households is affected by the NCMS/NRSP and commercial insurance.

Improvements in migrant household consumption are fundamental to the continual expansion of domestic demand and the complete urbanization of migrants. Statistical analysis has indicated that the propensity to consume among migrant households is lower than among urban permanent households, especially for labor migrant households. The modeling results indicate that income is the paramount factor in promoting consumption, and education can significantly increase income. The income and consumption level of skilled migrant households is at the upper middle level. Therefore, the most effective approach to increasing migrants' consumption is to improve their education level, thereby raising their income. The modeling results further indicate that the authorities should extend the urban social welfare system, especially social security, affordable housing, and children's education, to cover migrant households, especially low-income labor migrants. These reforms are crucial to reduce future uncertainties, improve the risk-bearing capacity, and improve the settlement intention and ability

among migrant households. Furthermore, these reforms would create an opportunity for the next generation to develop equally alongside children from urban households.

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