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Consumption and Social Integration: Empirical Evidence for Chinese Migrant Workers

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Abstract

This paper investigates the nexus between consumption and social integration of Chinese migrant workers using survey data with 869 samples from four Chinese provinces. The study suggests the following results: (1) Migrant workers are less integrated in terms of psychological integration and cultural integration, but they are strongly motivated to integrate into host societies; (2) An increase in consumption is associated with an increase in the social integration of migrant workers. This effect is stronger for new-generation migrant workers and weaker for high-income migrant workers; (3) Entertainment consumption plays the most important role in the social integration of migrant workers, whereas the effect of housing consumption on social integration is found to be negative; (4) Among all types of consumption behaviors, rational consumption is beneficial to the social integration of migrant workers, whereas impulsive consumption is harmful. The effects of economic consumption and conspicuous consumption are not significant.

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Keywords Consumption; consumption behavior; migrant workers; social integration

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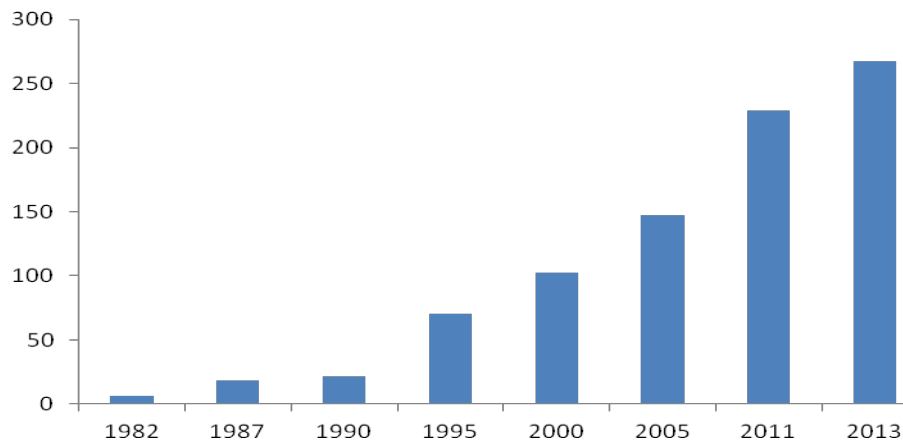
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1 Introduction

Over the last three decades, the fast development of China's urban economy since the reform and opening-up policy of the 1970s has encouraged more and more rural workers, so-called migrant workers, to move into the cities to work.¹ According to survey data from the National Bureau of Statistics of China (NBS), the number of migrant workers was 267 million in 2013, an increase of 6.33 million over the previous year (see Picture 1). "TIME" magazine once called the phenomenon of migrant workers in China "one of the largest migrations in human history". The massive movement of rural labor force dramatically accelerates China's urbanization. The data released by the NBS show that the urbanization rate reached 53.7% in 2013, implying that about 731 million people resided in cities, and the remaining 630 million people lived in rural areas. The rapid development of urbanization has already changed the demographic structure dramatically and has become a strong driving force for the sustainable development of China's economy.

Picture 1: the number of migrant workers in China (in millions)



Data source: Data for 1982, 1990 and 2000 are from the National Population Census. Data for 1987 and 2005 are from the 1% Demographic Sampling Surveys. Data for 2011 and 2013 are from the survey data of the National Bureau of Statistics (NBS).

Nevertheless, China faces many challenges concerning urbanization. According to international experience, the movement of workers and their consequent settlement usually occur simultaneously (Wei, 2008), which is not the case in China. Most of the migrant workers from

¹ The term "migrant workers" refers to the rural-urban migrants who work in an urban area whilst keep the rural Hukou.

rural areas cannot integrate into the host cities due to many obstacles, such as low income, household registration (Hukou) and discrimination by local residents (Wang et al., 2002; Li et al., 2007).² Most Chinese migrant workers experience a certain typical life, which is working in the city, building a house in their rural hometown, leaving their children at home and returning home annually during the spring festival. The survey data of China's urbanization issued by Tsinghua University show that the residential urbanization rate was only 27.6%, which is much lower than the nominal urbanization rate in 2013. A great number of migrant workers are in a state of "semi-urbanization" (Wang, 2001) and form a "dual community" in the city (Zhou, 2000).

Owing to the rapidly growing number of migrant workers and their important economic and social impacts, a growing body of literature sheds light on the social integration of migrant workers,³ but very little is known about the relationship between consumption and the integration of migrant workers. In fact, people will choose the appropriate consumption behavior corresponding to their identity (Wang, 2001). In addition to the change of living environment, migrant workers inevitably undergo a lifestyle transformation from traditional to modern, while still retaining some original rural traits. Relevant surveys suggest the following characteristics of Chinese migrant workers' consumption: (1) the consumption level of migrant workers increases rapidly, (2) the consumption of culture, sport and entertainment increases continuously, although life necessities still dominate consumption, (3) economic consumption in the city and conspicuous consumption in the rural area coexist.⁴ Weber (1968) claims that consumption affects lifestyle, values and social psychology. Douglas and Isherwood (1979) make a similar claim in relation to consumption: "goods are neutral, their uses are social; they can be used as fences or bridges".

The major motivation of this paper is to address the gap in literature by investigating the nexus between consumption and social integration of Chinese migrant workers, using data from a survey with 869 migrant workers from four provinces in China. Our study suggests the following results: First, migrant workers are less integrated in terms of psychological integration and cultural

² The system of household registration (hukou) divides the Chinese population into agricultural hukou and non-agricultural hukou. The latter is economically and socially superior to the former, with vastly different labor-market entry processes and different access to high-level occupations, housing, medical care and pension benefits.

³ Bai and Li (2010) provide a very good survey.

⁴ A national monitoring survey of migrant workers issued by the NBS in 2013 shows that the average monthly consumption of all migrant workers is 1345 yuan with an increase of 22% over the previous year, while this number is 1500 yuan for national urban residents and 787 yuan for national rural residents. The food expenditure is 589 yuan, accounting for 44%, housing expenditure is 345 yuan, accounting for 25%, transport, communications and entertainment expenses are 311 yuan, accounting for 23%.

integration, but they are strongly motivated to integrate into their host societies. Migrant workers that are male, that belong to a younger generation, that have better education or a high income enjoy better social integration than their respective counterparts. Second, an increase in consumption has a positive effect on the social integration of migrant workers. This effect is stronger for new-generation migrant workers and weaker for high-income migrant workers. However, income, institutional quality and social interaction are the three most important factors affecting the social integration of migrant workers. Third, entertainment consumption plays the most important role in the social integration of migrant workers, while the effect of housing consumption on social integration is negative. Finally, rational consumption improves the social integration of migrant workers, impulsive consumption weakens the social integration, and there is no effect for economic consumption and conspicuous consumption.

We make contributions to the aforementioned study in threefold. First, we investigate the effects of consumption on the social integration of migrant workers, which is an important but overlooked factor affecting social integration. Second, we exploit a five-dimensional indicator including social distance, cultural integration, psychological integration, social interaction and settlement to measure the social integration of migrant workers, which is more comprehensive and objective. Third, we implement a more detailed investigation by dividing consumption into consumption level, consumption structure and consumption behavior, which endows our study with more findings and policy implications. Finally, unlike several other studies using second-hand data, we employ first-hand data through a field survey with large observations from different regions. The match between data and study objective allows us to gain a better understanding of the connection between consumption and social integration.

The remainder of the paper is organized as follows. Section 2 reviews related literature. Section 3 introduces the data we use, our measure of social integration of migrant workers and our setups of the empirical specifications. Section 4 presents the empirical results. The last section concludes.

2 Literature review

2.1 Definition of social integration

Integration is one concept used to explain the changing relationship between relative newcomers to a country and the society in which they live. Early in the 1890s, the Chicago School of Sociology began to study how immigrants from Europe to America adapted to the new environment. Since then, research on social integration has included anthropology, sociology, psychology and other fields. Different disciplines adopt different but similar terms, such as assimilation, incorporation, cohesion, and adaptation to describe social integration. However, there is no universally accepted definition of social integration. The mainstream theories of social integration can be divided into two categories, traditional and non-traditional. The traditional theory of social integration was originally proposed by Park & Burgess (1921) and developed by Gordon (1964). The typical viewpoint of the traditional theory is that immigrants can only achieve integration by accepting the lifestyle and values of local mainstream society and abandoning their original customs and traditions. In contrast, the non-traditional theory emphasizes that the effects of integration may advance a more pluralistic society, where immigrants integrate while maintaining their original characteristics or even causing changes to the lifestyle and to the values of local society. The non-traditional theory comprises many sub-theories including multiculturalism (Kallen, 1956), segmented assimilation (Hurd and Kim, 1984; Portes and Zhou, 1993; Zhou, 1997), straight-line assimilation (Warner and Srole, 1945; Gans, 1992), curve-line assimilation (Glazer and Moynihan, 1970; Yancey et al., 1976) and spatial assimilation (Massey and Denton, 1993; Alba et Al., 1999).

2.2 Measures of social integration

Just as there are multiple definitions of integration, so there are various and differing measures of social integration. Gordon (1964) decomposes assimilation into several components, including social and cultural integration, acculturation, structural assimilation, amalgamation, identification assimilation, absence of prejudice, and civic assimilation. Goldlust and Richmond (1974)

disentangle the integration of immigrants into several objective parts, such as economic integration, cultural integration, social integration, and political participation, and subjective items, such as identification, internalization, and satisfaction. As the number of migrant workers increases overwhelmingly in China, a growing body of literature measures the social integration of Chinese migrant workers. Table 1 gives a brief introduction to some relevant studies.

Table 1: List of measurement dimensions for China

Paper	Measurement Dimensions
Zhang and Lei (2008)	Psychology status, culture adaption, identification and economic status
Yang (2009)	Economic status, culture adaption, behavior adjustment and identification
Ren and Wu (2010)	Identification, attitude toward local society, interaction with local residents and perceived attitude of local residents
Wei and Lu (2012)	Family and career situation, willingness to purchase a house, future personal development and identification
Yue et al. (2013)	Modernization, speaking of local language, attitude towards original traditions

2.3 Determinants of social integration

A large amount of literature investigates the factors determining the social integration of immigrants. The most frequent factors are individual characteristics, such as gender, age, marital status (Li and Long, 2009), education (Rijkschroeff et al., 2005), duration of stay (Yao, 2009), social networks (Yue et al., 2013), and language (Reynari, 2006). Some studies pay attention to economic factors such as employment (Hum and Simpson, 2004), income (Meng and Deng, 2011), economic development (Wei and Lu, 2012), and housing price (Simpson, 2003). Some authors connect the social integration of immigrants to institutional or cultural factors, such as institutional quality (Favell, 2001), political participation (Penninx et al., 2004), and religion (Hunter, 2002).

3 Data, measure and specification

In this section, we start with an introduction of the data, then we will measure the social integration of Chinese migrant workers, and finally we will present the statistical description of their social integration.

3.1 Data

In order to investigate the connection between consumer behavior and social integration of migrant workers, we utilize a five-response questionnaire conforming to the Likert scale with reference to the literature on measures of social integration. Respondents were asked to what extent they agree or disagree on a scale of five possible responses concerning their current and their ideal situation (strongly disagree, disagree, neutral, agree, strongly agree). We implemented a pilot test on the instrument to check for clarity and understandability with a random sample of 50 migrant workers. The instrument was modified based on the feedback from the migrant workers. The survey was conducted by the School of Business of Gannan Normal University from May to August 2013 in the Jiangxi province, Guangdong province, Henan province and Helongjiang province with face-to-face interviews. The Guangdong province is the most popular migrating destination, and the Henan province contributes the largest number of migrant workers. Therefore, those regions we chose serve as a good ground for our study. The predetermined sample size is 1000, we finally acquire survey data with 869 effective samples after excluding 131 ineligible respondents,⁵ which covers different education levels, occupations, and income levels, etc. Table 2 reports the detailed description of our data.⁶

As illustrated in Table 2, only 28.2% of migrant workers from rural areas join the city Hukou system. More than 90% of migrant workers have completed junior high school. About 70% of migrant workers belong to the post-80s generation. 58% of migrant workers have been working in the cities for more than five years. The proportion of migrant workers whose income is lower than 4000 Yuan is more than 85%.

⁵ We drop the samples whose observations of key variables are missing, because some respondents did not fill in some of the items in the questionnaire.

⁶ In this paper, we treat people from rural areas working in the city as migrant workers, no matter what kind of Hukou they have.

Table 2: Description of data (n=869)

Variable		Frequency	Variable	Frequency	
Gender	Male	497 (57.2%)	Year of birth	Before 1970	91 (10.5%)
	Female	371 (42.7%)		1970-1979	184 (21.2%)
Hukou	Rural	624 (71.8%)		1980-1985	256 (29.5%)
	Urban	245 (28.2%)		1986-1990	185 (21.3%)
Education	Primary school and below	84 (9.6%)		After 1990	152 (17.5%)
	Junior high school	356 (41.0%)	Duration of stay	Less than 1 year	65 (7.5%)
	Senior high school	256 (29.5%)		1-5 years	298 (34.3%)
	University and above	173 (19.9%)		6-9 years	199 (22.9%)
Marital status	Unmarried	277 (31.9%)		10-15 years	170 (19.6%)
	married	566 (65.1%)	More than 15 years	135 (15.5%)	
	Other (widowed or divorced)	22 (2.5%)	Income (Yuan)	Less than 2000	171 (19.7%)
Industry	Manufacturing	301 (34.6%)		2001-3000	314 (36.1%)
	Agriculture	108 (12.4%)		3001-4000	261 (30.0%)
	Service	231 (26.6%)		4001-5000	70 (8.1%)
	Other industries	220 (25.3%)	More than 5000	45 (5.2%)	

3.2 Measure of social integration

As mentioned in the literature review, the social integration of immigrants relates to different factors and involves multidimensional indicators without widely-accepted measurement standards. Most previous studies evaluate social integration with a single index or rely more on some subjective contents such as attitude, psychology and identification, etc. Unlike previous studies, we propose an indicator consisting of five components to measure the social integration of Chinese migrant workers including social distance, cultural integration, psychological integration, social interaction and settlement by referring to several relevant studies including Zagefka and Brown (2002), Bollen and Hoyle (1990), Yuan and Qiao (2010) and Wei and Lu (2012).

We employ an exploratory factor analysis method using principal-component analysis and Varimax with Kaiser Normalization. The “eigenvalue greater than 1” criterion is adopted to determine the number of factors to extract. The factor analysis is implemented in SPSS, Version 18.0. SPSS reports a Kaiser-Meyer-Olkin (KMO) index of 0.726 and an associated Barlett

chi-square test which is significant at the 1% level ($P < 0.001$), thereby indicating that the correlation matrix was factorable. The scree test yields a solution for all five factors with eigenvalue greater than 1. This five-factor solution accounts for 62.458% of the variance in the factor matrix.

The factor analysis in Table 3 shows that the four items we designate to measure the social distance have high loadings ranging from 0.709 to 0.814, indicating that these four factors can explain and define social integration well. Analogously, we observe that the items we choose for

Table 3: The results of factor analysis

	Variable	F1	F2	F3	F4	F5
Social distance	Local residents discriminate against us	.814	-.068	.042	-.053	-.059
	I don't belong in the city	.805	.070	.014	-.042	-.015
	I feel like a stranger	.742	-.062	.016	-.108	-.008
	It is difficult to get along with residents	.709	.016	.013	.024	-.029
Cultural integration	It is important to behave according to hometown norms	-.041	.866	.052	.155	.124
	It is important to keep the hometown lifestyle	.083	.819	.169	.031	.074
	It is important to obey hometown customs	-.081	.789	.031	.106	.137
Psychological integration	Your children should speak the hometown dialect	.021	.092	.811	-.064	.033
	I feel like I am a member of the local city	.088	.057	.752	.110	-.003
	I consider myself a city dweller	-.072	.014	.740	-.076	.110
	I think I belong in the local city	.057	.103	.549	.292	.034
Social interaction	I can speak the local dialect	-.107	.092	.004	.775	.128
	I am familiar with local customs	.043	.128	.122	.719	-.008
	I have frequent contact with city dwellers	-.152	.039	.001	.561	.331
Settlement	I want buy an apartment in the city	-.046	.109	.079	.160	.859
	I want to settle down and develop a career in the city	-.025	.212	.083	.127	.838
Proportion		20.641	15.733	10.871	8.571	6.641
Cumulative		20.641	36.374	47.245	55.817	62.458
Cronbach α		.774	.704	.799	.565	.736

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

other aspects of social integration enjoy high loadings. As a consequence, we include all of the 16 items for the measurement of the social integration of Chinese migrant workers.

We employ Cronbach's alpha coefficients to test the reliability of each factor. We find that most coefficients of factors are greater than the commonly accepted rule of thumb of 0.7, except for social interaction with a coefficient of 0.565. Moreover, the overall reliability for all five factors is 0.830. The test results suggest adequate internal consistency for our study. Apart from reliability, we also test the validity of our data consisting of context validity and construct validity. In terms of context validity, the instrument was validated by social science researchers. With respect to construct validity, we execute factor analysis for the overall scale. The relevant indexes are presented as follows: (1) KMO index is 0.796, (2) the Bartlett's test is significant at the 1% level, (3) the communality is 0.5, (4) overall reliability is 0.8, (5) AVE (average variance extracted) is 64.362%, which is higher than the acceptable level of 0.5. All the tests suggest that our scale satisfies the validity requirement.

3.3 Description of social integration

We calculate the social integration level of each respondent with the following formula.

$$SI_i = \sum_{r=1}^5 w_r SI_{i,r}$$

Where SI_i denotes the social integration level of respondent i . $SI_{i,r}$ denote the integration level of component r for respondent i computed as the average score of each component without weight. w_r is the weight of component r , which is the percentile-converted variance contribution of each common factor. Table 4 describes the aggregate social integration level of all migrant workers and its components, both for the overall sample and the subsample.

As shown in Table 4, we find that the average integration level of all migrant workers is 3.22.⁷ By looking at every component, we observe that migrant workers are least integrated in terms of

⁷ We claim that we apply negative items to measure social integration and cultural integration, the higher the score the lower the integration level. In order to achieve comparability, we exchange the score of 1 point with 5 points and the score of 2 points with 4 points, the score of 3 points remain unchanged. After the exchange, a higher score represents a higher integration level.

culture, implying that it is difficult for migrant workers to abandon the original cultural traits, such as behavior, lifestyles and customs. However, the fact that settlement shows the highest score suggests that migrant workers are highly motivated to integrate into the host cities, after all, city dwellers enjoy more opportunities, higher income, better education and better welfare.⁸

Looking at the subsample statistics, we find a higher average integration level in terms of both overall integration and its components for male migrant workers, new-generation migrant workers, better-educated migrant workers and migrant workers of higher income. With regard to the duration of stay in the city, we find that although the overall integration level is positively related to duration, migrant workers with shorter duration are better integrated in terms of social interaction, psychological integration and sustainable development, indicating an ambiguous relationship between integration and duration.

Table 4: Description of social integration

	Overall	Gender		Generation		Education		Income		Duration	
		Male	Female	Old	New	Low	High	Low	High	Long	Short
Overall integration	3.22	3.23	3.20	3.17	3.39	3.16	3.31	3.12	3.25	3.19	3.28
Social distance	2.76	2.86	2.72	2.64	2.93	2.74	3.17	2.69	2.85	2.78	2.73
Cultural integration	2.37	2.42	2.33	2.24	2.62	2.25	2.48	2.27	2.49	2.39	2.34
Psychological integration	3.17	3.25	3.14	3.12	3.45	3.08	3.24	3.11	3.28	3.13	3.20
Social interaction	3.14	3.16	3.11	3.09	3.31	3.10	3.22	3.04	3.31	3.13	3.14
Settlement	3.62	3.83	3.45	3.53	3.90	3.41	3.64	3.47	3.64	3.58	3.65

Note: We report average values for all indexes. We define people born after the 1980s as new-generation migrant workers. Low-education migrant workers are defined as people who have not finished junior high school education. Low-income migrant workers are defined as people whose income is lower than 2000 Yuan. 5 years is the threshold we use to define short or long duration of stay in city.

⁸ These are descriptives without controlling for age which may make a huge difference.

3.4 Specification

In order to examine the effect of consumer behavior on social integration, we establish a specification in the following way on the basis of previous studies and statistical description.

$$SI_i = \beta_0 + \beta_1 consumption_i + \beta_2 age_i + \beta_3 gender_i + \beta_4 education_i + \beta_5 duration_i + \beta_6 income_i + \beta_7 leisure_i + \beta_8 marriage_i + \beta_9 institution_i + \beta_{10} contacts_i + \beta_{11} language_i + \beta_{12} consumption_i \times age_i + \beta_{13} consumption_i \times income_i + \varepsilon_i$$

Where dependent variable SI_i denotes the social integration of migrant workers. The core independent variable $consumption_i$ denotes the consumption of migrant workers which is instrumented by three indicators including consumption level, consumption structure and consumption behavior.

In the questionnaire, the respondents are asked to fill in their monthly consumption level and the proportion of each part including food, housing, entertainment and miscellaneous.⁹ We then compute the consumption of each part by multiplying the monthly consumption level with the proportion of each part.

We divide the consumption behavior of migrant workers into four categories including economic consumption, rational consumption, impulsive consumption and conspicuous consumption. We design different items in our questionnaire to distinguish the types of consumption.

The items regarding economic consumption include: "I am in the habit of saving" and "I should save for the future".

The items concerning rational consumption include: "I think consumption should conform to identity" and "I agree with appropriate expenditures for leisure and entertainment".

The items of impulsive consumption include: "I am OK with overdraft", "I don't care about the price of goods", "I feel happier if I buy more" and "I always buy some goods I don't actually need". The items of conspicuous consumption include: "I care about the brand of goods", "The more money you spend, the more reputation you gain", "you should be generous to your friends"

⁹ The entertainment expense includes purchasing entertainment equipments, such as mobile phone and computer, and their follow-up cost, the expenditure of some leisure activities, and the expenditure of sport activities.

and “you should be ostentatious when giving a treat”.

We compute the average scores of different types of consumption for each respondent, and then judge which type of consumption a respondent belongs to according to the highest average score, thus the final indicator is a dummy variable.

We control other variables that might affect the status of social integration. We include individual factors, such as age, gender, education, marital status, and native language and migrant factors, such as duration of stay, institutional quality,¹⁰ income, participation in leisure activities and frequency of social contacts. We also include the interaction terms between consumer behavior and age and income. β_0 is the intercept, ε_i is the error term. Table 5 defines and describes all the control variables.

4 Estimation results

We are now going to examine the connection between consumption level, consumption structure, consumption behavior and social integration of migrant workers. We employ linear regression to implement the empirical investigation in all sections.

4.1 Consumption level and social integration

In this section, we investigate the relationship between consumption level and social integration. We run linear regressions to estimate the specifications. Serial correlation does not concern us since we use cross-sectional data. Moreover, the White tests reject the null hypotheses in all specifications, indicating that the estimators are inefficient due to heteroscedasticity. We use robust standard errors to deal with the issue of heteroscedasticity. Table 6 reports the estimation results.

¹⁰ The items concerning institutions include “it is necessary to reform the hukou system”, “the children of migrant workers are discriminated against by the current education system” and “I cannot benefit from the current pension system”. We compute the average of the scores of those three items to measure the institutional quality, a higher average value suggests a lower institutional quality. Similarly, we exchange the score of 1 point with 5 points and the score of 2 points with 4 points, the score of 3 points remain unchanged. After the exchange, a higher score is associated with higher institutional quality.

Table 5: Description of variables

Variable	Description	Mean	S.D.
Generation	Before 80s=0, after 80s=1	0.43	0.38
Gender	Male=1, female=0	0.56	0.49
Marital status	Married (includes widowed or divorced)=1,unmarried=0	0.31	0.46
Education	Respondent finished senior high school, technical secondary school, college or university=1, otherwise, 0	0.51	0.40
Duration of stay	More than 6 years=1, less than 6 years=0	0.63	0.48
Income	2000 and below =1, 2001-3000=2,3001-4000=3, 4001-5000=4, more than 5000=5	2.42	1.06
Consumption level	Monthly consumption level provided by respondents	1711	1044
Leisure activities	Never=0, occasional=1, sometimes=3, often=4, very often=5	3.04	1.49
Institutional quality	The average score of the Hukou system, education system and pension systems	3.65	0.71
Social contacts	Never=0, occasional=1, sometimes=3, often=4, very often=5	3.33	1.12
Native language	Equals 1 if the score is more than 3 (poor=1, poor=2, ordinary=3, good=4, very good=5)	0.56	0.51

Table 6: The estimation results of social integration

	(1)	(2)	(3)	(4)
Consumption	0.024** (0.012)	0.026* (0.026)	0.016* (0.02)	0.045* (0.025)
Generation	0.048*** (0.017)	0.071* (0.036)	0.132*** (0.027)	0.051* (0.034)
Gender	0.063* (0.034)	0.353 (0.072)	0.018 (0.055)	0.036* (0.069)
Education	0.09* (0.018)	0.049* (0.039)	0.05* (0.029)	0.075** (0.037)
Duration	0.003 (0.015)	0.08 (0.031)	0.054 (0.024)	0.082 (0.03)
Marriage	0.086** (0.042)	0.036** (0.088)	0.075*** (0.066)	0.21** (0.084)
Language	0.26*** (0.017)	0.144* (0.037)	0.02* (0.028)	0.033* (0.035)
Leisure		0.047** (0.066)	0.042** (0.05)	0.023** (0.064)
Institution		0.104* (0.047)	0.113*** (0.036)	0.069* (0.045)
Contacts		0.082*** (0.029)	0.049** (0.022)	0.165*** (0.028)
Income		0.156*** (0.266)	0.129*** (0.201)	0.172*** (0.254)
Consumption*generation			0.047*** (0.254)	0.054*** (0.016)
Consumption*income				-0.018** (0.025)
Observations	798	801	799	801
R-squared	0.555	0.574	0.552	0.588
White test	90.33(0.020)	84.43(0.053)	109.43(0.005)	107.71(0.0007)

Note: Robust standard error in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

We present the results of the baseline specification controlling individual specific factors in Column 1, then augment the baseline specification to control for migrant factors in column 2, the interaction of consumption and generation in column 3 and both interactions in column 4. We find that the coefficients of consumer behavior measured by consumption level are positive and significant in all specifications, implying that an increase in the consumption level is associated with an increase in social integration of migrant workers. The most likely explanation for this result is that the increase in consumption leads to a higher quality of life, which is the main

aspiration for the vast majority of migrant workers who live in poverty. However, in comparison with the effects of other factors, the effects of the consumption level are found to be relatively low. This is because most migrant workers need to limit their consumption due to their low income and the financial burden of having to support their family, which leads to a low consumption level.

With respect to the interactions, we observe that the coefficient of the interaction term between consumption and generation is positive and significant at the 1% level, indicating that all else being equal, the consumption level has a stronger impact on the social integration of new-generation migrant workers than it has on that of old-generation migrant workers. A possible explanation to this result would be that new-generation migrant workers have a higher consumption level on average than old-generation workers. Our survey data show that the average monthly consumption of new-generation migrant workers is 1896 Yuan, while it is 1551 Yuan for old-generation migrant workers.

Looking at the estimation results for the interaction term between consumption and income, we find that its coefficient is negative and significant at the 5% level. This result suggests that the effects of the consumption level on social integration decrease with income, implying that consumption has a weaker impact on social integration for migrant workers with high income. We might attribute this result to the diminishing proportion of consumption over income, decreasing the utility of social integration derived from consumption.

With regard to other controls, we find a significant and positive effect for all controlling variables except for duration of stay. Among all these factors, the income plays the most important role for the social integration of migrant workers; in addition, institutional quality, social contacts and education are also significant factors.

4.2 Consumption structure and social integration

In this section, we proceed to examine the connection between consumption structure and social integration. The consumption structure is made up of four categories including food consumption, housing consumption, transport, communication and entertainment consumption, and miscellaneous consumption. Table 7 reports the estimation result using linear regression with robust standard errors.

Table 7: The estimate results of consumption structure

	(1) Food	(2) Housing	(3) Entertainment	(4) Miscellaneous
Consumption	0.014** (0.0244)	-0.011* (0.016)	0.034*** (0.016)	0.019** (0.021)
Generation	0.028* (0.061)	0.041** (0.047)	0.033* (0.023)	0.026* (0.027)
Gender	0.041** (0.063)	0.095** (0.044)	0.012* (0.036)	0.037 (0.048)
Education	0.041** (0.037)	0.12*** (0.023)	0.045** (0.026)	0.064** (0.028)
Duration	0.005 (0.026)	0.01 (0.02)	0.018 (0.022)	0.013 (0.022)
Marriage	0.154* (0.142)	0.058* (0.042)	0.119*** (0.06)	-0.03* (0.062)
Language	0.031*** (0.202)	0.105*** (0.139)	0.039*** (0.175)	0.087*** (0.202)
Income	0.19*** (0.03)	0.21*** (0.023)	0.227*** (0.025)	0.184*** (0.028)
Leisure	0.054 (0.058)	0.09* (0.04)	0.079** (0.046)	0.02** (0.046)
Institution	0.113*** (0.039)	0.164** (0.029)	0.169** (0.031)	0.133*** (0.035)
Contacts	0.08*** (0.025)	0.092*** (0.018)	0.126*** (0.019)	0.034*** (0.022)
Consumption*generation	0.029* (0.032)	0.021*** (0.043)	0.045*** (0.024)	0.018* (0.033)
Consumption*income	-0.017* (0.061)	-0.028* (0.026)	-0.009*** (0.028)	-0.031** (0.074)
Observations	801	801	801	801
R-squared	0.508	0.569	0.524	0.554

Note: Robust standard error in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

As shown in Table 7, the coefficients of entertainment consumption, food consumption and miscellaneous consumption are positive and significant at different levels, which is in line with the results in Table 6. Moreover, the coefficient of entertainment consumption is highest among all parts of consumption, which suggests the strongest positive effect of entertainment consumption on the social integration of migrant workers. This is because entertainment activities like surfing on the internet, reading newspapers, travelling and doing sports are typical forms of urban-type

consumption in China. A high entertainment expenditure marks the consumption behavior of migrant workers as typically urban, which makes migrant workers relate more to their host society.

However, we observe that the coefficient of housing consumption is negative and significant at 10% statistical level, implying that an increase in housing expenses brings about a decrease of the social integration of migrant workers. The most likely explanations for this result include: (1) most migrant workers in China live in tenements in the city; a higher rent means less disposable income and consumption, thus the housing expenditure decreases utility for migrant workers, (2) rents make up a relatively significant share (23% in our survey data) of consumption.

We further notice that the coefficients of the interaction term between consumption and generation are significantly positive in all specifications, which once again emphasizes the stronger effects of consumption on social integration for new-generation migrant workers. In addition, the coefficient of entertainment consumption is found to be the greatest among all kinds of consumptions, indicating that an increase in entertainment consumption leads to the biggest difference growth between new-generation and old-generation migrant workers in terms of social integration. A possible reason for this result lies in the higher proportion of entertainment consumption of new-generation migrant workers.¹¹

With respect to the interaction term between consumption and income, we note that its coefficient of entertainment consumption is significantly negative and the smallest one in all scenarios, which means that entertainment consumption plays the weakest role in the social integration growth of new-generation migrant workers. We may ascribe this result to the high income elasticity of demand of entertainment consumption; the increase in income is associated with higher entertainment consumption and thus the proportion of entertainment consumption over income might not decrease as the income increases.

¹¹ In our survey data, the proportion of entertainment consumption over total consumption of new-generation migrant workers is 26%, while this number is 18% for old-generation migrant workers.

4.3 Consumption behavior and social integration

In this section, we turn to explore the nexus between consumption behavior and social integration of migrant workers. Table 8 displays the results estimated by linear regression with robust standard errors.

As indicated in Table 8, the coefficient of economic consumption is not significant, implying that there is no evidence that economic consumption can promote the social integration of migrant workers. We can explain this result simply with the low consumption level of migrant workers with economic consumption. For most migrant workers with low consumption, the main purpose of working in the city is to provide better financial support to their families and save more for their future rural life. They are generally reluctant to abandon their original identity and accordingly have little motivation for social integration.

The estimated coefficient of rational consumption is positive with high significance, and its estimated value is the biggest among the four kinds of consumption, which indicates that rational consumption has the greatest positive effect on the social integration of migrant workers. The most likely explanations for this result are: on the one hand, in the face of the high cost of urban life and the instability of the occupation, rational migrant workers could consume according to their income and identity, which improves their long-term stability in urban life, and then helps them integrate into local society; on the other hand, unlike other migrant workers, rational migrant workers adapt better to urban life; they try to improve their quality of life and their personal development simultaneously, which will undoubtedly promote their social integration.

The estimated coefficient of impulsive consumption is significantly negative, which indicates that impulsive consumption weakens the social integration of migrant workers. This is because migrant workers who consume impulsively often have no savings, or even overdraft, which greatly sabotages the ability and stability of those migrant workers in urban life.

Table 8: The estimation results of consumption behavior

	(1)	(2)	(3)	(4)
	Economic consumption	Rational consumption	Impulsive consumption	Conspicuous consumption
Consumption	0.075 (0.193)	0.068*** (0.117)	-0.026** (0.0355)	0.023 (0.035)
Generation	-0.029** (0.018)	-0.029** (0.018)	-0.03** (0.018)	-0.03** (0.018)
Gender	0.04* (0.037)	0.039* (0.037)	0.042* (0.037)	0.042* (0.037)
Education	0.04*** (0.02)	0.03*** (0.02)	0.05*** (0.02)	0.02*** (0.02)
Duration	0.022 (0.016)	0.02 (0.016)	0.021 (0.016)	0.02 (0.016)
Marriage	0.096** (0.045)	0.095** (0.045)	0.093** (0.045)	0.092** (0.045)
Language	0.049*** (0.136)	0.048*** (0.136)	0.045*** (0.137)	0.051*** (0.136)
Income	0.186*** (0.019)	0.184*** (0.019)	0.196*** (0.019)	0.191*** (0.019)
Leisure	0.073* (0.013)	0.062* (0.013)	0.05** (0.013)	0.06** (0.013)
Institution	0.165*** (0.024)	0.145*** (0.024)	0.17*** (0.024)	0.157*** (0.024)
Contacts	0.09*** (0.015)	0.089*** (0.015)	0.089*** (0.015)	0.088*** (0.015)
Consumption*generati on	0.018* (0.027)	0.057** (0.018)	0.024** (0.013)	0.022** (0.014)
Consumption*income	-0.014** (0.017)	-0.016** (0.012)	-0.039* (0.065)	-0.049* (0.029)
Observations	254	521	72	22
R-squared	0.34	0.37	0.41	0.31

Note: Robust standard error in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

The insignificant coefficient of conspicuous consumption suggests no effect of conspicuous consumption on the social integration of migrant workers. Unlike migrant workers with impulsive consumption, the high consumption of migrant workers with conspicuous consumption is associated with great motivation to relinquish the "farmer" identity and acquire a "city dweller" identity. However, like impulsive consumption, conspicuous consumption damages the surviving ability of migrant workers, which is not conducive to their integration. The interplay between

positive and negative effects leads to the insignificant effect of conspicuous consumption on the social integration of migrant workers.

With regard to the interaction terms and other controls, the results are consistent with the studies of consumption level and consumption structure.

5 Concluding remarks

As urbanization advances, the consumption level, structure and behavior of migrant workers are becoming more and more similar to the consumption of urban residents. The transformation of migrant workers' consumption behavior affects the “city dweller” identity of migrant workers and their social integration. The main objective of this paper is to explore the relationship between consumption and social integration of migrant workers using survey data from four provinces in China.

The study suggests the following results: (1) Migrant workers are less integrated in terms of psychological integration and cultural integration, but they are strongly motivated to integrate into the host societies. Migrant workers that are male, that belong to a younger generation, that have better education or a high income enjoy better social integration than their respective counterparts; (2) An increase in consumption has a positive effect on the social integration of migrant workers, which is stronger for new-generation migrant workers and weaker for high-income migrant workers. Income, institutional quality and social interaction are the three most important factors affecting the social integration of migrant workers; (3) Entertainment consumption plays the most important role for the social integration of migrant workers, while the effect of housing consumption is negative; (4) Rational consumption improves the social integration of migrant workers, impulsive consumption lowers it, and the effects of economic consumption and conspicuous consumption are insignificant.

The study concerning consumption and social integration of migrant workers has ample policy implications. First, the government should reduce the urban living costs for migrant workers in order to increase their disposable income and their consumption, for example by providing social housing to migrant workers, offering more public entertainment facilities to the migrant-worker

community, lowering media costs including internet, TV, and telephone, reducing public transportation charges, etc. Second, the government should cultivate and encourage healthy consumption concepts and consumption behavior through education and propaganda, especially for new-generation migrant workers. Finally, the government should improve the institutional quality by reforming the household registration system, offering free public education to the children of migrant workers and free vocational education to migrant workers, and bringing migrant workers into the pension system.

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