The Survey on Migration and the Reshaping of Consumption Patterns (MARCO_P)*

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Abstract

This paper provides a detailed account of a unique online longitudinal survey on Chinese university students – the Migration and the Reshaping of Consumption Patterns (MARCO_P). The survey is a collaboration project across six institutions in the UK (University of Southampton and University of Nottingham), France (Groupe d'Analyse et de Théorie Economique Lyon-Saint-Etienne), Germany (Institute for Labor Economics) and China (Beijing Normal University and Chinese Academy of Social Sciences). The paper describes the background, sampling frame and structure of the survey, and provides an overview of the topics covered, summary statistics for selected variables, and avenues for future research based on this dataset.

JEL classification: ADD

Keywords: Student survey, China, Migration, Consumption.

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1 Introduction

The introduction of major reforms in the late 1970s has triggered rapid and sustained economic growth in China in the subsequent four decades. As of today the country is the second largest economy in the world and is forecast to overtake the United States by 2030. Rural to urban migration has played an essential role in the process of China's economic development by making available a large supply of labour to fast-growing industries, and has reached proportions previously unknown.

While there is a wealth of studies analysing the consequences of the Great Migration on the income and labour market outcomes of migrants (e.g. Knight and Song, 1999), individuals left behind (e.g. Démurger and Li, 2013; Giulietti et al., 2013), and those living in urban areas (e.g. Meng and Zhang, 2001), there is not yet systematic evidence on how consumption, consumption behaviour and consumption inequality are influenced by migration. Understanding consumption patterns is important in order to measure changes in standards of living and to provide policy prescriptions towards improving well-being. Furthermore, while migration has also been associated with increasing economic inequality between and within rural and urban areas, the mechanisms behind such growing inequality are still unknown, in particular in terms of disparities in the consumption of necessary goods such as food and housing, as well as durable and luxury goods.

In parallel to the massive internal migration flows from rural to urban areas, the number of Chinese nationals migrating abroad has also been increasing significantly, with the Chinese diaspora sizeably growing in many European countries, the US, Canada and Australia, to name a few. In particular, many young talented Chinese migrants move abroad in order to further their education in certain disciplines, such as physical sciences. Although a small number of these migrants permanently settle abroad, the majority of Chinese students typically return to China in the hope that foreign education will provide relatively better opportunities in the home labour market. While there is some evidence on how Chinese emigrants and their children fare in foreign labour markets, much less is known about their consumption behaviour and how consumption norms and values are transferred from abroad to China through diaspora networks and return migration.

Against this background, a group of economists from Europe and China initiated the project "Migration and the Reshaping of Consumption Patterns", running between 2015 and 2018. Several institutions are involved, including the University of Southampton, the University of Nottingham, the Institute for Labor Economics (IZA), the Groupe d'Analyse et de Théorie Économique Lyon St-Étienne (GATE), Beijing Normal University (BNU) and the Chinese Academy of Social Sciences (CASS). The project is funded by the UK Economic and Social Research Council (ESRC), the French National Research Agency, the German Research Foundation and the National Natural Science Foundation of China. The scope of this project is to explore three key research questions:

- What is the impact of the Great Migration on consumption patterns?
- What are the relationships between institutions, population change and consumption behaviour?
- Does migration lead to the transfer of consumption norms?

A key activity of the MARCO_P project has been the development and administering of an online survey targeting university students, which is described in this paper. The paper is structured as follows. Section 2 covers full details of sampling, response and questionnaire structure. Section 3 and 4 provide summary statistics for some of the questions of interest in the first and second wave of the survey, respectively. 5 summarises key findings from the survey. Finally areas for potential research that can be developed using the survey are outlined in Section 6.

2 Description of the Survey

2.1 Sampling

The target population of MARCO_P was Chinese university students who reside in China or are outside China attending an exchange program. The survey was carried out among students enrolled in two participating universities, namely Beijing Normal University (BNU)

and the University of Nottingham Ningbo China (UNNC). Bejing Normal University, established in 1902, is a public research institution based in the nation's capital. It is considered one of the oldest and most prestigious academic institutions of the country. Currently over 24,000 students are enrolled, with roughly 40% represented by undergraduates and 60% by postgraduates. Over 3,000 academics work at BNU. Originally established as an institution to train teachers (hence the "Normal" name), it is now a fully fledged institution with an emphasis on basic disciplines in the humanities and sciences. The university promotes education equality, and in 2009 approximately 40% of the students enrolled were from Western China, almost one third from rural areas and a quarter from low income families. The official language of instruction is Mandarin, but some courses are also taught in English.

The University of Nottingham Ningbo China is an overseas campus of the University of Nottingham, one of the Russell Group universities in the UK. Established in 2004 in the city of Ningbo in Zhejiang Province, the university was the first Sino-foreign institution to start operations in the country. It is a private comprehensive teaching and research institution, run by the University of Nottingham in cooperation with the Wanli Education Group. Currently over 8,000 students are enrolled, 80% of which being undergraduates and 15% postgraduates. Approximately 750 teaching, research and professional staff members are currently employed by the university. The language of instruction is English.

As the main purpose of the survey was to elicit the effect of internal and international migration experience on consumption patterns, in the process of the sample design we have focused on students enrolled in degree programs that typically see a conspicuous share of student spending a period abroad. The data were collected in two rounds. In the first wave, the survey team sent out email invitations to a total of 2,722 students. The initial sample for wave 1 of the MARCO_P consisted of 964 BNU students from the School of Economics and Business Administration, 605 BNU students from the Faculty of Education, and 548 UNNC students enrolled in the BSc Hons International Economics & Trade programme (referred to as the UNNC Original Sample). The online fieldwork period started on 25 January 2018, and ended in mid-April with two email reminders to non-respondents on 7 February and 1 March. On 18 July 2018, an additional sample of 605 students enrolled in the BSc Hons Finance, Accounting and Management programme at UNNC was added to the survey, which

is known as the UNNC New Sample. The primary aim of the extension was to increase the relatively small sample sizes in order to improve the precision and reliability of survey results.

The online fieldwork of the second wave lasted from 23 July to 1 August 2018. At the new wave, we re-interviewed the sub-sample of wave 1 respondents who had agreed to be contacted again. It should be noted that as the time of wave 2 fieldwork was very close to the time of fieldwork for the extension sample, respondents in the extension sample were excluded from the scope of wave 2 data collection.

2.2 Response Rates

In the MARCO_P wave 1, which was administered between January and April of 2018, email invitations were distributed to 2,722 prospective students. Of these potential respondents, 601 answered the survey, a response rate of 22.08%. At the end of the wave 1 questionnaire, respondents were asked to give their consent regarding potential participation in a follow-up survey. Out of the 544 students in the original sample who responded to wave 1, 402 agreed to be re-contacted and provided us with a valid non-university email. All these students were then approached by the research team on 23 July 2018. Eventually, a total of 203 (50.5%) students participated in the follow-up survey. Table 1 shows the survey response rates by type of institution. A detailed breakdown of the survey respondents by year of study and degree programme is provided in Table 2.

Table 1: Response Rates by Type of University.

	Number of Students Invited	Number of Respondents	Response Rates
	Wave 1		
BNU	1,569	432	27.53%
UNNC Original Sample	548	112	20.44%
UNNC New Sample	605	57	9.42%
Total	2,722	601	22.08%
	Wave 2		
BNU	336	160	47.62%
UNNC Original Sample	66	43	65.15%
Total	402	203	50.50%

Source: MARCO_P wave 1 and 2.

Table 2: Breakdown of Respondents by Year of Study and Degree Programme.

	BNU-ECON	**BNU-EDU**	**UNNC-ECON**	**UNNC-FAM**
	Wave 1			
First Year	86	8	42	0
Second Year	90	7	40	25
Third Year	103	11	19	21
Fourth Year	105	22	11	11
Total	384	48	112	57
	Wave 2			
First Year	31	3	17	
Second Year	29	4	15	
Third Year	38	3	5	
Fourth Year	44	8	6	
Total	142	18	43	

Source: MARCO_P wave 1 and 2.
Notes: The table presents the number of respondents broken down by year of study and degree programme.

2.3 Questionnaire Content

The online questionnaire administered in the first wave includes a broad range of topics covering questions about personal characteristics (e.g. gender, ethnicity, marital status, children, place of birth, hukou status, etc.), parental background, consumption, social networks, migration, as well as a variety of subjective questions such as levels of satisfaction, risk attitudes, and beliefs and values. The module about consumption collects detailed information on income and expenditures, smoking and alcohol consumption, food consumption and preferences, engagement in physical activities, housing, time use, the use of social media networks, purchase of fashion and luxury goods, as well as environmental attitudes and behaviour. This rich set of information offers a fruitful opportunity to establish an in-depth understanding of the consumption preferences and patterns of Chinese university students. The network module was designed to gather information on the personal network of students by asking them to name five best/closest friends within the same class or school. Prior to completion of the survey, students were randomly allocated to participate into a decision task experiment to elicit honesty (experiment 1) or altruism (experiment 2). At the end of the questionnaire, respondents were asked to provide a personal (non-university) email address if they wish to be contacted again to take part in the successive wave.

After the baseline survey, MARCO_P follows students who have agreed to be re-contacted. The content of the questionnaire was adjusted in the follow-up survey. While some questions are included in both waves to allow for panel analysis, others only appear in one wave. These mainly refer to (1) questions on characteristics that may possibly be stable over a short period of time, which were only asked in the first wave yet not in the second, and (2) new questions introduced in the second wave, e.g. the submodule on football betting, questions that measure addiction to social networking sites, and the perception of the impact of recent changes in US-China trade relationship. Table 3 summarises the general questionnaire content for each wave.

Table 3: Questionnaire Content.

	Wave 1	**Wave 2**
A. Meta Module		
Personal Characteristics	✓	✓
Information on Parents	✓	
B. Consumption Module		
Income and Expenditure	✓	✓
Health Status	✓	
Smoking and Alcohol Drinking	✓	
Food Preferences	✓	✓
Diet Attitudes	✓	
Weight Management	✓	
Physical Activities and Sports	✓	
Housing	✓	
Time Use	✓	
Technology	✓	✓
Fashion and Shopping	✓	
Environment	✓	✓
Football Gambling		✓
C. Network Module		
Characteristics of Friends	✓	
Interaction with Friends	✓	
Comparison with Friends	✓	
D. Migration Module		
Migration Experience	✓	
Migration Intentions	✓	✓
Location Preferences	✓	✓
Determinants of Migration Decisions	✓	✓
Attitudes towards International Migration	✓	✓
Perception of Changes in US-China Trade Relationship		✓
E. Preferences and Satisfaction Module		
Subjective Well-Being	✓	
Risk Preferences	✓	
Time Preferences	✓	
Social Preferences	✓	✓
General Beliefs and Values	✓	
Trust	✓	✓
Attitudes towards Marriage	✓	
Attitudes towards Gender Equality	✓	
Attitudes towards Internal Migrants	✓	
Medical Preferences and Doctor-Patient Relationship	✓	
Personality Test	✓	
F. Decision Task		
Coin-Toss Game	✓	✓
Donation Game	✓	✓

2.4 Access to MARCO_P

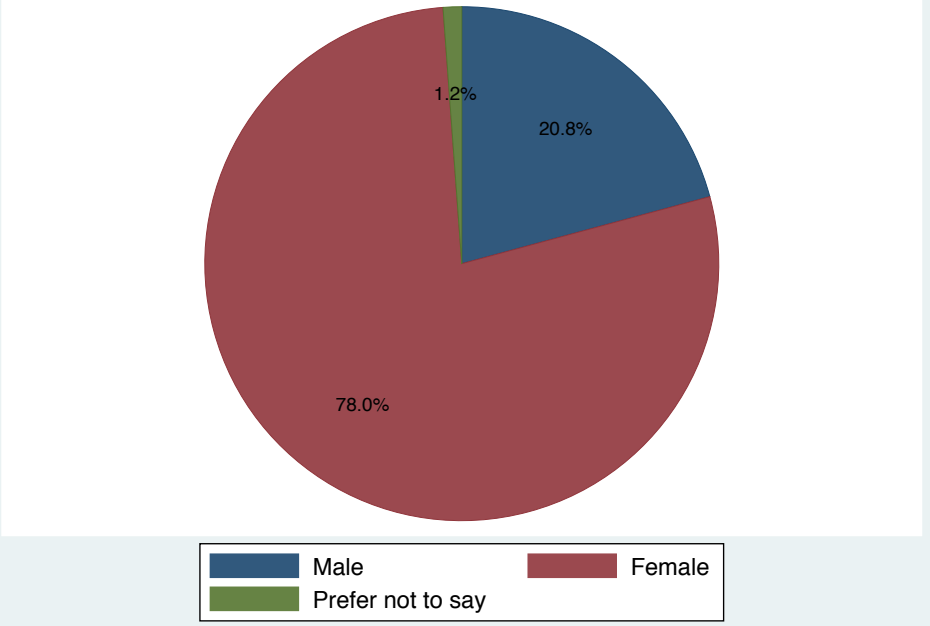
The MARCO_P survey data will be deposited at the Research Data Center (IDSC) of IZA (https://www.iza.org/en/research/idsc), though we will have a link for public access through the UK Data Service. Dataset access is only granted for legitimate scientific purposes.

3 Descriptive Statistics: Wave 1

3.1 Personal and Parental Information

Module A provides personal information about the individual respondent and his or her family background. Each respondent was asked to report their date of birth, gender, number of children and siblings, ethnicity, marital status, place of birth, place of residence, Hukou status and scores at Gaokao (China's National College Entrance Examination). Figure 1 shows the percentage of respondents by gender. In this survey, female students represent the majority of the sample (78%).

Figure 1: Gender of Respondents.



Source: MARCO_P wave 1 (*N*=601).

The parental information collected in the survey includes parents' age, educational level, employment status, main occupation and annual income. The data reveal some interesting patterns of parents' educational attainment. As shown in Figure 2, approximately 50% of respondents come from a family in which the father has completed at least a four–year university degree; the same is true for the mother of 36% of respondents. Interestingly, a significant share of the parents has also completed a postgraduate degree – 13% among the fathers of the respondents and 8% among the mothers. These figures clearly indicate that the students interviewed in the MARCO_P survey are positively selected in terms of educational background compared to the broader Chinese population. Moreover, the sample of UNNC students tend to be more positively selected than the sample of BNU students. This is perhaps not surprising given the background of the two institutions described previously, and reflects that fact that more knowledgeable parents are more likely to send their children to international (rather than traditional) schools.

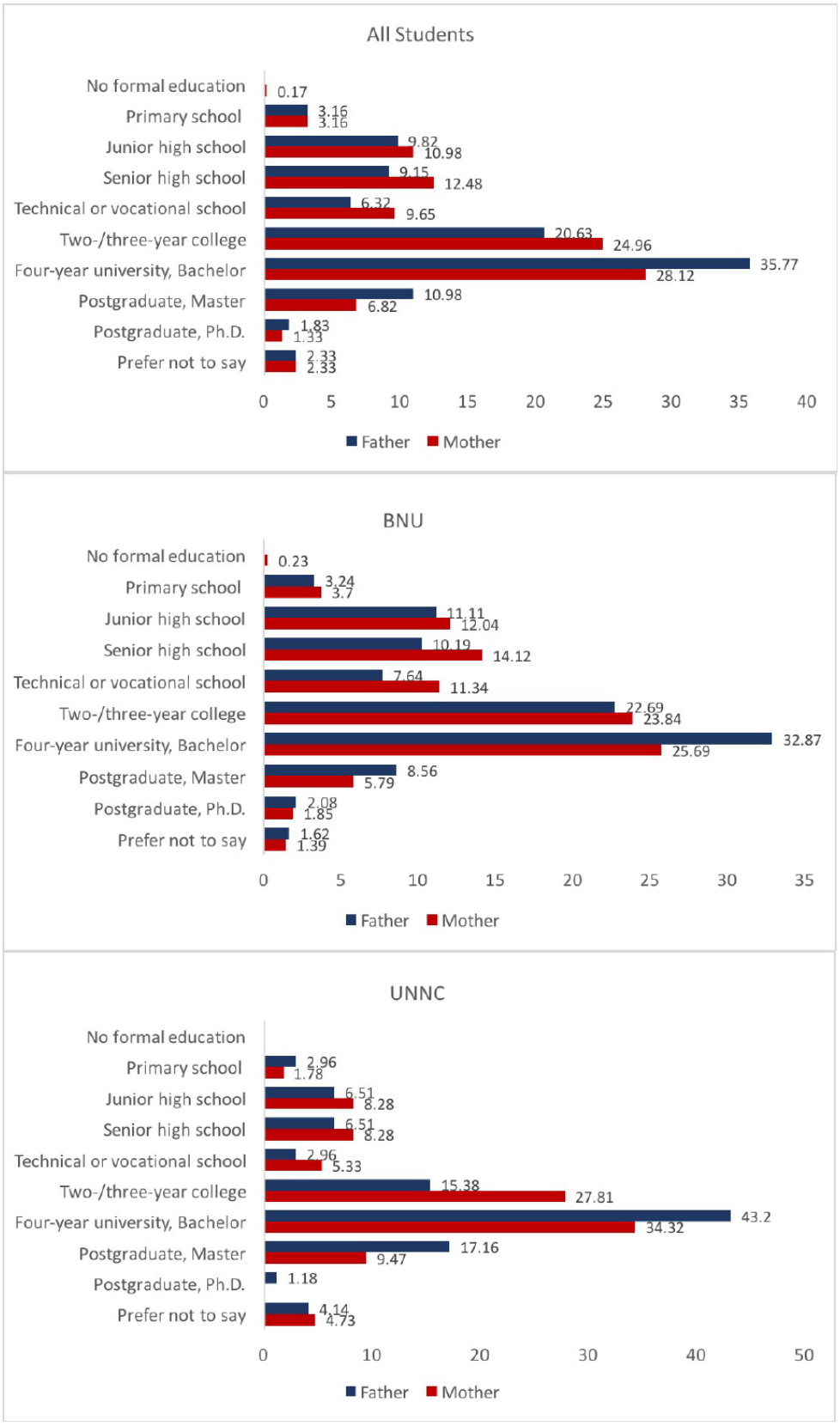
3.2 Consumption Preferences and Patterns

The consumption module starts with a series of questions aimed at eliciting basic information on disposable income and spending patterns. It then turns to more specific aspects of individual consumption behaviour, categorised into various broad groupings. We now turn to consider some of them in more detail.

3.2.1 Health, Lifestyle and Physical Activities

This submodule aims to shed light on the everyday habits of Chinese students, particularly those likely to affect health status in both the short and medium/long runs (e.g. smoking and alcohol drinking, eating habits, time devoted to physical activities, etc.). For instance, students were given the opportunity to express their views on different types of food, by answering the question "To what extent do you like the following type of food?", with possible answers ranging from "Strongly dislike" to "Strongly like", and allowing for lack of views ("Don't know") or unwillingness to answer ("Prefer not to say"). Table 4 reports summary statistics on students' preferences over a wide variety of foods. As it is immediately clear,

Figure 2: Parental Educational Level by Respondent's University.



Source: MARCO_P wave 1 (N=601 All Students, 432 BNU and 169 UNNC).

although Chinese food is still the dominant preference, Western food is also greatly appreciated in our sample: nearly 84% of students like yoghurt and smoothie, 73% like steak and burger, and 67% like pizza and pasta. The one exception appears to be cheese and butter, which are popular among only 37% of students interviewed.

Table 4: Food Preferences and Consumption.

	Dislike	Neutral	Like	Other
Chinese food	1.33%	8.32%	89.68%	0.67%
Pizza and pasta	9.15%	23.46%	67.22%	0.17%
Fish & Chips	16.81%	28.12%	54.74%	0.33%
Steak and burger	6.32%	19.97%	73.38%	0.33%
Fruits and vegetables	1.5%	6.32%	91.68%	0.50%
Yoghurt, smoothie	3.83%	11.31%	84.36%	0.50%
Cheese, butter	29.96%	32.17%	37.32%	0.55%
Sweets, biscuits, cakes, chocolates	13.31%	24.13%	62.06%	0.50%

Source: MARCO_P wave 1 (N=601).
Notes: The table presents answers to the question: "To what extent do you like the following food?". For simplicity, we have grouped answers "Strongly (dis)like" and "Somewhat (dis)like" into "(Dis)like". The category "Other" is a residual category which contains the answers "Don't know" and "Prefer not to say".

3.2.2 Technology

Social media is now becoming an integral part of young people's lives. According to a new Pew Research Center survey published in May 2018, 45% of American teens are online almost constantly and a further 44% several times a day, meaning almost nine out of ten teens go online at least multiple times per day (see Pew Research Center, 2018, for more details). In MARCO_P, we asked about the time-frequency students spent on 11 popular social media platforms, and the number of contacts on each platform. There are marked differences between local and foreign platforms (Table 5). As might be expected, WeChat was the most popular social media App, used by 94% of students almost daily while less than 1% used WhatsApp. Other locally developed platforms are also used frequently: 43% of students reported being daily Weibo users, and 35% reported using QQ/Qzone almost every day. By comparison, several Apps that are very popular in Western countries like

Facebook, Twitter or Instagram are instead much less popular among Chinese students. For example, only 3% of respondents said they used Instagram very often, and even fewer cited Facebook, Twitter, LinkedIn or Skype as the site they often visited. This interesting pattern is to a large extent due to the so-called "Great Firewall of China" that blocks access to such foreign websites.

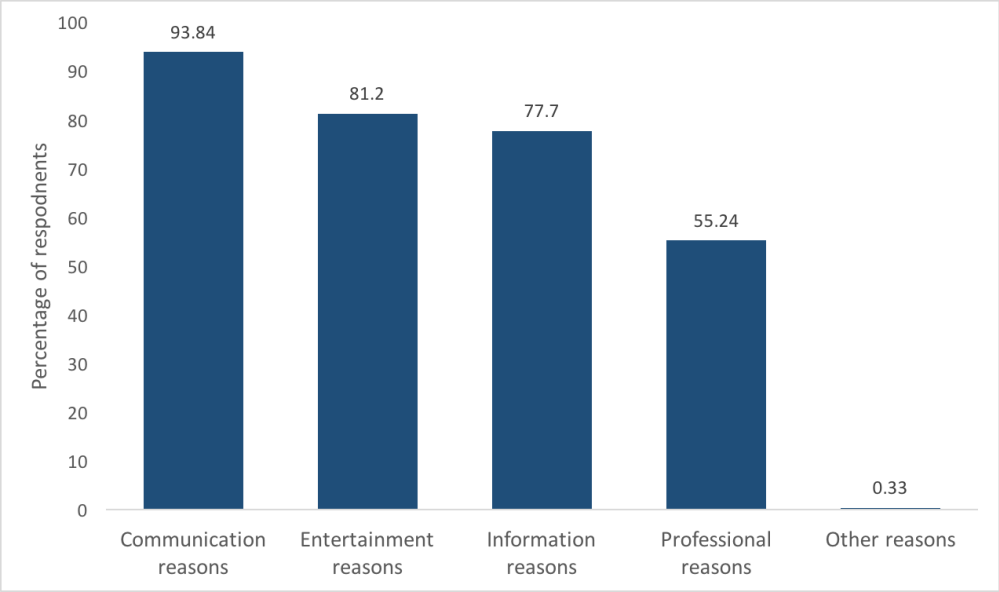
Table 5: Social Media Usage.

	Almost Everyday	Very Often	Sometimes	Rarely	Other
WeChat	93.51%	3.66%	1.16%	0.33%	1.33%
Weibo	43.09%	11.98%	11.31%	7.65%	25.96%
QQ, QZone	34.94%	12.48%	15.81%	10.32%	26.46%
Douban	3.83%	3.00%	7.15%	4.99%	81.03%
RenRen	0.33%	0.00%	0.17%	0.67%	98.84%
Facebook	1.16%	1.16%	6.16%	6.16%	85.36%
Twitter	1.00%	1.16%	2.00%	3.49%	92.35%
WhatsApp	0.50%	0.50%	2.16%	2.33%	94.51%
Skype	0.33%	0.33%	1.66%	2.66%	95.01%
LinkedIn	0.67%	1.00%	3.16%	3.99%	91.18%
Instagram	2.33%	3.00%	5.82%	7.99%	80.87%

Source: MARCO_P wave 1 (N=601).
Notes: The table presents answers to the question: "How often do you use the following social media?". The category "Other" is a residual category which contains the answers "N/A" and "Prefer not to say".

When asked about the main reasons for using social media networks (Figure 3), more than 90% of respondents said that social media has helped them keep in touch with family and friends and meet new people. Smaller shares of respondents argued that social media is a venue for entertainment (81%), or that social media facilitates access to news and information (78%).

Figure 3: Purposes of Using Social Media Networks.



Source: MARCO_P wave 1 (N=601).

3.2.3 Fashion and Shopping

China is becoming an important export destination for the global fashion industry and our survey contains a rich array of questions to elicit consumption of fashion luxury goods as well as shopping behaviour One interesting dimension is to explore the relative importance of intrinsic attributes (e.g. colour, style, quality) and extrinsic attributes (e.g. price, brand) used by students when buying a new product. In the survey, we asked students to rank eight product attributes for buying new clothes by importance, with a score of one indicating the most important factor, eight the least important. Table 6 shows the respective percentage of female and male respondents who indicated a certain attribute as the most important in their choices. For both females and males, the functional aspect of clothing, particularly fit, was considered to be the most important and was regarded more important than aesthetic attributes such as style or colour. Fit was much more likely to be used by female students as a key factor in their selection criteria, while male students were more likely to document price, quality, comfort and brand as the most crucial product attribute. Finally, female and male respondents tended to attach similar importance to clothing styles.

Table 6: Clothing Preferences by Respondent's Gender.

	Price	Quality	Material	Style	Comfort	Brand	Colour	Fit	*N*
Female	12.24%	5.31%	1.62%	10.39%	7.39%	5.08%	1.85%	56.12%	433
Male	17.86%	11.61%	3.57%	11.61%	12.50%	8.04%	2.68%	32.14%	112

Source: MARCO_P wave 1.
Notes: The table presents answers to the question: "Suppose you want to buy new clothes, what is the most important aspect in your buying decisions?".

3.2.4 Environment

China's rapid growth has lifted per capita income 40 times between 1980 and 2016, and has led to a dramatic fall in poverty rates (from a share of 88.7% of the population falling below the poverty line in 1980 to 1.9% in 2013, see The World Bank, 2017). The manufacturing sector has expanded dramatically, and at least in the early phase of the Chinese economic miracle, little attention has been paid to the environment. As a result, recent research indicates that China hosts today 16 of the world's 20 most polluted cities, and air pollution has been estimated to cause 350,000-400,000 premature deaths every year (Hering and Poncet, 2014). Over the past ten years several policies have been introduced to reduce pollution and some positive results have been attained (see Greenstone and Schwarz, 2018). Still, pollution and the need for better environmental protection remains a hot topic of discussion in the media.

The survey contains several questions on this topic, ranging from individual attitudes towards environment to individual willingness to pay for environmentally friendly products and services. Table 7 summarises answers to the question asking students to consider 7 statements related to environment. Two statements garnered considerably high levels of agreement: 88% of students agreed with the statement "It is our responsibility to make sure that the environment is safe for future generations" while 82% agreed that "I am willing to contribute as a volunteer towards the cause of a better environment". Interestingly, about half of respondents reported that their health had been affected by pollution, and a further 15% were in favour of restricting industrial production so as to reduce pollution. Only 52% of respondents appeared though to be willing to pay more to pay for green goods or services. The significance of this should not be overlooked – it highlights potential challenges that

Chinese policy makers will face in insuring that the broader population will support the adoption of more stringent environmental regulations.

Table 7: Attitudes Towards Environment.

	Disagree	Neutral	Agree	Other
"My health has already been affected by pollution"	13.31%	32.45%	51.41%	2.83%
"It is our responsibility to make sure that the environment is safe for future generations"	1.83%	8.65%	88.02%	1.50%
"I am prepared to suffer some inconveniences for the sake of a better today and tomorrow"	6.49%	19.80%	72.55%	1.16%
"More restrictions should be imposed on industrial production to stop pollution"	6.16%	26.96%	65.22%	1.66%
"I am willing to pay more for goods or services made using responsible practices"	9.32%	36.27%	52.08%	2.33%
"I am willing to directly contribute money to environmental protection organizations"	12.31%	40.43%	44.76%	2.50%
"I am willing to contribute as a volunteer towards the cause of a better environment"	3.99%	13.14%	81.70%	1.16%

Source: MARCO_P wave 1 (N=601).
Notes: The table presents answers to the question: "To what extent do you agree with the following statements about environment?". For simplicity, we have grouped answers "Strongly (dis)agree" and "Tend to (dis)agree" into "(Dis)agree". The category "Other" is a residual category which contains the answers "Don't know" and "Prefer not to say".

3.3 Network

The network module is devoted to mapping and understanding the social network of students, by collecting detailed information concerning five "closest contacts" of the respondent among his or her current roommates, classmates or schoolmates. This allows matching observations of one student to that of others in his or her network, and ultimately analyse peer effects. Table 8 demonstrates that respondents kept in touch and interacted with their best friends outside school hours. Moreover, the frequency of interaction among respondents and friends seemed to be an increasing function of closeness of relationship – whereas only 5% of respondents contacted their fifth closest friend frequently (very often or daily) after school, roughly 27% contacted their first closest friend on a frequent basis. Table 9 documents a respondent's individual position in his or her personal network with respect to various dimensions. It appears that respondents in our sample felt that they were better compared with their first best friend in terms of academic performance, IQ and EQ, and worse in terms of financial conditions and subjective well-being.

Table 8: Five Best Friends: Frequency of Interaction After School.

	Almost Everyday	Very Often	Sometimes	Rarely	Never	Other
Friend 1	10.98%	16.31%	19.97%	11.31%	11.48%	29.95%
Friend 2	5.32%	13.48%	19.97%	14.64%	14.14%	32.45%
Friend 3	3.99%	12.31%	19.80%	16.47%	14.48%	32.95%
Friend 4	1.50%	4.83%	7.99%	8.15%	6.99%	70.55%
Friend 5	1.16%	3.49%	5.32%	5.99%	5.49%	78.54%

Source: MARCO_P wave 1 (N=601).
Notes: The table presents answers to the question: "How often do you hang out after school (e.g. go to pubs)?". The category "Other" is a residual category which contains the answers "N/A" and "Prefer not to say".

Table 9: Relative Positions Compared with the First Closest Friend.

	Much Better	A Bit Better	About the Same	A Bit Worse	Much Worse	Other
Academic performance	7.65%	18.97%	25.29%	15.31%	4.66%	28.12%
Economic conditions	4.16%	9.82%	37.60%	14.48%	4.49%	29.45%
IQ	2.83%	10.98%	49.42%	5.16%	1.66%	29.95%
EQ	5.16%	12.31%	37.44%	12.98%	2.83%	29.28%
Happiness	3.33%	9.65%	42.26%	11.15%	3.99%	29.62%
Life satisfaction	3.66%	8.99%	44.26%	10.32%	2.83%	29.95%

Source: MARCO_P wave 1 (N=601).
Notes: The table presents answers to the question: "Compared to your first best friend, how would you rate your...?". The category "Other" is a residual category which contains the answers "N/A" and "Prefer not to say".

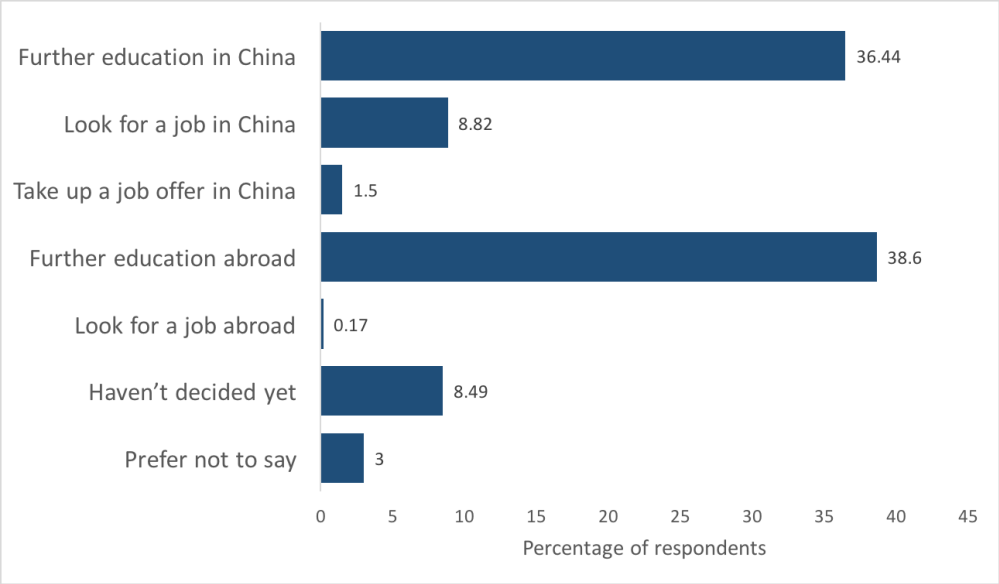
3.4 Migration

Internal migration in China has increased dramatically since the 1970s, and as of 2014 China's National Bureau of Statistics estimated that 278 million individuals – or 20 percent of the total population – lived outside their hometowns for at least six months each year (Facchini et al., 2018). International migration is also on the rise, with both large numbers of Chinese nationals moving abroad and small, albeit growing, numbers of foreigners arriving in the country. The migration module includes information on migration experience and intentions, location preferences, determinants of migration decisions, as well as general attitudes towards migration.

3.4.1 Study Abroad

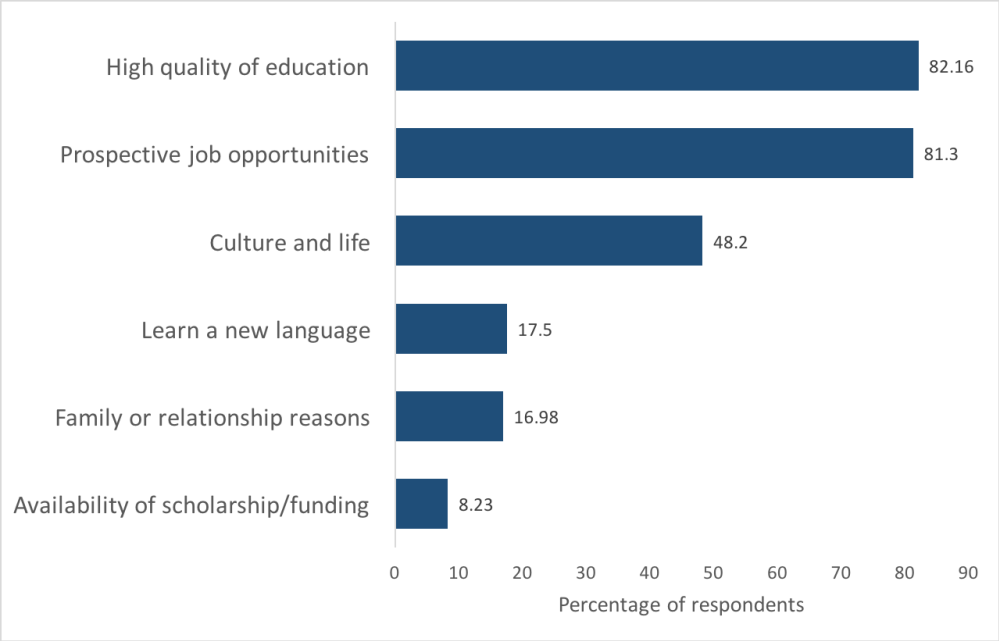
Understanding where students want to go and what they want to do after university is of great importance. Figure 5 provides descriptive statistics on the post-graduation plans of respondents. More than three quarters of respondents intended to pursue further education after graduating – about half of them in China and half abroad. Around 9% of students were instead planning to look for a job in China, less than 1% abroad, and about 8% had not yet made up their minds. The MARCO_P further asked students about their motivations for studying abroad, the answers to which are displayed in Figure 4. The three main reasons students stated that they decided to study abroad were (1) the quality of education (82%), (2) better prospective job opportunities (81%) and (3) new cultural or life experiences (48%). Some were also driven by the desire to learn a new language, as mentioned by 18% of respondents.

Figure 5: Plans After Finishing Current Studies.



Source: MARCO_P wave 1 (N=583).

Figure 4: Reasons for Deciding to Study Abroad.



Source: MARCO_P wave 1 (N=583).

3.4.2 Migration Attitudes

The survey also reveals that students tended to exhibit positive atttidues towards migration (Table 10). For example, only 6% of respondents regarded international migration as more of a threat than an opportunity, and about half would encourage their children to emigrate if they had a chance to do so. Although students were open to migration, over three quarters of respondents argued that it is important to preserve one's national identity. Meanwhile, 47% of respondents acknowledged the inevitable differences between being a citizen and an immigrant, suggesting an important cautionary note on the extent to which integration abroad will be possible.

Table 10: Attitudes Towards International Migration.

	Disagree	Neutral	Agree	Other
"International migration is more of an opportunity than a threat"	5.66%	48.71%	42.37%	3.26%
"International migration deteriorates family relations"	39.11%	47.68%	10.12%	3.09%
"It is important to preserve one's national identity"	3.43%	17.50%	76.67%	2.40%
"I don't mind to marry a foreigner"	13.21%	28.99%	54.55%	3.26%
"I would encourage my children to emigrate if they had the chance"	7.55%	38.94%	50.77%	2.74%
"I will not call any foreign country a new (second) home"	22.81%	39.11%	33.79%	4.29%
"There are inevitable differences between being a citizen and being an immigrant"	10.12%	39.28%	47.17%	3.43%

Source: MARCO_P wave 1 (N= 583).
Notes: The table presents answers to the question: "To what extent do you agree with the following statements about immigration?". For simplicity, we have grouped answers "Strongly (dis)agree" and "Tend to (dis)agree" into "(Dis)agree". The category "Other" is a residual category which contains the answers "Don't know" and "Prefer not to say".

3.5 Preferences and Satisfaction

Considering the important influence of cultural values and beliefs on economic outcomes, the MARCO_P survey incorporates a rich set of subjective questions on beliefs, values and attitudes, satisfaction levels, risk preferences, time preferences, social preferences, trust and personality.

We first look at students' trust in institutions and other persons.[1] The upper panel of Tables 11 suggests that, although no institution was completely trusted by students, central government, courts, police, public hospitals and schools were trusted by a clear majority of

[1]Institutional trust is considered to be an important variable to understand political phenomena (see Dustmann et al., 2017). Interpersonal trust, usually used as a proxy for social capital, has been used by sociologists and economists to explain different social phenomena.

students. On the contrary, students had lower levels of trust in press, NGOs and private hospitals. In terms of interpersonal trust, it is not surprising to observe that students trusted their family and friends more than neighbours or strangers.

Table 11: Trust.

	Mean	Std. Dev.	*N*
Institutions			
Central government	3.63	(0.89)	584
Local government	3.20	(0.82)	583
Courts	3.62	(0.78)	588
Large companies	3.32	(0.72)	589
Police	3.65	(0.75)	588
Public hospitals	3.66	(0.67)	588
Private hospitals/clinics	2.89	(0.77)	589
Non-governmental organisations (NGOs)	2.87	(0.70)	589
Banks and financial system	3.38	(0.76)	588
Schools and educational system	3.60	(0.71)	589
Press	2.71	(0.74)	589
People			
Your own family	4.62	(0.59)	589
Friends	4.00	(0.61)	589
Neighbours	3.05	(0.72)	589
Strangers	2.19	(0.71)	589

Source: MARCO_P wave 1.
Notes: The table presents answers to the question: "Please describe your level of trust in the following institutions and people on a scale between 1= 'Complete distrust' and 5= 'Complete trust' ". Observations vary due to non-responses.

Table 12 shows students' views about the role of women and about gender equality. A substantial majority of students believed that there should not be gender superiority; however, about half of students argued that gender equality has not been fully achieved in China. It is interesting to highlight that, even though female students were more in favour of gender equality than male students in all statements, the pattern of answers was similar, meaning that gender equality is considered to be a positive goal to achieve by most Chinese students.

Another important element covered by the survey relates to attitudes towards rural-to-urban migrants. In Table 13, two statements received considerably high levels of agreement: 78% of students agreed with the statement that "migrant workers help to fill jobs where there

Table 12: Attitudes Towards Gender Equality by Respondent's Gender.

	Disagree	Neutral	Agree	Other
"Women and men should have equal legal rights"				
Female	0.85%	3.84 %	94.24%	1.07%
Male	1.60%	16.80%	79.20%	2.40%
"Men are born with higher ability than women"				
Female	72.92%	18.76%	7.25%	1.07%
Male	52.80%	32.00%	12.80%	2.40%
"Men's (women's) work should be outside (around) the home"				
Female	69.08%	22.81%	7.46%	0.64%
Male	37.60 %	40.00%	19.20%	3.20%
"A man should have the final word about decisions at home"				
Female	84.43%	11.73%	3.20%	0.64%
Male	50.40 %	35.20%	12.00%	2.40%
"Gender equality has already been achieved for the most part of China"				
Female	55.86%	25.80%	17.48%	0.85%
Male	42.40%	25.60%	28.80%	3.20%

Source: MARCO_P wave 1 (N= 469 females and 125 males).
Notes: The table presents answers to the question: "To what extent do you agree with the following statements about gender equality?". For simplicity, we have grouped answers "Strongly (dis)agree" and "Tend to (dis)agree" into "(Dis)agree". The category "Other" is a residual category which contains the answers "Don't know" and "Prefer not to say".

are shortages of workers" while 62% agreed that "migrant workers and urban natives should have equal legal rights". There was no clear consensus among students about the effect that rural migrants have on urban economies: students thought that migrants create more jobs, rather than take them away, but they also argued that urban wages are lower as a result of competition from migrants. Besides economic impact, migrant workers have contributed positively to urban cultural life, with 51% of students agreeing.

Table 13: Attitudes Towards Internal Migrants.

	Disagree	Neutral	Agree	Other
"Migrant workers and urban natives should have equal legal rights"	6.49%	28.12%	62.23%	3.16%
"Migrant workers take jobs away from urban natives"	33.11%	43.76%	18.64%	4.49%
"Migrant workers bring down average wages in urban areas"	18.47%	44.09%	30.62%	6.82%
"Migrant workers make the social welfare system crowded"	10.15%	34.61%	51.25%	3.99%
"Migrant workers create more job opportunities in urban areas"	13.64%	37.94%	42.60%	5.82%
"Migrant workers help to fill jobs where there are shortages of workers"	2.16%	16.14%	78.37%	3.33%
"Most migrant workers make an important contribution to urban cultural life"	12.15%	33.11%	50.92%	3.83%

Source: MARCO_P wave 1 (N= 601).
Notes: The table presents answers to the question: "To what extent do you agree with the following statements about migrant workers?". For simplicity, we have grouped answers "Strongly (dis)agree" and "Tend to (dis)agree" into "(Dis)agree". The category "Other" is a residual category which contains the answers "Don't know" and "Prefer not to say".

3.6 Decision Task

The last module of the survey randomly assigned students to two different tasks. In the honesty game, students were asked to predict the outcome of flipping a coin and to report the number of correct guesses after repeating the task three times. Respondents were given four possible answers and a related pay-off: 0 correct prediction (pay-off 0 RMB), 1 correct prediction (pay-off 0 RMB), 2 correct predictions (pay-off 5 RMB), and 3 correct predictions (pay-off 10 RMB). On average, students in our sample were able to make accurate predications 2 out of 3 times.

In the donation game, students were asked whether they are happy to obtain the "full" amount for their compensation (i.e. 50 RMB) or if they are willing to donate up to 10 RMB to one of the charities listed in the survey. This experiment was designed to gauge the level of altruism of individuals, which could vary from 0 (no donation) to 10 (highest donation). The majority of students (83%) in this experiment chose to donate, and the average amount of money they were willing to give up was 7 RMB.

4 Descriptive Statistics: Wave 2

The wave 2 questionnaire is composed of five modules – one less than that of wave 1. In particular, questions on networks were no longer asked in the new wave. Similar to the first wave, respondents were asked about their personal information, consumption habits, migration experience, as well as beliefs, values and atttidues. At the end of the interview, respondents were allocated to the same decision task as they performed in the previous wave (i.e. honesty game or donation game). Notably, in the second wave, some new questions were introduced to the survey, such as questions on the change in hukou status, attitudes towards social networking sites (to measure addictiveness), gambling behaviour and how students perceive the potential consequences of the US-China trade war.

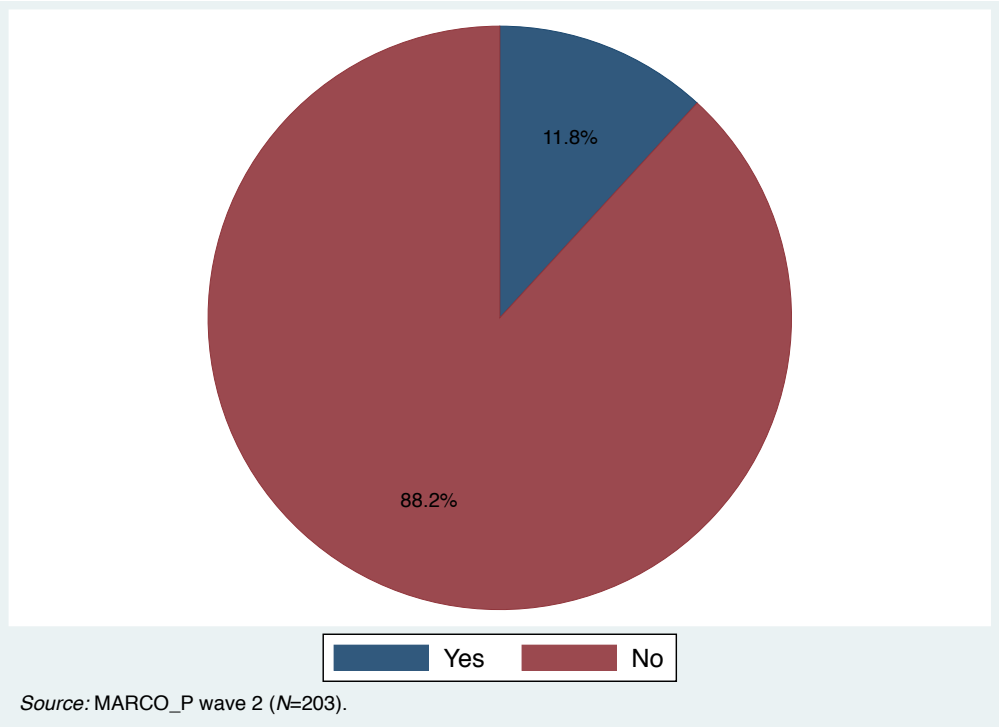
In the following, we present descriptive statistics based on selected cross-sectional variables that only exist in wave 2 (Subsection 4.1) and longitudinal variables that appear in both waves (Subsection 4.2). In Subsection 4.3, we provide descriptive statistics highlighting

the differences in various characteristics between respondents who only participated in wave 1 and those who participated in both waves.

4.1 Newly-Added Variables

According to Figure 6, approximately 12% of respondents have changed their household registration status between the two waves.

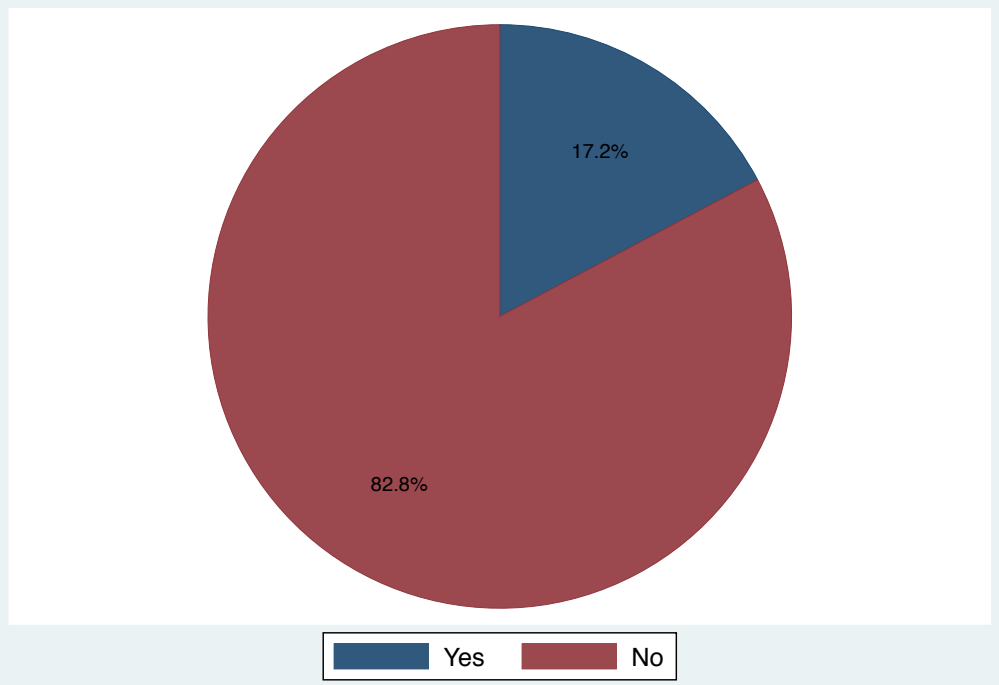
Figure 6: Change of Hukou Status Since Last Interview.



When it comes to gambling participation, Figure 7 shows that around 17% of respondents took part in football betting during the 2018 FIFA World Cup. Figure 8 outlines students' addiction to social networking sites. Evidence from the survey suggests that Chinese students were highly addicted to social networking sites. For instance, around 74% of respondents held multiple social media accounts, and 63% said that the collapse of a social networking site would adversely affect their mood. Moreover, more than half of students were surprised by the time they spent on social media platforms, and 17% had even said no to an activity with family or friends because of social networking sites. The high prevalence of addictive behaviours raises concerns about the potential negative impact of social media on the mental

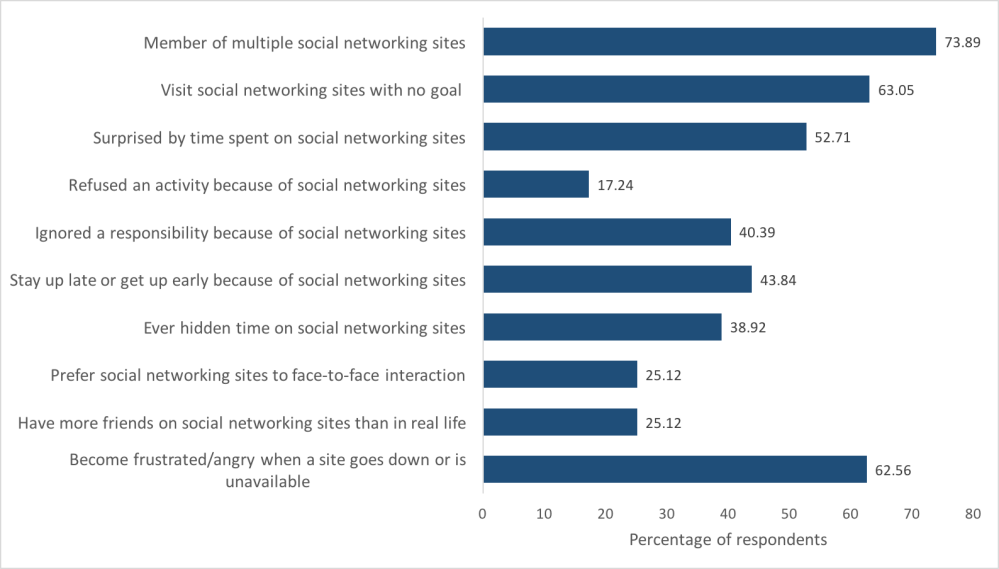
health of young people.

Figure 7: Participation in Football Betting in the 2018 FIFA World Cup.



Source: MARCO_P wave 2 (*N*=203).

Figure 8: Social Networking Addiction.



Source: MARCO_P wave 1 (N=203).

4.2 Longitudinal Variables

In Table 14 we report statistics for selected wave 1 variables that were also repeated in wave 2, including marital status, an indicator for Chinese food preferences, and trust attitudes. Trust attitudes refer to questions asking to what extent respondents agree with three statements related to trust. The share of students who are single is 0.75 in the first wave, but is somewhat higher in the second, reflecting changes in relationships across the two rounds of the survey. There seems no great variation with regard to food preferences across waves. However, students changed their attitudes towards trust even within the short time window. Individuals from wave 1 and wave 2 both agreed that people can be trusted in general and that one needs to be cautious with strangers, while a substantially higher proportion of wave 2 respondents held the view that one cannot rely on anybody.

Table 14: Longitudinal Variables.

	Wave 1	**Wave 2**
Single	0.75	0.80
	(0.44)	(0.40)
Chinese food preferences	0.55	0.56
	(0.50)	(0.50)
Agree with "people can be trusted in general"	0.84	0.80
	(0.37)	(0.40)
Agree with "one can't rely on anybody"	0.22	0.34
	(0.41)	(0.47)
Agree with "it's better to be cautious before trusting strangers"	0.94	0.97
	(0.25)	(0.18)
N	601	203

Source: MARCO_P wave 1 and 2.
Notes: Chinese food preferences is a dummy which equals to 1 if a respondent prefers to eat Chinese food when the Chinese and Western food have the same price and 0 otherwise. Agree refers to the cases where a respondent tends to agree or strongly agrees with a particular statement about trust. Standard deviation in parentheses. *N* is the sample size.

4.3 Matching Wave 1 and Wave 2

We now turn to check the balance of certain characteristics across the two waves between students who only participated in wave 1 and those who participated in both waves. Exploring such differences (if any) would give us a simple picture of sample composition and

sample attrition. In another words, this allows us to better understand the extent to which students who participated in the subsequent wave are representative of the original sample. To test for potential differences, we rely on a two-sample t-test with unequal variances. Since sample sizes are not sufficiently large, we also employ non-parametric tests, namely the Pearson's Chi-Squared test and the two-sided Mann-Whitney U test as robustness checks. The corresponding results are shown in Table 15.

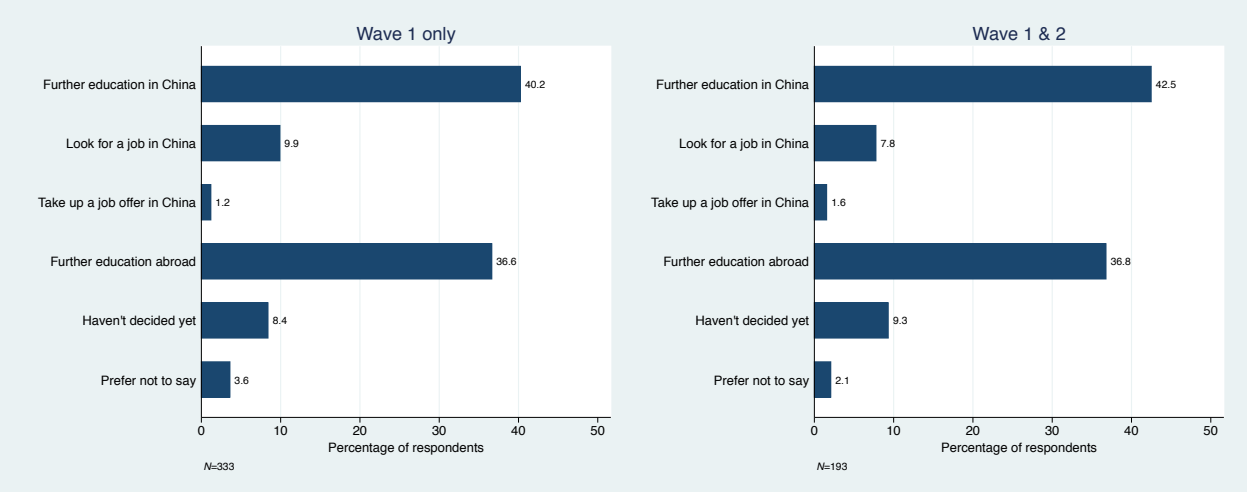
We note that there is no attrition based on university type – the differences between the two samples are negligible and not statistically significant. Females are relatively over-represented in wave 2 relative to wave 1, albeit not statistically significant. Similarly, no statistically significant differences can be observed in terms of ethnicity, country of residence, health conditions, sports club membership, type of accommodation, use of the Internet, migration history and post-graduation plans, across the two groups (all t-test p-values>0.1). However, there appear to be statistically significant differences in terms of marital status and body weight. Specifically, relative to students who are present in both waves, who only appear in the first wave are less likely to be single and slightly heavier. We also illustrate the differences in post-university plans across the two groups of respondents in Figure 9.

Table 15: Differences Between Students Who Only Participated in Wave 1 and Those Who Participated in Wave 1 & 2.

	Pooled (***Std. Dev.***)	**Wave 1 Only** (***Std. Dev.***)	N_1	**Wave 1 & 2** (***Std. Dev.***)	$N_{1\&2}$	***t*-test** ***p-values***	**CS-test/MW-test*** ***p-values***
BNU student	0.79	0.80	341	0.79	203	0.793	0.791
	(*0.40*)	(*0.40*)		(*0.41*)			
Female	0.78	0.77	341	0.80	203	0.371	0.376
	(*0.42*)	(*0.42*)		(*0.40*)			
Han ethnicity	0.94	0.94	341	0.95	203	0.720	0.723
	(*0.24*)	(*0.24*)		(*0.23*)			
Single	0.76	0.73	341	0.80	203	0.059	0.065
	(*0.43*)	(*0.44*)		(*0.40*)			
Country of current residence	0.98	0.98	341	0.98	203	0.769	0.773
	(*0.15*)	(*0.15*)		(*0.14*)			
Health status	0.54	0.54	341	0.55	203	0.784	0.783
	(*0.50*)	(*0.50*)		(*0.50*)			
Body weight (kg)	60.48	61.74	254	58.58	168	0.060	0.088*
	(*17.57*)	(*18.73*)		(*15.51*)			
Member of sports club	0.23	0.25	341	0.21	203	0.352	0.357
	(*0.42*)	(*0.43*)		(*0.41*)			
Living in university dormitory	0.88	0.90	341	0.86	203	0.144	0.128
	(*0.32*)	(*0.30*)		(*0.35*)			
Daily Internet user	0.94	0.93	341	0.95	203	0.306	0.325
	(*0.24*)	(*0.26*)		(*0.22*)			
Migrated abroad	0.05	0.04	333	0.05	193	0.615	0.605
	(*0.21*)	(*0.20*)		(*0.22*)			
Plans after university	0.78	0.77	333	0.79	193	0.521	0.524
	(*0.42*)	(*0.42*)		(*0.41*)			

Source: MARCO_P wave 1 and 2.
Notes: Students in the UNNC extension sample are excluded from the analysis. BNU student is a dummy which equals to 1 one if a respondent is studying at BNU and 0 if UNNC; Country of current residence is a dummy which equals to 1 if a respondent is residing in China and 0 otherwise; Health status is a dummy which equals to 1 if the health status of respondents is excellent or good and 0 otherwise; Migrated abroad is a dummy which equals to 1 if a respondent has ever lived abroad for at least 3 months and 0 otherwise; Plans after university is a dummy which equals to 1 if a respondent plans to pursue further education after finishing current studies and 0 otherwise; N_1 is the sample size of respondents who only participated in wave 1; $N_{1\&2}$ is the sample size of respondents who participated in both waves 1 and 2; *t*-test is the two-sample *t*-test with unequal variances; CS-test is the Pearson's Chi-Squared test; MW-test is the two-sided Mann-Whitney U test (performed only on $*$); Standard deviation in parentheses.

Figure 9: Plans After Finishing Current Studies Across the Two Waves.



5 Summary of Key Results

The main objective of the survey is to collect novel and high-quality micro data in order to further our understanding of how consumption trends and patterns evolve as function of internal and international migration. We present in Table 16 summary statistics for selected variables that capture students' preferences and behaviour, paying close attention to the differences between internal vs. international migrants.

Table 16: Differences in Students' Outcomes by Migration Status.

	Non-Migrants	Internal Migrants	International Migrants	t-test (2)-(1)	t-test (3)-(1)
	(1)	(2)	(3)	(4)	(5)
Go abroad after graduation	0.65	0.33	0.64	–0.32***	0.00
Total monthly expenses (RMB)	1952.25	1777.63	2896.36	–174.62	944.11***
Share of expenses on food	0.60	0.62	0.48	0.02	–0.12***
Share of expenses on sports	0.04	0.03	0.15	–0.02**	0.11***
Chinese food preferences	0.46	0.55	0.67	0.10	0.21**
Alcohol drinker	0.35	0.39	0.49	0.03	0.13
Social media accounts (0-11)	3.46	3.19	4.44	–0.27	0.98***
Fashion and luxury goods	0.23	0.23	0.31	0.00	0.08
Environmental index (5-50)	37.55	37.09	36.74	–0.46	–0.80
Trust in local government (1-5)	3.37	3.19	3.03	–0.19*	–0.35**
N	79	483	39		

Source: MARCO_P wave 1.
Notes: Internal migrants refer to individuals who are currently living out of ones' home province. International migrants refer to individuals who are currently living outside of China or have ever lived abroad for at least 3 months. Go abroad after graduation is a dummy which equals to 1 if a respondent intends to go abroad after finishing current studies in order to pursue further study, look for a job or accept an existing job offer, and 0 otherwise. Chinese food preferences is a dummy which equals to 1 if a respondent prefers to eat Chinese food when the Chinese and Western food have the same price and 0 otherwise. Social media accounts is the number of accounts a respondent owns out of 11 popular social media platforms, ranging from 0 to 11. Fashion and luxury goods is a dummy which equals to 1 if a respondent buys fashion and luxury goods very often or all the time and 0 otherwise. Environmental index is a composite index built upon ten questions about environmental activities – a higher total score indicates a more pro-environmental behaviour. */**/*** indicate difference in means is statistically significant at the 0.1/0.05/0.01 level. N is the sample size.

Key findings from Table 16 together with previous results suggest:

- Around 80% of respondents are inter-provincial migrants, whereas about 7% have international migration experience (are currently living outside of China or have lived abroad before); the remaining 13% refers to non-migrants.

- Non-migrant students express higher intentions to go abroad after graduating relative to students who have migrated inter-provincially, while no difference is observed between non-migrants and international migrants in terms of post-study migration intentions.

- Chinese students are motivated to study abroad due to the high quality of foreign education.
- The spending patterns are considerably different among the there groups of students: students who migrate internationally spend far more money per month than those without migration experience, whereas students who migrate domestically spend less than non-migrants.
- Students with international migration experience allocate a higher share of their monthly budget to sports but a lower share to food, relative to non-migrants; by comparison, internal migration leads to a decline in the budget share allocated to sports.
- Despite the fact that Western food has become popular among Chinese students, Chinese food is still the dominant preference, especially for those who have international migration experience.
- Social media is extensively and constantly used by young people in China mainly for communication purposes, with WeChat being the most popular social media App.
- International migrants tend to have broader social media networks than either internal migrants or non-migrants, which is perhaps because they have access to Western Apps such as Facebook, Twitter or Instagram while abroad.
- Migration, whether internal or international, does not seem to significantly influence students' attitudes towards environment.
- Both internal and international migrants are less likely to trust local government, as compared to non-migrants.

6 Avenues for Research

With the rich set of topics covered, the MARCO_P survey enables the investigation of many research questions. Its peculiar focus on consumption and migration allows studying under-explored questions and relationships. Furthermore, while the sample of students might

not be representative of the whole population, the survey permits analysis of the attitudes, preferences and intentions of the young Chinese, thereby improving our knowledge about the future generation of workers. The extensive information presented in the consumption module allows to investigate in depth consumption preferences and behaviour along a broad variety of dimensions. For instance, the survey could be employed to study topics such as the effect of migration on consumption and consumption inequality, the transfer of consumption norms, the role played by technology and social media in changing the consumption patterns, and the role of culture and beliefs in changing the consumption patterns.

Studies on interpersonal and institutional trust have gained great prominence (e.g. Tabellini, 2008; Guiso et al., 2008). The direct question on trust, as well as questions on social preferences and on beliefs and values would allow a full investigation of how trust relates to certain students' outcomes, for example, their migration plans. Another direction for future research may include the study of the relationship between the use of social networks and the attitudes towards migrants (see Facchini et al., 2017, as an example).

A topical theme in the economics literature is the role of cultural attitudes (Alesina and Giuliano, 2015). The questions embedded in the "Preferences and Satisfaction" module provide an interesting possibility to study the cultural attitudes of young people in China. Moreover, attitudes towards environment could be explored in relation to students' consumption preferences.

Last but not least, its longitudinal structure, albeit limited in sample size, would allow researchers to examine how students' preferences and outcomes evolve in the short run, and connect such changes with events that might have taken place over the survey window.

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