

Corruption Perception and Relative Deprivation: A Comprehensive Empirical Research on Macro Sense of Fairness

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Abstract: According to the empirical analysis of nationwide data CGSS2015 (Chinese General Social Survey in 2015), this article proposes that sense of fairness is not only affected by income allocation or other economic factors, but is even more affected by some non-economic phenomena of unfairness, such as corruption and privilege. The statistical results show that people's corruption perception significantly depressed their sense of fairness. Similarly, negative evaluation about social governance and strong perception of privileged behavior also significantly reduced the macro sense of fairness. In addition, this research examined two different impact mechanisms of sense of fairness proposed by 'social structure' theory and 'relative deprivation' theory. The results support the 'relative deprivation' theory.

Keywords: Corruption, Sense of fairness, Social stratification, Relative deprivation, Social structure

1. Backgrounds

Since Reform and Opening-up, China has achieved dramatically economic successes in the past four decades, while the continuously widening of social inequality has also become a hot topic in the academic community and even in the international community. According to the official statistics^①, Gini coefficient of Chinese residents' income increased from 0.479 (in the year 2003) to 0.491 (in the year of 2008), and remain stable in about 0.47 until 2012. It has exceeded the International Warning Line (0.4), which signals the income distribution disparity between the rich and the poor may lead to social unrest. Indeed, some researchers believe that public discontent over the disparity in China is the main reason for rapid growth of social movements and protest actions (Tanner, 2006; Chung *et al.*, 2006), and the accumulation of public discontent will become a threat to political stability. However, according to an analysis of a nationwide survey in 2004, Whyte (2009) point out that Chinese have not shown strong dissatisfaction with income inequality, and even shown 'surprisingly optimism' compared with people in other countries (including developed capitalist countries and transition countries in Eastern Europe). In other words, Chinese people are less

^① Zhou, Rui. 2013, *China released the Gini coefficient for the first time in nearly ten years*, from China News Service, <http://finance.chinanews.com/cj/2013/01-18/4501789.shtml>

dissatisfied with the trend of widening income gap. As it were, Whyte's (2009) study of Chinese people's views on social inequality provides a challenging explanation for the mismatch between objective social structure and probably political consequences.

There are mainly two kind of core research topics in the field of social stratification. One is the description and measurement of social inequality in the objective dimension represented by class structure, Gini coefficient and social mobility; the other is the perception, recognition and judgment of social inequality in the subjective dimension, such as class consciousness, status identity and sense of distribution fairness. In terms of the social stratification process and its consequences caused by China's market transformation in the past 40 years, many scholars have made full discussions with empirical materials, and some have also stressed the impact of social stratification on the subjective aspect of the public in recent years. They state that, compared with the macro-level change of social class, people's actual and specific experiences, cognitive models and value judgments, are closer to the probably social and political consequences, and even lay an intermediary bridge more effectively to these consequential issues (Whyte, 2009; 谢宇, 2010; 秦广强, 2016; 李骏、吴晓刚, 2016; 方长春, 2017). Understanding people's specific psychological feelings and value judgments not only will we better understand the mechanism between objective position and social choice in reality, but also provide a differentiated and challenging explanation for some important social facts. The research scope of social stratification in subjective dimension is very extensive, such as class identification, social mobility expectation, attribution of inequality and government role expectation (秦广强, 2016), etc. Among them, the 'sense of fairness' is particularly attracts scholars.

'Equality' is different from 'equity', and it refers to a measure of social inequality represented by Gini coefficient, which aims to describe the distribution of resources in the whole society such as income and wealth. As for 'equity', it is a subjective judgment of how resources should be allocated. Furthermore, the 'sense of fairness' can be divided into micro-fairness and macro-fairness, the former mainly refers to people's judgment of the personal-income fairness, while the latter means that the community members' perception and judgment of the legitimacy about the whole social resources, including income distribution (Wegener, 1991; 刘欣、胡安宁, 2016). Stolte (1983) demonstrated that equal distribution does not lead to fairness, and people usually accept structural inequality, no matter where social position s/he is. Researches on China have also found that people prefer a performance-based (such as intelligence, talent, diligence, etc.) inequality of distribution rather than that result from power or nepotism (e.g. 关系 Guanxi), and dislike absolute-egalitarianism distribution principle (李路路、唐丽娜、秦广强, 2012; Wu, 2009; 方学梅, 2017). Different from previous studies, first, I am interested in the impact of non-economic factors on the macro sense of fairness. The rapid development of mass media in recent years brings people more possibilities to discuss social issues, whether or to what extent corruption, judicial injustice, privileges, poor governance and other problems cause damage to people's macro sense of fairness, which were rarely studied in the existing works. Second, I will investigate two kinds of theoretical hypotheses, objective social structure theory and subjective social comparison theory.

Based on discussions above, the rest is divided into three parts. In the second section, I will give a review on literature and research hypothesis, focusing on the relationship between corruption perception and fairness, and put forward the core hypothesis of this paper; next section is descriptive statistics of core variables; then, I will test the research hypotheses by statistical models in the fourth section. The conclusion part summarizes and discusses the finding and inadequacy of this study.

2. Literature Review and Research Hypothesis

Sense of fairness usually refers to the perception of resources distribution fairness among the whole society (Berger, *et al.*, 1972; Brickman, *et al.*, 1981), and previous studies pay more attention to the ‘income and distribution’ aspect of it, namely, the way individual evaluates the economic gap between themselves and others. In social surveys, however, questions usually are not asking for public’s attitude towards the ‘income equality’, but for their macro perception of fairness towards the whole ‘society’ (e.g. the question ‘Generally speaking, do you think the society today is fair or not’ in compulsory module of CGSS), and it is obviously different from the question that ‘do you think the income distribution of the whole society is fair or not. The dimension of macro sense of fairness is not just economic equality. 薛洁 (2007) states that the top five unfair social phenomena are that ordinary people can not afford the treatment of serious illness, the widening of gap between the wealthy and poor, ordinary people can not afford a house, corruption of officials and monopoly competitive advantages in some industries, according to her analysis of survey data from 2006 to 2007 in mainland China. More importantly, it shows that the source of citizen's sense of unfairness may not only be income distribution, but also include basic health and survival difficulties, as well as official corruption, unfair market competition and other problems related to abuse of power. During the period of rapid economic development, people tend to have higher expectations for society governance, judicial remedies, and anti-corruption, and the Tocqueville-style higher expectations, combined with frustrations in reality, are likely to bring public more negative emotions (托克维尔, 2013). Although, there is a popular explanation that market transition since the Reform and Opening-up is the main source of social inequity (because market promotes efficiency and hurts justice), this view is quite questionable, the market is more conducive to ‘opportunity justice’ rather than ‘outcome justice’. Under the condition of ‘opportunity justice’ market competition, the wages of workers are mainly determined by their productivity, and the differences in their knowledge, skills, endowments and personal efforts will naturally be reflected in the income returns. In general, therefore, such income inequality is considered as justice. In addition, fair income inequality stimulates the improvement of economic efficiency, and by redistribution, this inequality may be controlled within the limits permitted by morality and justice (陈刚、李树、吕惠娟, 2011). For example, a study by 陈晓东、张卫东 (2017) illustrated that the increase of opportunity inequality will significantly reduce people's sense of fairness, while the effort inequality and objective income inequality have no significantly impact on the sense of fairness. Moreover, some sociologists (栗志强、王毅杰, 2014) have considered whether redistribution,

such as social insurance, has an impact on people's sense of fairness, but the results showed that it has no significant effect, so the influence of redistribution on sense of fairness is also lack of empirical support. Therefore, the source of people's sensitivity to income inequality is likely to come from their disappointment of 'opportunity justice', rather than actual outcomes and redistribution. Overall, this paper argues that the possible important source of sense of fairness is that serious corruption in China has led to opportunity inequality for residents.

2.1 Corruption and sense of fairness

Corruption, according to World Bank (1997), refers to 'the act of abusing public power for private interests', such as rent-seeking, nepotism, abuse of discretion and other government al predatory behavior, etc. Although, It is a world-wide social phenomenon, 'China is now in the most serious corruption period since the founding of the PRC' (胡鞍钢, 2002), because of the deficiency of government management system and legal system. According to the Corruption Perception Index published by Transparency International in 2017, China ranks 77 in 180 countries (score 41/100), belonging to 'very corrupt' countries. Since the 18th National Congress of the Communist Party, the anti-corruption action has achieved great results. A number of high-level officers have been dismissed because of serious violations of laws and regulations, and many provincial and ministerial officers have been investigated. By the end of June 2017, it is 280 core officers, 8,600 officers at the bureau level, and 66,000 officers at the county level that have been examined^②. While achieving the victory in anti-corruption work that is 'orders of magnitude' greater than before, it also reflects that China's corruption has reached a severe and urgent stage. The General Secretary's Speech at the Third Collective Study of the 18th Central Political Bureau in 2013 pointed out frankly that 'corruption is a social cancer, letting it go will lead to destruction of the party and the country.'

There are three possible mechanisms to enhance or weaken people's sense of fairness. First, corruption may widen the income inequality and restrain the redistribution effect, thus do damage to sense of fairness. Existing studies on the consequences of corruption show that corruption is not only the main cause of the income gap between urban residents, but also contributes much more to the income gap compared with other influential factors (陈刚、李树, 2010). Moreover, it will make it difficult for the redistribution policy to adjust the corruption-caused inequalities, and even lead to reverse distribution effect (Alesina & Angeletos, 2005) that may worsen income equality. Second, corruption is an important barometer of institution construction, which may have great impact on formal institutions concerning personal daily life, including health care, judiciary and so on, thus affecting residents' sense of fairness. Corruption will not only erode the democratic political process (Tavits, 2008), but also against the generation of social capital such as social trust (Rothstein and Eek, 2009). Last, inequality, like privilege, itself is synonymous with corruption, which is a kind of power abusing sometimes, and privilege is especially evident in China (Yao, 2002). Therefore, corruption itself is an important source of injustice.

^② From CPC (Communist Party of China) News, Sept. 18, 2017, 《坚决打赢反腐败这场正义之战——党的十八大以来反腐败斗争成就述评》, 《 》, <http://fanfu.people.com.cn/n1/2017/0918/c64371-29540767.html>

Although, it is a difficult task to measure the level of corruption in reality, people usually have a perception of the whole society's corrupt phenomenon, which may affect macro sense of fairness. Based on the above discussion, there is the first core hypothesis. H1a: The higher the perception of corruption, the more inclined to think that the society is unfair.

In addition, the most common social injustice phenomenon is that 'power' is more powerful than 'law', and the wealthy and officials are more likely to escape from legal sanctions. Such privileged behavior is a great harm to the value of 'everyone is equal before the law'. Obviously, if a person hold a negative assessment about the degree of privilege, s/he may hold a negative evaluation for social fairness. H1b: The higher the degree of privileged behavior perception, the more inclined to believe that society is unfair. Besides, Social governance covers many aspects, from environmental protection, public security to food safety, which is bound up closely with people's specific daily life. Thus, the evaluation of social governance can reflect people's overall evaluation of society. H1c: the lower the evaluation of social governance, the more inclined to believe that society is unfair.

2.2 Social structure, relative deprivation and sense of fairness

The social structure theory emphasized that society members' judgement of whether the society is fair, is mainly determined by their own social and economic status. In general, researchers will propose a series of hypotheses based on this rational self-interest perspective. For example, social members with higher socioeconomic status tend to think that the current distribution situation is legitimate. On the contrary, social members with lower socioeconomic status are more likely to proceed from their own interests, dissatisfied with the current distribution situation and look forward to the transfer and compensation of resources distribution. Ng and Allen (2005) tested the self-interest theory in terms of sense of fairness in personal distribution. They materialized self-interest motivation into net income, and found that the higher the income, the stronger the respondents felt about the fairness of income distribution, and the self-interest motivation explained about a third of variation in sense of fairness. In this study, I divide socioeconomic status into five dimensions, year of education, individual annual gross income, occupation type, region, family register (namely, Hukou). This is the second set of hypotheses:

H2a: The longer people are educated, the more they tend to think that the society is fair. H2b: The higher people's occupational status, the more inclined to think that the society is fair. H2c: The higher people's income level, the more inclined to think that the society is fair.

Although researchers once believed that sense of fair was subject to hierarchical status, in fact, the 'structural determinism' interpretation based on self-interest theory has not been consistently supported by empirical studies. On the contrary, it is the behavior of comparing with others or comparing with the past that affects people's sense of income fairness in micro level (Whyte, 2009; 李骏、吴晓刚, 2012; 马磊、刘欣, 2010; 栗志强、王毅杰, 2014; 郑畅、孙昊, 2016). Namely, the relative deprivation in social comparison is the reason that affects the sense of fairness. Additionally, Hirschman (1973) put forward the famous 'tunnel effect', emphasizing the important

role of mobility expectations in enhancing people's tolerance for social injustice. On this basis, Benabou et al. (2001) proposed the 'prospect of upward mobility' hypothesis (The POUM Hypothesis), which holds that people at lower levels will perceive society as fairer and will no longer support redistribution if they expect their social status to rise in the future. Therefore, my study brings the POUM hypothesis to test its impact on sense of fairness. Finally, with the rapid development of mobile terminals, new media and other information channels, people can more easily and fast access to information, which makes it possible for people not only to be familiar with the income and consumption patterns of the upper classes, but also to learn more about social news from outside official channels. Thus producing stronger relative deprivation that has an impact on people's sense of fairness (Schor, 1998; Hamilton, 2003).

H3a: The higher the class status of people, the more inclined to believe that society is fair.

H3b: Compared with other people around, the higher people's evaluation of their current socio-economic situation, the more inclined to think that society is fair;

H3c: Compared with other families around them, the higher the social and economic status of the family, the more people tend to think that society is fair,

H4: Those who expect to achieve upward mobility in the next few years will have a stronger sense of social fairness.

H5: If the main sources of information that people encounter are different, it will significantly affect their sense of fairness.

3. Data, Variables and Models

3.1 Data The data in this paper come from the China General Social Survey (CGSS) in 2015, jointly conducted by Renmin University of China and academic institutions all over the country. The CGSS used PPS (probability proportional to size) sampling and random cluster sampling methods, including 10,968 adult samples aged 18-95, covering 478 villages and communities in 28 provinces. The main variables used in this study originates in the core module (Part A), the ten-year review module (Part B) and the legal system module (Part F) of CGSS2015, in which all respondents were asked to answer for part A and part B, and the probability of part F was 1/3. Consequently, after removing the unselected in Part F, over-90-year-old, and dependent variable deletion samples, the sample size used in this study was 3,750, of which 58.8% were urban residents and 41.2% were rural residents.

3.2 Variables

The dependent variable is Macro Sense of Fairness, and it comes from a five-scale question that "generally speaking, do you think the society today is fair or not: 1. completely unfair, 2. comparatively unfair, 3. not fair but not unfair, 4. comparatively fair, 5. completely fair". In my study, Corneo et al. (2002) is used for reference to transform the macro-fairness variable into a binary variable: the values greater than or equal to 3 recode as 1 (at least do not consider society is unfair), and the other value recode as 0 (that is, consider the society is unfair).

Independent variable: Corruption Perception Index. This is a comprehensive index,

which comes from the evaluation of the four types of public officials' incorruptible degree, including local officials, police, judges, prosecutors, and the respondent evaluate the incorruptible degree of them respectively and in general. The five questions are in five-scale, "1. Generally very honest, 2. Most of them are honest, 3. Almost half of them are corrupt, 4. Most of them are corrupt, 5. Generally very corrupt". After using Cronbach's alpha coefficient to test the internal consistency reliability of five variables, the score of 0.933 is obtained, which shows that the internal reliability of these variables is very high. Thus, I calculated the weighted averages of the five questions (weights 0.125, 0.125, 0.125, 0.125 and 0.5 respectively). Finally, we get a continuous variable whose value is in the range of [1, 5]. The higher the value is, the more people tend to perceive the corruption.

Privilege-behavior Perception variable is composed of a question, which is "To what extent is it consistent with reality: after committing a law, those who are rich and powerful are easier to get lesser punishment". There are five choices in the original questionnaire, and it is merged into three-scale point because the number of observations at the two ends is less distributed. The three categories are "1. not conforming, 2. general, 3. conforming".

Social Governance Evaluation Index consists of a series of questions, for example, "How does the following social governance work according to law"? More importantly, "according to law" limits the evaluation criteria. It expects the respondents to evaluate the order and legitimacy of social governance. There are six evaluation objects involved in this group of questions, which are 'pollution control, urban construction, road and traffic management, public security management, food safety problem, market order management'. The measurement methods are five points, "1. very high, 2. relatively high, 3. general, 4. relatively low, and 5. Very low". I used Cronbach's alpha coefficient and got a score of 0.846, indicating that the reliability of the group of variables is high, so add up and calculate average to get a continuous variable whose value is in the range of [1, 5]. The higher the value, the worse the evaluation of social governance.

Main Source of Information. This study uses a question that "Which of the above media is your most important source of information: 1. newspapers/magazines, 2. radio, 3. television, 4. the Internet (including mobile Internet), 5. mobile-customized message" to construct the MSI variable.

Social structural variables: This paper uses Years of Education, Individual Annual Income, Occupation Type, Region and Family Register (hukou) to measure people's objective position in the social structure. The classification method of occupation types refers to Wu's (2007) method of EGP coding for six types of occupations, uses Inter-Standard Occupational Code (ISCO88) in CGSS2015 to transform the occupation types, and then supplements the variables of occupation types with the questions about whether to engage in agricultural labor in the questionnaire. Finally, the Occupation Type is divided into 1. professional and technical personnel and managers, 2. regular manual workers, 3. small owners and self-employed, 4. foremen and skilled workers, 5. semi-skilled workers, and 6. farmer. In addition, because there are a large number of observation samples in 'unemployed', a class of unemployed (coding is 6) is added. It differs from the ISEI (International Socio-Economic Index) and the SIOP (Standard

International Occupational Prestige Scale) in that it classifies occupations according to the employment relationship and skill-training level of people in the labor market, and more, it reflects the class nature of occupation in the market situation. As for the Region variable, the observations divide into four categories^③: the eastern region, the central region, the western region and the northeastern region according to the standards of the State Statistical Bureau. The Family Register include two categories: agricultural and the non-agricultural registered. The Individual Annual Income variable is modified by the individual annual total occupational income variable, that is, when the individual annual total income is less than the individual annual total occupational income, the latter is used to replace the former.

Social comparison variables include Class Identification, Relative Socioeconomic Status and Relative Family Economic Level, and they reflect the social comparison of respondents from different dimensions and different groups, and presents the degree of relative deprivation people feel. Class identification is people's self-evaluation of their vertical position in society based on certain stratification beliefs. Researchers have found that income inequality has a crucial impact on individual self-related class (Anderson, 2012; Crutis, 2015), that is, class identification is not only the passive reaction of the objective social structure, but also influenced by psychological factors. The question used in the study was “Which social estate do you think you are currently in?” The question asked respondents to choose between 1 and 10 numbers, 1 for the bottom, 10 for the top, and different values for the relative comparative position of people's hierarchical self-orientation. The RSS variable indicates that how respondents evaluate their socioeconomic status compared with peers, namely “What is your socioeconomic status compared with your peers”, and it is a three-scale question, including 1.upper, 2.in-between, 3.lower. The last one is RFEL variable, which refers to the comparison between respondents' family economic status and other local families. The question is “Where does your family's economic status belong to” and answers consist of 1.below average, 2.average and 3.above average.

Social mobility variables include Social Mobility Expectation (SME) and Subjective Evaluated Mobility. The SME is measured by the questions, “Which social estate do you think you are currently” and “Which social estate do you think you will be in 10 years”. The scale 1 for the bottom, 10 for the top, and I use the value of the last question to subtract the value of the previous question to get a new value. The result 1 indicating that respondents expect to flow upwards, a value of 2 indicating that expect to flow unchangeably, and a negative value of 3 indicating that people expect to flow downwards. The Subjective Evaluated Mobility uses the question of “Which social estate do you think you are currently” and “Which social estate you think you were ten years ago”, and the processing method is the same as the SME. In data analysis stage, this paper controls the basic demographic variables, such as age, gender, and political status. Table 1 reports the descriptive statistical results of independent variables.

^③ The eastern regions include Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan. The central region consists of Shanxi, Anhui, Jiangxi, Henan, Hubei and Hunan. The western regions include Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang. Northeast China includes Liaoning, Jilin and Heilongjiang.

Table 1. Distribution statistics of independent variables

Variables	Observations	Mean/%	SD	Min	Max
Corruption Perception	3,146	2.64	.82	1	5
Social Governance Evaluation	3,371	2.90	.63	1	5
Privilege-behavior Perception	3,574	-	-	-	-
Not conforming	541	15.14	-	-	-
General	687	19.22	-	-	-
Conforming	2,346	65.64	-	-	-
Main Source of Information	3,684	-	-	-	-
News/magazines	124	3.37	-	-	-
Radio	76	2.06	-	-	-
Television	2,441	66.26	-	-	-
Interne	986	26.76	-	-	-
Customized message	57	1.55	-	-	-
Class Identification	3,721	4.27	1.64	1	10
Relative Socioeconomic Status	3,729	-	-	-	-
1.Upper	156	4.18	-	-	-
2.In-between	2,311	61.97	-	-	-
3.Lower	1,262	33.84	-	-	-
Relative Family Economic Level	3,726	-	-	-	-
1.Below average	1,414	37.95	-	-	-
2.Average	2,048	54.97	-	-	-
3.Above average	264	7.09	-	-	-
Social Mobility Expectation	3,530	-	-	-	-
1.Downwards	208	5.89	-	-	-
2.Unchangeable	1,358	38.47	-	-	-
3.Upwards	1,964	55.64	-	-	-
Subjective Evaluated Mobility	3,705	-	-	-	-
1.Downwards	412	11.12	-	-	-
2.Unchangeable	1,200	32.39	-	-	-
3.Upwards	2,093	56.49	-	-	-
Gender (0=female)	1,988	53.01	-	-	-
Age	3,750	50.17	16.97	18	90
Political status (0=Non-com)	3,355	89.78	-	-	-
Hukou (0=Non-algri)	1,600	42.67	-	-	-
Individual Annual Income	3,469	28085.48	60532.04	0	2000000
Years of Education	3,740	8.64	4.76	0	16
Occupation Type (EGP)	3,670	-	-	-	-
1. Professional and technical	338	9.21	-	-	-
2. Regular manual	267	7.28	-	-	-
3. Small owners and so on	207	5.64	-	-	-
4. Foremen and skilled	145	3.95	-	-	-
5. Semi-skilled	320	8.72	-	-	-
6. Famer	1,288	35.10	-	-	-

Table 1

Variables	Observations	Mean/%	SD	Min	Max
7. Unemployed	1,105	30.11	-	-	-
Region	3,750	-	-	-	-
1.the West	1,352	36.05	-	-	-
2.the Central	937	24.99	-	-	-
3.the Northwest	490	13.07	-	-	-
4.the East	971	25.89	-	-	-

3.3 Models

Because the probability of the legal system module (Part F) of CGSS2015 is 1/3 of the required answer module, I use Kolmogorov-Smirnov test to check the distribution function of original data before deletion and data after deletion. The K-S test can verify whether two datasets follow the same distribution. It is a nonparametric test. First, I calculate the maximum difference of the distribution function of the two data sets by

$D_{m,n} = \sup_x |F_{1,n}(x) - F_{2,m}(x)|$. Further, $F_{1,n}$, $F_{2,m}$ are the distribution function of

the two data sets respectively, and x represents variables. If $D_{m,n} > P(\alpha) \sqrt{\frac{n+m}{nm}}$, I can reject the original hypothesis that “two data sets follow the same distribution” (Pearson *et al.*, 1972). The results are as follows:

Table 2 K-S test results of variables

Variables	P-value	Variables	P-value
Macro Sense of Fairness	0.996 (N= 14634)	Family Register	0.99 (N=14622)
Age	0.822 (N= 14698)	Class Identification	0.97 (N= 14605)
Gender	1.00 (N= 14698)	Relative Socioeconomic Status	1.00 (N=14612)
Relative Income	1.00 (N= 14634)	Relative Family Economic Level	0.78 (N= 14610)
Individual Annual Income	0.91 (N=13524)	Years of Education	0.96 (N= 14596)
Region	0.88 (N=14698)	Main Source of Information	1.00 (N=14421)
Political Status	1.00 (N=14638)	Subjective Evaluated Mobility	1.00 (N= 14589)
EGP	1.00 (N= 14420)	Social Mobility Expectation	1.00 (N= 13786)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The results of K-S test shows that it is not statistically insignificant on the dependent variable ‘macro-fairness’, that is, the original hypothesis ‘two datasets

follow the same distribution’ can not be rejected, and there is no significant difference in the distribution between the deleted data and the original data on other independent variables. It is feasible to use only partial samples.

Besides, this study uses binary logistic model to fit the decision equation of macro sense of fairness. There is its equation:

$$\hat{P} = a + b(M) + \sum^i c(N_i) + \sum^k d(X_k)$$

Among them, \hat{P} denotes sense of fairness; M is a variable of perception of corruption; N_i is a series of variables including Privilege-behavior Perception and Social Governance Evaluation and so on; X_k represents a group of social structure and social comparison variables, including occupational status, education, gender, age, household registration type, and region, etc.

4. Data Analysis of Results

4.1 People’s Macro Sense of Fairness

Based on the data analysis of national samples, I list the statistics of public perception of social macro fairness in Table 3 below. Specifically, there are half of respondents consider the society as fair, in which 47.12% of them regard the society as ‘comparatively fair’ and 3.52% state that the society is ‘completely fair’. It is noteworthy that 21.49% and 5.81% of the respondents believe the society is ‘relatively unfair’ and ‘completely unfair’. In summary, public tend to have a more positive attitude towards sense of fairness, which is consistent with the findings of previous studies (Whyte, 2009; Wu, 2009; 孟天广, 2012).

Table 3. The statistical distribution of dependent variable

	Macro sense of fairness				
	Completely unfair	Comparatively unfair	not fair but not unfair	Comparatively fair	Completely fair
frequency	218	806	827	1,767	132
proportion	5.81	21.49	22.05	47.12	3.52
	Unfair		At least not unfair		
frequency	1,024		2,726		
proportion	27.31		72.69		

4.2 Analysis of influence mechanism

To test different impacts of factors on macro sense of fairness, I set up four nested models to compare their influence. Model 1 is a benchmark model, including variables age, square of age, gender and political status; Model 2 adds Corruption Perception Index and other variables; Model 3 adds a set of objective social structure status variables based on the previous; Model 4 is the final model with social comparison variables added to test ‘relative deprivation’ mechanism on fairness. All models

reported pseudo-R2 and Log Likelihood values to compare the explanatory power of different models. The reference group is marked in brackets after the variable name, and the standard error is in brackets after coefficients.

Table 4. Logistic regression analysis of macro sense of fairness

	Model 1	Model 2	Model 3	Model 4
Age	-0.029* (0.013)	-0.032* (0.015)	-0.048** (0.017)	-0.042* (0.019)
Square of age	0.005*** (0.001)	0.005** (0.002)	0.007*** (0.002)	0.006** (0.002)
Gender (0=female)	-0.018 (0.075)	0.041 (0.088)	0.082 (0.099)	0.178+ (0.105)
Politics (0=non-com)	0.007 (0.127)	-0.124 (0.145)	-0.187 (0.166)	-0.204 (0.177)
Corruption Perception		-0.300*** (0.057)	-0.318*** (0.061)	-0.309*** (0.065)
Social Governance		-0.390*** (0.075)	-0.399*** (0.080)	-0.358*** (0.084)
Privileged Behavior		-0.285*** (0.065)	-0.307*** (0.070)	-0.284*** (0.074)
Log (Annual Income)			0.018 (0.014)	0.006 (0.015)
Hukou (0=non-a)			-0.012 (0.120)	-0.030 (0.127)
Years of Education			0.002 (0.015)	-0.005 (0.016)
EGP (Professional and technical)				
Regular manual			-0.144 (0.211)	-0.113 (0.222)
Small owners and so on			0.031 (0.240)	-0.004 (0.251)
Foremen and skilled			-0.762** (0.254)	-0.767** (0.269)
Semi-skilled			-0.417* (0.210)	-0.357 (0.226)
Famer			-0.228 (0.207)	-0.215 (0.220)
Unemployed			-0.461* (0.182)	-0.440* (0.196)
Region (the West)				
the Central			-0.046 (0.124)	-0.091 (0.132)
the Northwest			0.069 (0.147)	0.132 (0.157)
the East			-0.010 (0.131)	-0.025 (0.139)

	Model 1	Model 2	Model 3	Model 4
Class Identification				0.087*(0.036)
Relative Socioeconomic Status (Upper)				
In-between				0.228 (0.259)
Lower				-0.138 (0.280)
Relative Family Economic Level (below)				
Average				0.510*** (0.119)
Above the average				0.127 (0.230)
Social Mobility Expectation (Downwards)				
Unchangeable				0.173 (0.215)
Upwards				0.107 (0.211)
Subjective Evaluated Mobility (Downwards)				
Unchangeable				0.127 (0.171)
Upwards				0.274 ⁺ (0.167)
Main Source of Information(News/magazine)				
Radio				-0.403 (0.494)
Television				-0.348 (0.323)
Interne				-0.579 ⁺ (0.336)
Customized message				-0.176 (0.501)
Constant	1.153*** (0.297)	4.033*** (0.433)	4.590*** (0.572)	3.816*** (0.820)
pseudo R^2	0.017	0.056	0.067	0.098
Log-likelihood	-2153.4546	-1591.4779	-1432.8482	-1303.1644
N	3737	2899	2645	2500
⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$				

Comparing the pseudo-R2 and Log-likelihood of the four models, we can find that the explanatory power of model 2 is obviously better than that of model 1, and that of model 4 is obviously better than that of model 3. Although model 3 adds a group of social structure variables based on model 2, the explanatory power of model 3 is not

improved obviously. Among them, model 4 has the best explanatory power. In these four models, the square of age and age have significant effects on the sense of fairness, which may show the existence of cohort effect, that is, because people live in different era, share different social values, will have different views on fairness. In previous studies, however, some illustrated that age has positive correlation with sense of fairness (李骏、吴晓刚, 2012; 刘欣、胡安宁, 2016), but there were findings are negative (田丰, 2009). Scholars usually use the Reform and Opening-up as the watershed to interpret the different values held by different generations. On the one hand, researchers believe that the generation before the Reform and Opening-up more likely to profit from the reform and therefore tolerate inequality, while the people who grew up after the reform have a stronger willing for social justice and a lower tolerance for inequality; but contrast to this viewpoint, some believe that the generation before the reform were deeply influenced by equalitarianism, and they are the ‘lost generation’ in the Cultural Revolution, many of whom were laid off in the reform of state-owned enterprises. Therefore, they may be more dissatisfied with post-transition inequality than the younger generation (Whyte, 2009). However, according to the results of regression, we can find that the watershed is around 1970. The younger the generation is, the more likely they are to believe that society is fair, while the people born after that time tend to feel unfair about the society, further, their sense of fairness maintain at a lower level without obvious fluctuation. Overall, this result supports the hypothesis that age has a statistically positive effect on sense of fairness.

Additionally, gender has no significant effect in the first three models, but has marginal significant positive correlation with sense of fairness in the final model, which includes all the independent variables. It is probably due to the correlation between gender variables and other independent variables.

In Model 2, 3, 4, the perception of corruption, privileged behavior and the social governance all affect people's sense of fairness at the 0.001 significant level, which supports the three H1 hypotheses proposed in this paper. Namely, the more people perceive corruption, privilege, and hold negative evaluation towards social governance, the more they tend to consider the society is unfair. Their effects are still significant after controlling other variables about social structure and social comparison, and coefficients vary within a narrow range. More concretely, the odds of feeling fair about society will decrease 26.6% when the perception of corruption increases one unit. Similarly, every increasing unit of privileged behavior and poor social governance also weaken people's sense of fairness, with only 75.2% and 69.9% of the rates remaining, respectively. As a comparison, however, we can see that the individual annual income, years of education and Hukou (family register), based on self-interest social structure determinism theory, are not significant, which indicates that income distribution may not be the real source of residents' sense of unfairness. Moreover, the insignificant variable of information sources indicates that access to information from different channels does not significantly affect residents' sense of fairness, which may mean that corruption, privileged behavior and poor social governance are common phenomena behind China's rapid economic growth over the past 40 years. This not only indicates that man is not a structure-determined creature, but also reflects the promotion of the

‘hierarchy of needs’ among Chinese people. Material is only the lowest subsistence requirement of human beings, and the income level can only satisfy the material demand at best, while the higher needs, such as security, belonging, are constantly developing. At the same time, the finding contradicts the notion of ‘forgive the corruption’, which argues that people will forgive corruption because of the government’s economic performance, and therefore, if the national economy develops rapidly enough, people will ignore the corruption. Nevertheless, obviously, people do not forgive corruption.

Model 3 and Model 4 add comprehensive variables of social structure and social comparison, respectively, to test the hypotheses of ‘structural determinism’ theory and ‘relative deprivation’ theory. In this study, there are five variables to reflect comprehensively the objective social structural position of individuals, but none of them was significant except for EGP, occupational classification index. Specifically, compared with professional and technical workers, skilled workers and unemployed people are more inclined to consider the society as unfair, after controlling other variables (Model 4). Their odds decrease to 46.4% and 64.4% respectively, but self-interest theory have not fully explained it, because ‘foreman and skilled worker’ is not the most ‘miserable’ group, according to the class nature of the market situation as defined by the EGP occupational classification. Otherwise, why do farmers and semi-skilled / unskilled workers not feel less fair than those in the reference group, statistically? It is closer to the fact that foremen and skilled workers locate in the most torn-apart position which there is a gap between urban and rural lifestyle, although their market position is higher than some of other occupational groups. They live in the ‘double tunnels’ of city and village, whose reference group is the relatives and friends in their hometown and the companions in the city. So they receive stronger ‘relative deprivation’ feeling, which significantly weaken their sense of fairness. A study by Long and Feng (2015) about migrant workers' sense of fairness supports the interpretation above. Further, why do farmers not feel more unfair than other groups? In addition to social comparison theory, some scholars have offered a neo-institutionalism explanation that whether social members feel fairly about their social resources depends on the degree of agreement between their own cognition and social consensus. In other words, when the self-perception status of farmers coincides with the status of social evaluation, or higher, they will not consider that is unfair (刘欣、胡安宁, 2016).

Model 4 illustrates that, the higher people's self-identified status, the higher the evaluation of the family's socio-economic situation, the more people incline to think that society is fair. When the subjective self-identified class increase one unit, the odds of feeling fairness will promote by 9.1%. Moreover, people who evaluate their family socioeconomic level in average tend to feel fair about the society, compared with those below average, and the odds will raise 66.5%. Although the relative socioeconomic status has no significant impact on people’s sense of fairness, self-identified class and relative family economic level can positively relate to the dependent variable, which may partly support the theory of relative deprivation. Besides, the results show that the POUM hypothesis is not accepted according to the statistical model, and the Subjective

Evaluated Mobility variable has positive marginal significant effect on sense of fairness. The optimism attitude for upwards social mobility do not promote their tolerance on social inequality, while the conclusion is not exactly as same as the study of 郑畅 and 孙昊 (2016) by using data CGSS2010 and CGSS2013. In their article, however, the POUM hypothesis effect is statistically significant at 99% confidence level in the year of 2010, but by 2013, this effect disappear completely, and the authors has not explained this phenomenon in depth; I use CGSS2015 data to test the hypothesis, and the results not support it, too. There is a possible explanation that people have not neglect and tolerate the social inequality, such as corruption and privilege, although they believe in the opportunity of upwards mobility. Another possible explanation is that in the past decades, violent social structural changes have promoted people's social status to varying degrees, and they comprehend the difficulty of continuing upward mobility, have a deeper understanding on social inequality.

5. Conclusions and Discussions

Through the analysis above, we can draw several conclusions: first, the mechanism of macro sense of fairness is not mainly in the aspect of income distribution as emphasized in previous studies, but comprehensively consist of assorted factors such as government corruption, privileged behavior and poor social governance. Most of the objective social and economic conditions have no statistical impact on the sense of fairness. Second, there is significant cohort effect on sense of fairness, and older people tend to consider the society as fairer. Last, relative deprivation is also the main reason that affects people's sense of fairness. When people feel better about their social status than the other, they will also have a stronger sense of social fairness.

When research into people's tolerance for inequality in economic development, Hirschman put forward the famous 'tunnel effect': when a two-way driveway suffer from congestion in a tunnel, the driver will not feel angry at first if s/he find the lane beside begin moving. Instead, s/he will feel hopeful, because s/he look forward that her/his lane will move quickly. However, if the opposite lane keeps going and her/his lane is still, then s/he will become very angry. Although it is no doubt that the fruits of China's economic development have enabled both the rich and the poor to move rapidly in their respective lanes, there is a great distinction in the speed of their mobility, and it is not entirely result from differences in personal abilities, but also the privileged to crash the queue and cross the line. Namely, the privileged gain more by breaking rules. On the one hand, the objective factors, such as income and social mobility, have no significant positive impact on people's sense of fairness because people acquire knowledge of society by comparing the situation of the people around them, not by comparing the position of the social structure in which they are macroscopically located. On the other hand, social inequality has gone beyond people's tolerance as the beneficiaries of economic development, and public does not evaluate the fairness of society by their own private interests. It is necessary to consider the real widespread injustice in society in order to understand the real source of the sense of fairness.

There is a vicious circle trap between corruption and inequality. The plundering of

the public sector will aggravate social inequality. At the same time, because of the higher degree of social inequality and the loss of justice, it will worsen the degree of corruption in a society: the more corrupt the government system, the more likely it is to aggravate political and economic inequality. At the same time, the more serious the inequality, namely the polarization in political monopoly and economic income, the easier it is to consolidate the power and interests of the rich, aggravate collusion between officials and businesspersons, resulting in more serious corruption. A solidified or structured society will eventually extinguish optimism hopes of the poor, and despair and anger them.

Limited by data, there are some potential to promote. The perception of corruption is different from corruption in reality; it will make the analysis more comprehensive and accurate if we use objective variables to measure corruption. However, I think, given the current control of the news media, most people are likely to underestimate the degree of China's corruption rather than overestimate it. In addition, the empirical research on the sense of fairness in China has accumulated quite good studies, but there is a lack of vertical and historical analysis. Therefore, I am looking forward that there will be new research describing and analyzing the dynamic changes of the sense of fairness during the past four decades.

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