

# A study of fairness judgments in China, Switzerland and Canada: Do culture, being a student, and gender matter?

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## Abstract

This study compares judgments of the fairness of economic actions among survey populations in Switzerland, and both student and non-student groups in the People's Republic of China, with the earlier Kahneman, Knetsch and Thaler (1986a) surveys of Canadians. The findings suggest that fairness concerns matter among all of these groups, and the general patterns of what was and was not considered to be fair were similar. However, there were also some significant differences with the influence of fairness being weaker in the two Chinese samples than in the groups from the Western countries, with the influence being weakest in the Chinese student population for the wage related topics. On the whole, almost no significant gender differences were found in any of the new surveys.

Keywords: fairness, culture, gender, China.

## 1 Introduction

Fairness concerns often play an important role in people's choices and decisions. We commonly observe people forgoing some opportunities to maximize their own material well-being out of concern for others and adherence to standards of fairness. Evidence consistent with this behaviour has also been documented in numerous studies involving both survey responses to hypothetical scenarios (Kahneman, Knetsch & Thaler, 1986a, hereafter KKT, and 1986b; Shiller, Boycko, & Korobov, 1991; Frey, Pommerehne & Werner, 1993; and Gorman & Kehr, 1992) and decisions with real monetary payoffs (surveyed by Gächter and Fehr, 2001; and by Ottone, 2006).

Although there is little empirical evidence one way or the other, judgments of fairness might well differ among different populations. As Bicchieri (1999) suggests, there is no particular unique norm of fairness, but one of sev-

eral might be invoked depending on context. Even though there may be a broad consensus within a given culture about how, for example, goods and opportunities should be allocated or distributed, there may be differences between them.

Although past studies have shown the nature and importance of fairness concerns and how people commonly respond to unfair behaviour, they have nearly all been conducted in Western countries and cultures. Very little evidence has been reported on fairness concerns in Eastern countries such as the People's Republic of China. Although Bian and Keller (1999) reported survey responses to some of the questions in KKT by the Chinese MBA students in Shenhai, comparing the results from one city in China to those from USA to infer between-country differences might be subject to some criticism. As suggested in Oosterbeek et al. (2004), within-country differences can be of the same magnitude as between-country differences.

One purpose of the present study is to survey Chinese respondents from three cities for their responses to all four types of fairness norms summarized by KKT and to compare their judgments to those of people in different cultures. I choose Canada, Switzerland, and the P. R. China for comparison, using a common methodology to facilitate the comparisons. Since this study is based on KKT, Canada is used as a baseline, and besides, because the Canadian survey (KKT, 1986) was conducted over two decades ago, it provides a limited comparison of judgments over this time period, and Switzerland is

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chosen for sample availability and its having much more in common with Canada than with China in terms of culture and level of economic development. Further comparisons of these judgments are also made between student and non-student populations in China, and between male and female respondents in China and Switzerland. The findings indicate that fairness matters among all of the respondent groups, and generally in similar ways. There are, however, some differences, particularly between the Chinese respondents and those from both Western countries.

All of the studies were based on survey responses to the same questions involving simple narrative vignettes used by KKT in their early telephone interview survey study of fairness among Canadian respondents. These questions allowed tests, for example, of the extent to which people regarded wage cuts as a fair response to market conditions when employers were or were not making normal profits. The framing of questions in terms of these vignettes were similarly useful in determining the influence of reference profits and what was found to be the important role of a reference transaction in shaping people's judgments of fairness — often independent of or contrary to traditional economic justifications of the particular actions.

This research extends a growing empirical literature that examines patterns of people's fairness judgments — much of it based on not only the methods, but the findings of what people judged to be fair or acceptable actions and what they judged to be unfair in the KKT study. Frey et al. (1993), for example, used questions similar to those in the KKT study in surveys of German and Swiss populations. Their findings were much the same in terms of respondents' negative responses to the use of price to eliminate excess demand.

Shiller, Boycko, and Korobov (1991) investigated people in the Soviet Union and the United States with some questions again similar to those used by KKT. With some economically relatively minor differences, similar patterns of fairness judgments were found between the Soviet and American respondents. Both groups of respondents considered it unfair to increase price in response to a sudden surge of excess demand, a finding by and large consistent with the KKT findings.

In general, findings from these representative surveys showed consistent results. However, although showing how people in Canada and some other countries evaluate the fairness of various economic behaviours, they are limited to Western cultures and were conducted some considerable time ago. They provide little direct evidence of how people in other cultures might react to similar questions, and given present interest, particularly people in P. R. China.

Some related studies have been carried out in China, but they have used other methods and populations. For

example, Bian and Keller (1999a) found that the judgments of Chinese business graduate students differed from those of the random household sample of Canadians on the fairness of exploiting added market power for short-term profit. While interesting and perhaps indicative of the possibility of a wider disparity, the difference between the respondents may well be limited to the particular sample population. In another study, Bian and Keller (1999b) used a different sample of government and business people to ask about life and death issues rather than about common economic behaviors, and while again interesting and useful for studies of decisions by these special groups, the sample and the questions allow little comparability to the KKT or the present studies. The latter studies involved respondents more generally representative of wider populations, and questions concerning the fairness of economic actions and decisions intended to protect profits, exploit market power, allocate gains, and depart from previous reference transactions.

The present study also contributes to the literature on cross-cultural investigation of human fairness judgments (e.g., Buchan et al., 2004) by providing some empirical evidence that can be used to test the existing related theories.

For this present study, China and Switzerland (or Canada) to be compared might differ in political, social, economic and cultural aspects. Due to the co-existence of political, socioeconomic and cultural differences between the countries for comparison, attributing cross-country difference to cultural factor was challenged. However, Chen and Tang (2009) provided some evidence that culture's role in affecting people's economic behavior might be more significant than that of non-cultural factors. In order to explore the influence of within-country cultural difference, they chose Xiamen and Lhasa (Tibet) in China for comparison and used Singapore as a control sample because of its similarity in culture with Xiamen and heterogeneity in political systems, social institutions and level of economic development. They found no significant differences in people's behavior in an ultimatum game between Xiamen and Singapore, but people in Lhasa differed from the former two samples, suggesting that the influence of culture dominates that of non-cultural factors. Thus, considering the cultural discrepancies between China and the Western group in two dimensions (see Table 1), including power distance and individualism as proposed by Hofstede (1980), culture is expected to play a critical role in affecting people's fairness judgments.

**Hypothesis 1a:** Chinese people and people from Switzerland and Canada diverge in fairness judgments for some economic actions. More Chinese people judge the same action as fair than their counterparts.

Table 1: Power distance and individualism index scores for China, Switzerland and Canada. Source: Hofstede (2001, p. 500) and Hofstede (2001, p. 502).

Country	Power Distance Index	Individualism Index
China	80	20
Switzerland	34	68
Canada	39	80

Hypothesis 1a is formulated based mainly on Hofstede (1980). As seen from Table 1, the group of Switzerland and Canada and China are on the opposite sides along the axis of each index, and China has a higher score on the power distance index while a lower score on the individualism index. According to Hofstede (1980, 1991), large power distance indicates that to a large extent the less powerful members of society within a country accept that power is distributed unequally, and that people generally accept the fact that “power is a basic fact of society that antedate good or evil and its legitimacy is irrelevant, and power-holders are entitled to privileges” (Hofstede, 1980, p. 46). Similarly, collectivism, in contrast with high individualism, is associated with the norm that the interests of group outweigh the interests of individuals and that the group provides protection. In this study, the people whose actions are judged in all scenarios hold market power (more or less) and at the same time most of them represent interests of an organization or a group. So theories on power distance and collectivism predict Chinese would be more willing to accept decisions of power-holders or of groups, which supports Hypothesis 1a. However, Inglehart’s (2000) two dimensions on culture seem to contradict each other in conjecturing people’s fairness judgments. Compared with Switzerland and Canada, China is evaluated as less self-expressing which is consistent with Hypothesis 1a, but more secular and thus should be less likely to defer to authority. This made me propose an alternative for Hypothesis 1a.

**Hypothesis 1b:** More Chinese people judge the same action as unfair than their counterparts.

Men and women think and behave differently in many respects, which have received much attention and thus spurred studies on gender differences. This study also examined whether gender affects people’s judgments of fairness in the marketplace, with three new surveys.

Findings from some gender studies on judgments or perceptions of social preference such as fairness or justice (e.g., Galea & Wright, 1999; Sweeney & McFarlin, 1998;

Beldona & Namasivayam, 2006) revealed that males and females might differ from each other in this respect. On fairness judgments, for example, Beldona and Namasivayam (2006) documented statistically significant differences where females perceived significantly less fairness across all pricing scenarios in both discount and surplus frames. So I expect gender differences exist.

**Hypothesis 2:** Male and Female respondents differ in their fairness judgments in each of the three surveys.

This paper is organized as follows. The following section of the paper describes the nature of the surveys carried out in China and Switzerland. This is followed by a section providing and analyzing the results of each, and by a final section of general conclusions.

## 2 Surveys

### 2.1 Survey methods

Three fairness judgment surveys were conducted for the present study, one of students and another of non-students in the People’s Republic of China, and one of mostly non-students in Switzerland. The same fourteen questions selected from those used in the KKT study of Canadian household respondents were used in each. As in the original KKT surveys, a between subject design, with two separate questionnaires (Versions A and B), was used so that each respondent was given seven questions and only one from each of all the pairs of contrasting questions. The allocation of 14 questions on Version A or B can be found in the Appendix. All questions described an action in a scenario, or vignette, and respondents were requested to judge each as being “Completely Fair”, “Acceptable”, “Unfair”, or “Very Unfair”, with responses of the first two and the last two combined and characterized as being either “Fair” or “Unfair”, consistent with the KKT study, for purposes of analysis and reporting.

The three surveys, together with the original KKT survey, allow comparisons to be made of fairness judgments between student and non-student populations in the Peoples Republic of China, between an Asian population (of P.R.China) and a mainly European population (Switzerland), and between each of these and a Canadian population well over two decades ago.

### 2.2 The P. R. China surveys

A total of 360 individuals completed the China surveys, 90 students for each of the two versions of the questionnaire, and 90 non-students for each version.

The student respondents were recruited in 2006 from Nankai University in Tianjin and Northeast University

in Shenyang, both in the northern areas of China. The 129 participating Nankai students were contacted on-line from those who had volunteered to take part in studies conducted at the Selten Laboratory of Nankai University, with the 51 from Northeast selected from those studying on campus. Almost equal numbers of male and female students answered each version of the questionnaire. The mean age of all student respondents was approximately 23 years, with no statistically significant difference between those from the two universities.

Since it is difficult for an individual researcher to conduct surveys by telephone interviews, which are not as commonly used as western countries, or visiting residents at their homes in China, I resorted to a convenience sample for the non-student survey. My sampling frame consisted of people taking a rest while shopping in the commercial streets on weekends and people on trains including local and intercity trains. The respondents are from the Tianjin, Beijing, and Shenyang areas of China, and each was given a small gift such as ball pen in order to increase the response rate. Essentially equal numbers of men and women completed the survey, and the mean ages were 35 and 34 for those answering versions A and B respectively.

The original questions from the KKT surveys were translated into Chinese for all of the questionnaires used by the student and non-student respondents. The translations were first done by one person and then translated back into English by another person and compared with the original English text. This process was repeated to assure no divergence in meanings of questions between the Chinese surveys and the Canadian one. Some small revisions were made after conducting a series of pretests, to assure that questions and tasks would be fully understood by Chinese respondents and that the results of the Chinese surveys could therefore be directly compared to the results of the Canadian survey. "Fair" is translated into the Chinese words "公平的."

### 2.3 The Switzerland survey

The same two A and B questionnaires were used for the Switzerland survey in 2008. A convenience sample of respondents was drawn mainly from passengers riding Swiss trains mostly starting from or arriving at Zurich, with the others selected from students and staff in cafeterias, coffee rooms, and classrooms of ETH Zurich and University of Basel.

There are 202 respondents in this survey. Of the 97 voluntary respondents answering Version A of the questionnaire, 84 percent were train passengers, 49 percent were women, 86 percent reported their European nationalities and their average age was 33 years. Of the 105 answering Version B, 74 percent were riding trains, 47

percent were women, 80 percent reported their European nationalities and their average age was 34 years.

The questionnaires were translated into German by a graduate language student whose mother tongue is Swiss German, with the translation reviewed by a second German speaker. Minor changes such as currency conversion and adjustment of prices to realistic levels were made to individual questions, but they remained essentially as presented in the original KKT surveys. Both English and German versions of the questionnaire were offered to respondents, with 75 percent of Version A questionnaires completed in German and 72 percent of Version B.

## 3 Results of the surveys

The results of the individual surveys are directly comparable in the sense that the same questions were used in each case and that respondents were drawn from comparable populations, with the deliberate exception of the Chinese student sample. There was a wide variation in the proportions of respondents that judged different actions to be fair or unfair between individual questions. For example, overwhelming majorities, of 79 percent or more, in all of the samples judged increasing retail prices in response to an increase in wholesale prices, as described in Question 1, to be fair. In contrast, minorities of 37 percent or less viewed raising rents further when learning of a tenant's reluctance to move, the subject of Question 6, to be fair. This variation is evidence of sensitivity to fairness among all populations, some things are widely thought to be fair and others are widely thought to be unfair, in other words, fairness norms applies to different populations.

While large majorities of all samples judged the exploitation of knowledge that a tenant was unlikely to leave and then raising the rent an additional amount to be unfair (the vignette of Question 6), there were also large differences between the country groups — with the two Chinese samples showing a much larger tolerance for the action than either the KKT Canadian respondents or the Swiss sample. The pattern across all of the questions is indicated in Figure 1, showing the proportions of each of the three non-student samples that judged the actions described in each of the questions as being unfair. The major finding of the study, illustrated here, is a large extent of agreement among respondents in the three countries with some clear and notable exceptions — people generally find the same things to be fair or unfair regardless of country of residence, but the degree or extent that they find some actions to be fair varies between them.

The main empirical results of the study, the judgments of the actions described in each of the questions from all four of the surveys, including those from the KKT study,

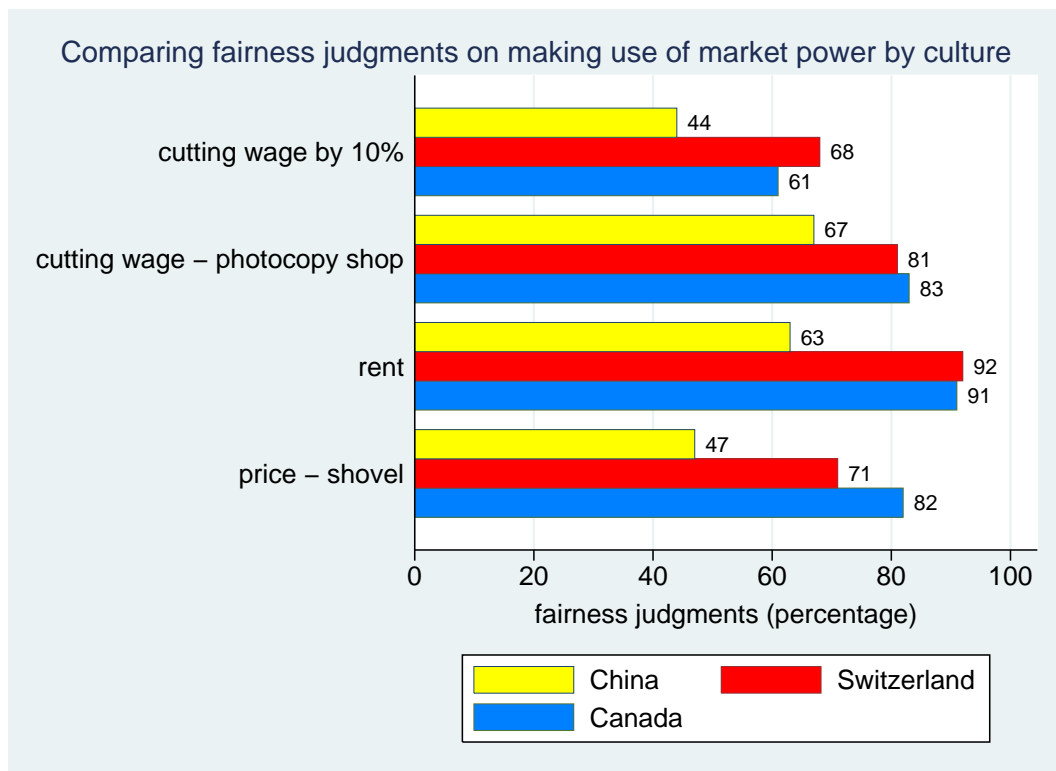


Figure 1: Cultural influence on patterns of fairness judgments.

are summarized in Tables 2 through 11. While fairness norms are unlikely to be triggered by a single factor, the various question vignettes illustrate the possible role of protection of profits, exploitation of market power, allocation of gains, and reference transactions, and are presented accordingly.

### 3.1 Protecting reference profits

Recognition of a reference level of profit may be one factor influencing people's judgments of fairness (Kahneman, Knetsch, & Thaler, 1986). Thus protecting this reference level of profit may, or may not, cause people to view actions which bring sellers' or employees' profits below this level to be unfair. This was tested in Question 1, where the price is raised to protect the reference profit of what was earned before the cost increase due to the transportation mixup.

**Q1:** Suppose that, due to a transportation mixup, there is a local shortage of **lettuce** [Chinese cabbage] and the wholesale price has increased. A local grocer has bought the usual quantity of lettuce at a price that is **30 cents per head** [0.8 ¥ per kilogram] higher than normal. The grocer raises the price of lettuce to customers by **30 cents per head** [0.8 ¥ per kilogram].<sup>1</sup>

<sup>1</sup>For all questions, the words or phases with bold font were replaced

The main finding here (Table 2) is that the great majority of Canadians, Chinese, and Swiss respondents all consider it fair for a merchant to increase price when it is justified by increased costs. Firms or sellers are in all of these countries widely seen as entitled to their reference profit and it is acceptable for them to pass on cost increase to their consumers. Even though the differences between the Canadian and Chinese non-students is statistically significant ( $\chi^2=4.187$ ,  $p=0.041$ ), the absolute size of the difference is relatively small and the proportions of all of the samples saying that this increase in price is fair is 79 percent or higher.

Essentially the same result was found for the responses to Question 2.

**Q2:** A landlord owns and rents out a single small apartment to a tenant who is living on a fixed income. A higher rent would mean the tenant would have to move. Other small rental apartments are available. The landlord's costs have increased substantially over the past year and the landlord raises the rent to cover the cost increases when the tenant's lease is due for renewal.

In this case there was again (Table 3) wide agreement among people in all of the countries, with no significant

with those embraced in the square brackets in the new three surveys. For the Switzerland survey, currency units were changed to Fr. and price of products was changed to the local current level.

Table 2: Increasing price due to a rise in wholesale price (Q1).

Sample	Acceptable (%)	Unfair (%)	Significance of between-sample differences
1 Chinese students (N=90)	89	11	1–2
2 Chinese non-students (N=90)	90	10	2–3
3 Swiss sample (N=97)	88	12	3–4
4 Canadians (N=101)	79	21	4–2*

Note: N refers to the valid answers to the question. \* represents the significance level of  $P < 0.05$  and \*\*  $P < 0.01$ . The meanings of N and \* also apply to other tables reporting results.

Table 3: Raising rent because of cost increase (Q2).

Sample	Acceptable (%)	Unfair (%)
Chinese students (N=89)	76	24
Chinese non-students (N=90)	78	22
Swiss sample (N=97)	78	22
Canadians (N=151)	75	25

difference between any two of the surveys ( $\chi^2=0.498$ ,  $p=0.779$ ), that it is fair to increase rent to protect profit threatened by a rise in costs. Here, too, there was little difference between the Chinese student and non-student respondents.

The next pair of contrasting questions more directly isolates reference profits as a possible determinant of fairness judgments.

**Q3A:** A small company employs several workers and has been paying them average wages. There is severe unemployment in the area and the company could easily replace its current employees with good workers at a lower wage. *The company has been making money.* The owners reduce the current workers' wages by 5 percent. (For Q3B, the only change is that the italicized sentence in Q3A was replaced by the one in Q3B.)

**Q3B:** ... *The company has been losing money.* ...

The italicized sentence, which distinguishes Question 3A (reducing wages to increase profit since the company was already making money) from 3B (reducing wages to protect profit since the company has been losing money), provides the test of whether or not cutting the wage was driven by the company's intention to protect profits. As shown in Table 4, differences in fairness perceptions between 3A and 3B are very large for all of the surveyed groups. There are no significant differences ( $\chi^2=1.763$ ,  $p=0.414$  for 3A and  $\chi^2=3.337$ ,  $p=1.189$  for 3B) among the Chinese non-students, respondents in Switzerland and

the Canadians for both 3A and 3B, suggesting that patterns of fairness judgments in China and in countries under Western culture regarding protection of profits are generally consistent in the context of wage cuts as well as price and rent increases, and that the assertion that "when the profit of the employer in the labor transaction falls below the reference level, reductions of even nominal wages become acceptable" (KKT, p. 733) holds for Chinese people as well.

For Question 3A and 3B, significantly fewer Chinese students (53% and 13% respectively) than Chinese non-students (72% and 26% respectively) rated wage reductions under these two circumstances as unfair, indicating that more students than non-students found wage reductions in this circumstance acceptable ( $\chi^2=6.871$ ,  $p=0.009$  and  $\chi^2=4.452$ ,  $p=0.035$  for 3A and 3B respectively).

To sum up, a similar pattern of fairness judgments between Chinese and people in Western countries was found when it comes to imposing losses on others to protect profits. The majority of people seem to see a loss for protecting the reference profit as fair or acceptable — a treatment that may well not extend to other losses.

### 3.2 Reference transaction

**Q4A:** A small company employs several people. *The workers' incomes have been about average for the community.* In recent months, business for the company has not increased as it had before. *The owners reduce the workers' wages by 10 percent for the next year.*

**Q4B:** ... *The workers have been receiving a 10 percent annual bonus each year and their total incomes have been about average for the community.* ... *The owners eliminate the workers' bonus for the year.* (The sentences with bold italicized font in Q4A were replaced by the ones in Q4B.)

Framing the employer's cutting expenditure for workers caused significantly different responses to the fairness of this action among Canadians in KKT, which in-

Table 4: Reducing workers' wages for protecting profit (Q3B) vs. not for protecting profit (Q3A). The last line indicates which sample differences were significant, using the sample numbers on the left. (The N's are given separately for the two questions when necessary.)

Sample	Q3B		Q3A	
	Acceptable (%)	Unfair (%)	Acceptable (%)	Unfair (%)
1 Chinese students (N=90)	87	13	47	53
2 Chinese non-students (N=89, 90)	74	26	28	72
3 Swiss sample (N=105, 96)	62	38	20	80
4 Canadians (N=195)	68	32	23	77
Between-sample difference	1-2, $p < .05$		1-2, $p < .01$	

Table 5: Cutting wage (Q4A) vs. eliminating bonus (Q4B).

Sample	Cutting wage		Eliminating bonus	
	Acceptable (%)	Unfair (%)	Acceptable (%)	Unfair (%)
Chinese students (N=90)	64	36	84	16
Chinese non-students (N=90)	56	44	78	22
Swiss sample (N=97, 105)	32	68	76	24
Canadians (N=100, 98)	39	61	80	20

icates that the important role of reference transaction for people's fairness judgments. The significant differences between responses to Question 4A (wage) and 4B (bonus) in Table 5 were also found in the three newly conducted surveys ( $\chi^2=9.461, p=0.002, \chi^2=10.000, p=0.002$  and  $\chi^2=39.849, p=0.000$  for the Chinese students and non-students and the respondents in Switzerland respectively), indicating that people under Eastern and Western culture both tended to treat the change from cutting wage to eliminating bonus differently, with more respondents viewing a cut in wages more unfair than a cut in bonus. For Question 4B, only 20% or so of respondents in all four surveys considered eliminating bonus as unfair, with no significant differences ( $\chi^2=2.206, p=0.531$ ) among them. For Question 4A, the differences in responses between KKT (61%) and the Swiss sample (68%) and also between the two Chinese samples are both insignificant ( $\chi^2 = 1.066, p=0.302$  and  $\chi^2 = 1.482, p= 0.224$ ). However, significantly higher percentage of people in KKT than those in the Chinese groups judged the action as "unfair" ( $\chi^2 = 5.214, p=0.022$  and  $\chi^2 = 12.272, p=0.000$  for the non-students and students respectively), suggesting that fewer Chinese people might perceive cutting wage as unfair than people in Western countries.

To sum up, the influence of reference transaction in this case on fairness norms is robust and generally consistent

in all the surveys. However, fairness concerns matter less to people in China than those in Western countries when rating these kinds of actions such as cutting wage, which indicates the critical role of cultural influence on people's judgments of fairness.

The role of the reference transaction is still very strong in Question 5A. However, it might vary among these surveys in Question 5B.

**Q5A:** A small photocopying shop has one employee who has worked in the shop for six months and earns \$9 [Fr. 20] **per hour** [¥700 per month]. Business continues to be satisfactory; but a factory in the area has closed and unemployment has increased. Other small shops have now hired reliable workers at \$7 [Fr. 18] an hour [¥500 per month] to perform jobs similar to those done by the photocopy shop employee. *The owner of the photocopying shop reduces the employee's wage to \$7 [Fr. 18/¥500].*

**Q5B:** A small photocopying shop.....*The current employee leaves, and the owner decides to pay a replacement \$7 [Fr. 18] an hour [¥500 a month].* (The italicized sentence in Q5B replaced the one in Q5A)

KKT found that "the current wage of an employee serves as reference for evaluating the fairness of future adjustments of that employee's wage — but not necessarily for evaluating the fairness of the wage paid to a re-

Table 6: Cutting wage of the current worker (Q5A) vs. cutting wage of a replacement (Q5B).

Sample	Cutting wage of current worker		Cutting wage of a replacement	
	Acceptable (%)	Unfair (%)	Acceptable (%)	Unfair (%)
Chinese students (N=90)	53	47	61	39
Chinese non-students (N=90)	33	67	47	53
Swiss sample (N=96, 105)	19	81	59	41
Canadians (N=98, 125)	17	83	73	27

placement" (Kahneman et al., 1986a, p. 730). At least 27% (see Table 6) of respondents in all four surveys considered the action in Question 5B as unfair. Higher percentages of respondents (Table 6) from the Western groups than those from China perceived cutting wage in Question 5A as unfair, with a negligible difference between the KKT (83%) and Swiss survey (81%) and a significant difference between the latter one and the Chinese non-student one ( $\chi^2=5.160$ ,  $p=0.023$ ). These results in this scenario again lend support to the finding that the fairness rule<sup>2</sup> in terms of reference transaction does matter in all the countries but the extent it exerts influence on Chinese is not as strong as it does on people from Western countries.

Besides, for responses to Question 5A, the difference between the Chinese non-students and students is significant ( $\chi^2=7.330$ ,  $p=0.007$ ), suggesting that fewer students than non-students perceived a wage cut as unfair and further that being a student might be another factor influencing people's fairness perceptions when it comes to wage reduction.

### 3.3 Exploiting increased market power

**Q6:** A landlord rents out a small apartment. When the lease is due for renewal, the landlord learns that the tenant has taken a job very close to the apartment and is therefore unlikely to move. The landlord raises the rent \$40 [Fr. 80/¥50] per month more than he was planning to do.

As for responses to Question 6 in Table 7, almost the same proportions of respondents in KKT and the Swiss survey (92%) responded the same way, while lower percentages of both the Chinese students and non-students than that in KKT (91%) evaluated the landlord's exploiting increased market power as unfair. The difference between KKT and the Chinese non-student sample is significant ( $\chi^2=28.590$ ,  $p=0.000$ ), suggesting a strong cultural difference. There is also a significant difference ( $\chi^2=6.156$ ,  $p=0.013$ ) between the Chinese student (80%)

Table 7: Raising rent after learning the tenant's increased demand for the apartment (Q6).

Sample	Acceptable (%)	Unfair (%)
Chinese students (N=90)	20	80
Chinese non-students (N=90)	37	63
Swiss sample (N=104)	8	92
Canadians (N=157)	9	91

and non-student sample (63%), suggesting that a student might perceive the action of raising rent driven by the landlord's desire to making good use of tenant's rising demand as unfair more probably than a non-student.

**Q7A:** A store has been sold out of the popular **Cabbage Patch dolls** [Barbie dolls] for a month. A week before **Christmas** [Children's Day] a single doll is discovered in a storeroom. The managers know that many customers would like to buy the doll. They announce over the store's public address system that the doll will be sold by auction to the customer who offers to pay the most.

**Q7B:** . . . the doll will be sold by auction to the customer who offers to pay the most and the proceeds will go to **UNICEF** [Hope Project<sup>3</sup>].

All the groups agree that exploiting increased market power by auction is more unfair for profits than for a non-profit purpose (Table 8). The smallest difference is 26%. So, making use of increased market power — a factor influencing fairness norms — is again found relevant in the results from the new surveys.

For the more unfair one (Q7A) of these two contrasting questions, there are some significant differences between the KKT survey and either of the comparable ones in China and Switzerland ( $\chi^2=28.933$ ,  $p=0.000$  and  $\chi^2=34.874$ ,  $p=0.000$  for the China non-student and Switzerland survey respectively). Unfairness was per-

<sup>2</sup>A principle of *dual entitlement* proposed by Kahneman et al. (1986), p. 729

<sup>3</sup>It is a famous charity for sponsoring children in poor areas for their education.



Table 8: Auctioning the only doll in a store to the highest payer (Q7).

Sample	Auction the doll (Q7A)		Auction proceeds go to charity (Q7B)	
	Acceptable (%)	Unfair (%)	Acceptable (%)	Unfair (%)
Chinese students (N=90)	66	34	93	7
Chinese non-students (N=90)	64	36	93	7
Swiss sample (N=96, 105)	68	32	94	6
Canadians (N=101)	26	74	79	21

Table 9: Reducing or keeping price after cost decrease (Q8).

Sample	Reducing price (Q8A)		Keeping price (Q8B)	
	Acceptable (%)	Unfair (%)	Acceptable (%)	Unfair (%)
Chinese students (N=90)	96	4	57	43
Chinese non-students (N=90)	94	6	70	30
Swiss sample (N=105, 96)	92	8	77	23
Canadians (N=102, 100)	79	21	53	47

ceived less frequently in the latter groups, compared with the KKT sample. The patterns of fairness judgments here may be not completely consistent with the prior findings of the role of culture; it might have something to do with auction in this context, and thus it is interesting and worth further study.

In summary, on the one side, negative responses to the fairness of actions in this subsection were found among all four surveys, indicating that actions of exploiting added market power that comply with standards of profit-maximizing seriously conflict with people's regards for fairness regardless of the culture. On the other side, the influence of this factor on fairness norms, which can cause substantial negative responses, is always weaker among the Chinese respondents than those in Western countries.

### 3.4 The allocation of gains

**Q8A:** A small factory produces tables and sells all that it can make at \$200 [¥200/Fr. 300] each. Because of changes in the price of materials, the cost of making each table has recently decreased by \$40 [¥40/Fr. 60]. The factory reduces its price for the tables by \$20 [¥20/Fr. 30].

**Q8B:** A small factory produces tables and sells all that it can make at \$200 [¥200/Fr.300] each. Because of changes in the price of materials, the cost of making each table has recently decreased by \$20 [¥20/Fr. 30]. The factory does not change its price for the tables.

As shown in Table 9, there is much agreement here that more respondents in all four surveys considered reducing the price (8A) as more fair than keeping the price (8B) with a difference of 15% or more from 8A to 8B. Although sharing the profit with customers is generally regarded by 79% or more of people as fair, withholding the profit is evaluated differently by the four groups. The Canadians in KKT and the Chinese students held stronger negative opinions of this behavior, while the Chinese non-students and the Swiss group held weaker ones. However, both actions in this scenario belong to acceptable behaviors rated by at least one half of any of the four samples with the smallest percentage of 53%.

On the whole, people treat losses differently from gains or forgoing gains in their fairness judgments. As far as division of gains is concerned, most people in the four surveys tended to be more tolerant of actions of sellers' withholding newly gained surplus rather than sharing it with them. And fairness norms explain this patterns of people's fairness judgments more than the influence of cultural difference. However, this is not the case when it comes to transactions incurring losses to the weaker side. Faced with foregoing losses in terms of a reference transaction and exploiting increased market power, Western people considered it more unfair than Chinese people. And the variation of responses is larger, leaving some space for the possible cultural impact. But, when it comes to losses induced by sellers' protecting profit, people's responses vary little.

Table 10: Store owner’s price increase induced by a sudden demand (Q9).

Sample	Acceptable (%)	Unfair (%)
Chinese students (N=90)	58	42
Chinese non-students (N=90)	53	47
Swiss sample (N=105)	29	71
Canadians (N=107)	18	82
Chinese students (N=61)	51	49

### 3.5 Are snow shovels and umbrellas alike?

**Q9:** A hardware store has been selling snow shovels for \$15 [Fr. 30] each. The morning after a large snowstorm, the store raises the price to \$20 [Fr. 40]. (For the respondents in KKT and the new Swiss study)

A grocery store has been selling umbrellas for ¥15 each. During a heavy rainstorm, the shop owner raises the price to ¥20. (For the Chinese respondents in the present study)

Considering the rarer demand for snow shovels by individuals in China after a snowstorm, the snow shovels in this question were replaced with umbrellas for the Chinese respondents. As seen in Table 10, there is no significant difference between the Swiss sample and the KKT ( $\chi^2=3.488, p=0.062$ ), which indicates that the similar Western cultures might be predicative of the similar patterns of people’s fairness judgments on employing increased market power in this case. However, the big disparity between the Chinese groups and the Western ones cannot arbitrarily be attributed to cultural difference because the context of umbrellas and that of snow shovels are also different. In order to disentangle separate effects of context and culture, I surveyed Question 9 of snow shovel version once again in a further study among 61 Chinese students. There was no significant difference between the two Chinese student samples ( $\chi^2=0.711, p=0.399$ ; Table 10). The Chinese students answering the shovel question and respondents from Western culture differ significantly in their fairness judgments ( $\chi^2=8.217, p=0.004$  and  $\chi^2=20.316, p=0.000$  with the Swiss and KKT sample respectively). The findings here imply that results in these surveys are robust and culture is an important factor in influencing people’s fairness judgments but the item at issue does not matter for this question.

Table 11: Chinese students’ fairness judgments by context (shovel or umbrella) (Q9).

Judgment/Sample	Snow shovel (n=61)	Umbrella (n=90)
Fair	31 (51%)	52 (58%)
Unfair	30 (49%)	38 (42%)

### 3.6 Are there gender differences in fairness judgments?

Within the new surveys, I conducted  $\chi^2$  tests to examine correlation between the gender variable and response variable of fairness judgments for each question. Both descriptive and statistical results for both the Chinese samples and the Swiss sample are presented in the Appendix. As seen from this table, gender differences are not statistically significant for almost 14 questions at the significance level of 0.05 in all the surveys with one exception (Question 7A) in the student sample and this indicates that generally male and female respondents may hold no different judgments on this kind of fairness issue. So the second hypothesis is not confirmed.

## 4 General conclusion and discussion

This study investigated judgments of fairness in the People’s Republic of China and also in Switzerland. By comparison with the results from KKT, the baseline in this literature, one of the important findings is that fairness concerns matter among all these country groups. In other words, the influence of the four factors governing fairness norms summarized by KKT is first and foremost in predicting patterns of judgments of fairness even for people under a different culture. With these norms, the patterns of what are and are not considered by most people as fair can be predicted.

Based on the dual comparison among the Chinese non-student group, the Swiss group and the KKT group, another important finding is that culture is related to patterns of fairness perceptions. As seen in Figure 1, when fairness norms cause most people to respond negatively to the fairness of some actions, there is much similarity (Question 4A:cutting wage by 10%, 5A: cutting wage & photocopy shop, 6: rent & new job and 9: price & snow shovel) between the Swiss group and KKT, which have some similar cultures (Western culture in a broad sense) in common and, at the same time, significantly less negative responses were observed in the comparable Chinese

group under a different culture (East Asian culture) with the two Western groups. Generally, cultural differences affect fairness judgments especially when the actions are related to making use of market power. The first hypothesis based on theories on power distance and individualism by Hofstede (1980) is supported, and the evidence also lends some support to the “cushion hypothesis” also based on Hofstede (1980) and proposed by Hsee and Weber (1998a).

Fairness judgments on exploiting added market power in both the Chinese samples are consistent with those in Bian and Keller (1991a). For the snow shovel question, results in Frey et al. (1994) and this study are consistent, that is, the majority of people from both samples (71% and 83% respectively) regardless of time difference rated the use of price to eliminate excess demand as unfair.

Under most circumstances, being a student does not seem to affect fairness judgments. However, some significant differences were observed when the actions to be evaluated have something to do with wage or rent. The reason may lie in students' different social and economic status. Almost all non-students have their jobs and income, while this is not the case for the students. So students may care for large amount expenditure such as rent more than non-students. According to prospect theory (Kahneman and Tversky, 1979), students have different reference points from non-students, the wage cutting means only forgoing gains to them while it means loss to non-students. Thus, their perceptions may differ.

For the newly conducted surveys in both China and Switzerland, I also examined whether gender difference could influence people's fairness perceptions. Male and female respondents in these three samples show almost no differences.

About negative responses to the “snow shovel” question (an umbrella for the Chinese samples), an additional study helped to attribute the significant difference between the Western country groups and the Chinese ones to cultural influence rather than the different items at issue (snow shovels or umbrellas). Thus cross-cultural discrepancies are robust.

Limitations of this study are the small size of samples, and its sampling method. In addition, people may be answering these sorts of questions in terms of what they think is happening rather than in terms of what they think should happen. Although it may be a limitation on the results in this kind of survey, it also provides a topic for future research. Moreover, the option “acceptable” is thought by some to belong to a different category from those three ones. Thus, a future study is meaningful to explore whether “acceptable” actually led to fewer judgments of unfairness, compared with the study using a scale of “very fair”, “fair”, “unfair” and “very unfair.”

## References

- Beldona, S. & Namasivayam, K. (2006). Gender and demand-based pricing differences in perceived (un)fairness and repatronage intentions. *Journal of Hospitality & Leisure Marketing, 14*, 89–107.
- Bian, W. Q. & Keller, L. R. (1999). Patterns of fairness judgments in north America and the People's Republic of China". *Journal of Consumer Psychology, 8*, 301–320.
- Bian, W. Q. & Keller, L. R. (1999). Chinese and Americans agree on what is fair, but disagree on what is best in societal decisions affecting health and safety risks. *Risk Analysis, 19*, 439–452.
- Bicchieri, C. (1999). Local fairness. *Philosophy and Phenomenological Research, 59*, 229–236.
- Buchan, N. R., Croson, R. T. A. & Johnson, E. J., (2004). When do fair beliefs influence bargaining behaviour? Experimental bargaining in Japan and the United States. *Journal of Consumer Research, 31*, 181–190.
- Chen, K. & Tang, F. F. (2009). Cultural differences between Tibetans and ethnic Han Chinese in ultimatum bargaining experiments. *European Journal of Political Economy, 25*, 78–84.
- Frey, B. S. & Pommerehne, W. W. (1993). On the fairness of pricing — an empirical survey among the general population. *Journal of Economic Behavior and Organization, 20*, 295–307.
- Gächter, S. & Fehr, E. (2001). Fairness in the labour market- a survey of experimental results. In F. Bolle & M. Lehmann-Waffenschmidt (Eds.), *Surveys in experimental economics, bargaining, cooperation and election stock markets*. Heidelberg and New York: Physica-Verlag.
- Galea C. & Wright B. (1999). Sex, roles and justice: A study of gender as a predictor of fairness in decision making. *Women in Management Review, 14*, 89–98
- Gorman, R. & Kehr J. (1992). Fairness as a constraint on profit seeking: Comment. *American Economic Review, 82*, 355–358.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills CA: Sage.
- Hofstede, G. (1991). *Cultures and organizations: Software of the mind*. London: McGraw-Hill.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Beverly Hills CA: Sage.
- Hsee, C. K. & Weber, E. U. (1999). Cross-national differences in risk preference and lay predictions. *Journal of Behavioral Decision Making, 12*, 165–179.
- Inglehart, R., (2000). Culture and democracy. In: Harrison, L. E., Huntington, S. P. (Eds.), *Culture matters:*

- How values shape human progress*, pp. 80–97. New York: Basic Books.
- Kahneman, D., Knetsch, J. L. & Thaler, R. H. (1986). Fairness as a constraint on profit seeking: Entitlements in the market. *American Economic Review*, 76, 728–741.
- Kahneman, D., Knetsch, J. L. & Thaler, R. H. (1986). Fairness and assumptions of economics. *Journal of Business*, 59, 285–300.
- Kahneman, D. & Tversky, A. (1979), Prospect theory: An analysis of decisions under risk. *Econometrica*, 47, 313–327.
- Oosterbeek, H., Sloof, R. & Van De Kuilen, G. (2004). Cultural differences in ultimatum game experiments: evidence from a meta-analysis. *Experimental Economics*, 7, 171–188.
- Ottone, S. (2006). Fairness: a survey. P. O. L. I. S. department's Working Papers 57, Department of Public Policy and Public Choice — POLIS.
- Shiller, R. J., Boycko, M. & Korobov, V. (1991). Popular attitudes toward free market: The Soviet Union and the United States compared. *American Economic Review*, 81, 385–400.
- Sweeney, D. P., & McFarlin, D. B. (1998). Process and outcome: Gender differences in the assessment of justice. *Journal of Organizational Behavior*, 18, 83–98.

## Appendix

Crosstabs and statistical values for each question in both questionnaires among the three new surveys.

<b>Questionnaire A</b>										
SN	Response	Chinese non-student			Swiss sample			Chinese students		
		Male	Female	$\chi^2$ and $p$	Male	Female	$\chi^2$ and $p$	Male	Female	$\chi^2$ and $p$
2	Fair	36	34	0.257 (0.612)	38	38	0.158 (0.691)	36	32	1.415 (0.234)
	Unfair	9	11		9	11		8	13	
5A	Fair	14	16	0.200 (0.655)	10	8	0.386 (0.534)	24	24	0.000 (1.000)
	Unfair	31	29		37	41		21	21	
4A	Fair	24	26	0.180 (0.671)	15	15	0.019 (0.891)	29	29	0.000 (1.000)
	Unfair	21	19		32	34		16	16	
1	Fair	39	42	1.111 (0.292)	42	43	0.061 (0.805)	40	40	0.000 (1.000)
	Unfair	6	3		5	6		5	5	
3A	Fair	13	12	0.055 (0.814)	11	8	0.757 (0.384)	22	20	0.179 (0.673)
	Unfair	32	33		36	41		23	25	
8B	Fair	31	32	0.053 (0.818)	35	39	0.357 (0.550)	23	28	1.131 (0.288)
	Unfair	14	13		12	10		22	17	
7A	Fair	33	25	3.103 (0.078)	30	35	0.634 (0.426)	24	35	5.954 (0.015)*
	Unfair	12	20		17	14		21	10	

<b>Questionnaire B</b>										
SN	Response	Chinese non-student			Swiss sample			Chinese students		
		Male	Female	$\chi^2$ and $p$	Male	Female	$\chi^2$ and $p$	Male	Female	$\chi^2$ and $p$
9	Fair	21	27	1.087 (0.297)	20	9	3.254 (0.071)	21	31	2.698 (0.100)
	Unfair	23	19		37	38		22	16	
5B	Fair	19	23	0.420 (0.517)	32	30	0.633 (0.426)	25	30	0.306 (0.580)
	Unfair	25	23		25	17		18	17	
4B	Fair	33	37	0.384 (0.535)	46	33	1.552 (0.213)	34	42	1.811 (0.178)
	Unfair	11	9		11	14		9	5	
8A	Fair	41	44	0.262 (0.609)	52	44	0.207 (0.649)	41	45	0.008 (0.927)
	Unfair	3	2		5	3		2	2	
3B	Fair	30	36	0.837 (0.360)	40	25	3.170 (0.075)	36	42	0.618 (0.432)
	Unfair	13	10		17	22		7	5	
6	Fair	16	17	0.003 (0.953)	5	3	0.180 (0.671)	7	11	0.713 (0.399)
	Unfair	28	29		52	43		36	36	
7B	Fair	41	43	0.003 (0.955)	53	46	1.346 (0.246)	42	42	2.494 (0.114)
	Unfair	3	3		57	47		1	5	

Note: \* represents a significant level of 0.05. There is one missing value for the gender variable for both questionnaires of the Swiss survey.