

**Social Identity and Inequality:  
The Impact of China's *Hukou* System**

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# **Social Identity and Inequality: The Impact of China's *Hukou* System**

## **ABSTRACT**

We conduct an experimental study to understand the impact of China's household registration or *hukou* system on the widening economic disparity in urban China. We argue that decades of differential treatment of rural-urban residents by the *hukou* system and its resulting salience in Chinese society may have affected individual behavior and response to economic incentives. Initial results suggest that, indeed, making *hukou* identity salient affects individuals' economic performance. We also find that *hukou* identity influences earnings significantly through its impact on individual responses to economic incentives. The reduction in individual performance and earnings suggests loss of economic efficiency and, essentially, a conflict between the traditional *hukou* system and the market-oriented economy in China.

Keywords: social identity, *hukou*, inequality, field experiment  
JEL Classification: C93, O15

## I Introduction

Urban China attracts a vast number of migrants in search of employment opportunities everyday (National Bureau of Statistics of China, 2002). According to the 5th Population Census conducted in 2000, about 144.39 million rural residents, or 11.6% of the total population of China, migrated into cities and towns in that year (National Bureau of Statistics of China, 2002). It is not only the increased labor demand in the thriving cities that draws cheap labor to the urban areas but also the real-estate boom, including the increasing demand for land for other non-agricultural purposes, which has led to pressures on farmers to give up their land thereby pushing them into the cities (Yardley, New York Times, December 2004)<sup>1</sup>. China's unique *hukou* or household registration system, however, does not grant these migrants urban citizenship<sup>2</sup>. The *floating* population, the official name for migrants from rural areas or other less well developed cities, is treated as an "outsider" with limited access to economic resources and opportunities (Liu, 2005). The process of rapid urbanization in China (Kojima, 1995), therefore, has been accompanied by increasing economic inequality within urban areas due to an ever-rising disparity in rural-urban residents' incomes (Yao, Zhang and Hanmer, 2004; Chen, 2002; Kanbur and Zhang, 1999)<sup>3</sup>.

While the existing literature focuses on the discrimination in the allocation of economic resources in the *hukou* system as an explanation for rural-urban economic inequities<sup>4</sup>, our study aims to investigate another cause. We argue that decades of differential treatment of rural-urban residents, due to the institution of the *hukou*, may have been *internalized* by individuals through a manifestation of their social identity. This *internalized* identity may influence their response to incentives in the market economy and hence affect their economic decisions and outcomes. If so, the *intrinsically* distorted response to incentives could serve as another avenue through which the *hukou* system contributes to rising economic inequality in urban China.

We follow the well-established literature on field experiments (Harrison and List, 2004) to explore this

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<sup>1</sup> "Experts estimate that as many as 70 million farmers have lost their land in the past decade - a number expected to rise above 100 million." (Yardley, Jim, "Farmers Being Moved Aside by China's Real Estate Boom," The New York Times, December 8, 2004).

<sup>2</sup> Established during 1950s with the initial purpose of controlling spatial migration, the *hukou* system categorizes the population into rural (agricultural) *hukou* holders and urban (non-agricultural) *hukou* holders. The registration record is issued at the family level and serves as the official certification of legal residency in a specified geographic area. See Cheng and Seldon (1994) for a review of China's *hukou* system.

<sup>3</sup> In 1978, the annual per capita disposable income of the urban residents was 2.6 times that of the rural residents. This ratio increased to 2.9 in 2001. Over the same time period, the urban-rural ratio of per capita consumption increased from 2.9 to 3.5 (National Bureau of Statistics of China, 1994-2003).

<sup>4</sup> Liu (2005), using a nationally representative sample from the Chinese Household Income Project 1995, finds that compared to urban residents those who obtained an urban *hukou* later in their lives have significantly lower education attainment, employer-provided healthcare benefits and are more likely to be self-employed or unemployed. The rural *hukou* status restricts rural residents' access to quality education and urban employment lowering the return to their human capital investment. Other studies find that local urban workers earn substantially higher hourly wage than those who don't have local urban *hukou* (Lu and Song, 2006) and suggest that removing the *hukou* barriers to domestic labor mobility will significantly reduce urban inequality and increase economic efficiency (Whalley and Zhang, 2007).

hypothesis. Our experiment randomly assigns primary school students with different *hukou* backgrounds to a treatment and control condition. In the treatment condition individual's *hukou* identity is made salient through a pre-experiment survey followed by a public announcement of students' *hukou* status (Shih, Pittinsky and Ambady, 1999; Hoff and Pandey, 2004). Participants' performance in problem-solving tasks in the treatment condition compared to that of the control condition in which the *hukou* identity is kept private is used to answer three fundamental questions on the effects of *hukou* identity on urban economic inequality. First, does an individual's *hukou* identity have an impact on response to incentives? Second, if yes, how does the response to incentives affect economic outcomes and efficiency? Finally, based on the answers to these two questions our objective is to study the implications of the *hukou* identity on rural-urban migration and the accompanying income gap in urban China.

## II Conceptual Framework

In China, one's *hukou* status determines entitlement to economic resources and opportunities such as education, employment and social welfare benefits. This in turn establishes one's position in the social hierarchy. *Hukou* status is permanent for most people since rural-to-urban *hukou* conversions are granted only through very limited channels<sup>5</sup>. Thus, *hukou* background constitutes an important aspect of one's social identity in China and established literature indicates that people with different *hukous* fare differently in the market economy.

In addition to an increasing number of theoretical contributions (Smith, 2005; Shayo, 2005; Fang and Loury, 2005; Benabou and Tirole, 2006; Horst, Kirman and Teschl, 2006), an expanding literature shows that making identity salient has important effects on the division of economic surplus in market transactions (Ball *et al.*, 2001), risk and time preferences (Benjamin, Choi and Strickland, 2006), or performance in response to economic opportunities (Hoff and Pandey, 2004). Hoff and Pandey (2004) argue that social identity—a product of history and culture—shapes one's belief system and has a pronounced impact on behavior in response to economic incentives through its effect on expectations.

Almost all economic measures suggest that on average those with a rural *hukou* are worse off than those with an urban *hukou* in China (Liu, 2005; Lu and Song, 2006). Most studies use secondary sources of data that are based either on surveys or direct field observations to test whether the differences in the economic outcomes are due to *hukou* status. The data limitation makes it difficult to establish *causality* between *hukou* status and perceptions of self, expectations regarding discrimination and economic behavior. To circumvent this difficulty, our study builds upon a field experiment which has been used to study behavior of low caste subjects in India (Hoff and Pandey, 2004). We randomly assign participants to different experimental conditions and keep all

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<sup>5</sup> These channels include recruitment in state-owned enterprises, due to demobilization from military services, due to government's purchase of farm land, college education, or direct purchase of an urban *hukou*.

aspects of the environment constant across conditions except the manipulation of salience of the *hukou* identity itself. This allows us to directly compare the behavior and performance of participants with rural and urban *hukous* and capture the *causal* effect of *hukou* identity on economic decision-making.

### III Data and Methodology

The subjects in our field experiment are randomly selected students of primary schools in Beijing coming from families with or without a Beijing *hukou*<sup>6</sup>. Six students participate in an experiment session, three with a Beijing *hukou* and the other three without a Beijing *hukou*<sup>7</sup>.

*Tasks and payment schemes:* Each student participates in only one session that comprises of two rounds. In each round participants are given a packet of 15 maze puzzles. They are asked to solve as many mazes in that packet as they can within 15 minutes. In a session with the ‘Piece Rate’ system, participants are rewarded with 1 yuan for every maze they solve successfully in both rounds 1 and 2. In a session with ‘Mixed Tournament’ system, they are rewarded with 1 yuan for each maze they solve in round 1 whereas only the winner who solves the most number of mazes is rewarded 6 yuan per solved maze in round 2.<sup>8</sup>

*Identity treatment:* Following the literature on social identity (Bargh, Chen and Burrows, 1996; Shih, Pittinsky and Ambady, 1999; Benjamin, Choi and Strickland, 2006; Hoff and Pandey, 2004), we introduce the experimental manipulation by making *hukou* identity salient using a pre-experiment survey and public announcement of individual *hukou* status in the treatment sessions while keeping *hukou* identity private in the control sessions. The treatment sessions start with a pre-experiment survey that asks participants about their place of birth, spoken dialect at home, self-conception of their identity as a Beijing local, and their comparison of non-migrant with migrant students on academic and extracurricular participation and achievement. After the survey, the experimenter confirms with every student his/her name, and then announce his/her *hukou* status in public. Since individual *hukou* identity is kept private in the control sessions and participants are randomly assigned, any difference in the maze-solving performance between the treatment and the control can be attributed to the effect of

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<sup>6</sup> One concern in the design is that students may know each others’ family *hukou* background *before* the experiment which potentially confounds our results. We try to minimize this effect by selecting the six participants from different grades and different sections of the same grade. Our study focuses on primary school students rather than adults not only to ensure that the compensation offers sufficient incentive for participants to perform in the experiment but also to minimize potential confounding effects that can be introduced by participants’ observable characteristics. The young generally adapt to the local culture quickly making it almost impossible to guess their *hukou* from their accent or clothing. This is validated by our baseline results from the control group. In contrast, adult subjects’ observable characteristics (e.g. accent) can reveal the type of *hukou* they hold. Further, adults could have obtained a Beijing *hukou* later in their lives through various channels, which may confound the results from the treatment condition.

<sup>7</sup> In all there will be three combinations of *hukou* groups: H (those with a Beijing urban *hukou*) vs. M (those without a Beijing *hukou* but with some other urban *hukou*), M vs. L (those without a Beijing *hukou* but some other rural *hukou*), and H vs. L. Since studies show that women react to economic incentives differently from men under different payment regimes (Gneezy, Niederle and Rustichini, 2003; Niederle and Vesterlund, 2007), we conduct sessions for boys and girls separately.

<sup>8</sup> Mixed Tournament introduces competitiveness in the interaction among and between the *H*, *L* and *M* types.

making *hukou* salient.

*School selection:* From the 1,500 primary schools in the Beijing metropolitan area we select schools based on the following criteria. First, we choose schools that admit non-local students to ensure sufficient number of participants coming from various *hukou* groups in our study. Second, from that set of schools we choose those whose local-migrant composition of the student body is similar to that of the Beijing metropolitan area. Finally, schools thus selected are located in a district with per capita income similar to the average level in metropolitan Beijing.

#### IV Preliminary Results

The main results we expect from our field experiment are: *Hukou* identity affects one's economic performance (as measured by the number of mazes solved). The magnitude of this effect depends on the social status represented by the *type* of *hukou* the subject has. A change in response to incentives due to the *hukou* identity affects individual earnings and economic efficiency (measured by the performance and the rewards earned). Based on these answers we can infer whether making *hukou* identity salient contributes to the expanding rural-urban income gap in China (measured by the difference in performance and earnings of *hukou* groups between the control and treatment groups).

We obtained preliminary results from 18 sessions conducted in a public school located in suburban Beijing in May 2007. Figures 1-3 show the average numbers of mazes solved by round across all experimental conditions, with figures A on the left corresponding to the treatments under the 'Piece Rate' system and figures B on the right to the 'Mixed Tournament' system. Figures 1A and 1B compare non-Beijing-rural *hukou* (*L* status) *boys* with Beijing urban *hukou* (*H* status) *boys*. Figures 2A and 2B compare non-Beijing-rural *hukou* (*L*) *girls* with Beijing urban *hukou* (*H*) *girls*. Figures 3A and 3B compare non-Beijing-urban *hukou* (*M*) *boys* with Beijing urban *hukou* (*H*) *boys*. The dashed lines refer to the control conditions with *hukou* identity kept private, and the solid lines refer to the treatment conditions with *hukou* made salient.

Comparing the average number of mazes solved in the treatment to the control group, we find that making *hukou* identity salient changes individual behavioral response to economic incentives and the effort level under the 'Piece Rate' regime and the competitive 'Mixed Tournament' regime. This effect varies by gender and status (i.e., *H*, *L* or *M* type). Specifically, making *hukou* identity salient reduces the number of mazes solved by *boys* of all *hukou* types and in almost all conditions, as suggested by the downward shift of the solid lines compared to the dashed lines (Figures 1 and 3).<sup>9</sup> In contrast, the distortion effect of *hukou* identity on *girls*' economic performance depends on their social status. *H* status *girls* solve fewer mazes in the identity treatment than in the control (Figure 2A and 2B). On the contrary, the *L* status *girls* perform better under the mixed tournament when the *hukou*

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<sup>9</sup> The only exception is the *H* status *boys* who perform better in the identity treatment than in the control when put in the mixed group with *M* status *boys* under the 'Mixed Tournament' regime in Figure 3B.

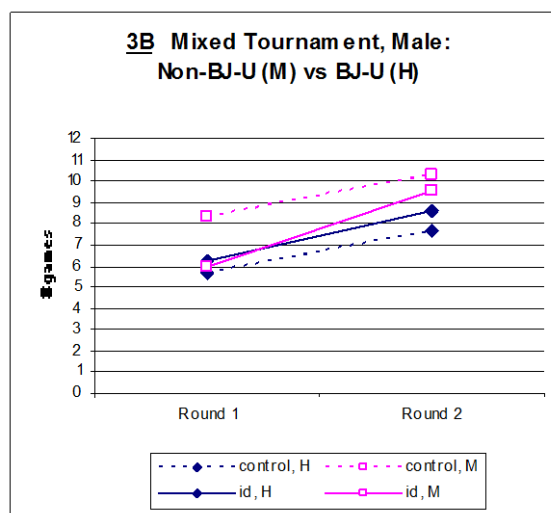
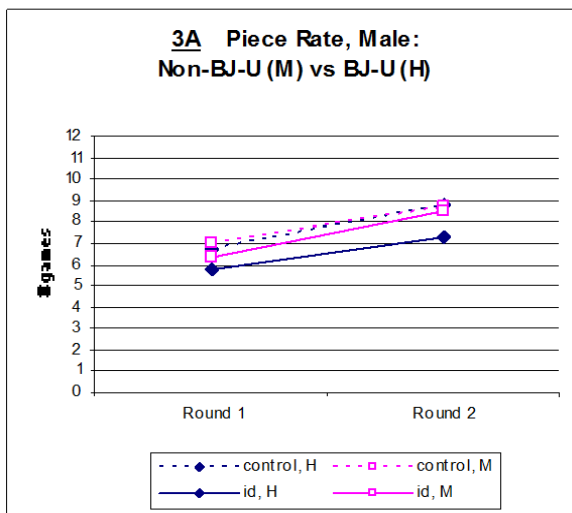
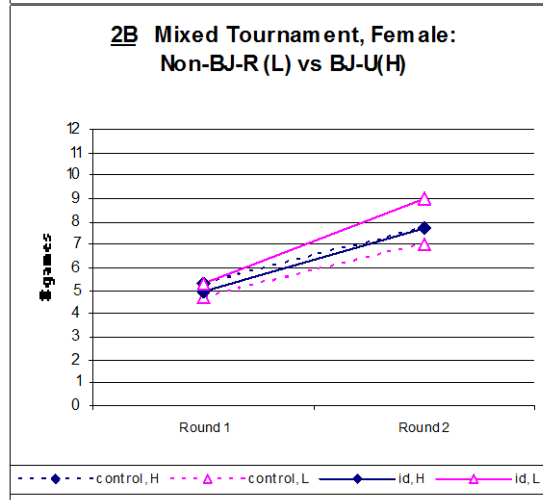
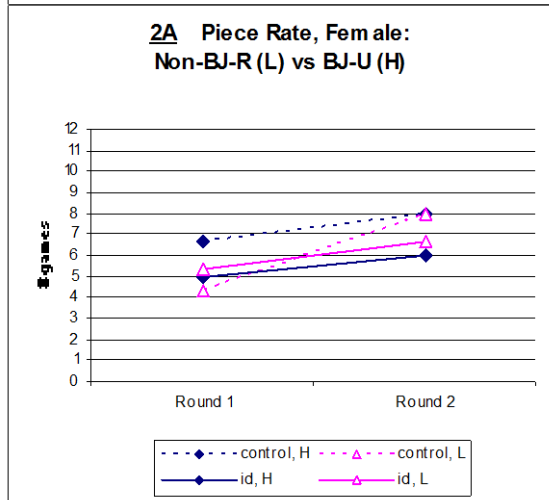
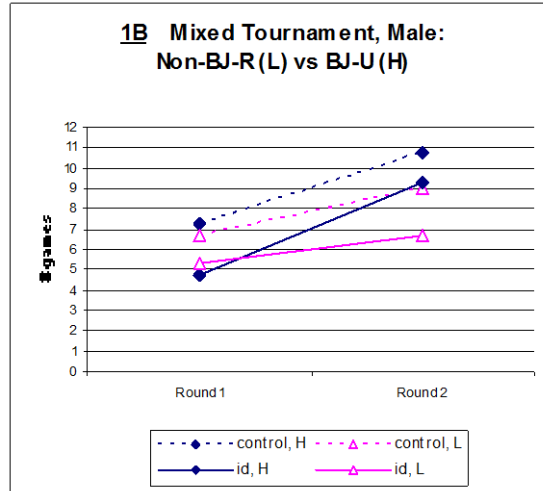
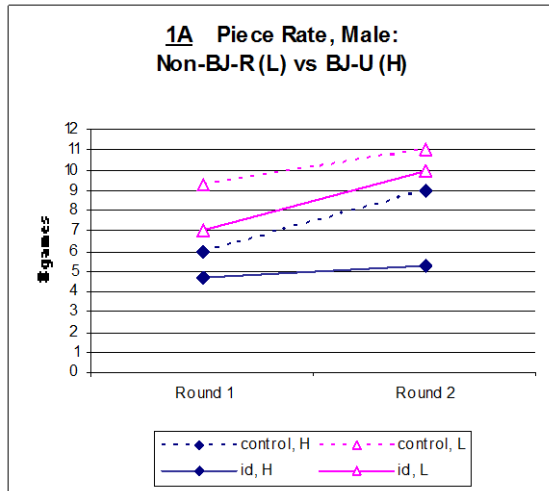
identity is made salient than when it's kept private (Figure 2B).

We also find that the *hukou* identity affects earnings significantly through its impact on individual responses to economic incentives. It reduces average group earnings for all *hukou* groups under both payment regimes except in the case of *L* status girls under the 'Mixed Tournament'. The reduction in individual performances and earnings suggests loss of economic efficiency and, essentially, a conflict between the traditional *hukou* system and the market-oriented economy in China. Interestingly, when mixed with the *H* students under the competitive tournament regime, none of the *L* students (neither boys nor girls) wins the tournament which may suggest low level of competitiveness among rural-*hukou* individuals compared to those with an urban *hukou*. Although because of the small samples the magnitude of the differences between the average performance of the *H*, *L* and *M* types in the control and treatment conditions are not statistically significant in many cases, the pilot results suggest interesting patterns on the effects of *hukou* identity on individual economic behaviors that are explored in depth in the final study.

## **V Conclusion**

We conduct an experimental study to understand the impact of the *hukou* system on the widening economic disparity in urban China. We argue that decades of differential treatment of rural-urban residents by the *hukou* system and its resulting salience in Chinese society may have affected people's behavior and response to economic incentives. Initial results based suggest that, indeed, making *hukou* identity salient affects individuals' economic performance. We explore this result further by investigating how perceptions regarding self and social discrimination can influence individuals' behavior and outcomes and suggest policy implications.

Figures 1-3: Effects of Making *Hukou* Identity Salient on Effort and Competitive Performance





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