

# The causal effect of social capital on income: A new analytic strategy<sup>☆</sup>

Jing Shen<sup>a,\*</sup>, Yanjie Bian<sup>b,c,\*</sup>

<sup>a</sup> MZES, University of Mannheim, A5, 6 Building A, 68159 Mannheim, Germany

<sup>b</sup> Xi'an Jiaotong University, China

<sup>c</sup> University of Minnesota, United States



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## ABSTRACT

This study identifies three groups of job seekers in terms of the channels used to search for jobs: the formal channel involving only official procedures to obtain a job, the informal channel using only social contacts to obtain a job, and the joint channel leveraging both social contacts and official procedures. The analysis of a national sample survey of China shows that joint channel users, due to their relatively higher level of social capital, not only make more job search attempts but also obtain higher income than formal channel users. Meanwhile, joint channel users, because of their relative advantages in both human capital and social capital, not only make more job attempts but also obtain higher income than informal channel users. The two comparisons offer a new strategy to test the causal role social capital plays in labour market success, regardless of whether social capital is exogenous or endogenous to human capital.

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## 1. Introduction

Social capital theories have long argued that the use of personal contacts in the search for employment leads to higher wages and higher occupational status. Personal contacts are thought to give access to valuable resources such as information and influence, which lead to better jobs (Granovetter, 1973; Lin, 2001). Although empirical evidence partly confirmed this hypothesized effect of social capital on labour market outcomes (see reviews by Granovetter, 1995; Lin, 1999), questions have been raised about the causality of this effect. Mouw (2003), in particular, argued that social capital may be largely endogenous to human capital, as individuals with higher education have more social capital.

In his critique of the social capital effect, Mouw (2003) identified two sources of endogeneity. The first is homophily, the tendency of people to socialize with others who are similar to themselves (McPherson and Smith-Lovin, 1987), which implies that the occupational statuses of an individual's personal contacts are correlated with his/her own status. To address this source of endogeneity, several scholars have proposed and adopted advanced tests (Bian et al.,

2015; Chen, 2012; Chen and Volker, 2016; Fernandez and Galperin, 2014; Lin and Ao, 2008; McDonald, 2015), and concluded that even after controlling for this type of endogeneity there is still a significant effect of contact use on labour market outcomes in both market and nonmarket economies.

The second source of endogeneity, however, has largely been overlooked in examinations of the role social capital plays in labour markets. This source of endogeneity is associated with reservation wage, a theoretical and unobservable lowest wage a rational worker would be willing to accept so as to complete the job search (Montgomery, 1992). Mouw (2003:870–1) argues that reservation wage is the determinant of job search outcomes, and that causal examinations of job search outcomes should focus on reservation wage, rather than obtained wage. According to Mouw, social capital can be argued as a cause of job search outcomes *if and only if* contact use contributes to the increase in reservation wage. The problem of endogeneity occurs when one's social capital is highly correlated with one's human capital, as the relationship between social capital and reservation wage might be explained by the effect of human capital. Demonstrating a causal relation between social capital and reservation wage is empirically challenging, because reservation wage is not only unobservable, but it also varies with the probability of receiving job offers, as well as the wage accompanying each offer (Montgomery, 1992; Mouw, 2003). At present, none of the existing analytical strategies (see a review by Chen, 2012) has been designed to reveal the causal role of social capital in reservation wage, with the effect of human capital taken into account.

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\* Corresponding authors.

E-mail address: [jing.shen@mzes.uni-mannheim.de](mailto:jing.shen@mzes.uni-mannheim.de) (J. Shen).

In this study, we aim to address the above challenge by proposing a new analytic strategy. This strategy is based on the recognition of three groups of job seekers: Some job seekers use the formal channel to search for jobs, others use the informal channel, and still others use both the formal and informal channels. We term this third group of job seekers “joint channel users.” We argue that the identification of the joint channel allows for a test concerning the causal effect of social capital on reservation wage, by making it possible to compare joint channel users with either formal or informal channel users. In the following part of this paper, we will elaborate on this strategy and perform an empirical analysis by drawing data from a countrywide Chinese survey.

## 2. The significance of the joint channel

Conventionally, job searches are dichotomized into two channels. The formal search channel includes the use of job ads, direct applications, employment services, and any other means without involving personal contacts. Human capital, in forms of education, skill training, and work experience, is the fundamental resource one uses in getting a job that satisfies one’s reservation wage through the formal search channel (Mincer, 1974; Montgomery 1992; see also Mouw’s review, 2003). The informal search channel, on the other hand, includes the means in which kin, friends, acquaintances, or any other types of personal contacts are mobilized to facilitate job obtainment (Bian, 1997; Boxman et al., 1991; Chua, 2011; De Graaf and Flap, 1988; Erickson 2001; Granovetter, 1973; Lin et al., 1981; Volker and Flap 1999; see also reviews by Granovetter, 1995; Lin, 1999). While all these personal contacts have been conceptualized as social capital and been demonstrated to play positive roles in job search outcomes, the extent to which social capital matters in determining reservation wage still requires further investigation.

Fig. 1 illustrates one scenario under the homophily assumption (social capital is dependent on human capital). The upper part of Fig. 1 shows an unobservable, theoretical causal relationship through which a worker’s human capital determines his/her reservation wage. The lower part of Fig. 1 shows a positive correlation between the amount of social capital this same worker possesses and the wage he/she obtains, through contact use. Since human capital determines reservation wage (the upper part of Fig. 1) and at the same time is correlated with social capital (the left side of Fig. 1), the association between social capital and obtained wage (the lower part of Fig. 1) can be spurious, resulting from their common determinant – human capital.

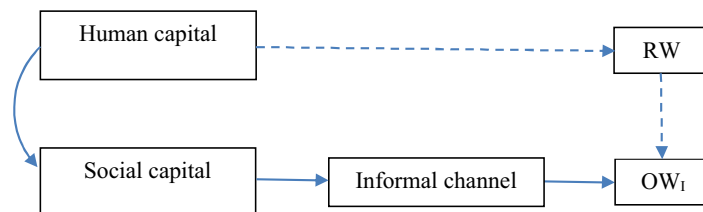
The following example provides an illustration. Two individuals, termed A and B, share an identical set of human capital. A gets a job through personal referrals and accepts the wage offer. B gets

the same job with the same wage offer from a different employer without using personal referrals. B’s obtained wage is set by his/her reservation wage, which is solely determined by human capital. Since A obtains the same wage as B, it is logical to assume that A also shares the same level of reservation wage, which should be attributed to A’s human capital that is identical to B’s. In this case, A’s use of personal referrals does not lead to an increase in his/her reservation wage; as a result, A’s social capital, through contact use, has no causal effect on A’s obtained wage.

Continuing with the above example, we reconsider the link between social capital and reservation wage in the following scenario. A and B, who share the same amount of human capital, get identical offers through the formal hiring procedure. A rejects the offer and continues to search, whereas B accepts the offer and completes the search. Eventually, through personal referrals A gets a better-paid job than B’s. In this case, the job accepted by B satisfies B’s reservation wage but not A’s; A’s social capital through contact use makes his/her reservation wage higher. Therefore, A’s successful obtainment of a better paid job through contact use shows social capital’s contribution to the increase in reservation wage, with the effect of human capital controlled.

The above-described scenario requires complete job-history information to establish a causal relationship between social capital and reservation wage. Unfortunately, such information is unavailable in large-scale social surveys, which provide information only about obtained jobs and wage outcomes, but not about rejected job offers. Statistically, the missing information about rejected job search outcomes causes the issue of truncation in survey datasets (Dodge, 2003; Wolynetz, 1979). To analyse how contact use matters for truncated job-search outcomes, we propose to rethink the theoretical assumption underlying job search channels. As aforementioned, previous studies tend to dichotomize job search behaviour into *either* the formal *or* the informal channel. This dichotomization implies correspondence between human capital and the formal channel, and between social capital and the informal channel. In reality, however, a good proportion of workers use *both* the formal and the informal channels to seek jobs. Our strategy is, therefore, to distinguish the use of the joint channel from that of either the formal or informal channel, and identify three groups of job seekers as follows.

First, Group F refers to job seekers who have successfully secured jobs only through the formal channel. It is reasonable to assume that their human capital is the only cause of their reservation wage. This is true even if this group of job seekers may in fact have high-quality contacts, since their contacts are *not* activated to influence their job searches. For this reason, by social capital in our discussion, we refer only to social contacts that have been activated to influence individuals’ job search processes.



\* RW – reservation wage; OW<sub>I</sub> – obtained wage through the informal channel. Solid lines represent observable links, while dash lines represent unobservable links. Straight arrow lines represent causal mechanisms. Curved arrow lines represent possible existence of endogeneity. The direction of the curved arrow line is from the source of endogeneity to the type of resource that is endogenously formed.

Fig. 1. Spurious correlation between social capital and obtained wage.

\*RW – reservation wage; OW<sub>I</sub> – obtained wage through the informal channel. Solid lines represent observable links, while dash lines represent unobservable links. Straight arrow lines represent causal mechanisms. Curved arrow lines represent possible existence of endogeneity. The direction of the curved arrow line is from the source of endogeneity to the type of resource that is endogenously formed.

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