

Public-private-partnership in VET Sector: Evidence from China

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Abstract

1. Research background and problem

Vocational education and training is the cornerstone of China's economic development. Despite of the rapid growth of VET sector since the late 1990s, providing industry with relevant skills remains a key challenge. IBM's recent reports found persistent skill mismatch and inadequate vocational education and training in China (IBM, 2016, 2017).

Skill mismatch and skill shortage have a deep institutional background, relating to recent transformations in China's skill formation system. The root of the challenge, however, lies in the failure of collective action. This dilemma has two layers in the Chinese context. On the one hand, inter-firm collaboration is rare due to the threat of poaching (Acemoglu & Pischke, 1998). Consequently, firms prefer to obtain workers directly from the labor market. On the other hand, school-firm collaboration is hard to achieve. Working intensively with firms implies high costs and uncertain benefits for schools: they have to align their curriculum with industry needs; meet sectoral standards; and provide professional training and new facilities. Collaboration also implies high costs for firms with respect to time, funding, and human resources.

To address these collective action problems, Chinese regions have developed innovative solutions to match skill demand and supply with public and private partners. Behind several successful cases of skill partnership, we observe a strong role of intermediary organizations which promote collaboration among firms, schools and governments. However, little is known about how public-private- partnerships in Chinese VET sector are organized and who coordinates them. This study intends to analyze existing PPP models using a novel school-firm database and interviews in 4 cities across three provinces conducted in 2016 to 2017.

2. Research Data Base and Analysis

In this article, we focus on partnerships between public vocational institutions and industry partners that develop skill for the partners themselves. To capture the prevalence and the characteristics of these collaborations at national level, our research team created a PPP dataset based on Enterprises' Annual Reports of Involvement in Vocational Education in 2016. The reports were provided on voluntary basis and were published online by the Ministry of Education. The enterprises are encouraged to provide information on the format and the content of their collaboration with local vocational colleges. Our research team coded these reports using 10 specific categories of firm-college cooperation. We then matched these collaborations with firm, college and province-level characteristics. We conduct descriptive analysis and regression analysis to understand: (1) factors contributing to firm's choice of partnership type; (2) relation between various types of partnership.

3. Outcome

These reports yield 257 firm-college pairs and 1,679 specific collaboration practices between 171 vocational colleges and 257 industry partners. Each firm-college pair used on average 9.82 practices, and each industry partner was involved in 6.53 practices. At the provincial level, different types of practices seem equally distributed. Firms in 26 out of 31 provinces invested in four common practices, including master instructors assigned by firms, faculty training, stipends and wages for students, and student aid. Joint recruitment, provision of investment or equipment, and participation in student's evaluations are less common, but still occur in more than two thirds of provinces.

There is a high degree of variation in terms of popularity of each practice among firms. Student aid, master instructor assigned by firms, firm's participation in curriculum setting, and firm's provision of stipends and wages are most widespread forms of PPP. Over two thirds of firms take part in these practices. Only 32% of firms participate in assessment and evaluation of students.

When industry partners choose to work with vocational colleges to meet their skill needs, their participation rates vary by their ownership type. State-owned enterprises

are more likely to involve in faculty training, providing investment and/or equipment. These practices are general purpose PPP. Joint ventures are more careful when they choose collaboration forms, and prefer practices where they can monitor training quality and retrieve benefits, such as joint recruitment, curriculum setting and guaranteed work. Private firms are least likely to invest in faculty training or evaluation of students, which require large human resource investment from firms.

We apply negative binomial model to analyze the association between various types of partnership. We find three major types of relations: mutualism, commensalism, and competition. This implies that: (1) some high-cost firm investment in skill training also brings benefits for firms; (2) other types of partnership are mutually exclusive.

4. Scientific contribution

The study makes two contributions to the literature. First, by coding the text data into structured dataset, we are able to quantify major types of school-business partnership in China. Second, we explore the relationship between various types of partnership and thus are able to gain better understanding of the costs and the benefits facing firms who involve in skill investment.

Key word: public-private-partnership, China, intermediary organization

JEL Codes: D22, I28, I25, J24