China's expansion of higher education: The labour market consequences of a supply shock

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Abstract

In the decade 1998–2008 China expanded enrolment in higher education almost six-fold. For the examination of its short term labour market consequences, this unprecedentedly huge and sudden policy change might be regarded as a natural experiment. After providing a theoretical framework for analysis, the paper uses urban labour market surveys to analyse how the labour market adjusted to the supply shock. Three outcomes are examined: the effect of the expansion on wages, on unemployment, and on access to 'good jobs'. The shock is found to reduce relative wages, raise the unemployment rate, and reduce the proportion in good jobs, but only for the entry-year or entry-period cohort of graduates. The effect is fairly powerful for entrants, especially university rather than college graduates, but incumbent graduates are largely protected from the supply shock. An attempt is made to examine the labour market effects of the quantitative expansion on educational quality. The paper provides insight into the operation of China's labour market in recent years.

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1. Introduction

Beginning in 1999, China made a Great Leap Forward in higher education. In 1998 there were 3.4 million students enrolled in (regular institutions of) higher education. A decade later, in 2008, there were 20.2 million. This implies an almost six-fold growth in enrolment, averaging 19% per annum. The abruptness of the change is illustrated in Fig. 1, showing enrolment from 1988 to 2008. The number of entrants to higher education was 1.1 million in 1998 and 6.1 million in 2008. Similarly, the number of graduates from higher education rose from 1.0 million in 2001 (the 1997 or 1998 intake) to 5.1 million in 2008 (the 2004 or 2005 intake). How did the labour market respond to such a large shock – internationally exceptional and possibly unprecedented?

Section 2 provides the background to the policy reversal. Section 3 outlines some relevant theory of the effects of a positive supply shock of a particular type of labour on the labour market, and Section 4 briefly reviews the relevant empirical literature.
Our data sources and their relevance to this issue are explained in Section 5. Section 6 conducts an analysis of the two China Household Income Project (CHIP) surveys that straddle the supply shock. Section 7 examines whether the CHIP surveys can distinguish between the direct effects of quantitative expansion and the indirect effects of that expansion on quality. Section 8 reports the empirical estimations obtained from the annual National Bureau of Statistics urban household surveys covering the years 2002–2008. Section 9 concludes and reflects.

2. A natural experiment?

During the first fifty years of Communist Party rule, China developed a ‘flat’ educational pyramid: the primary (net) enrolment ratio in 1998 (91%) was similar to that for the average of all middle income developing countries (92%), the secondary (net) enrolment ratio (50%) was a little below the average for such countries (the gross ratios being 62% and 67%), and the tertiary (gross) enrolment ratio (6%) was well below the average (12%).2

The Chinese economy grew rapidly over the decade 1988–1998 (by 9.6% per annum) and over the decade 1998–2008 (by 9.8% per annum), and the non-primary sector grew even more rapidly (by 11.2 and 10.3% per annum respectively).3 It would be plausible, therefore, to view the expansion of higher education as an endogenous response to the past and expected future economic growth. However, the facts suggest otherwise. There was no mention of a policy change in the Ninth Five-Year Plan (1996–2000), published in 1996. The Plan stated that student enrolment in regular institutions of higher education would grow by 3.8% per annum and reach 3.5 million in 2000.

The initial decision appears to have been taken in the light of the huge labour redundancy programme in the state-owned and urban collective enterprises that was at its height in the late-1990s. It became very difficult for young people to find employment. For instance, a national household survey conducted in 1999 found an urban unemployment rate among 17–20 year-olds in the labour market to be no less than 56%. One of the policy responses was to allow more young people to stay on in education by expanding higher education. A central government decision was suddenly taken in 1999 to raise the intake into higher education later that year by 50%.

This timing coincided with other important changes that were taking place in the labour market. In the past, government had tightly rationed but fully or mainly subsidised enrolment in higher education. It had allocated all graduates to state jobs, albeit at low wage premiums that were administratively determined. The redundancy programme in the state sector, the rapid growth of the non-state sector, and the strengthening of market forces in the labour market transformed the situation. New graduates were no longer confident of state sector jobs. The majority would have to find employment in the private sector, albeit at wage premiums that were governed by the market – but these were trending upwards. For instance, the wage premium of higher education over high school education among urban employees was 17% in 1995 and 42% in 2002 (Knight & Song, 2008: 228).

Together with the high social value placed on education in Chinese culture, the perceived rising private rate of return to higher education ensured that the additional places were filled; the demand existed to meet the additional supply. Indeed, average tuition fees in the (exclusively state) universities could be simultaneously raised, from Y800 per annum in 1995 to Y5000 per annum in 2005. The state effectively accepted that higher education should be marketised (but not privatised).

Although the initial policy shock was a response to a short term problem, the policy evolved rapidly into one of sustained expansion of higher education. For instance, the Tenth Five-Year Plan (2001–2005), published in 2001, projected higher education

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2 World Bank, World Development Indicators 2002, Table 2.12. The net ratio (excluding over- and under-age children) is provided whenever it is available.

3 Calculated from National Bureau of Statistics, China Statistical Yearbook 2009, Tables 2.3 and 2.5.
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