

Do Borrowing Constraints Matter for Intergenerational Educational Mobility? Evidence from Japan

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Intergenerational mobility measures the degree to which socioeconomic status is transmitted from generation to generation, which is a fundamental indicator of the equality of economic opportunities in a society. A strong association between the socioeconomic status of parents and that of children indicates low intergenerational mobility whereby children from a disadvantaged family are likely to remain disadvantaged throughout their lives and may not be able to achieve their economic potential regardless of their abilities and efforts.

While various aspects of intergenerational mobility have been measured in the past, including earnings, occupation, and education, this paper pays particular attention to the intergenerational transmission of educational attainment. According to the intergenerational human capital investment model proposed by Becker and Tomes (1986), education, or human capital, is an important channel through which earnings ability is transmitted from parents to children. High-earning parents have a greater financial capacity to invest in their children's education. Such parents may also pass on certain attributes (genetic and cultural endowments) to children, which make it easier for children to acquire education. More education then enables children to obtain higher earnings in adulthood. Education therefore plays a central role in passing on socioeconomic advantage (or disadvantage) from generation to generation.

In sum, the intergenerational transmission of human capital and earnings rests upon the intergenerational transmission of endowments, either genetically or through the environment, and the presence of borrowing constraints. In the presence of borrowing constraints, the model predicts that intergenerational earnings/educational mobility will be lower among constrained groups than among unconstrained groups given that the former would make a suboptimal investment in their children's human capital. This, in turn, will result in lower intergenerational mobility.

There is a growing literature that examines the intergenerational transmission of educational attainment, and the empirical evidence consistently shows a strong association between parents' and children's educational attainment. On the other hand, evidence on the importance of borrowing constraints in determining children's educational attainment as well as intergenerational earnings/educational mobility remains inconclusive. For instance, several studies find that parents' financial resources play only a limited role in children's educational attainment, suggesting that borrowing constraints are relatively unimportant (e.g., Cameron and Heckman, 1998, 2001) while other studies find stronger evidence of borrowing constraints, particularly in more recent years (e.g., Lochner and Monge-Naranjo, 2012).

The relative importance of borrowing constraints for intergenerational mobility has important implications for designing policy interventions. If financial constraints prevent parents from investing optimally in their children's human capital, the intergenerational persistence of educational attainment

can be mitigated by policies that are designed to relax such constraints. However, if the formation of children's human capital is determined mainly by families' underlying characteristics that are passed on from generation to generation, policies that merely address financial constraints will not be effective in addressing the intergenerational persistence of educational attainment.

Nevertheless, examining empirically the importance of borrowing constraints for children's educational attainment and intergenerational mobility is not a straightforward exercise given the difficulty of identifying which families are credit constrained. Fortunately, the Preference Parameters Study of Osaka University, which we use for our analysis, contains unique information on whether or not children gave up schooling for financial reasons, and if they did, which level of schooling they gave up. By exploiting such information, this paper aims to contribute to the existing literature on the implications of borrowing constraints for the intergenerational transmission of educational attainment in two ways.

First, we assess the importance of borrowing constraints for intergenerational educational mobility by comparing the degree of the intergenerational transmission of educational attainment estimated using original data on children's years of schooling as well as the hypothetical data on years of schooling for children who had to give up schooling for financial reasons. We believe that this is a more direct way of assessing the importance of borrowing constraints for intergenerational educational mobility than any previous attempts made in the literature.

Second, by analyzing the case of Japan, we try to broaden our understanding of the intergenerational transmission of educational attainment and the role of borrowing constraints in determining it in Japan, for which empirical evidence remains limited so far. Japan is an interesting case to study given that Japanese parents tend to bear the relatively heavy financial burden of tuition fees for tertiary education and that they also tend to bear the high cost of sending their children to cram schools to make sure that their children are well prepared to succeed in the fierce competition for entrance to upper secondary schools and universities (or even to lower levels of schooling).

Using data for Japan from the Preference Parameters Study for children born between 1955 and 1989, we find that there has been a steady increase in the degree of the intergenerational transmission of educational attainment during the postwar period, resulting in lower intergenerational mobility. We also find that while the importance of borrowing constraints for determining intergenerational educational mobility declined at one time, it seems to have become significant enough once again to lower intergenerational educational mobility for the youngest cohort we examined in this paper. This may partly reflect the long-lasting stagnation that the Japanese economy experienced after the collapse of the asset bubble in the early 1990s. However, our analysis also shows that the relative importance of adolescent academic ability for children's educational attainment has increased over time, underscoring the increasing importance of early investments in children's human capital for their academic advancement.

References

- Becker, G. S. and N. Tomes (1986), "Human Capital and the Rise and Fall of Families," *Journal of Labor Economics*, 4(3), pp. S1-S39.
Cameron, S. V. and J. J. Heckman (1998), "Life Cycle Schooling and Dynamic Selection Bias: Models

and Evidence for Five Cohorts of American Males," *Journal of Political Economy*, 106(2), pp. 262-333. Cameron, S. V. and J. J. Heckman (2001), "The Dynamic of Educational Attainment for Black, Hispanic, and White Males," *Journal of Political Economy*, 109(3), pp. 455-499. Lochner, L. and A. Monge-Naranjo (2012), "Credit Constraints in Education," *Annual Review of Economics*, 4, 225-256.