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Foreword

Book section (Published Version)

Original citation:
Originally published in Lleras, M. P. (ed.), *Investing in human capital: a capital markets approach to student funding.* Cambridge, UK : Cambridge University Press, 2007, pp. xvii – xx.
ISBN 9780521039529

Investing in Human Capital

A Capital Markets Approach to Student Funding

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Book DOI: http://dx.doi.org/10.1017/CBO9780511585982

Online ISBN: 9780511585982

Hardback ISBN: 9780521828406

Paperback ISBN: 9780521039529

Chapter

Foreword pp. xvii-xx

Chapter DOI: http://dx.doi.org/10.1017/CBO9780511585982.001

Cambridge University Press

Foreword

Labor productivity is fundamental to economic growth, as modeled formally in the literature on endogenous growth. Indeed, with global capital markets and rapid transmission of technology, it can be argued that human capital is more important than ever as a determinant of national economic performance and individual well-being.

Fifty years ago higher education was largely a consumption good for a middle-class elite. In most countries, 5 per cent (or less) of 18-year olds went to university. With technological advance, the demand for highly skilled workers has increased sharply: student and employer demand for tertiary education and training is larger and more diverse than previously, and is repeated, in the sense that people require re-training. As a result, countries today increasingly have mass systems of higher education. A central question, therefore, is how to finance these systems so as to facilitate economic growth and equitable access to higher education. In poorer countries, fiscal capacity is limited; and even in richer countries, public spending is constrained by international competition, which imposes limits to taxation in any one country, and by parallel pressures such as population ageing. Public funding thus needs to be supplemented by private sources.

In principle, private finance could come from family resources, from a student's earnings while a student, from a student's future earnings, from employers, from entrepreneurial activities by universities, and/or from gifts and donations. But many of these sources are less lucrative than they appear at first sight. Family resources can be substantial, but do nothing to improve access for students from poor backgrounds. Earnings during student days are generally small (the USA is exceptional). Employer contributions are also generally small (each employer has an interest in poaching people whose training has been financed by a competitor). Entrepreneurial activities by universities are also likely to be small in many countries (again, the USA is an exception). Gifts, for example through fundraising, are also largely illusory – even in the

USA, large-scale fundraising is successful only for a small number of the best-known universities and is largely irrelevant to other tertiary institutions.

The only remaining option, and the only approach capable of yielding resources on a large scale and in an equitable way, is to facilitate consumption smoothing – i.e. to develop mechanisms which allow people to gain access during their student days to their own future earnings.

Student loans are one way of doing so. However, there are good reasons why the private market has developed loans to buy a house but not loans to finance an educational qualification. The theoretical issue is how to design student loans taking account of constraints parties face in writing and enforcing contracts. The resulting problems include capital market imperfections (the absence of security for loans for human capital) and information problems (for instance, adverse selection) in financial markets. Resolving those issues has taken time.

My own writing has focused on student loans with income-contingent repayments, i.e. repayments in the form of x percent of a person's subsequent earnings until she has paid off the loan; and such arrangements are now in place in several countries including Australia (since 1989), New Zealand (1993), and the UK (1998). In my proposals, students pay an interest rate broadly equal to the risk-free borrowing rate, with repayments collected alongside income tax or social security contributions. In most systems (e.g. in Australia and New Zealand) the loans are publicly funded; but it is possible to bring in private finance either (as in the UK) through the retrospective sale of student debt, or (as in the USA) where students borrow from private sources. In such a system, the loan contract is determined centrally by government and is identical for all borrowers: loans are publicly organised, but may be privately funded, the underlying model having much of the flavor of social insurance.

This book takes as its starting point the original proposal by Milton Friedman to use equity rather than loan finance as the major device for consumption smoothing. In Friedman's original proposal, a student finances her university education by selling the right to x *percent* of her annual earnings. A low-earning student repays less than the cost of her higher education, thus the stakeholder makes a loss; in the case of a high-earnings student, the stakeholder makes a profit.

The book's important new insight is to bring the loan approach and the equity finance approach together into a single analytical

framework. As one example, consider what the author calls a human capital contract (HCC), whereby a person obtains the finance for her higher education by selling the right to *x percent* of her earning for *n* years, i.e. equity finance of the sort just described. That contract could be supplemented by a second contract in which the student buys a human capital option (HCO), which insures the graduate against overpaying if she turns out to be high earner. The combination of the HCC and HCO is an income-contingent loan (ICL).

The application of option theory to the finance of higher education is entirely new – finance theory meets ICLs. This is a significant intellectual advance.

As well as being an intellectual advance, the approach also points toward policy innovation. If, as the book argues, equity finance is more suitable to private contracts than loan finance, the combination of an HCC with an HCO enables the private market to provide ICLs based on individualized contracts. This, the book argues, improves efficiency because of the resulting market signals. For example, it would be possible to get a loan on better terms for a more expensive degree with better earnings outcomes than for a cheaper degree with poorer outcomes.

As with any radical idea, there are unresolved issues. The book makes a powerful case for private finance of higher education and for a mechanism that gives market signals. That analysis (and the case for market forces more generally) rests on the assumption that agents are well informed. Though that is, for the most part, the right assumption for higher education, issues remain about how to protect applicants who are not well informed (there are obvious analogies with private pensions – another example of consumption smoothing – where complex, long-term contracts make consumer protection essential). Another issue is whether HCCs are a form of slavery. The author argues that they are not, because what the person pre-commits is a fraction of her future *income* not her future *activities*, and thus retains full freedom over her future course of action. I accept that argument fully but again, only if it is right to assume that students are well informed.

In addition to analytical questions, the idea also raises practical issues. That, however, detracts neither from the idea nor from the analysis. Income contingency was for many years regarded as sound in theory but not capable of implementation. HCCs are an important and powerful idea; and the idea is being tested on a small scale in a number

of countries. Such testing is important and should be applauded: it sheds light on the financial stability of such arrangements and improves our knowledge of ways of ensuring consumer protection. I look forward with considerable interest to the outcomes of these pioneering ventures.

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